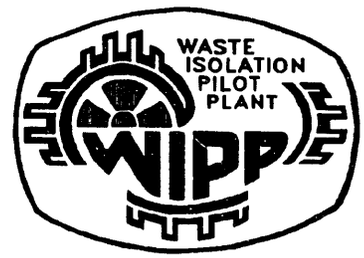
DOE/WIPP 91-032
Revision 0

Integrated System Checkout Report



Waste Isolation Pilot Plant

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INTEGRATED SYSTEMS CHECKOUT REPORT

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Change History

None.

01978

List of Acronyms

AGCLF - Adjustable Center of Gravity Lift Fixture
ALARA - As Low As Reasonably Achievable
CH - contact-handled
CMRO - Central Monitoring Room Operator
CTE - Cognizant Test Engineer
D&AT - Dosimetry and Analytical Technology
DAS - Data Acquisition System
DOE - Department of Energy
dpm - disintegrations per minute
EO - Experimental Operations
EM-ORR - Environmental Restoration and Waste Management Office - Operational Readiness Review
ES&H - Environmental Safety and Health
FOSS - Facility Operations Shift Supervisor
FSAR - Final Safety Analysis Report
HPT - Health Physics Technician
INPO - Institute for Nuclear Power Operations
ISC - Integrated Systems Checkout
ISCP - Integrated Systems Checkout Plan
ISD - Instructional System Design
ITP - Integrated Test Plan
JPM - Job Performance Measure
LEL - Lower Explosive Limit
LCO - Limiting Conditions for Operation
MeV - mega electron volt
MILRT - Miniaturized Integrated Leak Rate Test
MRC - Master Records Center
NCR - Nonconformance Report
NO - Normal Operating
OJT - On-the-Job Training
OPSRC - Operational Plant Safety Review Committee
OSR - Operational Safety Requirement
P&P - Publications and Procedures
PCN - Procedure Change Notice
PI - Principal Investigator
ppm - parts per million
psia - pounds per square inch absolute
psig - pounds per square inch gage
QA - Quality Assurance
RAF - Radiological Assessment Filter
RCA - Radilogical Control Area
RCB - Radiological Control Boundary
RIDS - Records Inventory and Disposition Schedule
RMA - Radiological Materials Area
RMACA - Radiological Materials Area Control Area
RRB - Readiness Review Board
RWP - Radiation Work Permit
SARP - Safety Analysis Report for the TRUPACT-II Shipping Package

List of Acronyms
(Continued)

SME - Subject Matter Expert
SNL - Sandia National Laboratories
SWB - Standard Waste Box
TAP - Training Accredidation Program
TTG - Technical Training Group
TRU - transuranic
VOC - Volatile Organic Compound
WHB - Waste Handling Building
WHO - Waste Handling Operations
WHS - Waste Handling Supervisor
WHT - Waste Handling Technician
WID - Waste Isolation Division
WIPP - Waste Isolation Pilot Plant
WPO - WIPP Project Office

1.0 EXECUTIVE SUMMARY

The planning and preparation phase of the ISCP was conducted from October 1989 to July 1991. A copy of the ISCP, DOE-WIPP 90-002, is included in this report as Appendix A. The final phase of the Checkout was conducted from July 10, 1991, to July 23, 1991. This phase exercised all the procedures and equipment required to receive, emplace, and retrieve CH TRU waste filled dry bins. In addition, abnormal events were introduced to simulate various equipment failures, loose surface radioactive contamination events, and personnel injury. Section 3.1 of this report provides a detailed summary of each days activities during this period.

Qualification of personnel to safely conduct the tasks identified in the procedures and the abnormal events were verified by observers familiar with the Bin-Scale CH TRU Waste Test requirements. These observers were members of the staffs of Westinghouse WID Engineering, QA, Training, Health Physics, Safety, and SNL. Observers representing a number of DOE departments, the state of New Mexico, and the Defense Nuclear Facilities Safety Board observed those Checkout activities conducted during the period from July 17, 1991, to July 23, 1991. Observer comments described in this report (See Appendix E) are those obtained from the staff member observers.

1.1 PLANNING AND SCHEDULING

The planning for the ISC began in October 1989. During the period ending in August 1990, the planning included developing the ISCP; scheduling the major engineering design and procurement tasks; tracking completion of the tasks; scheduling the training and qualification tasks; and scheduling the procedure development.

In August 1990, the ISC Scheduling Group was formed and charged with developing a detailed schedule for the ISC and all activities necessary to achieve readiness for the ISC. The Group identified over 1500 specific tasks, which were documented on the Primavera Scheduling Program. As scheduled items were completed, they were deleted from the schedule. This schedule became the primary management tool used to track progress and assign resources as required to mitigate schedule impacts. Weekly meetings were conducted to review progress against the schedule until the completion of work-up preparations for the ISC in June 1991. A copy of the minutes of a typical meeting used for documenting commitments is included as Appendix C.

1.2 WASTE ISOLATION DIVISION (WID)/SANDIA NATIONAL LABORATORIES (SNL) INTERFACE

TEST PLAN: WIPP Bin-Scale CH TRU Waste Tests, SAND 90-1974, prescribes the responsibilities of SNL and WID management for the conduct of the Bin-Scale Test Program. The SNL PI coordinated with WID Radioactive Waste Handling Engineering through routine meetings, phone calls, and correspondence through July 1990. Establishment of the ISC Scheduling Group and specific assignment of additional SNL management personnel significantly increased the number of interface meetings and the timeliness of issue resolution by providing additional decision making authority on-site to alleviate delays inherent in the PI being headquartered in Albuquerque. From August 1990 through the completion of the ISC, the interface between SNL and WID personnel for decision making and issue resolution occurred daily and included an active presence of DOE staff from the WPO.

In addition to direct participation in planning and issue resolution, SNL and WID each provided personnel as observers to witness and comment on the work-up activities preceding the ISC and implementation of the ISC activities themselves. Comments were addressed by the ISC Scheduling Group with representation from WPO, SNL, and WID. Responsibilities and required action dates were identified and tracked as a part of the scheduling program. As the specific scheduled activities were completed, issues were reviewed on a daily basis as punchlist items by the Group.

1.3 TRAINING

The training of technicians to conduct the activities associated with the Bin-Scale Test Program was conducted as a rigorous and documented program. Section 2.4 provides a brief history of the development of the TTG and its activity in preparing technicians for qualification. Section 5.0 of the report describes the details of the training provided by the TTG and the documentation used to record the qualification of each individual technician. The preparation and qualification of SMEs from each affected department is also described. Appendix F is a copy of a typical qualification card.

1.4 PROCEDURES

The development of the procedures required to support the Bin-Scale Test Program was a significant effort requiring over one year to accomplish. In mid 1990, a procedures group was established to accomplish the writing and approval of the operating procedures. The initial task was to develop the procedures controlling the overall structure, content, review, validation, and approval of the operational procedures. Appendix D is a copy of the format adopted for the procedures. Section 2.5 describes the process which ultimately generated over 60 procedures. The vast majority of these were developed from scratch. All previously existing procedures had to undergo major changes. In addition, the work-up phase to the actual checkout required rapid turnaround of procedure changes to accommodate issues found during the work-up activities. The success of the procedure group's effort was demonstrated by the fact that procedures did not seriously impact the schedule.

1.5 WORK-UP

Two separate work-up periods were used in preparation for the Checkout. The first occurred in April 1991 and was limited in scope due to the unavailability of final equipment. However, even with the limited scope of tasks which could be performed, this work-up period provided valuable input for procedure upgrade and experience for the technicians and supervisors involved. It also was the first opportunity for the observer team to become involved in an organized manner and provide input and comments to the ISC Scheduling Group controlling the Checkout program. The second work-up period occurred in late May to mid June, and it included equipment in its final configuration. Section 2.7 provides a description of the work-up.

1.6 RADIATION CONTROL

Throughout the work-up and Checkout, the Operational Health Physics section provided Health Physics support to ensure that ALARA principles were followed and Health Physics practices were enforced for all activities that would have potential for radiation exposure with CH TRU waste filled bins. Section 4.0 provides a detailed description of the Health Physics activity during routine operations

and during the abnormal events imposing radioactive contamination conditions. Responses to these events were judged to be satisfactory in all circumstances. Section 4.4 is an assessment of the doses incurred by technicians in conducting the checkout and a comparison to the FSAR assumptions. The assessment shows that the incurred doses are within the assumptions of the FSAR Addendum addressing the Bin-Scale Test Program.

1.7 LESSONS LEARNED

Sections 7.0, 8.0, and 9.0 address 10 lessons learned from the Checkout, the recommendations associated with each of the lessons, the resolutions of the recommendations, the responsibilities for implementing the resolutions, and the scheduled dates for completion. Management of the closure of each of the required actions will be conducted outside of the ISC Program. These actions will be incorporated into the same program as that used to manage closure of the actions necessary to resolve the Observer Comments documented in Appendix E.

1.8 EVALUATION OF THE ISC AGAINST THE ACCEPTANCE CRITERIA

As stated in the Purpose of the ISC, the Plan was developed to provide assurance that operational activities dedicated to supporting the Dry Bin-Scale Tests could be achieved safely and the experiment conducted successfully. To ensure that this purpose was achieved, eight acceptance criteria were developed and included in the procedure which controlled the final phase of the Plan, WP 05-WH5101, WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT. Appendix G contains a copy of the completed procedure.

Section 3.2 of this report describes the criteria and addresses an evaluation of each specific criterion. All the criteria were met with the exception of criterion 7, EQUIPMENT AND SYSTEMS ADEQUATELY MET DESIGN PERFORMANCE REQUIREMENTS. The rupture disc component of the Mechanical Relief Valve assembly leaked to such an extent that the Test Plan bin leakage requirement of 1% per month was exceeded. The rupture disc will perform the overpressure protection function and the Mechanical Relief Valves will meet the FSAR Addendum OSR requirement. The rupture disc issue is being addressed on an expedited basis and will be resolved prior to waste receipt. This report closes the ISC program for dry bins.

2.0 BACKGROUND

The ISCP was developed to address two phases. The first included all activities necessary to develop procedures and train personnel to startup and operate individual systems and equipment specifically designed to support the Dry Bin-Scale CH TRU Waste Test. The second phase was the integrated checkout itself using actual test bins and the associated equipment with only the waste being simulated. The actual checkout used bins containing only the polyethylene and fiberboard liners. This second phase exercised all the procedures and qualified personnel which are required in the receipt, emplacement, and retrieval of bins containing CH TRU waste.

During the first seventeen months of the ISC effort, management concentrated on the design, procurement, and checkout of the equipment necessary to support the Bin-Scale Test Program as specified in the Bin-Scale CH TRU Waste Test Plan. Recognizing that the checkout would entail strict procedural controls for all operating tasks and that personnel would need to conduct operations in a safe manner, the development of a comprehensive procedure program and training program was also initiated shortly after beginning the design tasks. These programs required detailed design information in order to properly evaluate operating technician training and procedure requirements.

By mid 1990, the design and procurement effort had progressed to the point that the procedure and training programs were able to establish a clear picture of what was required. Management recognized the need to ensure close coupling of the Engineering, Operations, Training, and Procedures effort. This coupling was established by the formation of the ISC Scheduling Group comprising representatives from DOE, SNL, and WID. This group ensured that communication among all affected parties was timely and effectively managed.

The work-up activity completed the first phase of the ISCP by exercising the procedures, qualified personnel, and equipment supporting the Bin-Scale CH TRU Waste Test Program. This provided a learning and practice period for the technicians and supervisors responsible for the daily activities. The second phase was implementation of a formally conducted Checkout.

The ISC was conducted using as much realism as possible. Drills addressing failed equipment and radiation did require some degree of simulation and artificially imposed conditions in order to set the stage for response actions. The entire ISC from July 10, 1991, to July 23, 1991, was witnessed by an internal observer team comprised of members from WID and SNL. The WID members represented Engineering, QA, Training, Health Physics, and Safety. The SNL members represented Engineering and Safety. In addition, an external observer team representing the DOE's EM-ORR; Office of Environment, Safety, and Health; the Office of Nuclear Safety; the Defense Nuclear Facilities Safety Board; the state of New Mexico's Environmental Improvement Division; and the Environmental Evaluation Group witnessed the ISC from July 17, 1991, to July 23, 1991. Section 3.0 of this report is a summary of the ISC daily activities from July 10, 1991, to July 23, 1991.

Sections 7.0, 8.0, and 9.0 address the Lessons Learned, Recommendations, Responsibilities, and Completion Dates for actions to address the lessons learned. Appendix E includes comments generated by the internal observer team. Management of the closure of actions to address the lessons learned and those actions

identified in Appendix E and not yet closed will be exercised outside the ISC Program. External observer comments will be covered outside of the ISC Program.

Issuance of this report closes the Dry Bin-Scale ISC Program.

2.1 CONCEPT DEVELOPMENT

In October 1989, at a weekly Project Manager's Meeting, the Manager of Radioactive Waste Handling Engineering recommended development of integrated testing for both the Bin-Scale Test Program and the Alcove Test Program. The Project Manager gave direction to proceed with the drafting of an ITP for the systems supporting these two test programs. Based upon the working drafts of the Test Plans for Alcove Testing and Bin-Scale Testing produced by SNL, WID drafted an ITP outline and submitted it to WPO for review and approval. Following the outline approval, a draft ITP was developed.

In December 1989, the WPO Project Manager directed the development of the ISCP. The scope of the plan included experimental waste characterization at the generating sites, transportation, emplacement at WIPP, operation of the experiments, radiological controls, abnormal events, and demonstrated retrieval capabilities. In early January, a draft of the ISCP was issued for review. In late January, WPO directed that the draft ISCP be modified to address the ISC for dry bins only. WPO also directed that the ISCP delete waste characterization and transportation from its scope. The corrected ISCP was issued in March 1990. During the period from March to June 1990, the Bin-Scale Test Program continued to undergo review and modification requiring a revision to the ISCP (Revision 1) issued in July 1990. Throughout the remainder of 1990 and the early part of 1991, additional changes occurred requiring the issuance of Revision 2 of the ISCP in April 1991.

2.2 PLANNING MEETINGS

In August 1990, management formed the ISC Scheduling Group to focus attention on integrating the responsibilities of WID and SNL in supporting the preparations for conducting the ISC. Under the sponsorship of the WID Assistant General Manager, the appropriate managers from each organization and representatives from WPO were assigned to this group. The first meeting was held on August 6, 1990, and the group continued meeting throughout August and September developing a detailed schedule which included equipment design, procurement, and testing; procedure development and approval; and training and personnel qualification development. During these meetings, the ISC Scheduling Group documented individual responsibilities, scheduled completion dates, and monitored the progress of the commitments. In October 1990, the meeting locations were moved from Carlsbad to the WIPP site, and the meetings became weekly management working meetings to ensure that issues received prompt attention and resolution responsibilities were established. SNL, WID, and WPO were consistently represented at the meetings.

In early April 1991, the weekly planning meetings were supplemented by daily meetings to address the operational work-up activities being implemented as the prelude to conducting the ISC. In June 1991, the weekly meetings were concluded, and the control of all the preparatory issues for starting the ISC were addressed at the daily planning meetings. This change was made to provide for a more steady focus than the weekly meetings could provide.

2.3 SCHEDULE DEVELOPMENT AND MANAGEMENT OF PROGRESS

Prior to the initiation of the ISC Scheduling Group activities, the ISC schedule was in a summary format that did not easily lend itself to management of the individual activities necessary to ensure that progress was sufficient to meet the scheduled completion dates. The Scheduling Group first updated the logic for conducting the ISC. A flow diagram was then drafted and approved with a narrative describing what each element of the flow diagram was prescribed to achieve.

Following this, the Group reviewed and analyzed each hardware, procedure, and training requirement by breaking each requirement down into the individual activities necessary to meet that requirement. Each major piece of hardware was incorporated into a time line for development of its design, specification, purchase order, procurement/delivery, installation, and its initial testing, where appropriate. Each procedure was to be developed by assembling technical information, developing an initial draft from SNL or WID as appropriate, reformatting the procedure to follow INPO guidelines, performing technical reviews and field validations, incorporating comments, obtaining review by the OPSRC, and receiving final review and approval by the Assistant General Manager for Operations. Similarly, the training activities associated with each operational task were scheduled to include analyzing the tasks, developing training materials, training personnel, and performing and documenting the qualification of personnel for specific tasks. This effort resulted in the identification and scheduling of over 1500 separate activities.

The scheduling information was input into a Primavera Scheduling Program that permitted timely identification of critical paths and provided the Group with immediate information on the impact of individual changes in the schedule on the critical paths. The updated schedule and effect of progress or lack of progress in one or more activities was thus made available on a weekly basis to the management team (Appendix B is a typical updated weekly schedule). Individual Group participants were made responsible for schedule commitments and issue resolution actions with established due dates. The schedule was the main topic at each week's ISC Progress Meeting. As a management tool, the schedule along with the weekly commitment list provided the documentation for the management team to focus its attention. As a result, resources could be allocated more intelligently to specific issues which had a direct impact on the overall critical path. Through the use of this process and the concept of negative float, many issues which initially had major schedule impacts were addressed with sufficient resources in time to significantly mitigate their impact.

2.4 TRAINING DEVELOPMENT

Prior to January 1990, Technical Training at the WIPP was entirely decentralized: all Technical Training (classroom and OJT) was conducted by personnel from various line organizations. In January 1990, a centralized training organization, the TTG, was created to develop and conduct classroom technical training. Trainers in the line organizations continue to conduct OJT, but with technical trainer oversight.

The TTG relies on guidance from DOE orders to ensure that programs are properly developed and administered. The TTG has already adopted many of the practices mandated by DOE Order 5480.18 for future implementation including development of a performance-based training program. WIPP has taken a graded approach to implementing this program using performance-based training standards, a train-the-trainer program, as well as developing ISCP-related training using TAP standards.

With the implementation of TAP, existing programs were reviewed and modified to ensure that all critical job-related tasks were addressed in the analysis, design, development, conduct, and evaluation phases.

The TTG provided personnel who were dedicated full-time to the ISC effort to ensure that maximum advantage was taken of the opportunity made available by the ISCP work-up to identify training needs. Additionally, training personnel were involved in technical and field validations of Operations procedures as well as task analysis and training program development.

The TTG worked closely with line organizations to ensure that the most current procedure revisions and system modifications were used for training. The training materials subsequently developed by the training staff were then reviewed and approved by line management for technical accuracy prior to implementation.

All formal classroom training was conducted with approved lesson plans to ensure effective, consistent, accurate, and quality training. Multiple sessions of courses were conducted to minimize the impact on plant operations. Programs were established and implemented for initial and continuing training where applicable.

Individualized training was provided to ensure that a certified SME and at least one backup person were qualified to handle all waste handling-specific equipment. Line managers conducted certification boards to ensure that certification programs produce competent and professional workers and supervisors.

A training mock-up area was established within the WHB that provided an environment in which to demonstrate bin-scale module compatibilities and enable field validation of Operating procedures. Additionally, these mock-ups provided a hands-on arena to investigate the human factors of the new/modified systems ensuring that job tasks can be performed safely and effectively, as well as hone WHT knowledge and skills.

A comprehensive evaluation of existing programs was conducted by qualified individuals to identify program strengths and weaknesses. Using the results of task analyses, the training developers defined exactly what requisite supporting skills and knowledge were required to be trained for competent job performance. During the ISCP work-up, changes in job scopes were evaluated to determine the need for development or modification of qualification and certification training programs. Improvements and changes to programs were systematically initiated, tracked, and incorporated to correct training deficiencies and performance shortfalls.

Formal OJT represents a significant portion of training conducted at the WIPP. The use of qualification cards, administrative controls, and OJT train-the-trainer programs ensures that OJT is presented effectively and consistently. Where conditions allowed, training was coordinated with the receipt of equipment and system components. Operator indoctrination and hands-on exercises were conducted to upgrade personnel skills and knowledge.

2.5 PROCEDURE DEVELOPMENT

The procedures developed for the ISC were prepared by the staff of the P&P section of the Operations department at the WIPP. The procedures were developed to meet the guidelines of the DOE, as set in its orders; the commercial nuclear industry, as outlined by the INPO and several commercial plants; and the established controls in existence at the WIPP.

Initial requirements for format, development, review, and approval were established in early 1991 by the approval of two documents: WP 15-7, Operations Procedures Writers' Guide, and WP 15-701, Review and Approval of WID Operations Procedures. WP 15-7 established the format and verbiage requirements for the procedures. WP 15-701 set guidelines and format for controlling and documenting the procedure growth to an acceptable level of use, and the methodology to allow for the continued growth of the procedure through change and revision.

A staff of writers was assembled with previous experience as technical procedure writers at commercial nuclear plants or DOE facilities. The individual disciplines of the writers included operations, electrical and mechanical engineering, instrumentation and control, and chemistry/health physics.

Development of the procedures was based upon input from WHO, D&AT, Environmental Compliance, Radioactive Waste Handling Engineering, Operational Health Physics, and QA sections. The FSAR, SARP, WIPP Drawings, DOE Orders, and other pertinent documentation was used to develop the procedures.

The development of a procedure was divided into 5 distinct stages. Initially a procedure was developed as Draft A by the writer in consultation with the cognizant section. Draft A underwent internal, informal review by a designated member of that organization. Comments were incorporated and resulted in the completion of Draft B. Draft B was then technically reviewed by organizations identified by the cognizant manager. These organizations included Engineering, QA, Operations, and SNL. The Technical reviewers, using guidelines set in WP 15-701, commented formally on the procedure. These comments were resolved and incorporated as Draft C.

The procedure was then field validated. The field validation ensured the usability of the procedure by the end user. This involved hands-on use of the equipment with the procedure and formal comment. Organizations involved in the field validation include the cognizant organization, organizations required as participants in the performance of the procedure, and Training. The validators followed the guidelines for field validation given in WP 15-701. Comments were resolved and incorporated into Draft D. Draft D was reviewed by the manager or supervisor of P&P to verify compliance with WP 15-7 and to ensure consistency among procedures. Comments were formally documented and resolved, and the procedure was then presented to the OPSRC.

The OPSRC is composed of five permanent members and technical review members. The five permanent members are from Safety, QA, Operations, Operations Assessment, and P&P. The technical members include the cognizant manager of the procedure being reviewed and representatives of the organizations that performed the review of the procedure. The permanent members under the direction of WP 15-701 and WP 15-702, Operating Procedures Safety Review Committee, ensure that the procedure can be safely performed, provide quality work, and does not present an opportunity to violate procedural, technical, or directed plant requirements and commitments. The comments and resolutions of the technical review, field validation, and editorial reviews are provided to the OPSRC. All outstanding comments are resolved by the committee during the meeting. The technical members respond to comments presented by the committee. The OPSRC then determines if the procedure should either be approved upon the resolution of its comments or returned to the cognizant manager for further development.

During the development of ISC procedures, a different approach was employed to aid in the determination of comments and resolution of the comments than is required by WP 15-701. Normally a procedure is developed and mailed to identified organizations with responses due by a given date. The responses are then collectively examined by the writer, who resolves them individually with the commentor. The result is that the comment/resolution of each draft can take up to 3 weeks as the conflict created during comment and resolution between different parties is resolved.

To eliminate this time lag and conflict, a method was adopted for the ISC procedures that brought the reviewers together in one place; and they in turn collectively reviewed, validated, and resolved comments. The majority of the comments and resolutions were developed using this method. Additional comments were obtained as reviewers checked references and other materials. This method, although highly functional and productive, cannot be adopted as the standard practice in procedure development, as it required individuals to dedicate the majority of a given day to the review of the procedure. However, because it was productive for the limited scope of procedures for the ISC, it reduced the expected schedule for the completion of ISC procedures by over two months.

During the internal work-ups preceding the ISC and during the ISC, noted discrepancies in procedure content, increased awareness of operators to their equipment, and engineered changes resulted in the need to change and revise the procedures previously developed. WP 15-701 provides the methods to allow for timely integration of these changes to the procedures and to allow for proper reviews.

2.6 BIN ASSEMBLY SIMULATOR

Prior to the start of the ISC work-up, a Bin-Scale Simulator was built. It served as a prototype for the bins and the auxiliary equipment, which was attached to it.

The original mock-up (see Figure 2-1) was assembled from on-hand equipment and parts. It provided operators and engineers a vehicle on which to try different arrangements of valves and piping. It became a very useful tool for integrating equipment designed by the WID and SNL.

The first version was built in January 1991, and it consisted of pipe, tubing, and valves that were joined together with Swagelock Connectors. When a connector was not available, pieces were glued together with epoxy. The RCB lid was fashioned out of a SWB lid using a block of wood for the valve manifold. Although none of the pieces functioned, personnel were able to visualize what the final assembly would look like. The simulator allowed personnel to write, review, and validate procedures without having any of the actual equipment on-site. The simulator was used for this process in February and March. During this time it was upgraded and as-built to reflect the latest configurations and revisions to equipment. In April 1991, the simulator was abandoned because enough of the original design equipment had arrived on-site to build a mock-up using actual equipment.

2.7 WORK-UP ACTIVITIES

The November 1990 schedule adopted by the WPO for the ISC projected that commencement of the work-up (the final verification that the equipment, procedures, and personnel are ready to carry out all aspects of the Bin-Scale Test Program) for April 8, 1991. The first work-up began on that date using a

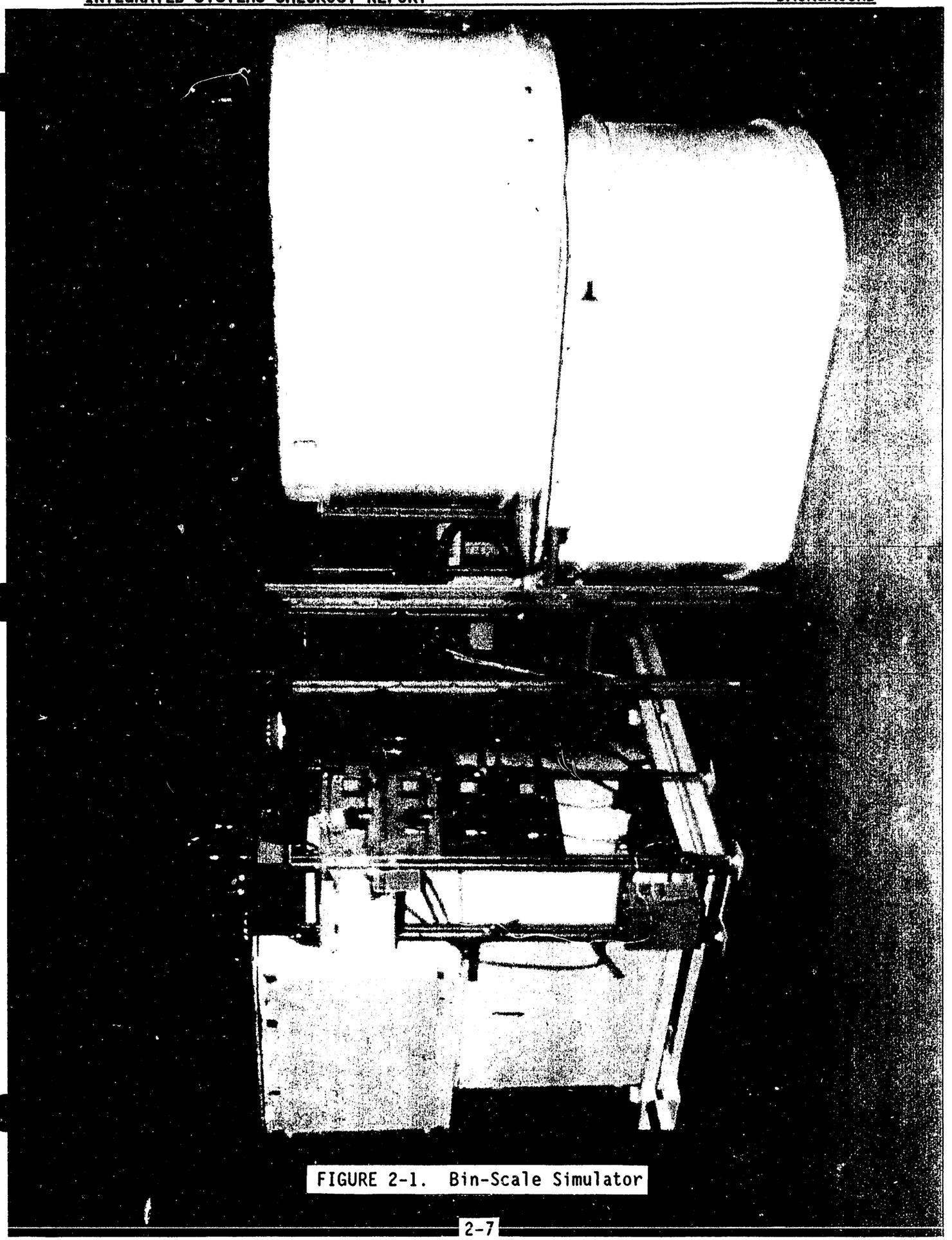


FIGURE 2-1. Bin-Scale Simulator

strategy of WHTs and HPTs working concurrently on the surface and in the underground. At that time, the bin purge system, oxygen getter system, and the MILRT system were not fully operational. While the work-up only lasted for ten days, it provided enough information about the equipment and procedures to cause several revisions in design and operations. It pointed out that there was a need to expand the flexibility of operations. Procedures had to be revised to allow oxygen gettering, purging, and sampling to be done on the surface as well as underground. Also, the equipment that connected to the bin had to be modified to allow attachment in either the right or left-hand configuration. During the first work-up session, all the underground operations were performed on the surface since the underground was not yet ready. The work-up provided enough practice with bin handling, especially the surface operations, to allow a more focused practice session later on.

During the period between April 15 and June 1, the equipment and procedures were revised to reflect a Revision 1 configuration for the equipment. The major changes included a revised oxygen getter cart with a new pump, additions of separate purge rigs for the surface and underground, and deletion of some of the sampling requirements, especially radon.

The second work-up session began on May 31, 1991, and ran through June 20. The WPO assigned staff observers who participated with the WID and SNL observers for this final work-up process. This work-up focused on tasks and procedures that were not performed during the first work-up session or had noted troubles during the first session. This work-up allowed for several days to repeat certain tasks, especially the response to off-normal events. During this work-up, the procedures were changed in the field, and the evaluation was repeated when an error was noted. At the end of each day, all the comments and problems were discussed by the ISC Management group, which consisted of WPO, SNL, and WID representatives from Engineering, Operations, QA, Safety, and Training. Changes to procedures and equipment were usually incorporated within 24 hours so that the next time a procedure was performed it was with procedures or equipment that had been modified.

One of the goals of the second work-up session was to give the operators OJT time, with the new procedures that had recently been revised. A training matrix was created which allowed the supervisors to rotate personnel through different tasks based on current qualifications. Most of the personnel completed their qualification requirements during this time (Appendix E contains a typical Qualifications Card). WHO logged over 1000 man hours of OJT to the revised operating procedures in June.

The final part of the work-up was an end-to-end run which was to verify that a bin could be received, reconfigured, shipped underground, assembled with the gas loops, and subsequently sampled, disconnected, and retrieved for shipment off-site. The tasks that were performed on the surface were performed as planned and proceeded fairly smoothly. The tasks in the underground were more difficult to accomplish because of the logistics of getting parts and the conditions in which people and equipment had to work (i.e., confined areas and warm temperatures). The major deficiency that was noted was that the bins would not hold pressure after they had been configured with all of the ancillary equipment. This was traced to small leaks in the rupture discs. All the tasks except VOC Monitoring System related activities were practiced by June 20, although the bin depressurization had to be simulated because the bin did not maintain pressure. The work-up of the VOC system had been delayed due to equipment delivery and procedure development issues and was not conducted until early in July. The work-up was

done under the most realistic conditions practical: The facility operated in compliance with the FSAR for WIPP, and the RMAs posted and enforced. These conditions provided WHTs with a chance to practice entering and exiting the RMAs and HPT's to practice surveying. The restraints added by working under these conditions provided a good basis for the time lines used to schedule the actual ISC.

3.0 DAILY NARRATIVE

3.1 SUMMARY OF ISC ACTIVITIES

WEDNESDAY JULY 10, 1991

SURFACE: Initiated the ISC. RCB TBX-06 was removed from a TRUPACT-II container in accordance with WP 05-WH1011, TRUPACT-II UNLOADING. The procedure addressed the removal of the TRUPACT from a transportation trailer, emplacement into the West unloading dock, and removal of the SWB containing TBX-06 from the TRUPACT. WHTs then inspected the bin, attached the filters and flexible tubing connections from the bin to the RCB lid and installed thermocouples as prescribed by WP 05-WH1901, BIN HANDLING. The converted bin/RCB assembly was then transferred to the MILRT, and the bin was pressurized in accordance with WP 05-WH1807, BIN LEAK RATE TEST. The pressurized bin was secured for the day to allow the pressure and temperature to stabilize overnight.

During the removal of the TRUPACT-II from its trailer, a broken U-bolt tie down was identified. QA initiated and assigned NCR 91-034 to Transportation Engineering for disposition.

No other significant observations were noted.

UNDERGROUND: Initiated the ISC. RCB TBX-07 was pre-emplaced in position 57 in Room 1 of Panel 1. WHTs installed the bin equipment using procedure WP 05-WH1910, BIN EQUIPMENT CONNECTION FOR EMPLACEMENT. Equipment installation was followed by EO doing the electrical connection and pre-operational checkout in accordance with SNL 346, BIN-SCALE INSTRUMENTATION STRING BOARD, OXYGEN SENSOR AND THERMOCOUPLE (REMOVAL/INSTALLATION/CHECKOUT). The entire activity was completed in approximately 4 hours. One procedure typing error was identified and corrected as PCN00-03 to WP 05-WH1910.

No significant observations were identified.

THURSDAY JULY 11, 1991

SURFACE: Performance of WP 05-WH1807, was successfully completed for TBX-06. TBX-06 was then relocated to the loading dock area, prepared for shipment underground, placed on the facility pallet, and transferred to the conveyance loading car in accordance with WP 05-WH1901. WP 05-WH1902, BIN RETRIEVAL, was then initiated to retrieve TBX-06 from the conveyance loading car, transfer the bin into a clean SWB, and certify the bin for transportation as required by WP 05-WH1033, TRUPACT-II PAYLOAD ASSEMBLY TRANSPORTATION CERTIFICATION.

No other significant observations were identified.

UNDERGROUND: Activity involving RCB TBX-07 continued with exercising WP 05-WH1806, UNDERGROUND BIN SAMPLING. The Water Vapor Sample Manifold did not pass the leak check and will need to be reassembled and exercised during the next sampling demonstration scheduled for Friday, 7/12/91. The Gas Sampling Manifold was successfully exercised as a part of WP 05-WH1806. Upon completion of sampling, the bin was pressurized to 14.35 psia in accordance with WP 05-WH1809, BIN PRESSURIZATION. The procedure was successfully completed in just over one hour. Some delay was encountered in the morning which impacted the completion of additional planned activities. However, the ISC Management group intends to provide underground operational support an hour prior to normal start time to

assure that future delays impacting the ISC schedule are minimized. Initiation of the ENGINEERING INTEGRATED SYSTEMS FUNCTIONAL TEST did not appreciably impact the ISC activities.

No other significant observations were identified.

FRIDAY JULY 12, 1991

SURFACE: A drill was initiated simulating the identification of a small area of contamination on a bin (300 dpm alpha on approximately 200 cm^2). Decontamination and disposal techniques of the derived waste from cleanup of the contaminated area were also exercised.

No significant observations were identified.

UNDERGROUND: WHTs repressurized TBX-07 in preparation for conducting the Primary Mechanical Relief Path Failure drill. Initiated the drill and observed satisfactory response in the underground. The WHS used WP 05-WH1810, ROUTINE BIN MONITORING, Section 7.4, LOSS OF BIN PRESSURE RESPONSE, as the guidance for the drill. Upon completion of the drill, krypton gas was injected into TBX-07 in accordance with WP 05-WH1811, TRACER GAS INJECTION. Upon completion of Tracer Gas Injection, WP 05-WH1806 was exercised. Contrary to yesterday's performance, the Water Vapor Manifold was successfully leak tested and the water vapor value determined.

A Contaminated Equipment Module Fitting drill was initiated during the removal of the Gas Sampling Manifold as a part of WP 05-WH1806. The HPT and WHTs addressed the containment of the contamination in accordance with prescribed practices and bagged the contaminated manifold. The WHS made all notifications prescribed in Section 7.11, CONTAMINATED ASSESSMENT FILTER RESPONSE, of WP 05-WH1810.

No significant observations were identified.

MONDAY JULY 15, 1991

No ISC activity was scheduled.

TUESDAY JULY 16, 1991

SURFACE: The VOC Monitoring Group demonstrated the packaging of a VOC sample canister for shipment to the contract analytical laboratory. No significant observations were identified.

UNDERGROUND: No ISC related activity was scheduled.

WEDNESDAY JULY 17, 1991

SURFACE: Bin TBX-05 was received at the WIPP gate in accordance with WP 05-WH1010, TRUPACT-II RECEIPT. The TRUPACT-II shipping papers were verified, radiation surveys were taken and the TRUPACT trailer was moved into the Radiation Control Area south of the WHB. The TRUPACT-II was unloaded from the trailer and transported into the WHB and placed into a dock. TBX-05 was unloaded in accordance with WP 05-WH1011 and placed on the floor of the CH Bay. The bin/SWB was converted into a bin/RCB configuration as prescribed by WP 05-WH1901.

During the course of converting to an RCB, a high alarm was received on the Alpha-6 monitor attached to the RCB. WHTs and HPTs responded appropriately and determined the alarm to be false. While completing the task of attaching a ground wire between the bin and the RCB, the WHTs could not properly seat a grounding lug bolt. NCR 91-036 was developed and dispositioned to document the event and provide the engineering resolution to ensure a proper ground connection.

No other significant observations were identified.

UNDERGROUND: Bin TBX-05 was unloaded from the Waste Hoist in accordance with WP 05-WH1901. TBX-05 was then transported to Room 1 and emplaced in position 28. The only noted discrepancy was that no Radiation sign was affixed to TBX-05 as required by WP 05-WH1901.

After emplacement, WHTs connected the bin assembly equipment in accordance with WP 05-WH1910. The staged Mechanical Relief Assembly was not properly assembled. The supervisor identified this discrepancy prior to connecting the Assembly to the VOC Manifold Block and stopped the procedure. He directed the WHTs to properly configure the Assembly and the VOC Manifold Block prior to proceeding. Upon completion of WP 05-WH1910, EO personnel conducted the pre-operational checkout of TBX-05 instrumentation in accordance with SNL-346, BIN-SCALE INSTRUMENTATION BOARD, OXYGEN SENSOR AND THERMOCOUPLE (REMOVAL/INSTALLATION/CHECKOUT) and SNL-352, CONNECTION AND ACTIVATION OF BIN SCALE GAGES INTO DAS.

Oxygen gettering of TBX-05 was conducted in accordance with WP 05-WH1801, OXYGEN GETTERING OF BIN, with the exception that the lead observer directed the WHS to secure the procedure after the WHTs had demonstrated the proper start-up of the oxygen getter and oxygen had been reduced by 2000 ppm. While shutting down the oxygen getter, the WHT shut the bin isolation valves to the oxygen getter prior to shutting off the circulator. It was also noted that the procedure did not address depressurizing the compressed gas regulators upon completion of the oxygen gettering task. PCN 00-04 changed WP 05-WH1801 to include depressurizing the regulators upon completion of gettering. The circulator step will be addressed in the next revision to the procedure.

No other significant observations were identified.

THURSDAY JULY 18, 1991

SURFACE: WP 05-WH1807 was started on TBX-05. During the course of conducting WP 05-WH1807, it was discovered that the computer driven printer was on, but not "on-line". This invalidated the procedure to that point, and the procedure had to be re-initiated. A PCN was written and processed to require that the WHT verify the printer is "on" and "on-line". The day ended prior to completing the leak rate test.

WP-05WH1802 was started for the oxygen getter used in the underground on 7/17/91. During the implementation of the procedure, it was discovered that the wrong compressed gas bottle was attached to support the regeneration process. The procedure was halted, the proper gas bottle attached, and the regeneration was restarted. Cause of the error was attributed to operator error. However, a more comprehensive corrective action will be to revise all procedures using compressed gas to require a signed-off verification that the proper gas is used.

A site-wide drill was initiated which superseded any additional activities pertaining directly to the ISC with exception of initiation of the drill. Initiation of the site-wide drill resulted from exercising drill 9.5.13 of WP 05-WH5101, PARTICULATE FILTER AND HOSE FAILURE. Drill 9.5.10, CONTAMINATED PERSONNEL, was also conducted as a prelude to the site wide drill.

No other significant observations were identified.

UNDERGROUND: TBX-05 was pressurized in accordance with WP 05-WH1809, BIN PRESSURIZATION. The WHS initiated PCN 00-04 to identify, within the procedure, those steps it is permissible to complete while waiting for the Bin Pressurization Rig to complete its one hour warmup time. In checking ground connections, the WHS found a loose ground lug nut on the RCB and tightened it. The bin pressurization task was completed satisfactorily.

Base Line Reference Bin TB-001 was identified as not maintaining pressure due to excessive leakage through the rupture discs. An NCR was written and dispositioned to isolate the rupture discs to allow bin pressurization. This bin contains only a polyethylene and fiberboard liner. There is no significant internal gas generating source. Appropriate red tags and yellow caution tags were attached to the rupture discs and isolation valves and TB-001 was repressurized.

Following completion of pressurizing TB-001, drill 9.5.1, FAILURE OF PRIMARY INSTRUMENT STRING PRESSURE SENSOR/TRANSDUCER, of WP 05-WH5101 was initiated. All observed WHT actions were satisfactorily completed in accordance with requirements of WP 05-WH1810. Upon completion of the drill, the underground ventilation was reduced below the flow rate required to conduct bin handling operations. ISC activity in the underground was terminated for the day.

No other significant observations were identified.

FRIDAY JULY 19, 1991

SURFACE: The BIN LEAK RATE TEST, WP 05-WH1807, was picked up where it had been stopped on 7/18/91. In the course of completing WP 05-WH1807, it was found that the test data could be printed, but the system could not graph the data. The cognizant engineer was made available to answer observers' questions and correct the problem.

Upon completion of WP 05-WH1807, the bin was configured in accordance with WP 05-WH1901 to prepare it for purging. WP 05-WH1506, SURFACE BIN GAS PURGE, was used to purge the bin with argon gas. The cognizant engineer for purging was made available to answer observers' questions relative to the purging process.

WP 12-AL6010, ANALYTICAL LAB SAMPLE CANISTER SHIPPING, was exercised to demonstrate the preparation for shipment of a 250 ml SUMMA canister. These canisters will normally be shipped to an off-site contract laboratory for analysis to determine the concentration of a number of gas species.

No other significant observations were identified.

UNDERGROUND: Initiated drill 9.5.3, OXYGEN ANALYZER/SENSOR FAILURE, of WP 05-WH5101 on TBX-07. All observed WHT actions were satisfactorily completed in accordance with requirements of WP 05-WH1810, ROUTINE BIN MONITORING.

Initiated drill 9.5.12, FLAMMABLE GAS CONCENTRATION HIGH, on TBX-05 by notifying the WHS that the hydrogen concentration was 2.05%. All observed WHT actions were in accordance with WP 05-WH1810. Noted that WP 05-WH1810 does not explicitly require WID management notification. However, the Waste Handling Manager was notified by the analytical laboratory of the high hydrogen condition. The WHS, after consulting with the SNL PI, was directed to initiate an argon purge of the bin. It was identified that the purge manifold requires modification to properly fit onto TBX-05. Separate manifold configurations are required to meet both right and left-hand configured bins. It was also noted that the argon purge procedure does not specifically address the unique conditions of a bin containing low oxygen concentrations. That is, no requirements are identified to assure oxygen intrusion into the bin is minimized in setting up the argon purge. The purge rate specified in the procedure was a factor of ten too low.

Assembly of the gas purge manifold for installation onto TBX-05 required approximately 1½ hours for the WHTs to accomplish. Under ordinary circumstances, this manifold should have been assembled and ready for installation. The manifold had been disassembled to support the Integrated Engineering Test conducted earlier in the week and not reassembled to support the ISC. This raised some concern regarding whether or not this delay exceeded the requirements of the OSR for the flammable gas condition. A check of the FSAR Amendment confirmed that the OSR requires initiation of purging within 24 hours. Therefore the delay in assembling the purge manifold was well within the OSR allowable time frame.

The Leak Test Technician was unable to obtain proper operation of the Varian Leak Detector for the second day in a row. The scheduled Tracer Gas Addition and Bin Gas Sampling activities were rescheduled as a result.

Initiated a VOC Canister Changeout in accordance with WP 05-EM1624. All observed VOC Technician actions were satisfactorily completed.

Initiated drill 9.5.6, BIN LOW PRESSURE, on TBX-07. This drill was initiated by directing the DAS operator to implement DAS monitoring of TBX-07 which already had a low pressure. Upon notification by the CMRO, the WHS did not take any action since he was aware that the bin pressure had been low for a couple of days. After prompting that this was a drill, the WHS then proceeded to carry out the proper response in accordance with WP 05-WH1810. The drill was terminated prior to completion due to a requirement to depart Room 1 for ground control maintenance. Initiated drill 9.5.7, CONTAMINATED ASSESSMENT FILTER, on TBX-05. Prestaging for this drill required the installation of a Gas Sampling Manifold, which was not required to be demonstrated leak tight. This was installed without leak checking due to unavailability of the Varian Leak Detector. Upon identification of contamination, the HPT and WHTs took action in accordance with WP 12-5, Radiation Safety Manual procedures and double bagged the contaminated Gas Sampling Manifold. The HPT took swipe samples of the tools used and the general work area to check for potential spread of contamination. The drill was terminated after notifications were made in accordance with WP 05-WH1810.

No other significant observations were identified.

MONDAY JULY 22, 1991

SURFACE: Oxygen gettering of TBX-05 in accordance with WP 05-WH1801 was conducted; and the bin was pressurized for transport to the underground. A PCN to WP 05-WH1801 was written to clarify utilization of the foot pedal pressure control. Bin pressurization was accomplished using WP 05-WH1506. Downloading

preparations were performed as specified in WP 05-WH1901. The oxygen getter unit was regenerated using WP 05-WH1802.

Following completion of the download preparations, TBX-05, the surface bin, was turned around and placed on the facility pallet. WP 05-WH1902 was then implemented for receiving TBX-05. The RCB lid was removed and the RCB converted back to an SWB. WP 05-WH1032, PAYLOAD TRANSPORTATION CERTIFICATION, and WP 05-WH1033 for TBX-05 were also completed by the end of the day.

During the day's activities, it was noted that crane operations could be enhanced by additional training of the crane operators to more effectively use available WHTs and HPTs as spotters.

No other significant observations were identified.

UNDERGROUND: Over the weekend, the Varian Leak Detector had undergone maintenance and was returned to operational status. The equipment was successfully calibrated in accordance with WP 05-WH1051, VARIAN 938-41 PORTA-TEST LEAK DETECTOR, and supported the required activities throughout the day.

The Tracer Gas Injection manifold was provided to the WHTs without installation of the RAFs. The WHTs installed the proper RAFs. Leak testing of the manifold and injection of the tracer gases, xenon and krypton, into TBX-05 were successfully conducted using WP 05-WH1811. TBX-05 was then sampled as required by WP 05-WH1806. During installation of the Gas Sample Manifold, mislabeled valving was identified. Using an approved drawing, the WHS instructed the WHTs on the correct valve identification and proceeded with the sampling process. During the leak check of the manifold, one connection leaked excessively. A VCR gasket was replaced and the subsequent leak check was satisfactory.

Upon completion of bin sampling of TBX-05, WP 12-EM1624, VOC-10 SAMPLE CANISTER HANDLING, was performed to change out a VOC canister on the VOC-10 Room 1 system.

Initiated drill 9.5.11, LOSS OF DAS SHED POWER, to bin TBX-07. Call to the WHS from the CMRO was not initiated until the CMRO was prompted by the CTE. The CMRO did not have access to WP 05-WH1810 which prescribes the CMRO to WHS communication.

Continued drill 9.5.6, BIN LOW PRESSURE, for TBX-07 which was terminated early on 7/19/91. As part of the recovery from the low pressure condition, TBX-07 was repressurized in accordance with WP 05-WH1809. With the bin fully repressurized, depressurization was subsequently initiated using WP 05-WH1912, BIN EQUIPMENT REMOVAL FOR RETRIEVAL.

Subsequent to repeating BIN SAMPLING of TBX-05 for the T=Termination sample, the bin was disconnected in accordance with WP 05-WH1912. TBX-05 was in a depressurized state at initiation of WP 05-WH1912 and therefore the depressurization step was not required. Activity on TBX-07 described above exercised the depressurization requirements.

No other significant observations were identified.

TUESDAY, JULY 23, 1991

SURFACE: TBX-05 was loaded into a TRUPACT using WP 05-WH1001, TRUPACT-II LOADING. Subsequent leak checking of the TRUPACT was conducted in accordance with WP 05-WH1080, TRUPACT-II VERIFICATION LEAK CHECKS. Two procedure changes

were identified during the TRUPACT loading and leak checks. Upon completion of TRUPACT loading, the TRUPACT was loaded onto a trailer as prescribed by WP 05-WH1005, LOADING TRUPACT-II TRAILER. During the trailer loading sequence, it was noted that the locking bolts on the trailer for the TRUPACT were bent. This issue generated NCR 91-034, and WP 05-WH1005 was changed to provide guidance for tightening the locking bolts. Also one observer raised the issue of providing enhanced security by installation of a locking device for the trailer mounted TRUPACT. This issue was forwarded to management for consideration.

No other significant observations were identified.

UNDERGROUND: TBX-05 was retrieved from Room 1 and transported to the surface using WP 05-WH1902, BIN RETRIEVAL. Following retrieval of TBX-05, the VOC Carbon Bed and VOST Tubes were changed out in accordance with WP 12-EM1603, VOST TUBES AND CARBON BED. It was noted that the procedure used by the VOC Technician was a Revision 0 dated 6/21/91 and the procedure held by the observers was Revision 0, WP 05-EM1603 dated 5/21/91.

No other significant observations were identified

This concluded the scheduled ISC exercises on the surface and the underground.

Note: During the ISC, two separate bins were identified as TBX-05, one (TBX-005) was used for all underground activity and one (TBX-05) was used for all surface activity.

3.2 EVALUATION OF THE ISC TO THE ACCEPTANCE CRITERIA

Section 1.4 of WP 05-WH5101 describes 8 criteria which are to be evaluated in determining whether or not the Checkout was successful in determining the readiness of personnel, procedures, and training to safely conduct the tasks required for the receipt, emplacement, and retrieval of dry bins at the WIPP. Below is an evaluation of the performance of the Checkout for each of the 8 criteria.

3.2.1 The Adequacy of Procedural Controls

A review of the documentation for WP 05-WH5101 contained in Appendix G verifies that each major task required in the Checkout was described in one or more procedures. Section 5.6 of this report is a discussion of the quality of the procedures used in conducting the Checkout. Although some procedure changes were identified during the course of the Checkout, no changes were necessary due to industrial or radiological safety concerns. The observer comments also indicate that only one procedural step, depressurization of a compressed gas regulator at the end of the task, was found missing. The remaining procedure changes were clarifications, enhancements, and set point changes that improved the usefulness of the procedures. Based upon this review and successful completion of the ISC, procedural controls are adequate to safely conduct the tasks associated with the receipt, emplacement, and retrieval of dry bins at the WIPP.

3.2.2 The Use of Safety, Efficiency, and Procedural Compliance in Job Performance

Sections 5.7 and 5.8 specifically address compliance with procedural requirements and industrial safety practices. The comments in Appendix E show that no significant industrial or radiological safety practices were violated by personnel in conducting the variety of tasks required by the Checkout. This is

particularly noteworthy in view of the adverse underground equipment. Only one instance of a WHT missing a required step was identified. In all other activities, full compliance with procedures was accomplished. Observers' comments and at least one of the Lessons Learned in Section 7.0 address steps to improve the efficiency of the underground activities. However, these recommended actions serve to improve the performance of WHTs and are not required to significantly affect the safety aspects of the associated tasks.

3.2.3 The Ability of Personnel to Manage and Resolve Simulated Unusual Events

Eleven Unusual Events/Drills were conducted during the ISC. Three were performed on the surface and eight were conducted in the underground. Each of the drills was evaluated and documented (See Attachment 4 of Appendix G). Management of the events and individual responses to imposed conditions were accomplished without violation of any industrial or radiological safety requirements. Notifications were timely and in accordance with procedural requirements with one notable exception. The CMRO was not familiar with the contents of WP 05-WH1810 as is described in Lesson 8 of Section 7.0. Also, the timeliness of addressing the required purging when responding to a HIGH FLAMMABLE GAS condition (an OSR drill) can also be improved. Although on-scene response by the WHS and WHTs was appropriate for this condition, considerable delay occurred due to inadequate staging of required equipment. This is addressed in Lesson 1. Simulation introduced some peculiarities. However, within the context of how the drills were initiated, affected personnel did respond appropriately to the conditions, and problems were resolved correctly.

3.2.4 The Ability to Maintain Personnel Radiological Dose ALARA Within the WIPP FSAR and Addendum Assumptions

Health Physics personnel maintained personnel dosage within the FSAR assumptions as described in more detail in Section 4.4. HPTs were assigned to support each task involving activity around the bin/SWB and bin/RCB configurations. The on-scene presence of HPTs scrupulously adhering to the requirements of WP 12-5 and the trained responsiveness of the WHTs to HPT direction provided an impressive example to observers of the quality and thoroughness of health physics indoctrination.

3.2.5 Compliance to Requirements of Regulations Regarding the Receipt and Preparation for Shipment of CH TRU Waste

The requirements for receipt and shipping of CH TRU waste are described in WP 05-WH1010, TRUPACT-II RECEIPT, WP 05-WH1032 and WP 05-WH1033. The Transportation and Hazardous Material Handling section of the Operations department developed the shipping documents using simulated information to describe the contents of the received bins. Using this information and the activities to which the bins were subjected, shipping documents were prepared as prescribed in the above procedures. No adverse observer comments were identified. The documentation contained in Appendix G pertinent to this activity shows that compliance with the regulatory aspects of receipt and shipping addressed in the three procedures controlling these activities was achieved.

3.2.6 Documentation of Qualifications of Personnel Performing Activities

Section 5.0 provides a detailed description of the Training Program implemented in preparing personnel for the Checkout tasks. This program requires documentation of individual qualification through the use of Certification and Qualification cards. The QA department conducted Surveillance 91-043 on training

records of personnel participating in the ISC. The report verifies that the Certification Cards for the individuals selected were approved by the Department Manager and that the training requirements have been completed, signed, and dated. In addition, verification of documentation for completion of oral examinations was accomplished.

3.2.7 The Adequacy of Equipment and Systems to Meet Design Performance Requirements

Prior to initiation of the ISC, the RRB Chairman issued the Operational Readiness Review Declaration document, RB:91:0569 (Attachment 5 of Appendix G), to satisfy Checkout prerequisite 8.1 that all systems required to support the ISC had been verified ready. In the course of conducting the ISC, it was determined that the rupture discs associated with the Mechanical Relief Valves were not sufficiently leak tight to meet the bin assembly leak requirement of 1% per month leakage. The rupture discs will perform the overpressure function for which they were designed. It was also determined that although the operation of the Varian Leak Detector will meet its design requirements in the underground environment, a considerable maintenance effort will be required to keep the unit(s) functioning properly. These two issues are being addressed under Lessons 3 and 4 of Section 7.0. In the interest of keeping the elapsed time for the ISC as short as possible, the gas purging and oxygen gettering functions were carried only to the point of ensuring that the oxygen concentration was decreasing. Observer Comment 62 of Appendix E describes the schedule for WHO to conduct a full exercise to purge a bin to <5000 ppm O_2 and then oxygen getter the bin to <10 ppm O_2.

3.2.8 The Ability of Personnel to Perform ISC Activities Within the Requirements of the FSAR OSRs Through the Use of Approved Site Procedures

WIPP FSAR Addendum, Section 10.1.1, requires that bin internal pressure be vented to <0.5 psig if the internal pressure exceeds 1.2 psig. In reviewing the circumstances which would result in this condition, it was determined that the required multiple failures were not credible. No specific drill was conducted to demonstrate response to this condition. However, during the response to a High Flammable Gas Drill, venting of the bin to allow purging of an operating bin was successfully demonstrated. Therefore, the ability of WHTs to meet the depressurization requirements of Section 10.1.1 was considered functional.

WIPP FSAR Addendum, Section 10.1.2, requires that if the bin is sealed for more than 72 hours without relief protection, it must be vented or monitored daily until relief protection is restored. WP 05-WH1810 requires that a daily check of bin pressure be conducted on a sealed bin. During the ISC, the WHTs conducted this procedure daily for the emplaced bins.

WIPP FSAR Addendum, Section 10.1.3, requires that purging of a bin be initiated within 24 hours if a flammable mixture reaches 50% of the LEL in air. A flammable gas drill was conducted with a simulated hydrogen gas concentration of 2.05% (50% LEL for H_2 is 2.0%). Argon purging of the bin was commenced within the 24 hour period using WP 05-WH1803, ARGON PURGE OF BIN. Observer comments for this drill related to the timely staging of purge equipment, configuration of the purge manifold, and the purge rate. The comments all related to enhancing the responsiveness to the simulated condition. Overall, this drill did demonstrate that the WHS and WHTs could properly address the flammable gas condition with the OSR requirements and safe operating practices.

4.0 RADIATION CONTROL ACTIVITY

4.1 GENERAL HEALTH PHYSICS ACTIVITIES

The primary areas involving radiation control during the ISC were located at the RMACAs in the WHB and in Room 1 in the underground. Health Physics activities within these controlled areas included establishing occupational dose limits and controls as well as surface and airborne contamination control. These activities were accomplished through continuous HPT oversight whenever any ISC tasks involving the bins were being performed and when there was a potential for spreading radiological contamination.

Radiological control operations included surveying waste containers, equipment, radiological assessment filters, and personnel for alpha and beta/gamma at various steps throughout the process. Smear samples were taken and counted for all material and equipment prior to release to uncontrolled areas. HPTs surveyed all personnel out of controlled areas to ensure that proper radiological controls were maintained. Survey results of equipment and controlled areas were documented on standard survey maps.

Other health physics activities included manning the control points to the RMA in the WHB and at the entrance to Room 1 in the underground. This included establishing and maintaining access and egress control. Access was limited to personnel whose job responsibilities required continual access to the RMA. Personnel who were not qualified radiation workers required an escort. All materials and equipment were surveyed using hand-held beta/gamma instruments and portable alpha detectors, and smear samples were taken and counted on alpha and beta/gamma scalers prior to release to uncontrolled areas. Personnel were required to use the simultaneous alpha/beta hand and foot counters at the WHB control point prior to exiting the area. HPTs surveyed personnel out of the Room 1 control point in the underground with portable hand-held alpha and beta/gamma detectors. Sign-in logs were kept at each control point to verify access/egress control.

WP 12-5, delineates the specific policies, requirements, and general procedures for control of radiation safety operation, external and internal radiation exposure, radioactive contamination, and radiological work at the WIPP site. The radiological procedures described in WP 12-5 were implemented during all processes involving radiological control throughout the ISC.

4.2 HEALTH PHYSICS ACTIVITIES FOR SIMULATED CONTAMINATION SCENARIOS (DRILLS)

Drills involving simulated contamination scenarios were conducted in the WHB as well as the Room 1 area in the underground. The purpose of the drills was to demonstrate and evaluate response of personnel working through the ISC in the following areas:

- Contamination control techniques, including decontamination of personnel and facilities
- Contamination event with personnel injury
- Mitigation action, including re-entry and recovery

Estimated doses were calculated using the Microshield computer code, utilizing a 1.0 MeV energy gamma source from a bin content of 0.1 gamma curies derived from typical bin contact dose rate readings. This code takes into account time and distance from the source and the shielding effects of the bin and RCB.

Table 4-1

External Radiation Dose Estimates

OPERATION	PERSONNEL	TOTAL DOSE ESTIMATE (rem)
Bin Receipt, Reconfiguration, and Emplacement	*Waste Handling	0.52
	Radiation Safety	0.04
	Maintenance	0.01
	QA	0.00
	Security	0.00
Annual Operation	**Waste Handling	0.50
	Radiation Safety	0.01
	Maintenance/EO	0.06
	VOC/etc.	0.00

* Total dose for the emplacement of 113 bins for the Bin-Scale Tests Phase

** Total annual dose for the Routine Bin Monitoring; Bin Gas Sampling; Bin Pressurization Check and VOC Sampling procedures

5.0 TRAINING AND PROCEDURE PERFORMANCE

5.1 TRAINING FOR WASTE HANDLING TECHNICIANS (WHTs)

During technical reviews of the operating procedures associated with the ISCP, the TTG conducted systematic needs/task analyses to identify training activities requiring development and implementation. The WID TTG adopted the training philosophy to train WHTs to perform individual tasks necessary to utilize a procedure versus train them to perform the procedure itself.

Bin-scale test specific training was coordinated with the receipt of equipment and the development of training programs using the following ISD processes:

- OJT
- Formal classroom training
- Certification/Qualification Cards
- JPMs
- Vendor-supplied training

5.1.1 On-the-Job Training (OJT)

As stated in Section 2.4 of this report, formal OJT represents a significant portion of training conducted at WIPP.

OJT was conducted to enhance the performance of an employee in tasks already being performed or to develop skills for a new task. SMEs are responsible for the conduct of OJT for prospective technicians and for ensuring that the trainee is able to perform required skills by observing the conduct of practical exercises/evolutions specified by the associated qualification cards.

SMEs have first qualified on the subject equipment/task based either on experience or, in the case of new equipment, as a result of being involved in the preparation of operating procedures and qualification requirements. SMEs are then given an evaluation board to demonstrate both subject knowledge and understanding of the OJT training process.

Some examples of WHT OJT include:

- Compressed Gas Cylinder & Regulator Operation
- TRUPACT-II Loading/Unloading/Maintenance
- SWB conversion to RCB

5.1.2 Formal Classroom Training

The following is a list of subjects taught formally in a classroom environment. Trainee understanding of the presented material is evaluated through written testing with a required passing grade of 80 percent.

No.	Title	No.	Title
BSP-100	VCR Fitting Connections	SAF-402	Radiation Worker Training
BSP-102	Underground Gas Sampling	SAF-408	Hand & Foot Monitor Surveys
BSP-103	ISCP Overview	TRG-293	Subject Matter Expert/OJT
EQP-405	Equipment Tagout/Lockout	WHT-106	Waste Handling Operations
REP-108	Site Generated Hazardous Waste	WHT-107	Bin-Scale Hazards
REP-109	Mixed Waste Worker Training	WHT-108	Emergency Events Affecting Waste Handling

5.1.3 CERTIFICATION/QUALIFICATION CARDS

A formal, uniform program for WIPP technical personnel training, qualification, and certification was implemented by the TTG. The program's basic objectives are to ensure employees are properly trained to perform their assignments and also maintain levels of operational efficiency through continuing training.

WHT positions at WIPP fall within the realm of those requiring inclusion in the formal certification process due primarily to their direct involvement with waste handling evolutions.

Certification Cards

Certification cards detail all training requirements of the job position (i.e., formal classroom instruction, qualification cards, etc.). The certification process culminates with the trainee demonstrating proficiency to an oral examination board which is conducted by the functional staff manager and includes technically qualified personnel.

The following are samples of WHT Certification Cards:

No.	Title
WHO-01	Contact Handled Waste Handler
WHO-02	Waste Handling Engineer

Qualification Cards

Qualification cards relate directly to certification cards by specifying the qualification standards to be demonstrated for a particular certification card statement. The card serves as a training guide by identifying the minimum requirements of equipment, system, and task skills and knowledge needed to demonstrate competency for a task (A sample qualification card is included in Appendix F).

The following are examples of WHT Qualification Cards:
(Most qualification cards have sub-equipment qualifications embedded within)

No.	Title	No.	Title
A-03	CH Waste U/G Transporter	A-28	Waste Handling Limited Operations
A-06	Conveyance Loading Car	A-29	Oxygen Getter System
A-08	Bridge Crane (5-Ton)	A-30	Bin-Scale Operations
A-09	CH TRU Waste Handling	A-31	Radiation Surveys
A-10	TRUPACT II	A-32	Anti-C's
A-22	Forklift (13-Ton Electric)	B-24	Forklift (6-Ton WHO)
A-23	Bridge Crane (25-Ton)	OPS-402	Incidental Rigger
A-24	Trailer Jockey (Capacity)	WH-01T	Waste Handling Ops - Test
A-25	CH TRU Waste Handling Engin.	WHO-02	Contact Handling Waste Requal
A-27	CH TRU WHT TRUPACT Maint.		

5.1.4 Job Performance Measures (JPMs)

JPMs provide a system for utilizing set standards to measure trainee knowledge and skills used in the performance of a task.

The following are examples of WHT JPMs:

- Replace TGS-2/A Air Sampler Canister
- Operate the AB-5 Portable Radiation Detector
- Operate the Dew-All 911 Digital Humidity Analyzer
- Determine Reactive Gas Sample Flow
- Operation of the ACGLF

5.1.5 Vendor Supplied Training

Due to the nature of the WIPP and its associated unique waste handling equipment, certain specific training applications were best supplied by subcontracting a vendor to administer training.

Technical Training stipulated development standards for these programs and reviewed both instructor credentials and program content prior to course administration. This process ensured a continuation of process standards established to support the overall ISC Program.

The following are examples of WHT Vendor Training:

No.	Title	No.	Title
VEN028	Conduct of Operations	VEN056	Basic RCRA Training
VEN047	Swagelock Fittings	VEN059	Helium Leak Check

5.2 TRAINING FOR THE VOLATILE ORGANIC COMPOUND (VOC) MONITORING GROUP

Documented training programs have been established by the TTG for personnel involved in the VOC Monitoring Program. All existing training programs are based on approved procedures.

The TTG adheres to the ISD method of developing training programs. A needs analysis was performed based on reviews of draft procedures/technical manuals and interviews with personnel that were/are going to perform the various procedures. This resulted in a preliminary list of tasks that TTG suspected would require training. This list was then reviewed by the technicians and their supervisors, and each task was rated. The ratings were then applied to a training decision matrix to determine which tasks would require training and which training methodology should be applied. As the draft procedures were approved, a final review was conducted to identify any differences that may have impacted the original needs analyses.

Initially, training was conducted in the classroom. This training provided basic information about the purpose of VOC sampling and in-depth instruction on the operation of special equipment that is used to collect samples. Once the initial cadre of personnel were trained, the emphasis shifted to OJT using qualification cards as guides. OJT is preferred because of the uniqueness of systems/equipment and numbers of personnel requiring training. Also, OJT is the best way to indoctrinate and train new operators.

On May 31, 1991, a decision was made to divide responsibilities for collecting/handling VOC samples between WHO and D&AT. At approximately the same time, the duties of those who were to collect/handle the samples were further defined; roles were expanded as more became known about the overall job. Needs analyses were completed on each of the tasks that technicians were expected to perform.

The following paragraphs describe the training provided to these two groups of personnel.

WHTs

WHTs are responsible for collecting VOC samples from TRUPACT-II and bins emplaced underground.

The following is a list of initial training and the methodology used for training WHTs:

TRAINING	METHODOLOGY
1. Proper use of VCR/Swagelock fittings	Formal classroom instruction
2. Proper installation/disconnection of special collection manifolds	Formal classroom instruction
3. Proper valve alignment on the re-circulation loops and special manifolds	Formal classroom training
4. Proper operation of the Varian Leak Detector	Formal classroom instruction provided by the vendor (using approved lesson material and class was monitored by personnel from the TTG)
5. Proper instruction of the DEW-ALL Humidity Analyzer	Formal classroom instruction

Note: At the conclusion of each class, students were required to demonstrate hands-on proficiency.

Each of the above listed training is now being taught via qualification cards, by board-certified SMEs.

D&AT Personnel

(VOC stations 1, 2, 8, 9, and 10.) D&AT personnel are responsible for collection, handling, storing, and shipping samples and sampling equipment.

These personnel are trained in the same manner as the WHTs (i.e. initial classroom training followed by OJT with a certified SME).

The following is a list of initial training provided to D&AT personnel:

1. VCR/Swagelock fittings
2. Remove/Replace canisters
3. Resetting Multichannel Timers

The following additional training is being conducted for new technicians via a qualification card:

4. Resetting PLC cabinet displays
5. Replacing chart paper
6. Handling compressed gas cylinders
7. Set-up/adjust flow meters & regulators
8. Maintain cleanliness of all VOC collection stations
9. General handling, transportation and storage of certified systems, components and spare parts
10. Adjust system flow controllers
11. Chain-of-custody forms usage
12. Remove/Replace VOST tubes and Carbon Sorption bed

5.3 QUALIFICATION PROCESS

5.3.1 Qualification of Subject Matter Experts (SMEs)

The WHO department and the D&AT department appointed an SME for all systems/equipment which had associated qualification requirements. This person was appointed in writing by the responsible manager. The individual chosen was qualified on the subject system/equipment based either on experience or, in the case of new systems/equipment, as a result of being directly involved in the preparation of operating procedures and qualification requirements. The individual then attended a 4-hour SME/OJT course. After successfully completing this course, the individual passed an SME Certification Board for the qualification card that was completed. The certification board was made up of representatives from the technician's department, the Training department, and included representatives from Safety or Engineering, as appropriate. This board is designed to ensure the technician has the instructional and technical skills/knowledge to perform the SME/OJT role. The board usually lasted for 1 hour, during which time the technician was asked several technical and training technique questions to ensure that the individual will be able to perform as an SME.

5.3.2 Qualification of Other Technicians

Each SME is responsible for the preparation or revision of qualification cards and qualification guides. This person also has the only acceptable signature as an SME on a qualification card under a particular area of responsibility. The SME introduced the new trainees to the WIPP qualification program, explained the qualification requirements of the assigned qualification card, and provided the initial OJT. Continuing OJT may be provided by any other qualified operator. The SME is the only person authorized to evaluate and sign qualification card skills and knowledge statements based upon the trainee stating preparedness for such evaluation and properly demonstrating the associated skills and knowledge.

5.4 STATE OF TRAINING

Direct observation of the ISC tasks (surface and underground) indicated that the technicians (WHTs, HPTs, QA,) had been sufficiently trained and prepared to perform their tasks. Procedures were safely and adequately performed by the technicians.

Most of the comments noted by ISC observers (See Appendix E) were the result of lack of available systems/equipment with which to train and practice. In a few cases the lack of attention to detail by the technicians resulted in errors. Other comments were caused by unclear steps in procedures, (most problems with procedures were noted and revised immediately) and some were the result of the lack of preparation by supervisors.

Waste handling tasks were accomplished by teams. These teams have practiced together and demonstrated an ability to safely accomplish their tasks. However, additional training is suggested to cross-train members of each team with other team members and provide additional experience to further enhance the efficiency and smoothness of performing required tasks and responses to abnormal events.

5.5 QUALITY OF PROCEDURES

The Operations procedures developed for WIPP and used during the ISC were developed in accordance with WP 15-7. This guide was modeled after current commercial nuclear plant practices, INPO Guidelines/Good Practices, and Conduct of Operations Requirements for DOE Facilities (DOE Order 5480.19). By standardizing Operations procedures using the writers guide, procedures developed for normal and abnormal waste handling operations were complete, clear, concise, consistent and user-friendly.

The level of detail in the procedures adequately addressed the experience level, training, and expected performance of the operators. To ensure the technical accuracy of the procedures, all major departments and organizations at WIPP participated in the technical and field validation review process for each procedure prior to their submittal to the OPSRC for approval.

5.5.1 Human-Factors Considerations

Human-factors considerations/concerns incorporated during procedure development included mechanics of style, step numbering, step content (one action per step), independent verification steps, and the inclusion of operator place-keeping aids.

5.5.2 Thoroughness of Addressing Required Operational Activities

The procedures utilized by the WHTs were technically correct and of sufficient detail to perform the required tasks. Additionally, the procedures used were properly controlled, and only "approved working copies" were used during the evolutions.

During the conduct of the ISC, minimal procedure changes were necessary for the proper performance of the procedure. Changes were implemented through established PCN guidelines, properly documented, and approved. Some confusion occurred among the observers due to the fact that their copies of the procedures did not include the latest revision/PCN.

5.6 PROCEDURAL COMPLIANCE

WID QA has established inspection points in the various procedures used to perform the ISC. In addition, WID QA served as observers of ISC processes on the surface and in the underground to witness and validate procedural compliance of ISC activities and the administrative functions of initiating PCNs. An ISC log book was kept and includes each daily meeting's issues, observers' comments, daily schedule, and flow process. This will be maintained as a QA record.

There was only one incident of procedural noncompliance: WHT missed turning off the circulator (Step 7.52 of WP 05-WH1801). The cause can be attributed to operator error and the step being located below the margin of the procedure page. No other procedural noncompliance was noted.

5.7 COMPLIANCE TO INDUSTRIAL SAFETY PRACTICES

ES&H observers evaluated the ISC from the arrival of the TRUPACT-II through unloading, inspection, and testing to its placement underground, and the retrieval process. The observers evaluated industrial health and safety aspects relative to the physical activities of the process. It was evident, throughout the exercise, that the technicians were well trained, moving from one event to the next with minimal loss of continuity. Of particular notice was the excellent work done by the HP technicians. They were meticulous in every aspect of their work and were extremely safety conscious. During the ISC, ES&H did not observe any industrial safety or health deficiencies that warranted immediate correction. The ES&H observers concur that the bin-scale program is ready for waste receipt. The comments are not impactive to receipt of waste, but they will provide an enhanced level of safety and a more compatible work place.

6.0 ABNORMAL EVENT RESPONSE

The Unusual Events/Drills initiated during the performance of the ISC procedure were scheduled and initiated within the tasks being performed, at a most likely place of occurrence, to demonstrate operator response. The following is a summary of the drills for both the surface and the underground:

- Unusual Events/Drills 9.5.9, 10, and 13 were satisfactorily demonstrated in a timely manner and in accordance with procedural requirements on the surface with no negative comments from the observers. Each drill was evaluated and documented on critique sheets in WP 05-WH5101, Attachment 4.

  Drill 9.5.9, Loose Surface Contamination on Bin, was demonstrated on the surface. When the HPT was performing a swipe assessment survey of the bin, the Health Physics Observer initiated the drill by informing the HPT of 300 dpm alpha contamination on the bin. The drill was terminated after the HPTs satisfactorily demonstrated decontamination of approximately 200 cm^2 and disposal of the derivative waste.

  Drill 9.5.10, Contaminated Personnel During Bin Activities, was demonstrated on the surface. The drill was initiated by the Health Physics Observer during the performance of a drill already in progress, which required a body survey of the HPT. The observer informed the HPT that he had 20 dpm alpha contamination indicated on his right index and middle fingers. The drill was terminated upon satisfactory demonstration of the personnel decontamination and disposal of the derivative waste.

  Drill 9.5.13, Particulate Filter and Hose Failure, was demonstrated on the surface and was the initiating drill for a site-wide drill the same day. The drill was initiated by the Health Physics Observer, while the HPTs were performing a contamination survey. The observer informed the HPT that the results of the smears indicated 500 DPM alpha contamination on the hoses internal to the RCB lid on TBX06, due to leaking Particulate Filter and Failed Hose. The drill was terminated upon satisfactory demonstration that the contaminated bin/RCB/material was being contained in accordance with Radiation Safety procedures.

- Unusual Events/Drills 9.5.1, 3, 4, 6-8, and 11 were satisfactorily demonstrated in a timely manner in accordance with procedural requirements in the underground, with no negative comments from the observers. Drill 9.5.12, Flammable Gas Concentration High (an OSR drill), raised some concern as to the timeliness of response with respect to the action initiating the required purging of the bin. Each drill was evaluated and documented on critique sheets in WP 05-WH5101, Attachment 4.

  Drills 9.5.1, Primary Instrument String Pressure Sensor/Transducer Failure, and 9.5.3, Oxygen Analyzer/Sensor Failure, were demonstrated in the underground and initiated by the ISC Observer. The Observer instructed the SNL technician to disconnect an amphenol connector or turn off the power to the device, and observe the response from the DAS operator along with the CMRO. These instrument failure drills require the DAS to identify the failure and sound an alarm, which alerts the DAS operator to take action in accordance with procedure SNL-362, Alarms Identification Methods for the Bin Tests. Drill 9.5.4, Primary Mechanical Relief Path Failure, was demonstrated in the underground and initiated by the ISC Observer instructing the WHT to open PR-9 and depressurize the bin. The Observer then instructed the DAS

Operator to perform a Demand Scan, to initiate the drill at the DAS level. Loss of pressure in the bin causes an alarm at the DAS which is picked up by the scan. These instrument failure drills ended after SNL and WHO satisfactorily determined that the instrument required changeout. Actual changeout was demonstrated by the technicians during installation and initiation of the Bin Equipment Connect and removal upon Bin Retrieval procedures; thus no changeout demonstration was required.

Drill 9.5.6, Bin Low Pressure, was demonstrated in the underground. The ISC Observer initiated the drill by instructing the DAS Operator to perform a Demand Scan on bin TBX07 which was already depressurized. Once the communication from the DAS operator to the CMRO and back to the WHS was demonstrated and the SNL PI directed the WHS to repressurize, the drill was terminated, since the pressurization process was demonstrated earlier in the Checkout.

Drill 9.5.7, Contaminated Assessment Filter, was demonstrated in the underground. The drill was initiated by the Health Physics Observer during the performance of bin gas sampling and survey of the associated assessment filter. The Observer informed the technician that the assessment filter was contaminated with 200 dpm alpha. The drill was terminated upon satisfactory demonstration that the contaminated material was contained in accordance with the Radiation Safety procedures.

Drill 9.5.8, Contaminated Equipment Module Fitting, was demonstrated in the underground. The drill was initiated by the Health Physics Observer by informing the HPT that the fitting was contaminated with 150 dpm alpha during the performance of the Bin Gas Sampling fitting survey. The drill was terminated upon satisfactory demonstration that the contaminated material was contained in accordance with the Radiation Safety procedures.

Drill 9.5.11, Loss of DAS Shed Power to Bins, was demonstrated in the underground. The drill was initiated by the CTE and ISC Observer by instructing the technician to turn off the 480 volt power supply to the DAS shed and reenergize after 30 seconds. The drill was terminated upon satisfactory activation of the DAS Shed auto-dialer, calling SNL and communication back to the CMRO.

Drill 9.5.12, Flammable Gas Concentration High, was demonstrated in the underground. The drill was initiated by the ISC Observer providing the analytical lab with the gas sample results from bin TBX05 having a flammable gas concentration of hydrogen gas at 2.1% as analyzed. The drill was terminated upon SNL PI directing WHO to perform an argon purge of the bin.

- Unusual Events/Drills 9.5.2 and 9.5.5 were not demonstrated since they are part of an instrument string and would be replaced as a unit. Also the process for replacement is the same as that covered by Bin Equipment Disconnect procedures, which are demonstrated by the ISC procedure.

7.0 LESSONS LEARNED

The following is a description of those lessons which are considered to be the most significant arising from a number of observations made by the WIPP internal observers during the ISC. Appendix E is a detailed list of all comments received from the internal observers and their resolutions.

1. Rigorous control of the assembling and staging of bin support equipment (e.g., Bin-Scale Instrumentation Boards, Gas Sample Manifolds, Gas Purge Manifolds, RAF Manifolds, etc.) needs to be imposed to ensure that configuration, cleanliness, calibration, and availability support the needs of the bin-scale test program in the underground. During the ISC there were a number of instances of assemblies not configured as required by design.

2. An adequate supply of spare parts needs to be provided in the underground. On more than one occasion, the WHS had to wait for additional parts to come from the surface to support the activity. WHTs were also required to conduct repeated disassembly and reassembly of equipment at times to work around the absence of appropriately available fittings.

3. The currently available Varian Leak Detector is not suitable for the required underground service. It was demonstrated on at least two occasions that an operable unit on the surface would not survive the rigor of transportation to the underground and still be satisfactorily calibrated. Use of the detector for pulling a vacuum on other equipment may render the system incapable of subsequently performing a satisfactory leak test.

4. As currently configured, the bin assemblies will not meet the Test Plan leak requirement of 1% per month leakage. The best rate observed during the ISC was a decrease of 0.04 psi over approximately 12 hours. Recent experience indicates that the poor leak performance is due to excessive leakage through the rupture discs.

5. The Gas Purge System(s) configuration exhibits human factors deficiencies. The location of the gas bottle arrangement within the stand also containing the Gas Purge System valving and flow meter significantly interferes with the ability of the technician to see the flow meter reading, adjust the flow control valve, and adjust the gas bottle regulator valve.

6. The LCOs associated with the operation of the bins are not clearly identified in the procedures developed for off-normal conditions. A copy of the FSAR Addendum containing the limits is not readily available to the WHS in the underground.

7. Laydown facilities for equipment supporting the bin assembly is inadequate. During the ISC, there was no consistently available facility for WHTs to use when installing or removing components from the RCB or the Interface Board.

8. The CMRO is not familiar with all the responses required of him by the off-normal procedures described in WP 05-WH1810.

9. WHTs should proceed at a more deliberate pace through the prerequisite sections of procedures to assure that initial conditions are firmly established and equipment is available prior to conducting the actual steps of Section 7.0. This should reduce the possibility of missing setup conditions which later in the procedure cause avoidable delays.

10. Additional experience using the procedures will improve the efficiency with which the WHTs can implement the procedural requirements and anticipate needs which will make the work flow more efficiently.

11. The primary barrier around the bin(s) being worked on may have to be extended away from the bin(s) to allow personnel freedom to move away from the radiological source(s). During the ISC demonstration, many of the other bins and their equipment were absent, so personnel had no problem getting away from the source(s). However, there will not be as much free space when the room fills up and a gettering cart, pressurization rig, HPT counting table, WHO instrument assembly cart, trash cans (contaminated and clean), and the SNL bin equipment test cart are all staged next to the work area.

12. Based on the comments offered by Safety, there is a concern for the safety of working personnel, primarily within the WHB CH bay area where the TRUPACT and SWB lifting is performed. The two concerns are as follows: 1) Within the loading dock, the technicians are exposed to possible falling loads, which could be deflected toward them in the event of a failure, due to the close proximity of the work area. All non-essential technicians should clear the dock while handling the TRUPACT loads. 2) The overhead crane area around the loading dock presents a limited working space when lifting or moving loads; and since the technicians again have been restricted to working within the ALARA (blue line) area, which the HPT has set as the RCA boundary, personnel within the area have been essentially crowded. The RCA boundary should be expanded to allow personnel to move toward safer distances when handling loads with the crane.

8.0 RECOMMENDATIONS

1. Procedures should be developed which address in detail the fabrication of each type of assembly which is to be prefabricated for installation on the RCB and on the Instrumentation Interface Board. The procedures should contain detailed checklists incorporating accountability signatures and inspection certification signatures attesting to the particular assembly meeting the design configuration requirements of the applicable drawings. Each checklist should be traceable to the specific assembly for which it was completed.

   Procedures should be developed which address in detail the cleanliness, calibration, and leak testing as appropriate for each type of assembly which is prefabricated for installation on the RCB and on the Instrumentation Interface Board. Detailed checklists with accountability signatures attesting to the condition of the specific assembly should be traceable to that assembly. The insertion of embedded or attached drawings and diagrams would greatly enhance the technicians' understanding and usage of the procedures.

2. A spare parts list should be developed with input from operating personnel to support the expected number of bins to be installed in the underground and the expected daily activity required to support these bins. Suitable storage for the spare parts should be provided in the underground and access to that storage should be controlled. Periodic inventory of the spares should be conducted to ensure adequacy of inventory. Maximum and minimum quantities should be established with responsibility for ordering and follow-up clearly established and documented.

3. Develop a specification and procure a leak detection system which is suitable for operation in the underground environment with high availability and low maintenance requirements. Also specify and procure a separate system for use in supporting the vacuum requirements of equipment used in the underground.

4. Identify and correct the design deficiencies associated with the rupture discs. Install the modified rupture discs, and then test a bin assembly to determine if an acceptable leak rate can be achieved.

5. Reconfigure all rack-mounted Gas Purge Systems to address the human factors configuration deficiencies.

6. Change WP 05-WH1810 to include the requirements described in the LCO and Action statements of Sections 10.1.1, 10.1.2, and 10.1.3 of the FSAR Addendum.

7. Investigate the varying operating conditions and provide recommendations for a dedicated facility for use by the WHTs to lay down prestaged equipment for installation during test bin assembly and operation.

8. Provide indoctrination to CMROs in their responsibilities as defined in WP 05-WH1810. Review all other procedures to ensure that any required CMRO support of bin operation is conveyed to the CMROs and FOSS.

9. The requirement to proceed very deliberately through the prerequisite sections of the procedures should be emphasized in the OJT program and the classroom training for specific procedures.

10. WHO should continue to practice the full range of activities necessary for the receipt, emplacement, and retrieval of bins. This should entail rotation of crews on the surface and the underground to provide a more comprehensive level of qualification and experience with the new procedures for all WHTs.

9.0 RESOLUTION RESPONSIBILITY

1. ACTION: Develop the procedures as described in recommendation 1 of Section 8.0.

   RESPONSIBILITY: Radioactive Waste Handling - J. J. Garcia:

   - Mechanical Relief Valve Assemblies
   - RAF Manifolds attaching to the RCB lid
   - Gas Purge Manifold

   Sandia National Laboratories - A. Stevens:

   - Bin-Scale Instrumentation Board
   - Recirculation System
   - Tracer Gas Injection Manifold
   - Gas Sample Manifold
   - Water Vapor Manifold

   SCHEDULE COMPLETION: 8/15/91

2. ACTION: Develop the spare parts list and implement the controlling actions described in recommendation 2 of Section 8.0.

   RESPONSIBILITY: Radioactive Waste Handling Engineering - J. J. Garcia

   - Develop the parts list and maximum and minimum quantities.

   Material Services - L. J. Ortega:

   - Provide suitable underground storage
   - Conduct periodic inventory to assure adequate quantities.

   SCHEDULE COMPLETION: 9/6/91 for list development.

3. ACTION: Implement recommendation 3 of Section 8.0.

   RESPONSIBILITY: Radioactive Waste Handling Engineering - J. J. Garcia

   SCHEDULE COMPLETION: 10/18/91

4. ACTION: Implement recommendation 4 of Section 8.0.

   RESPONSIBILITY: Radioactive Waste Handling Engineering - J. J. Garcia

   SCHEDULE COMPLETION: 8/16/91

5. ACTION: Reconfigure all rack-mounted gas purge systems to address the human factors configuration deficiencies and change the specification drawing as required to depict the as-built condition.

   RESPONSIBILITY: Waste Handling Operations - C. R. Kelley

   SCHEDULE COMPLETION: 8/16/91

6. ACTION: Implement recommendation 6 of Section 8.0.

   RESPONSIBILITY: Waste Handling Operations - C. R. Kelley

   SCHEDULE COMPLETION: 8/16/91

7. ACTION: Implement recommendation 7 of Section 8.0.

   RESPONSIBILITY: Waste Handling Operations - C. R. Kelley

   SCHEDULE COMPLETION: 9/6/91

8. ACTION: Implement recommendation 8 of Section 8.0.

   RESPONSIBILITY: Facility Operations - W. R. White

   SCHEDULE COMPLETION: 9/6/91

9. ACTION: Implement recommendation 9 of Section 8.0.

   RESPONSIBILITY: Waste Handling Operations - C. R. Kelley

   SCHEDULE COMPLETION: 9/6/91

10. ACTION: Implement recommendation 10 of Section 8.0.

    RESPONSIBILITY: Waste Handling Operations - C. R. Kelley

    SCHEDULE COMPLETION: This is an on-going function in progress

DOE/WIPP 90-002

Waste Isolation Pilot Plant
Dry Bin-Scale Integrated Systems
Checkout Plan

April 1991

Waste Isolation Pilot Plant

DOE/WIPP 90-002
Revision 2

Waste Isolation Pilot Plant
Dry Bin-Scale Integrated Systems
Checkout Plan

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Waste Isolation Pilot Plant

Carlsbad, New Mexico

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WIPP DRY BIN-SCALE INTEGRATED SYSTEMS CHECKOUT PLAN

DOE/WIPP 90-002, Rev. 2

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Acronyms

ALARA - As Low As Reasonably Achievable

CAM - Continuous Air Monitor

CFR - Code of Federal Regulations

CH - Contact-Handled

DAS - Data Acquisition System

DAT - Dosimetry and Analytical Technology

DOE - Department of Energy

DOT - Department of Transportation

ECO - Engineering Change Order

EPA - Environmental Protection Agency

EPS - Experimental Programs Section

FAS - Fixed Air Sampler

FSAR - Final Safety Analysis Report

HEPA - High Efficiency Particulate Air (not certified by a DOE Facility)

HEPR - High Efficiency Particulate Roughing

HO - High Organic

HONG - High Organic Newly Generated

HOOW - High Efficiency Particulate Roughing

HP - Health Physics

HPT - Health Physics Technician

ICV - Inner Containment Vessel

INEL - Idaho National Engineering Laboratory

ISC - Integrated Systems Checkout

ISCP - Integrated Systems Checkout Plan

Acronyms
(Continued)

LANL - Los Alamos National Laboratories

LCO - Limiting Condition of Operation

LFL - Lower Flammability Limit

LLW - Low-Level Waste

LO - Low Organic

NQA - Nuclear Quality Assurance

NRC - Nuclear Regulatory Commission

OCA - Outer Containment Assembly

OJT - On-The-Job Training

ORNL - Oak Ridge National Laboratory

OSR - Operational Safety Requirement

PLC - Programmable Logic Controller

ppm - Parts Per Million

PS - Processed Sludge

psid - Pounds per Square Inch Differential (with respect to baseline reference bins)

PWR - Plant Work Request

QA - Quality Assurance

RAF - Radiological Assessment Filter

RCA - Radiologically Controlled Area

RCB - Radiation Control Boundary

RMA - Radioactive Materials Area

RS - Radiation Safety

RWHE - Radioactive Waste Handling Engineering

Acronyms
(Continued)

RWP - Radiation Work Permit

SARP - Safety Analysis Report for Packaging

SME - Subject Matter Expert

SNL - Sandia National Laboratories

SWB - Standard Waste Box

TRAMPAC - TRUPACT Authorized Methods for Payload Control

TRU - Transuranic

TRUPACT-II - Transuranic Package Transporter

TTG - Technical Training Group

VMS - VOC Monitoring System

VOC - Volatile Organic Compound

VOST - Volatile Organic Sampling Train

WHB - Waste Handling Building

WID - Waste Isolation Division

WIPP - Waste Isolation Pilot Plant

WPO - WIPP Project Office

WWIS - WIPP Waste Information System

1.0 WIPP DRY-BIN SCALE INTEGRATED SYSTEMS CHECKOUT PLAN

1.1 INTRODUCTION

In order to determine the long-term performance of the WIPP disposal system, in accordance with the requirements of the EPA Standard 40 CFR 191, Subpart B, Sections 13 and 15, two performance assessment tests will be conducted. The tests are titled "WIPP Bin-Scale CH TRU Waste Tests" and "WIPP In Situ Alcove CH TRU Waste Tests." These tests are designed to measure the gas generation characteristics of CH TRU waste. Much of the waste will be specially prepared to provide data for a better understanding of the interactions due to differing degradation modes, waste forms, and repository environmental affects.

The Bin-Scale Test is designed to emplace nominally 146 bins. The majority of the bins will contain various forms of waste. Eight bins will be used as reference bins and will contain no waste. This Checkout Plan exercises the systems, operating procedures, and training readiness of personnel to safely carry out those specifically dedicated activities associated with conducting the Bin-Scale Test Plan for dry bins only. The Plan does not address the entire WIPP facility readiness state.

Dry bins are those bins that contain no added brine. The Test Plan Addendum #1: WIPP Bin-Scale CH TRU Waste Tests dated December 1990 identifies a total of 65 bins which meet the "Dry Bin" definition. Table 1-1 describes the waste matrix of these bins. At a later date, supplements to this Plan or separate plans will be issued to address emplacement of bins which have had brine added to their contents, the in situ alcove tests, and, if implementation decisions are made, the EPA proposed room-scale tests and the Operations Demonstration.

Each bin will be instrumented with thermocouples, two instrument modules, two mechanical safety relief valve modules, and a gas recirculation sample module. Those bins designated to be anaerobic will be argon purged and then oxygen gettered to an oxygen level of less than 10 ppm. Those bins designated to be aerobic that contain HO waste will be nitrogen purged to reduce their oxygen levels to 3.8 percent to 4.0 percent. All waste filled bins except those containing LO wastes will be nominally pressurized to 0.25 psid above the mine ambient pressure as determined from the average pressure of the baseline reference bins. Those bins containing LO waste will be pressurized to within the range of >0.45 psid to <0.50 psid. This will allow multiple gas samples to be taken from these low gas generating bins during the early months of testing without significantly depressurizing the bins. To assist in accurately determining gaseous environmental conditions, each bin will also be injected with the tracer gases xenon and krypton. All gas injected into the bins and released from the bins will be measured and accounted for. A VMS will route discharged gases to the mine ventilation system through an activated charcoal filter. An air sampler in the VMS will be used to sample the discharge to ensure that the operation of the test is conducted in compliance with EPA regulations regarding the discharge of VOCs.

The ISCP addresses a two-phase approach to preparing systems, procedures, and personnel to support the Dry Bin-Scale CH TRU Waste Test. The first phase includes all those activities necessary to develop procedures and train personnel to start up and operate individual systems and equipment specifically designed to support the Dry Bin-Scale CH TRU Waste Test. The second phase is a bin-scale integrated checkout using four bins loaded with simulated waste. Conduct of the

Table 1-1

DRY TEST BIN SUMMARY

Baseline-Reference Bins, Empty/Nonwaste	= 8 bins	
Organic Combustible, HONG (Aerobic)	= 3 bins	F
Organic Combustible, HONG (Anaerobic)	= 3 bins	I
Filters, Organic, HONG (Aerobic)	= 3 bins	R
Filters, Organic, HONG (Anaerobic)	= 3 bins	S
Glass Wastes, LO (Anaerobic)	= 3 bins	T
Mixed Metals, LO (Anaerobic)	= 3 bins	
	26 Subtotal	
Organic Combustibles (Anaerobic)	= 3 bins	
Filters, Organic (Anaerobic)	= 3 bins	H H
Organic Solids, Plastics (Anaerobic)	= 3 bins	O & O
Leaded Rubber (Anaerobic)	= 3 bins	N O
Combustible/Noncombustible (Anaerobic)	= 3 bins	G W
Cemented Organics (Anaerobic)	= 3 bins	
Inorganic Solids (Anaerobic)	= 3 bins	L
Graphite Wastes (Anaerobic)	= 3 bins	O
Pyrochemical Salts (Anaerobic)	= 3 bins	
Inorganic Process Sludge (Aerobic)	= 3 bins	
Cemented Inorganic Particulate (Aerobic)	= 3 bins	P
Solidified Organic Liquid (Aerobic)	= 3 bins	S
Solid Organic Laboratory Wastes (Aerobic)	= 3 bins	
	39 Subtotal 65 Grand Total	

FIRST - Initial Bins Received

HONG - High Organic Newly Generated

HOOW - High Organic/Old Waste

LO - Low Organic

PS - Processed Sludge

exercise will be evaluated against the predetermined acceptance criteria outlined in Section 3.2, and an evaluation shall be made to determine the adequacy of systems and personnel to implement the Dry Bin-Scale CH TRU Waste Test.

The ISC is intended to be part of a readiness demonstration of the dry bin-scale experiments, including experiment termination and retrieval. Simulation will be limited to the use of simulated radioactive waste and radioactive contamination. The bins will be production bins reflecting test bin configurations, and all instrumentation will meet the specifications of the equipment intended for use during the actual Bin-Scale CH TRU Waste Test. The ISCP also includes on-site analytical capability and those startup and training activities necessary to ensure that the WIPP is ready to receive experimental waste as differentiated from a previously demonstrated capability to receive standard CH waste. The ISC will exercise those controls necessary to 1) safely initiate and conduct the dry bin portion of the bin-scale test; 2) safely terminate the test; 3) retrieve the waste; and 4) prepare the waste for shipment off-site. Some of the startup and training activities are keyed to individual systems necessary to support Dry Bin-Scale Test requirements. For each system, the following functions, as applicable, must be satisfactorily accomplished to ensure safe and successful operational implementation of that system:

- Develop and approve procedures to control:
  - Installation
  - Calibration
  - Startup and acceptance testing
  - Operation
  - Termination and removal
- Install equipment and system
- Perform startup and acceptance testing
- Train and qualify operators

Upon satisfactory completion of the above functions, including rigorous documentation to support achieving compliance with procedural requirements, an integrated checkout of the Dry Bin-Scale Test will be performed and documented to ensure the adequacy of systems, procedures, and personnel training to commence the Dry Bin-Scale Test with CH TRU waste. The actual checkout will be controlled by the ISC procedure number WP 05-WH5101. Thus, the ISCP addresses both systems preoperational preparations and the operational checkout of systems in an integrated manner to support the Dry Bin-Scale Test requirements.

Section 5.0 of this ISCP describes prerequisites for achieving operational readiness of systems dedicated to support the Dry Bin-Scale CH TRU Waste Test.

Section 3.0 provides a narrative of the Bin-Scale Integrated Checkout for the receipt, emplacement, operation, operational termination, retrieval, and preparation for shipment of the CH TRU waste contained in dry bins. To support this Integrated Checkout, additional administrative preoperational activity not keyed to specific systems must be accomplished. The activities include:

- Development and approval of procedures to safely control:
  - Receipt of dry bins in SWBs
  - Modification of SWBs to RCBs
  - Purging of bins on the surface
  - Transport dry bins in RCBs to the underground
  - Emplacement of RCBs containing dry bins
  - Placing into operation and sampling of dry bins
  - Data gathering
  - Terminating operation of dry bins
  - Retrieval of dry bins in their RCBs including transport to the surface
  - Transfer of bins to clean SWBs
  - Loading and preparation for off-site shipment of dry bins in SWBs
- Training of personnel in the performance of the procedures
- Validation of the procedural requirements

The performance of the checkout will require a period of two to three weeks. However, a major portion of the activities performed in the integrated checkout will be first-of-a-kind; so time requirements for many individual functions cannot be accurately estimated until the startup and training activities for individual systems have been completed.

Figure 7-1 identifies the major functional activities to be exercised during the initial Dry Bin-Scale Integrated Checkout. Checkout scenarios are currently planned to accommodate both an internal review and external observation. The internal review will be conducted by the DOE WPO, SNL, and Westinghouse WID management to ensure that the WIPP team has satisfactorily addressed those personnel, procedure, and system aspects that are specific to support the Bin-Scale CH TRU Waste Test Program for dry bins. Subsequent checkouts will be conducted for the benefit of external organizations to observe the status of WIPP readiness specific to the Dry Bin-Scale CH TRU Waste Test. DOE will identify and invite the appropriate external organizations.

The Bin-Scale Test Program will require two 33' x 13' x 300' rooms in the WIPP underground. Current plans are to use Rooms 1 and 2 of Panel 1 in the underground mine. Approximately 65 specially-designed bins are planned to be emplaced for the Dry Bin Test Program, all in Room 1. The baseline reference bins will be empty, and the remainder will be filled with CH TRU waste. The bins are instrumented and capable of being sampled periodically for gas. Individual bins will be contained within their RCBs. The bin/RCB configurations will be stacked two high and oriented to allow forklift access to each bin throughout the Bin-Scale Test Program.

Remote readout of bin instruments will be accomplished via a DAS and recording equipment contained within the DAS shed and DAS computer. The shed is located at the south end of Room 1. The DAS computer is on the surface. Access to individual bin instrumentation will be provided by modularizing the instrumentation and supporting it on the bin/RCB with cable connections to the DAS shed.

The Bin-Scale Test Program has been designed to examine the effects of gas generation processes within the stored CH waste. To accomplish this, the test program is expected to have a minimum duration of three years. In that length of time, although not expected, there is some possibility that radioactive particulates could be released from one or more bins, resulting in contamination of the RCB internals and/or instrumentation. Successful termination of the test, including the removal and appropriate disposal of support equipment, may become a more complex task if, in fact, radioactive particulate contamination is present. To provide maximum assurance that termination will be safely conducted and that procedures can adequately control anticipated conditions, the ISCP has been developed to include the checkout of activities necessary for personnel to safely function during both the operation and termination of the bin-scale test.

1.2 PURPOSE

The ISCP has been developed to provide assurance that operational activities dedicated to supporting the Dry Bin-Scale Tests can be achieved safely and the experiment conducted successfully. To attain this assurance, a systematic approach will address:

- Development of procedures to control startup and acceptance testing of systems and equipment dedicated to the Dry Bin-Scale Test
- Development of procedures to control operation of systems and equipment, waste receipt, emplacement, operation, test termination, waste retrieval, and off-site shipping of dry bins
- Monitoring of systems installation and checkout to ensure systems meet acceptance testing criteria
- Initial operation of systems to validate procedural controls
- Training of personnel to perform systems operational activities in accordance with procedural controls
- Capability of corrective action for abnormal events
- Documentation of acceptance testing data and personnel training and qualification requirements

Successful completion of the above activities for all systems and operational tasks dedicated to support of the dry bin-scale testing will be verified. Upon completion of that verification, the stage will be set to conduct the integrated checkout of Dry Bin-Scale Test initiation, operation, and termination, including retrieval. The ISC will produce the final validation so that all activities dedicated to the Dry Bin-Scale Test can be conducted as an integrated task.

1.3 SCOPE

The scope of the ISCP covers those dedicated activities which are to be accomplished at the WIPP to support the bin-scale CH TRU waste testing of dry bins. Dry bins are those bins which contain no added brine. Four production test bins loaded with simulated CH TRU waste will be emplaced during the checkout. The checkout will include exercising the on-site laboratory capability to analyze for the presence of flammable and reactive gases within a bin atmosphere, but it will not test the contract laboratory capability to analyze and determine the concentrations of the full scope of required gas species. The ability of the contract lab to conduct these analyses is being verified under a separate qualification program.

Section 3.0 is a narrative which describes the Dry Bin-Scale Integrated Checkout. The major tasks required to 1) receive and emplace the waste; 2) initiate, operate, and terminate the Dry Bin-Scale Test; and 3) retrieve and ship the waste off-site are discussed. Included at the end of the narrative is a discussion of the criteria against which the success of the ISC and the adequacy of the specific systems, procedures, and personnel qualification as demonstrated by the integrated checkout may be evaluated. Other sections address the following:

- Procedural requirements to control, where applicable, installation, startup, acceptance testing, normal and abnormal operation, and removal of systems or equipment dedicated to support of the Dry Bin-Scale Test requirements
- Validation of procedural controls for normal and abnormal operations and component changeout
- Identification of potential radiological control problems and the development/validation of procedural controls to mitigate the consequences of radiological contamination
- Development and validation of procedural controls for dry bin waste receipt, emplacement, dry bin test operation, test termination, retrieval, and preparation for waste shipment off-site
- Training of personnel
- Documentation of activities

Most of the activities described in the ISCP are first-of-a-kind. It is anticipated that some of the specifics related to individual tasks will be modified as experience is gained to improve on the safety and practicality of task accomplishment. The directions and descriptions within this ISCP should not preclude the application of common sense and practical safety techniques to work activities as these first-of-a-kind tasks are addressed. The oversight of safe work practices will be conducted in accordance with WP 12-1, Safety Manual, WP 12-9, Emergency Plan and Procedures, and WP 12-5, Radiation Safety Manual.

The scope of the ISCP focuses on those activities dedicated to the Dry Bin-Scale CH TRU Waste Test which is within the management jurisdiction of the DOE WPO. Those activities which must be safely conducted by the generating sites to load CH TRU waste into bins and SWBs and, in turn, place the waste containers into TRUPACT-IIs for loading onto transport trailers, are outside the scope of this

ISCP. The DOE and/or its responsible contractors will address the front end of the CH TRU waste support of bin-scale testing as separate readiness programs.

1.4 DOCUMENTATION

Prior to initiation of the integrated checkout, readiness to support the Dry Bin-Scale Test will be determined by validation that 1) the following documentation, as applicable for each dedicated system, is completed; or 2) documented evidence exists that management has effectively dispositioned deficiencies and made a positive determination that the deficiencies do not preclude a successful integrated checkout:

- Equipment is properly calibrated
- Startup and acceptance testing is complete
- Operating procedures are approved
- Process used for development of performance-based training is documented
- Qualified personnel have received required training
- PWRs are complete
- As-built drawings (documents depicting final equipment/system configuration) are complete

During the performance of the initial integrated checkout or any subsequent portion of the complete checkout, documented test exceptions will be reviewed and dispositioned. Those test exceptions which require close-out prior to declaring dedicated Dry Bin-Scale Test support readiness will be identified and scheduled for action and closure.

2.0 DRY BIN-SCALE TEST PROGRAM

The test bins will be shipped to WIPP enclosed within SWBs which are loaded into TRUPACT-II containers. Each shipment may contain up to three TRUPACTs on a trailer. The TRUPACTs will be off-loaded and placed into the WHB for removal of the SWB and its contained bin. The SWB lid will be replaced with an RCB lid. Thereafter the SWB/RCB lid combination will be referred to as an RCB. The RCB lid is specially designed to accommodate the leak-tight connections between the bin access port connecting hoses and the various instruments supporting each bin. The bin port isolation valves will be connected to the RCB lid ports via particulate filters. After installation of the RCB lid, the bin/RCB assembly will be tested to assure that the assembling operations were properly performed. Upon completion of testing, the bin will be purged; subsequent to purging, a gas sample will be taken to confirm the bin environment and provide information for fine tuning that environment after emplacement. The bin will then be downloaded into the mine.

The Dry Bin-Scale CH TRU Waste Test Program will be conducted in Room 1 of Panel 1, 2150 feet below the earth's surface in the WIPP underground mine. Room 1 has an overall dimension of 13′ h by 33′ w by 300′ l. The bins will be electrically connected to the DAS shed located at the south end of Room 1. The shed is three to four feet from the west rib, and provides approximately ten feet of clearance for passage of forklifts or other vehicles.

RCBs will be stacked two high, as shown in Figure 2-1. The stacks will be alternately spaced approximately two and four feet apart. Two rows of bins will run lengthwise in the room, each row adjacent to a rib, as shown in Figure 2-2. The bin stacks will be located approximately four feet from the adjacent rib, providing sufficient clearance between the rows for forklift access. This permits sufficient maneuvering room for a forklift to handle bins. This arrangement also provides personnel access to all sides of each bin/RCB configuration during the test duration.

Individual bins are approximately four feet square and three feet high. For the purposes of the bin-scale test plan, a bin is specified to hold a maximum of six CH TRU drum-volume equivalents of loose CH TRU wastes. The CH TRU waste placed into the bins will be packaged in disrupted plastic bags. Quantities of iron corrodent material will be added to the contents. To provide for monitoring of each bin's internal gas mixture and temperature, the individual bins have a number of access ports. These ports provide access for the following functions to be accomplished:

- Monitoring of thermocouple readings
- Gas purging
- Oxygen monitoring
- Pressure monitoring
- Pressure relief
- Gas sampling
- Tracer gas injection

Figure 2-3 is a schematic of the bin-scale test systems that are incorporated into each dry test bin.

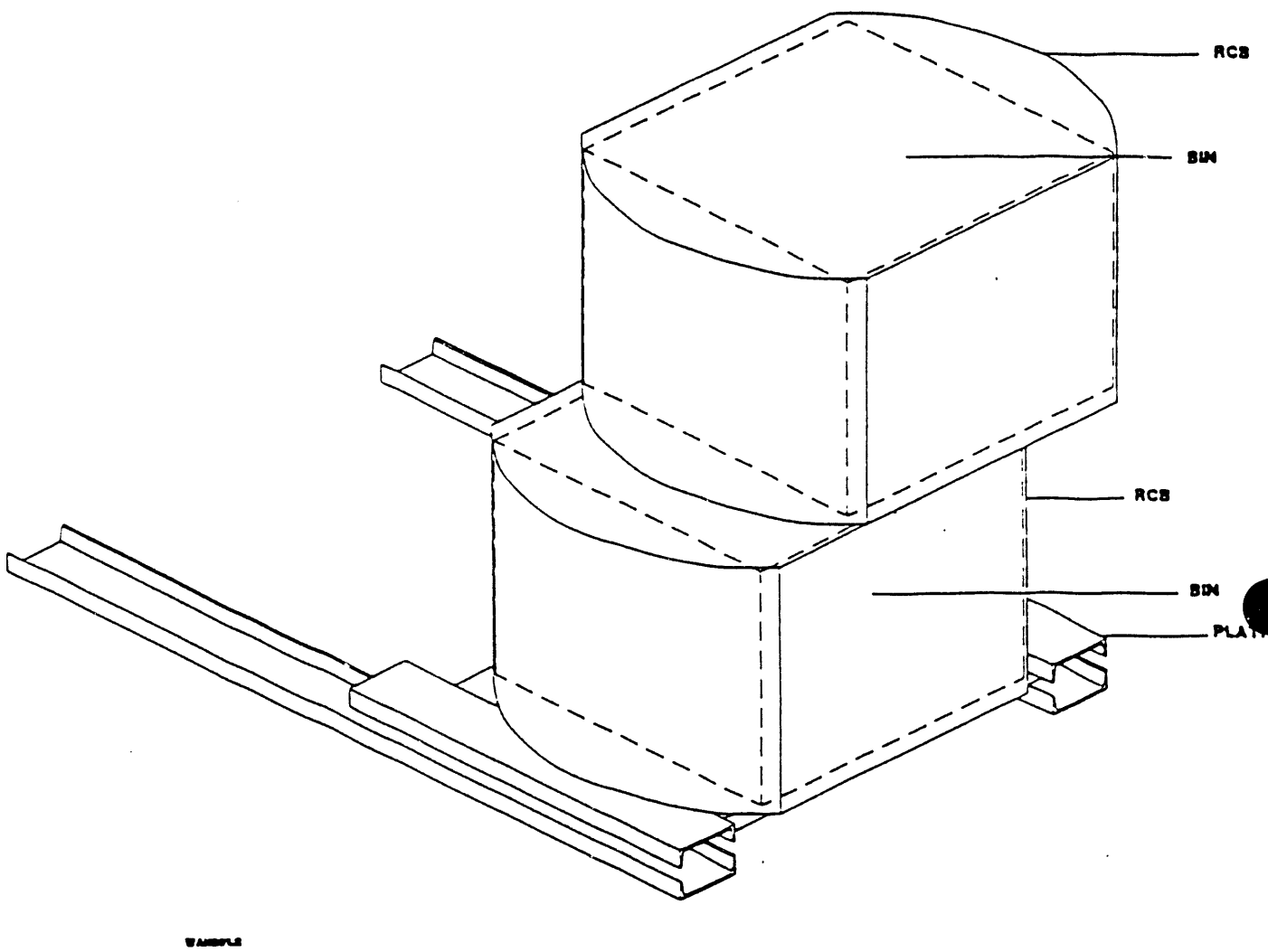


FIGURE 2-1. Bin, RCB, and Platform Configuration

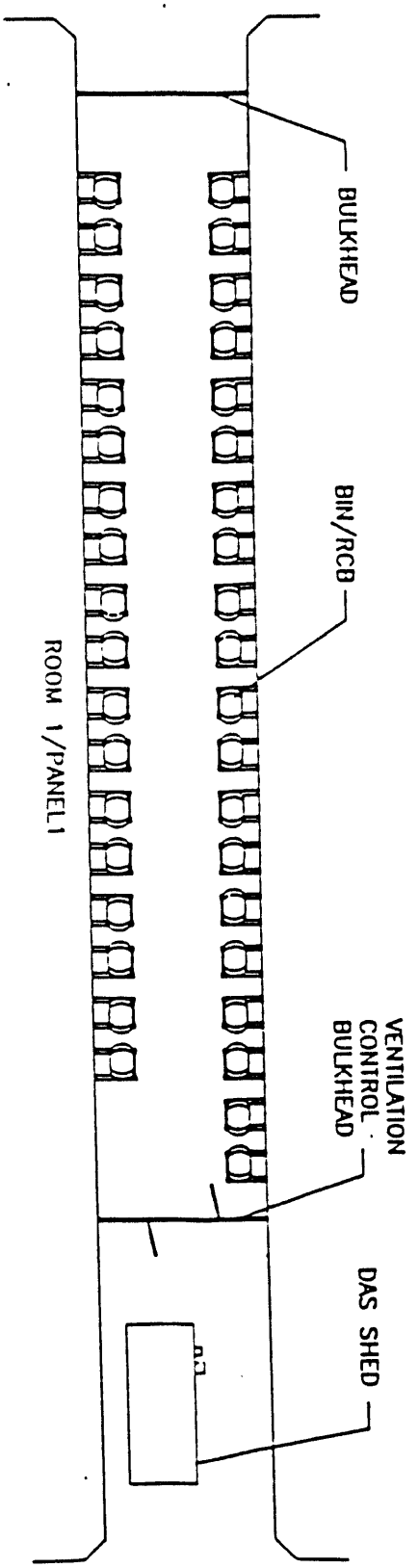


FIGURE 2-2. Bin Layout

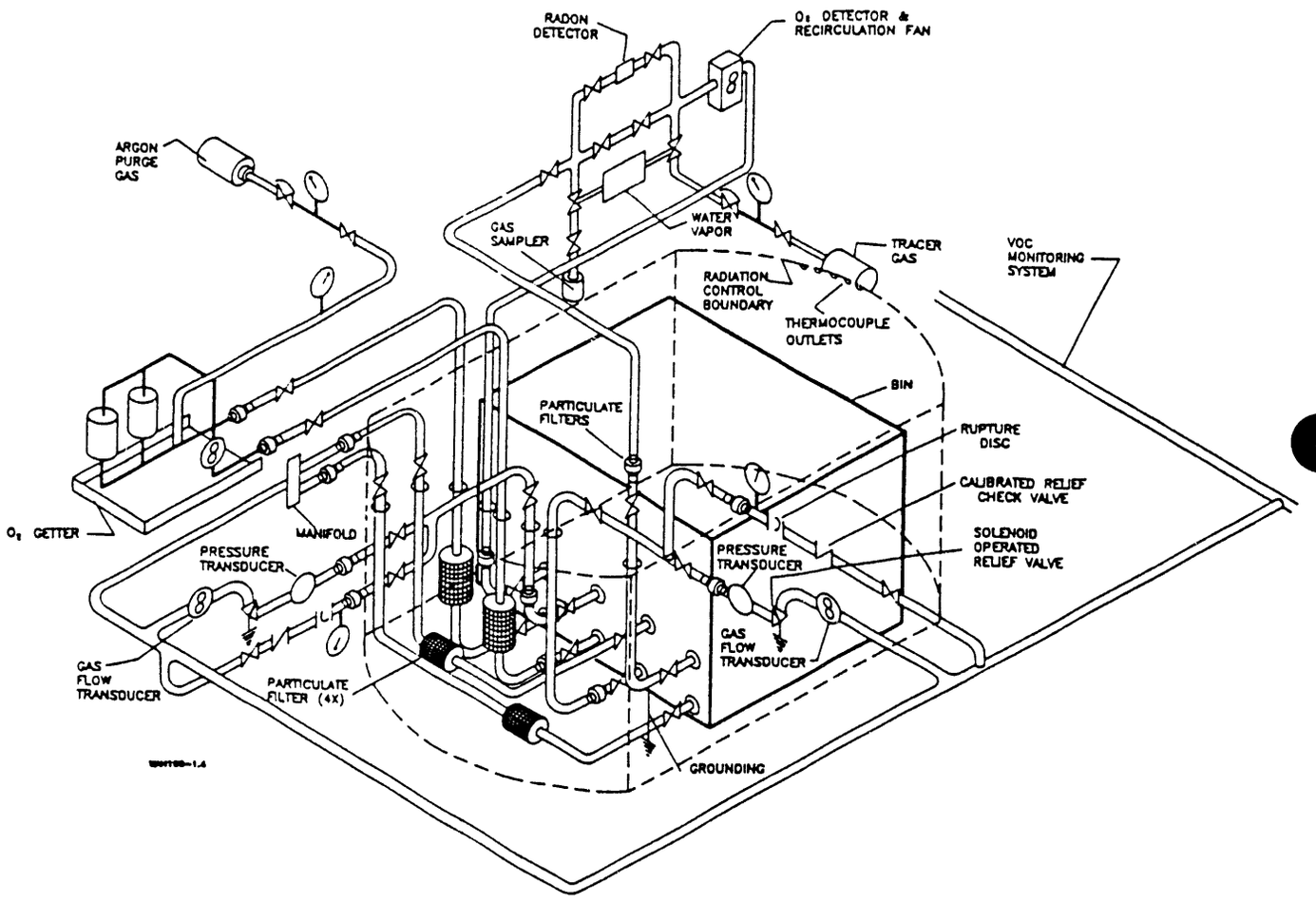


FIGURE 2-3. Bin-Scale Test Systems

Approximately 65 dry bins will be emplaced, including baseline reference bins. Over 50 percent of the bins will be purged with an argon atmosphere. Those bins containing HO waste with an aerobic atmosphere will be nitrogen purged to an oxygen level of 3.8 percent to 4.0 percent. The remaining bins will contain air.Selected bins will be made anaerobic to <10 ppm oxygen by a combination of argon gas purging and oxygen gettering.

To assist in properly evaluating air leakage into the bins and loss of gases from the bins, tracer gases will be added to each bin after initial pressurization. Monitoring the changes in concentration of tracer gases allows for the development of compensating corrections to apply to all other gases being quantified. The tracer gases added are xenon and krypton. Test time T=0 corresponds to completion of tracer gas injection to each bin.

In summary, the sequence of bin preparation tasks for operation is the following:

- Receive bin/SWB.
- Install the SWB vent hood.
- Remove SWB lid.
- Remove the bin and place it on the bin stand.
- Remove the SWB vent hood.
- Install and route thermocouples on the bin.
- Install hoses to bin ports.
- Install filters and hoses to RCB lid.
- Leak test the bin and attached hoses.
- Purge the bin.
- Transport bin/RCB to the underground.
- Emplace the bin/RCB.
- Install additional hoses and instrumentation.
- Verify DAS control of solenoid-operated control valves and effective data transmission from the instrumentation to the DAS.
- Draw a gas sample, T=emplacement.
- Conduct argon purge and oxygen getter operations where appropriate.
- Conduct nitrogen purge where appropriate.
- Pressurize the bin.
- Inject tracer gases, T=0.
- Collect gas sample within four hours of tracer gas addition.

- Commence routine bin monitoring/sampling and draw gas samples in accordance with the following schedule.

  - Daily for days 1, 4, 7, and 14
  - Weekly for weeks 3, 4, 6, and 8
  - Thereafter, once-a-month for the duration of the experiment

- Conduct flammable and reactive gas analysis on-site.

The gas sampling routine may be adjusted if any gas mixture is found to approach 50 percent of the LFL. The term "approach" is defined as an oxygen concentration of equal to or greater than 4.4 percent with hydrogen, methane, or VOC concentrations at 40 percent or greater of their respective LFL in air (VOC greater than 500 ppm). Under these conditions, a daily 10 cc sample shall be taken and analyzed for flammable gases. If the 50 percent LFL level is reached, the bin must be purged to 10 percent LFL.

Procedural controls for preparing the bins to accommodate the sampling program and for controlling the sampling program will be developed by RWHE and the SNL support team assigned to the principle investigator. RWHE is responsible for the design and procurement of the bins, the RCB lid, and the support platforms.

Complete details of the Bin-Scale Test Program can be found in the Test Plan: WIPP Bin-Scale CH TRU Waste Tests, January 1990 and Test Plan Addendum 1: WIPP Bin-Scale CH TRU Waste Tests, December 1990.

2.1 BIN ASSEMBLY

Each bin is approximately four feet square and three feet high with a volume capacity of greater than 44.5 cubic feet, or six standard 55-gallon drums. As described in Section 2.0, each bin will have instruments attached to it and the capability to attach gas sampling equipment, tracer gas injection equipment, gas purging and pressurization equipment, and oxygen gettering equipment. The bins will be leak tested by the manufacturer. The leak rate will not exceed 1×10^{-7} standard cc/second of helium.

The Dry Bin-Scale Test Program will contain only Level I waste without any added brine or salt. The only additive to the bins will be iron corrodent material. The dry bin-scale test bins will contain waste representing the full spectrum of waste types planned to be emplaced as CH TRU waste within the WIPP. The eight baseline reference bins identified in Table 1-1 will be the initial bins emplaced. The remaining 18 bins in the group marked "FIRST" in Table 1-1 will follow the reference bins. However, if circumstances cause the types of waste required to fill some or all of these bins to be unavailable, and other waste is available, the Principal Investigator may decide to forgo the emplacement sequence. The major categories of waste to be loaded into each bin are:

- High organic, HO
- Low organic, LO
- Processed sludge, PS

Forty-three bins will be purged with argon gas and O_2 gettered to less than 10 ppm. Six bins will be purged with nitrogen to an O_2 level of 3.8 percent to 4.0 percent.

At receipt, individual bins will have their RCB lid isolation valves opened and the RCB lid and instrumentation installed. All remote reading instrumentation will be electrically connected to the MODCOMP DAS. The solenoid-operated pressure control valves will also be connected to the DAS. The mechanical safety relief valve and solenoid-operated pressure control valve discharges will be connected to the VMS.

The bins will have been individually leak checked prior to downloading to the underground to ensure that their sealed condition was not compromised. The modules connected to the bin will be individually leak checked at the time of their fabrication.

Bins which are required to be made anaerobic will be purged with argon gas. The Oxygen Getter System will then be operated on the anaerobic bin to bring the O_2 level down to less than 10 ppm. Some HO waste-filled bins will be nitrogen purged to an O_2 level of 3.8 percent to 4.0 percent.

Initial bin pressurization will be done with air, nitrogen, or argon depending upon the bins initial atmosphere gas. LO waste-filled bins will be pressurized to >0.45 psid to <0.50 psid. All other bins will be pressurized to 0.25 psid. Thereafter, bin pressure adjustments to assure a minimum 0.1 psid will be made with argon gas. The addition of tracer gases to 100 ppm will not affect the initial gas pressure significantly.

Upon completion of the above described bin preparation, each bin will be ready for continuous testing and periodic gas sampling and analysis, as appropriate. The sampling routine is as described in Section 2.0. Responsibilities related to the operation and sampling of bins are shown in Table 6-1.

A variety of gas samples will be drawn from each test bin. The gas sampling system will accommodate 250 cc SUMMA containers, 10 cc containers, and reactive gas sampling packs. The 250 cc containers will be used to transport gas samples to a contract laboratory for analysis of the full scope of gas species identified in Table 2-1. The 10 cc containers will be used to draw samples for analysis of flammable gases. The WIPP lab will conduct the reactive gas and flammable gases analysis on the site. Radon and water vapor will be analyzed in-situ. All samples will be drawn through a RAF. This filter is counted to determine if there has been any breakthrough from the upstream Kevlar particulate filter. Additional gas analysis details can be found in the Test Plan: WIPP Bin-Scale CH TRU Waste Tests, January 1990 and addenda.

Table 2-1

GASES TO BE QUANTIFIED	
*Hydrogen	Argon
*Oxygen	Nitrogen
*Carbon Dioxide	Krypton (Tracer)
*Carbon Monoxide	*Xenon (Tracer and Tracer Isotopic Ratios)
*Methane	
*Water Vapor (for humidity, 100 ppm)	Nitrogen Oxides
	Ammonia
Hydrogen Chloride	Radon
	Others as detectable
[*major gas, generated or other]	
VOCs	
Acetone (100 ppm)	Methanol (100 ppm)
Benzene	Methylene Chloride
Bromoform	4-Methyl-2-Pentanone (100 ppm)
Butanol (100 ppm)	Tovlene
2-Butanone (100 ppm)	1,1,2,2-Tetrachloroethane
Carbon Tetrachloride	2,2,2-Trichloroethane Tetrachloroethene
Chlorobenzene	Trichloroethylene
Chloroform	1,1,2-Trichloro
Cyclohexane (100 ppm)	1,2,2-Trifluoroethane
1,1-Dichloroethane	1,3,5-Trimethylbenzene (100 ppm)
1,2-Dichloroethane	1,2,4-Trimethylbenzene (100 ppm)
1,1-Dichloroethene	m-Xylene (100 ppm)
cis-1,2-Dichloroethene	o-Xylene (100 ppm)
Ethyl Benzene (100 ppm)	Formaldehyde (LANL)
Ethyl Ether (100 ppm)	Hydrazine (ORNL, SRP)
p-Xylene (100 ppm)	Nitro Benzene (INEL, sludge)
Others, as detectable (at > 1 ppm)	

3.0 DRY BIN-SCALE INTEGRATED CHECKOUT

Preparation for the Dry Bin-Scale Integrated Checkout includes four broad steps:

- Design and procurement of support systems components
- Development of procedural controls for
  - Installation
  - System operation
  - Test termination
  - Retrieval
  - Preparation for shipment
- Systems installation, startup, and acceptance testing
- Personnel training and procedure validation

To ensure readiness to commence the Dry Bin-Scale Integrated Checkout, each system dedicated to supporting the Dry Bin-Scale Test Program will require documentation of readiness. Figure 3-1 is the draft document to record system readiness.

Completion of the preparatory steps is followed by the integrated checkout using simulated waste to conduct the full range of activities, except off-site gas analysis, expected to be encountered during the bin-scale test program for dry bins. These activities include:

- Receipt and inspection of overpacked (SWB) test bins in TRUPACT-IIs
- SWB to RCB conversion
- Emplacement of simulated CH TRU waste filled bins/RCBs
- Installation of support equipment
- Bin operation preparation
  - Purging
  - O_2 gettering
  - Tracer gas addition
- Operation of the bins
  - Support systems operation
  - Monitoring of test conditions
  - Sample collection
  - Gas sample analysis for flammable mixture and reactive gases
- Termination of test conditions
- Retrieval of simulated CH TRU waste filled bins/RCBs
- Preparation of overpacked (SWB) test bins for off-site shipment

CERTIFICATION OF READINESS TO SUPPORT THE INTEGRATED CHECKOUT

I certify that the _____ is ready to support the integrated checkout.

	Initial
All associated instrumentation/equipment is calibrated and operable.	_____
All startup and acceptance testing is complete, documented, and signed off.	_____
Operating procedures are approved.	_____
Qualified personnel have received required training and documentation is signed off.	_____
Applicable ECOs and PWRs are complete and signed off.	_____
Applicable as-built drawings (documents depicting final equipment/system configuration) are complete.	_____
Applicable deficiencies are documented and dispositioned.	_____
No significant deficiencies are open.	_____

Significant deficiencies are defined as those deficiencies which meet one or more of the following criteria:

- Prevents a system from meeting its intended function
- Represents a significant radiological or hazardous material contamination risk
- Represents a significant industrial safety hazard
- Identifies a routine required task not adequately covered by procedure
- Identifies additional required and documented training necessary to ensure procedural compliance
- Represents an activity which violates an imposed OSR condition

_____
(Responsible Section Manager)

System meets Quality Assurance requirements

_____
(Appropriate Quality Assurance Manager)

FIGURE 3-1

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The planned integrated checkout sequence is anticipated to extend over a two- to three-week period, from initial receipt of overpacked bins in TRUPACT-II containers to completion of waste preparation for off-site transport.

During the conduct of the integrated checkout, the approved procedural controls will be used by qualified personnel as a validation of their acceptability. Abnormal conditions will be imposed to allow practical response training and evaluation of the response activity. Compliance to OSRs will be observed during the integrated checkout. The WIPP facilities directly supporting the Dry Bin-Scale Test will be in a completely operational mode.

Of the activities to be exercised during the integrated checkout, two will provide the greatest potential risk of spreading contamination after real waste is emplaced. The large number of instruments connected to the bins and the sample collection requirements represent potential contamination risks whenever samples are taken, or instruments require maintenance. The second major risk is during termination of the bin-scale testing.

Upon termination of the Dry Bin-Scale Integrated Checkout, the instrumentation attached to each RCB must be removed to allow retrieval of the bins and RCBs. In the course of the Dry Bin-Scale Test Program, an RCB and some (if not all) of its associated instruments could potentially become contaminated. Transfer of the bin to a clean SWB, replacement of the RCB lid with an SWB lid, and removal and disposal of instrumentation components prior to retrieval must be adequately controlled to prevent any contamination spread.

In view of these risks, close attention to the procedures controlling sampling, transfer of the bin to a clean SWB, replacement of the RCB lid, instrument removal, and test termination activities will be exercised to identify any significant radiological control omissions that might unnecessarily increase the risk of contamination spread. Lessons learned from the integrated checkout will be incorporated into the applicable procedures.

3.1 DRY BIN-SCALE INTEGRATED CHECKOUT

The Dry Bin-Scale Integrated Checkout will utilize four production test bins. These bins will be constructed to the same specifications required of the test bins which will actually contain mixed waste. However, the bins used during the checkout will contain simulated CH TRU waste.

The bins will be loaded with the corrodent material and noncontaminated waste material to simulate the internal bin environment expected to be encountered in a test bin. The checkout bins will provide an opportunity to conduct training for personnel over the full range of expected activity in Room 1 during the actual Dry Bin-Scale Test Program. These activities will include:

- TRUPACT-II receipt and SWB unloading
- SWB conversion to an RCB
- Transport to the underground and emplacement
- Installation of instrumentation
- Gas purging (argon and nitrogen)
- Oxygen gettering
- Tracer gas injection
- Gas sampling (surface and underground)
- Gas analysis
- Test termination

- Instrumentation removal
- Retrieval
- Preparation for shipment off-site

The procedures controlling the activities associated with the Dry Bin-Scale Integrated Checkout will be validated prior to or during the training work-up conducted within the period immediately preceding initiation of the Dry Bin-Scale Integrated Checkout. During this work-up, the procedures will be refined as experience is gained through practice and qualification of personnel. It is anticipated that a rigorous work-up and training effort will result in a set of procedural controls requiring only minor modifications during the integrated checkout.

The integrated checkout of the Dry Bin-Scale Test Program will be initiated by receipt of a TRUPACT-II trailer containing bins overpacked in SWBs. TRUPACT-II receipt and handling will be performed by Waste Handling Operations in accordance with TRUPACT Receipt and TRUPACT Handling procedures.

3.1.1 TRUPACT-II Receipt and SWB Unloading

Applicable procedures are being written and revised to address all those activities necessary to handle bins from TRUPACT-II unloading of the overpacked SWBs to underground emplacement of the bins within RCBs. The RCBs are physically SWBs with the installation of a modified lid to allow connecting instrumentation and other support equipment to the bin via flexible hoses. In accordance with these procedures:

- SWBs will be removed from the TRUPACT-II, the SWB Vent Hood System will be installed, and the SWB lid will be removed.
- The bin will be removed from its associated SWB and inspected for any obvious damage while in the CH bay of the WHB.
- The bin will be surveyed to ensure no loose surface contamination is present. If a bin is contaminated, its SWB will be reclosed and returned to the generating site.

The procedures also prescribe requirements for the following activities:

- After inspection of the bin is completed, flexible hoses will be attached to the isolation valves.
- Particulate filters will be installed and connected to the flexible hoses.
- The bin port isolation valves will be opened and the bin transport filters capped.
- Hoses will be connected from the filters to the RCB lid.
- Thermocouples will be installed on the bin exterior to exit between the SWB and RCB lid.
- The bin will be emplaced in the SWB and the RCB lid installed on the SWB.

- The bin will be pressurized and leak tested to ensure the proper assembly of the bin, filters, and interconnecting hoses and fittings.
- A bin will be purged.
- The RCB will be labeled (TB555-TB888 for checkout bins).
- The bin/RCB is then transported to the underground for emplacement.

3.1.2 Bin/RCB Handling and Emplacement

The RCB containing a bin is placed on a facility pallet which can accommodate two RCBs and transported underground via the Waste Shaft. In the underground, the underground transporter will remove the facility pallet and take it to Room 1, Panel 1. The pallet will then be transferred to the Underground Facility Pallet Platform. Individual RCBs will then be forklifted into Room 1 and emplaced two high along each wall (Figure 2-2). The lower RCB will be mounted on an RCB platform.

After completion of bin/RCB emplacement, a series of operational readiness activities will be accomplished in accordance with prescribed procedures prior to declaring each bin to be in an operational mode or final test configuration. These activities will be completed in the following order:

- An instrumentation interface board will be installed to support the installation of equipment modules for each two bin/RCB stack.
- Flexible hoses will be installed from the equipment modules to the valves on each RCB lid.
- Assessment filters will be installed at the RCB valve to flexible hose connection. These filters will be used to evaluate the effectiveness of the particulate filters installed in the RCB.
- The following modules will then be installed on the instrumentation interface board to support each bin and then connected mechanically to the bin's RCB lid, electrically to the DAS and mechanically to the VMS as appropriate:
  - Two mechanical safety relief valve modules with their discharges connected to the VMS
  - Two instrumentation modules including pressure transducers, solenoid-operated pressure control valves, and flow transducers with their discharges connected to the VMS
  - One gas recirculation/oxygen sensor module
- The thermocouples will be connected to the DAS.
- Preoperational checks will be conducted to assure that the installed instrumentation is properly monitored and controlled by the DAS.
- Waste Handling Operations will document satisfactory completion of the installation.

- The initial bin gas sample will be drawn from the bin.

- Anaerobic bins will be argon purged and then oxygen gettered to reduce the O_2 level to less than 10 ppm. Those aerobic bins containing HO waste will be nitrogen purged to reduce the O_2 level to the range of 3.8 percent to 4.0 percent. For the ISC, higher levels of O_2 may be specified to reduce the total lapsed time of the checkout.

- The bin will then be pressurized to 0.25 psid. Those bins containing LO waste will be pressurized to a range of >0.45 psid to <0.50 psid. The pressurizing gas will be argon or nitrogen depending upon the individual bin atmosphere.

- Xenon and krypton tracer gases will be injected into the bin to a concentration of approximately 100 ppm for each gas. Completion of tracer gas injection is defined as test time T=0.

- Within four hours of T=0, another gas sample will be taken from each bin for analysis.

3.1.3 Experiment Initiation, Operation, and Termination

Following extraction of the gas sample within four hours of T=0, the bin will be ready for continuous testing. The periodic gas sampling and analysis will normally follow the schedule prescribed in Section 2.0. For the ISC, this schedule may be accelerated.

Final configuration of the four checkout bins will be two bin stacks each containing two bins. The stacks will be adjacent to each other with an approximate four-foot clearance.

Operation of the bins will continue for a minimum of five days. During this time period, the following activities and abnormal events will be interjected into the operations scenario to validate procedures and evaluate the level of proficiency of the personnel trained to support the Dry Bin-Scale Test Program. All of these activities will require rigorous enforcement of radiological controls, including recovery from abnormal events:

- At least one gas sample will be taken daily. The sampling procedure, the turnover of sample control from Waste Handling Operations to DAT, and the preparation of the sampling apparatus for reuse will be followed and reviewed for lessons learned.

- Room 1 VMS sample containers will be changed out once per day during the checkout.

- Failure scenarios including replacement of the following items will be conducted:

  - One pressure transducer
  - One solenoid-operated control valve
  - One oxygen sensor
  - One gas flow monitor
  - One mechanical safety relief valve

- Repressurization of a bin will be performed.

- Controlled relief of a bin over-pressure condition will be performed.
- At least one gas sampling exercise will simulate a radioactively-contaminated gas sample assessment filter.
- At least one event of contamination and decontamination of the bin/RCB will be simulated.
- At least one personnel contamination event will be simulated.
- At least one event of loss of power from the DAS supporting two bins will be simulated.
- At least one occurrence of a flammable gas concentration will be simulated.

Upon conclusion of the bin operation the following activities will be performed:

- The final gas sample will be collected.
- One gas sample will be simulated to have a flammable gas mixture requiring that the bin be purged prior to be retrieval.
- The instrumentation cabling will be disconnected and removed in preparation for retrieval of the bin.
- The mechanical connections at the RCB lid to the instrument stand will be broken and the assessment filters removed and counted.
- At least one instance of a contaminated assessment filter will be simulated and the equipment associated with the contaminated assessment filter will also be treated as contaminated.
- The controlling RWP will be written to ensure implementation of appropriate radiological controls.
- The removed contaminated equipment will be bagged for disposal as CH TRU waste or LLW as determined by RS.

After all RCB penetrations for instrumentation and support equipment have been isolated, the bin/RCB will be forklifted out of its stack, surveyed, and transported to the underground facility pallet platform. The pallet containing the bin/RCB will then be transferred to the underground transporter and taken to the waste hoist for transport to the surface.

All of the terminating activities will be conducted as prescribed in appropriate controlling procedures by technicians qualified to perform the required functions.

3.1.4 Retrieval

After termination of Bin-Scale Test, the DAS system and DAS shed will be removed. For the Dry Bin-Scale Integrated Checkout the DAS system and DAS shed will remain in place. This will ensure continued support of the eight test bins which will be installed for developing pressure baseline and gas baseline data. Leaving the DAS system intact will also ensure its availability to support the initial ship-

ment of test bins containing CH TRU mixed waste for emplacement in the Bin-Scale CH TRU Waste Test Program.

Operating procedures will be modified to provide appropriate guidance for retrieval and handling of bins. The retrieval task is to safely remove bins/RCBs from Room 1, and transport them to the surface.

Initiation of retrieval will commence with attachment of the RCB handling device to the forklift. One of the two upper RCBs will then be rigged to the RCB handling fixture and lifted from the bin stack. The RCB, suspended from the RCB handling fixture, will be swipe-surveyed on those surfaces not previously accessible. If no radioactive contamination is present, the forklift operator will transport the RCB to the underground facility/pallet platform. The RCB will be placed onto the facility pallet and the pallet forklifted onto the underground transporter for transport to the waste hoist.

At least one RCB will be simulated to have contamination present on its outside surface(s). Upon detection of contamination, all retrieval activities will cease and personnel will leave the Room 1 area. The contamination conditions will be evaluated and a new RWP will be issued. Retrieval or recovery activities will then be conducted in accordance with procedures applicable to retrieval of contaminated waste containers.

As each individual RCB is retrieved, Waste Handling Operations personnel will update the WWIS with information to track the bin and RCB. Updating of the WWIS will be verified by Inspection Services personnel.

3.1.5 Preparation for Shipment

Upon arrival on the surface, the RCB will be transferred to the conveyance loading room air lock. Surveys will be taken prior to transporting the RCBs into the CH bay. In the CH bay, a ventilation hood will be placed over the RCB to contain any potential loose surface contamination present inside the RCB. The RCB lid will be unbolted and raised sufficiently to allow surveying of the bin and RCB internal areas for loose contamination through the ventilation hood. The flexible hoses will be disconnected from the lid. The ventilation hood and RCB lid will be removed. The bin, including the attached flexible hoses and filters, and thermocouples will be transferred to a clean SWB. A standard SWB lid will be used to seal the SWB in preparation for loading into a TRUPACT-II.

In the event that a bin and/or RCB internal surface is found to be contaminated, the existing conditions will be evaluated and a management decision will be made as to whether or not the bin is to be decontaminated or overpacked for shipping to an interim storage site. Decontamination techniques will be exercised for at least one bin that is simulated to possess loose surface contamination.

The empty SWB will then be cleaned to remove salt dust and stored for use as an overpack for another bin. This process will ensure that no salt dust is put into the TRUPACT-IIs.

At the TRUPACT-II loading dock, the overpack packages will be weighed and then staged for loading to remain within the TRUPACT-II limits. TRUPACT-II loading will be conducted according to implementing procedures in support of a draft TRAMPAC Compliance Plan.

Waste Handling procedures will require revision to address the loading of

TRUPACT-IIs with overpacked waste containers.

In general, this process will include the following tasks:

- Individual bin identification serial numbers will be verified as SWB lids are placed on the RCBs to fully reconfigure them as SWBs. The SWB identification numbers will be recorded. This information will be uploaded to the WWIS after bins have been received and emplaced and, again, after bins have been retrieved and shipped off-site.
- The SWBs will then be weighed. Applying individual container weights to the TRUPACT-II design weight criteria will provide the data for programming exactly how each waste container can be loaded into a TRUPACT-II.
- The SWBs will be assembled in compliance with the requirements of the TRUPACT-II SARP and Compliance Plan.
- The shipment will be classified in accordance with DOT regulations.
- Data will be input into the WWIS.
- Following the assembling of two SWBs stacked and strapped together, the assembly will be lifted and placed into the TRUPACT-II.
- The ICV lid is then emplaced and locked. A helium leak test of the ICV O-ring seal will be performed to ensure integrity.
- The OCA lid will then be emplaced and helium leak tested.

The loading of a TRUPACT-II trailer will be controlled by procedure. With a TRUPACT-II loaded onto a forklift, the Waste Handling Operator must carefully maneuver the TRUPACT-II into alignment guides fixed on the transport trailer. These guides properly align the TRUPACT-II tie-down brackets with the trailer-mounted U-bolts at four points, to secure the TRUPACT-II for transport. Tie-down handles will then be rotated to put pretension on the tie-down brackets. U-bolts may be adjusted to achieve specified tension.

After loading, a tractor will move the trailer to the trailer staging area within the RCA. Final surveys will be conducted and required hazardous material signs will be fixed to the trailer. A Bill of Lading will be prepared and the carrier will be notified to pick up the shipment. Detailed check-off sheets will be inspected and signed off by Inspection Services personnel before releasing the trailer and TRUPACT-IIs for transport to the designated receiving site.

A TRAMPAC Compliance Plan addressing the requirements for shipping CH TRU waste from the WIPP will be developed in draft form. Formal approval of this plan will not be made since there is no currently identified site or sites selected for receipt of waste from WIPP. The Compliance Plan will be written to address requirements established by the current TRUPACT-II SARP and the NRC Certificate of Compliance Document. The content of the draft Compliance Plan will be used to support the level of rigor addressed in implementing the ISCP activities. By developing a draft Compliance Plan and implementing its requirements to the fullest extent practicable, WIPP management will take advantage of the opportunity to exercise the full range of shipping compliance activities, associated documentation, and personnel training.

3.2 INTEGRATED CHECKOUT ACCEPTANCE CRITERIA

The acceptance criteria against which the handling, emplacement, operation, and retrieval of waste containers and their processing for off-site shipping shall be judged will include the following:

- Were procedural controls established for performing all activities addressed during bin handling, emplacement, operation, retrieval, and off-site shipping preparation?
- Were activities safely and effectively conducted in full compliance with approved procedures?
- Were simulated abnormal events effectively managed in accordance with radiological control procedures and abnormal event procedures?
- Were all personnel dose estimates within the FSAR addendum assumptions?
- Were all activities conducted safely and without personnel injury?
- Were all applicable requirements of the draft Compliance Plan met?
- Were the qualifications of individuals performing all activities documented, and were they approved?
- Did equipment perform in accordance with applicable operating procedures?
- Were all applicable OSRs observed during the integrated checkout and processing for off-site shipment?

3.3 RADIOLOGICAL CONTROLS

The WIPP Radiation Safety Manual, WP 12-5, documents the policies and procedures used to control radioactivity on the surface and in the WIPP underground. Training, occupational dose limits and controls, external and internal dose measurements, surface and airborne contamination control, and the RWP Program are defined and described in WP 12-5. The surveying, decontamination, and radiation control procedures described in WP 12-5 will provide the administrative controls to be exercised, through implementation of appropriate RWPs, during all those processes which contain some risk of exposure to personnel. The following sections address the normally expected HP activities supporting the integrated checkout and the exercises that are intended to demonstrate that personnel are trained and procedures are in place to safely address anticipated abnormal conditions.

All activities involving the handling of radioactive material or potential spread of radioactive contamination will be conducted with oversight by HP personnel. The operating procedures controlling various processes for handling and containing radioactive material will be reviewed by RS personnel as those procedures undergo administrative approval.

Surveying of equipment and waste containers will be conducted using hand-held gamma instruments and portable alpha detectors. All materials or equipment will require swiping and counting of the swipe on alpha and beta/gamma bench scalers prior to release to uncontrolled areas.

Decontamination activities will normally require cessation of other activities during the decontamination effort. Rigorous planning and control under RWP instructions will apply to decontamination under all anticipated operating conditions. Initiation of decontamination will be timely to minimize the spread of radioactive material. Techniques will include physical lifting of contamination and the fixing in place where appropriate. Evaluation critiques to explore changes to prevent future incidents, and to more effectively address the adverse results of contamination events, will normally be conducted as a management effort to improve the control of those activities which risk inadvertent release of contamination.

3.3.1 TRUPACT-II Receipt and SWB Unloading

Upon arrival of the trailer transporting TRUPACT-IIs to WIPP, HPT will conduct swipe surveys of the TRUPACT-II containers prior to commencing any unloading activities. This ensures that no contamination will inadvertently get loose as the TRUPACT-II containers are removed from the trailer and brought into the WHB.

As the TRUPACT-II container is disassembled, an HPT will survey the container. In addition, the container disassembly will take place under the TRUPACT-II Ventilation Hood System which is designed to vent any escaping gases or particulates into the vent hood filtered exhaust. As the overpacked bins are removed from the TRUPACT-II, the SWB surfaces will be surveyed to ensure they are free of radioactive contamination.

The SWB will remain in the CH bay of the WHB during modification by lid replacement to become an RCB. A SWB ventilation hood will be installed over the SWB to ensure collection of any potential loose contamination upon removal of the SWB lid. The ventilation hood will exhaust into the TRUPACT-II ventilation hood exhaust system via a HEPA grade filter. Upon removal of the SWB lid, additional surveying of the bin will be conducted to ensure it is free from contamination. Attachment of the flexible hoses between the bin ports and filters, opening of the bin isolation valves and attachment of the flexible hoses between the filters and the RCB lid will also be closely monitored by a qualified HPT. Throughout the preparation of the bin for transport to the underground, any detection of contamination will be cause for stopping the work activity and evaluating the conditions. Corrective action will be in accordance with the requirements of WP 12-5.

3.3.2 Bin/RCB Emplacement

In the underground, emplacement of the bin/RCB will be monitored by an HPT. After emplacement of the bin/RCBs, anaerobic bins will be argon purged and deoxygenated. Aerobic bins containing HO waste will be nitrogen purged. All of the bins will be pressurized and then injected with 100 ppm each of the tracer gases xenon and krypton. Within four hours after tracer gas injection, an additional gas sample will be taken and analyzed. During the conduct of at least one of these tasks, a simulated release of radioactive contamination will occur to exercise response and procedural controls.

3.3.3 Experiment Initiation, Operation, and Termination

An individual bin is considered to be operational for the purposes of the Bin-Scale CH TRU Waste Test upon withdrawal of the gas sample taken within four hours of injecting the tracer gases. Thereafter, gas samples will be drawn periodi-

cally in accordance with the test schedule. The Dry Bin-Scale Integrated Checkout will use a modified schedule over a five-day period to ensure that operating personnel have the opportunity to exercise their skills at collecting the gas samples. HPTs will also be given the opportunity to conduct their monitoring responsibilities during these sampling tasks. It is anticipated that the gas samples will not contain any radioactive gases except for small quantities of radon.

To monitor the bin-scale test room environment, two portable CAMs will be installed in the room. One CAM is an alpha detector, and the other CAM is sensitive to beta and gamma radiation. In addition, during operation and retrieval, RS will establish a bench scaler to provide low background detection capability for both alpha and beta/gamma. The release limits specified in the WIPP Radiation Safety Manual cannot be achieved by hand-held detection instrumentation. Only a properly calibrated and operated bench scaler can achieve the low levels of detectability required for release of material potentially contaminated with alpha activity.

As backup to the CAMs, RS will also provide FASs. The open filters will normally be counted approximately twice per week for particulate activity. This continuous monitoring equipment provides representative testing for the potential release of radioactive material. The FAS also functions as an integrating sampler that allows detection of low levels of activity over a period of time.

At termination of the integrated checkout, the connecting hoses between the RCB lid isolation valves and the instrumentation interface board must be removed in order to permit a forklift to remove the bin/RCB. The procedures for controlling these removal activities will be reviewed by RS to ensure that the necessary radiological control practices are identified to reduce the risk of spreading any potential radioactive material if present. All the removal activities will be monitored by HPTs. During removal of connecting hoses and instrumentation, at least one incident of detection of radioactive material will be simulated. The proper control of the contamination will include the proper packaging for disposal of the contaminated material in a CH TRU container.

Prior to initiating actual retrieval of the RCBs, a detailed survey of the RCBs will be conducted.

3.3.4 Retrieval

After completion of the termination activities, the individual RCBs will be removed from their respective stacks by a forklift and loaded onto the facility pallet at the Underground Facility Pallet Platform. Prior to moving the RCB beyond the Ventilation Control Bulkhead in Room 1, a thorough survey of the RCV exterior will assure that no loose surface contamination is transported beyond the Room 1 area. Should any contamination be found on an RCB, it will be contained or decontaminated prior to leaving the underground RMA.

The instrumentation, including mechanical safety relief valves, oxygen sensors, solenoid-operated control valves, pressure transducers, and gas flow meters will be removed, surveyed, and disposed of appropriately. Contaminated components will be packaged and handled as derivative mixed waste. With the exception of minor decontamination of container surfaces, the WIPP does not anticipate conducting component decontamination activities. Packaging for off-site shipment will be exercised during the ISC.

3.3.5 Preparation for Shipment

Once on the surface, the RCBs will be taken to the CH bay for removal of the RCB lid and surveillance of the condition of the bin. Use of a SWB ventilation hood and close monitoring by HPTs is required to remove the RCB lid and disconnect the bin-to-lid hoses. This monitoring is required to ensure that any contamination that may be inside the RCB is identified and controlled to minimize the potential for spreading contamination. Upon removal of the RCB lid, the bin and attached hoses and filters will be transferred to a clean SWB. During this preparation phase, one RCB will be simulated to have been internally contaminated as a result of a leaking particulate filter and a partially failed hose. For this condition, the associated RCB lid will be removed and decontaminated and its attaching hoses will be placed into the contaminated SWB. An SWB lid will be installed to seal the bin inside the SWB. The SWB will be hand wiped to remove salt contamination using the same procedures which convert salt contaminated SWBs to clean SWBs.

All the WHB activities required for loading and shipping preparations will be monitored by qualified HPTs. After final trailer loading, swipe surveys of the TRUPACT-IIs will be taken prior to releasing the trailer for transport to the interim storage site.

Throughout all phases of the Dry Bin-Scale Integrated Checkout, the radiological control of activities will be monitored for compliance to procedures, ease of implementation, and practicality of operation.

4.0 SYSTEM READINESS

During the preparations for the integrated test (as described in Section 3.0), each system/component dedicated to supporting the Dry Bin-Scale CH TRU Waste Test Program will be individually tested and documented in accordance with WIPP procedures. The degree of rigor and documentation supporting the testing will depend upon system/component complexity.

The initial step in system readiness is the development of procedural controls that management identifies as necessary for any individual system. The scope of procedures may include installation, calibration, testing and operations if 1) the system is complex, and 2) its overall readiness program requires extensive time and effort. Conversely, a simple system or equipment assembly may have its control vested in only one or two procedures. These procedures will encompass the necessary controls to ensure that the system meets its design requirements and to ensure that personnel using the system have sufficient documented guidance to safely operate the system as intended and within its design limits. In addition to procedures that may be specific to a particular system, there are more general procedures that address tasks which require the operation of one or more systems or pieces of equipment. Unloading of a TRUPACT-II is an example of this type of procedure. Operation of a dry bin after emplacement is another example.

Each procedure will be subjected to a technical review prior to its formal approval. During the system testing and training program implementation, procedural deficiencies will be identified; and applicable procedures will be changed to improve the quality and practicality of accomplishing identified tasks.

As WIPP personnel receive the hardware necessary to construct and/or install a specific system, that hardware will be assembled as required. The assembly guidance may be by approved procedure or engineering drawing. Some systems may be delivered preassembled and require nothing more than electrical or pneumatic power. Once the system is available and the applicable procedures are approved, testing of the system will be conducted.

The checkout bins will provide the platform upon which to test the systems and equipment supporting the Dry Bin-Scale Test.

4.1 DATA ACQUISITION SYSTEM

The responsibility for installation and checkout of the DAS rests with SNL. The EPS of the Westinghouse WID will support SNL in this task.

The DAS will receive all of the monitored parametric values from each bin and record these values in a MODCOMP computer. A DAS shed containing signal processing equipment is located at the south end of Room 1, Panel 1, in the WIPP underground. The computer for recording information, scanning individual bin conditions, and controlling the two solenoid-operated control valves on each bin is located on the surface.

The SNL QA Program is written in compliance with NQA-1 and is approved by the DOE. Procedures will be developed, approved, and implemented to address and document the detailed installation, calibration, and checkout of the DAS. This will include instrumentation, signal processing equipment, computer monitoring, control, and alarm functions. In addition, the bin support instrumentation which

will interface directly with the DAS will be controlled by specific procedures with acceptance criteria, where applicable, for the following:

- Cable and junction box fabrication, installation, and checkout
- Pressure transducer installation, calibration, checkout, and maintenance
- Pressure transducer connection and activation onto the DAS
- Thermocouple preparation and installation
- Thermocouple connection and activation onto the DAS
- Oxygen sensor installation, calibration, checkout, and maintenance
- Oxygen sensor connection and activation onto the DAS
- Solenoid-operated control valve installation, calibration, checkout, and maintenance
- Solenoid-operated control valve connection and activation onto the DAS
- Gas flow volume transducer installation, calibration, checkout, and maintenance
- Gas flow volume transducer connection and activation on the DAS

Upon completion of the DAS checkout to support the Bin-Scale Test, the total checkout of hookup, operation, calibration, and maintenance with eight baseline bins will be conducted. This will include a complete operational cycle of one or more of the bins to evaluate the DAS ability to perform the parametric monitoring and control functions required by the Bin-Scale Test Program. Satisfactory completion of this phase will be the basis upon which to declare that the DAS is ready to support the integrated checkout. The acceptance criteria for the preoperational test will include, as a minimum, the following:

- The DAS will routinely read and record parametric values at the prescribed scan rate.
- The DAS will change scan rate and initiate alarms in accordance with the logic design.
- The failure rate of the individual parametric measurements will be within the acceptance criteria.
- Solenoid-operated control valves will be activated at the setpoint plus calibration tolerance.
- The DAS response to power failure events will be within the prescribed acceptance criteria.

4.2 BIN INSTRUMENTATION

Each emplaced bin will be outfitted with instrumentation to provide control and monitoring of the bin internal conditions throughout the test period. The instrumentation for each bin includes the following:

- Five thermocouples to monitor the bin temperature. The thermocouples will be installed at the WIPP prior to downloading into the mine.
- Two gas pressure transducers.
- Two solenoid-operated control valves. The valves will be in series with gas flow/volume transducers, and will have their discharges routed to the VMS.
- Two gas flow/volume transducers.
- One oxygen-specific solid state sensor and gas recirculation pump.
- Two mechanical safety relief valves with their discharges connected to the VMS.

As a minimum, the preoperational calibration and the performance testing of this instrumentation shall address the following parameters, as taken from the Test Plan: WIPP Bin-Scale CH TRU Waste Tests, January 1990:

- Preoperational checks:
  - Leak tightness for installed transducers and valves will be accomplished in conjunction with assembling the instrumentation module for installation on the RCB Instrument Interface Board.
  - Thermocouple Continuity testing. The Type E Chromel-Constantan thermocouples are operable up to 500°C with a 0.003°C resolution. The thermocouples will have been calibrated at a ten percent sample rate up to 70°C, as specified in the Test Plan.
  - Pressure Transducer Calibration. The pressure instruments have a 0 to 2.5 psi range electrically-centered on 14.1 psia. The accuracy is 0.25 percent. The transducers will be recalibrated approximately every six months.
  - Solenoid Valve Function Test. Individual solenoid-operated control valves will be functionally tested to ensure valve operability upon receipt of a closed and open signal. Flow through testing or visual inspection should be documented to ensure there is no inappropriate obstruction in the gas relief path.
  - Gas flow/volume transducers will be calibrated for specific measurement of air or argon depending upon in what bin a specific transducer is to be mounted.
  - Solid state oxygen-specific sensors will be available from Neutronics, Inc. The sensors have a one percent accuracy and a resolution of 0.1/1.0 ppm. The sensor requires a supply and

exhaust connection to the bin. A small pump will circulate bin atmosphere through the sensor.

NOTE: Figure 2-3 is a simplified schematic depicting the instrumentation associated with each bin.

The procedural controls for bin instrumentation, installation, and calibration will address, as a minimum, the following:

- Periodic recalibration of bin instrumentation in accordance with the Test Plan will require transducers to be removed/replaced. The recalibration activity is outside the scope of the checkout plan.
- Observation of radiological and ALARA practices
- Detailed cable routing instructions from the bin to the DAS shed, to minimize interference with bin operating activities conducted by Waste Handling Operations
- Verification that preoperational checks of instruments are completed prior to installation
- Documentation (including drawings maintained up to date) specifically identifying instrument installed and bin affected
- Documentation identifying individual performing the work
- RWP controlling the work
- Any unusual or abnormal conditions noted on the RCB, storage platform, or instrumentation during installation

The development of the procedural controls for instrumentation removal is the responsibility of SNL. Since the potential for contamination is higher at removal than at installation, specific attention must be given to those procedural controls necessary to minimize contamination spread. This will require a close interface between SNL instrumentation personnel and WID Radiological Safety Personnel. As a minimum, the procedure will address:

- Radiological surveying of instruments attached, prior to any work
- RCB isolation from instrument to be removed
- Counting of installed assessment filter prior to release of instrumentation out of the RCA.
- Technical details of instrument removal
- Detailed directions for control of instruments and tools up to completion of decontamination to appropriate release levels, or to completion of packaging as stored derived radioactive waste or solid waste

Using the checkout bin identified in Section 3.1, the procedures controlling bin instrumentation will be verified by installing the instruments on the checkout bin/RCB. This task will initially be conducted on the surface. Upon completion of this validation process, a checkout bin meeting required leak rate criteria

will be taken underground and the process will be repeated, incorporating procedures for connecting the DAS to the bin instrumentation. This will enable validation of the DAS to properly monitor the instrumentation and solenoid-operated control valves.

4.3 BIN PRESSURE TEST SYSTEM

To ensure that handling of the bin during transport to WIPP, as well as the installation of hoses and the RCB lid have not had any deleterious effect on the pressure integrity of a bin, each bin will undergo a pressure leak test prior to being transported underground. A pressurization and leak rate measuring system will be designed and procured to conduct this test. A pressure leak test will be performed after installation of the RCB lid. Detailed test procedures and acceptance criteria will be established upon which to evaluate bin integrity.

The bin pressure test system incorporates a pressure monitoring microprocessor with the capability to detect a leakage rate of 1×10^{-3} scc/sec of air in a bin pressurized to 1.0 psig. The precision pressure transducer has a resolution of plus or minus 0.001 psi.

The operating procedure controlling the bin pressure test will accomplish the following items:

- Identify required safety precautions and RWP requirements.
- Specify the required test conditions and the acceptance criteria.
- Specify actions to be taken in the event of test failure.
- Require documentation of test results for each bin.
- Document the as-left condition of the bin/RCB.
- Detail the step-by-step procedure for connecting, operating, and disconnecting the pressure test equipment.

Checkout of the bin pressure test system and validation of the operating procedure will be conducted on an checkout bin/RCB assembly on the surface as a part of the overall ISC preparation.

4.4 ARGON GAS PURGING SYSTEM

For those bins required to be anaerobic, the initial oxygen removal step is by purging with argon gas. The equipment used to accomplish this task will be a cylinder of pressurized argon gas with an appropriate control valve, pressure gage, flow limiting orifice,and relief valve. The gas purging path will be through a high flow filter exhaust from the bin, into the VMS, through the activated charcoal filter and thence into the mine ventilation system.

The argon gas purging procedure, as a minimum, will address the following:

- Applicable safety precautions and warnings associated with argon gas
- Conditions to be established prior to commencing gas purging activities. These include the following:

  - Vent line attached to the VMS
  - A positive air flow in the room to disperse any argon gas which may leak
  - Bin solid state oxygen-specific sensor operable and recording oxygen level
  - RWP prepared to establish radiological controls

- A step-by-step procedure for attaching argon gas source to the RCB
- A step-by-step procedure including argon gas inlet pressure limits for purging

The checkout and validation of the argon gas purging system and the applicable operating procedure will occur initially on the surface. Subsequent checkout underground will then ensure proper DAS monitoring of the checkout bin oxygen sensor.

Checkout of this system will be coordinated with checking out the Oxygen Gettering System.

4.5 OXYGEN GETTERING SYSTEM

To achieve an oxygen concentration of less than ten ppm, an oxygen removal process is required. The Oxygen Gettering System will use a copper-aluminum oxide catalyst bed as an oxygen scavenger agent. The system will be a self-contained cart-mounted unit which can be easily moved from RCB to RCB. Connection to an individual bin will be through filtered bin access ports and connecting hoses. Two systems will be procured to provide back up capability. The systems will use a Dow Chemical Company Q-5 reactant. The Q-5 reactant is a replenishable oxygen scavenging material that is commercially available. Q-5 reactant is a copper catalyst supported on a granular aluminum oxide substrate material.

To regenerate the reactant, a forming gas (3 percent H_2/97 percent argon) is passed through the depleted reactant after raising the reactant temperature to 200°C. The resulting reaction is exothermic, causing the temperature to increase to approximately 300°C. The maximum temperature must be maintained at less than 400°C.

The oxygen gettering system will require a pump to move gas through the reactant bed, heat strips to heat up the bed, temperature monitoring, and water vapor condensing capability. Particulate filtration will be required to minimize contamination of the reactant bed. The design will also require equipment to recirculate or exhaust the forming gas and measure the oxygen concentration of the system discharge.

The responsibility for the design and procurement of the oxygen gettering system, including the development of the testing and operating procedure, rests with SNL. The scope of the test procedure, as a minimum, will address the following:

- Preoperational checks
  - Calibration and continuity checks of temperature monitoring instrumentation

- Calibration and functional test of the regeneration gas discharge oxygen analyzer
- Calibration and functional test of the gas flow recorder/ controller
- Electrical checkout and functional test of the gas recirculation pump
- Heater control functional test
- System leak test at a pneumatic pressure of 0.5 psig and a pressure decay of less than one percent over a 30-minute period

- Acceptance testing
  - Oxygen removal capacity at a rate established by SNL with 1000 ppm oxygen inlet gas flow and a discharge of one ppm oxygen
  - Q-5 reactant bed discharge oxygen concentration <1 ppm
  - Q-5 reactant bed regeneration time of <14 hours to a gas discharge oxygen concentration of <1 ppm given an oxygen input of 1000 ppm

The operating procedure for the bin oxygen gettering system will, as a minimum, address the following:

- Safety precautions associated with these items:
  - High temperature regeneration of the Q-5 reactant bed
  - Disposal of potentially contaminated regeneration water
  - Monitoring for potential leakage and concentration of hydrogen gas during regeneration
  - Radiological, hazardous chemicals, and ALARA controls associated with connecting and disconnecting the system to an RCB
- Direction for placing the system into operation for oxygen removal
- Direction for regeneration of the Q-5 reactant

The checkout, testing, and operating procedure validation for the system will be conducted initially on the surface. Subsequent checkout underground will be conducted in conjunction with argon purging of the bin. Lessons learned from the checkout and validation processes will be incorporated into the operating procedures.

4.6 TRACER GAS INJECTION SYSTEM

Tracer gases (xenon and krypton) will be injected into each bin after initial pressurization. The gas quantity injected through each bin's gas recirculation system will result in a concentration of approximately 100 ppm for both xenon and krypton. The equipment to accomplish this injection will be a gas tight syringe

with a calculated volume of both tracer gases. The injection port will be isolated by assessment filters.

Acceptance testing of the gas injection system will require documentation of the following:

- Proper installation and operation of the gas tight syringe
- Verification of documentation certifying purity of the tracer gas
- Proper loading of the syringe with the calculated volume of tracer gas

The gas injection operating procedure, as a minimum, will address the following:

- Identification of required safety precautions and RWP requirements
- Direction for
  - Connecting the injection system to the bin/RCB
  - Disconnecting the injection system from the bin/RCB
- Radiological control considerations
- Criteria for evaluating success of the injection task

Checkout and operating procedure validation of this system can be conducted on the surface, since the DAS is not required to support tasks associated with the injection of tracer gas. The checkout also does not require that the bin be deoxygenated.

4.7 GAS SAMPLING SYSTEM

Gas samples for the bin-scale tests will be collected in steel cylinder assemblies. Gas samples will be collected from the gas recirculation loop that is shared with the continuous oxygen sensor. All gas samples are collected downstream of assessment filters and again filtered through a redundant, removable filter disc (located on the gas sample cylinder inlet) that can be surveyed by HPTs. The sample containers are evacuated canisters of varying sizes. A valve located between the particulate filter holder and the cylinder will isolate the gas sample from contamination with outside air while the filter holder is opened for radionuclide monitoring.

Acceptance testing of the gas sampling system will require documentation of the following:

- Operator training in proper handling and use of the gas sampling system
- Verification that the gas sampling system meets its leak tightness criteria to hold a vacuum of 50 millitorr
- Verification that removal of a particulate filter does not compromise the integrity of the collected sample

The gas sampling procedure, as a minimum, will address the following:

- Identification of required safety precautions and RWP requirements

- Detailed step-by-step direction for:
  - Preparation of the gas sampling system
  - Connection to and removal from the bin/RCB gas recirculation system
  - Maintenance of chain-of-custody control

SNL is responsible for the development of the analytical procedure through which the gas samples will be processed. The checkout and operating procedure validation, including the laboratory analytical process for flammable and reactive gases, can be conducted on the surface.

4.8 NITROGEN PURGING SYSTEM

To minimize the likelihood of developing a flammable gas mixture in aerobic bins, all aerobic bins which contain HO waste will be purged to an oxygen level of 3.8 percent to 4.0 percent after emplacement. The equipment used to accomplish this task will be a cylinder of pressurized nitrogen gas with an appropriate control valve, pressure gage and relief valve. The gas purging path will utilize the same path as that described for argon gas purging in Section 4.4. In addition, the preoperational checks and procedural requirements described for the Argon Gas Purging System are also applicable for the Nitrogen Purging System.

4.9 VOC MONITORING SYSTEM

To ensure compliance with EPA requirements regarding VOCs, all gases released from the bins to the mine ventilation system require monitoring for VOCs. In order to collect these gases, the VMS, as shown in Figure 4-1, will be connected to the discharges from the bin pressure relief valves. The collection header of the VMS is isolated from the normal mine ventilation path by a mechanical safety relief valve set to open at approximately 0.8 psig to prevent overpressurizing the system. The normal path from the VMS to the mine ventilation is via the sample pump. The pump is isolated by a solenoid-operated control valve. Pump and solenoid operation is controlled by a PLC which uses a differential pressure transducer to detect pressure changes within the VMS collection header. When the collection header pressure increases to approximately 0.1 psig, the PLC will open the solenoid-operated control valve and start the sample pump. The three liter/minute pump will discharge to the Mine Ventilation System. An eight cc/minute sample from the pump discharge will be collected in a six-liter canister. The pump will operate for approximately one minute, reducing the VMS pressure to near 0.0 psig.

Every 24 hours an integrated six-liter sample at two atmospheres of pressure will be taken. During this sampling operation, a one-liter-per-minute volume will be drawn from the pump discharge stream and collected in a six-liter container. Pressure in the VMS collection header will be PLC controlled from 0.2 psig to -0.2 psig by a combination of pump operation and helium bleed into the collection header during this sample collection process.

Upstream of the gas sampling pump is an activated charcoal filter. All gas from the VMS collection header will pass through this filter prior to being discharged to the Mine Ventilation System or collected in a gas collection canister. The filter's primary purpose is to scrub all VOCs from the gas stream. Analysis of

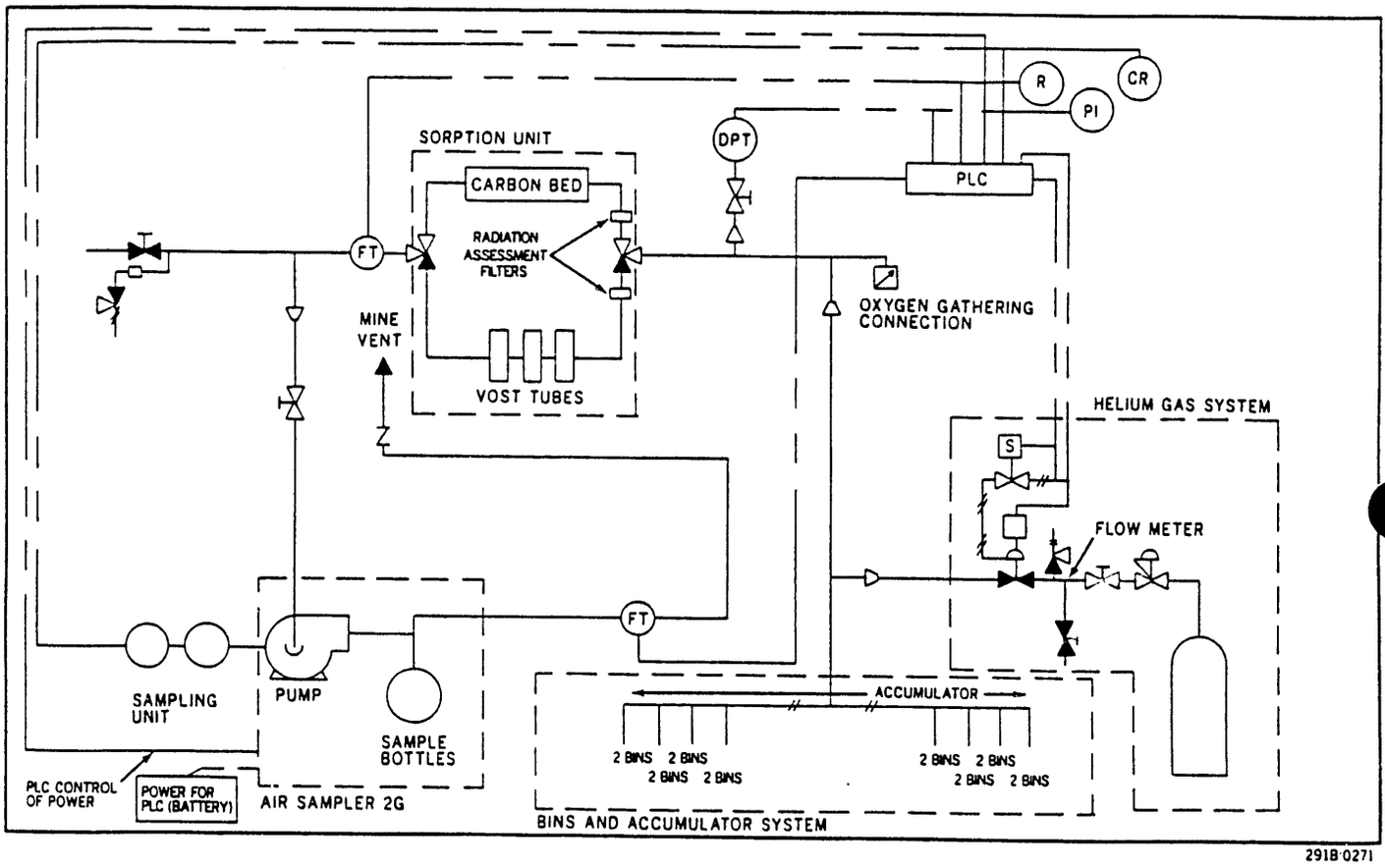


FIGURE 4-1. VOC Monitoring System

the gas in the collection canisters will be used to confirm the effectiveness of the filter in collecting the VOCs.

A helium addition system is designed into the VMS. The helium is used to increase the pressure in the VMS to 0.2 psig in preparation for taking the daily integrated sample. During the sampling operation, the VMS system will decrease pressure to approximately -0.2 psig. After the sample pump shuts off, helium will again be bled into the VMS to raise the pressure to approximately 0.0 psig.

The DAS will control bin pressure to prevent exceeding 0.5 psid within a bin. At 0.5 psid, the DAS will open the affected bin's solenoid-operated control valve for two minutes. The excess bin gas will discharge directly into the VMS collection header.

This collection header piping serves as an accumulator for the bins' discharge. Therefore, the sampling operation has no impact on individual bins. Gas discharged from the bins enters the collection header and is routed to the sampler passing through the activated charcoal filter. The quantity of gas which passes through the activated charcoal filter is measured by a mass flow meter and is integrated on a totalizer display.

The startup and acceptance testing program for the VMS will address the following tasks:

- Leak tightness of the system piping and components
- Functional testing of the sampler and its associated pump, collection bottles, and flow control needle valve
- Calibration of all instrumentation and pressure regulating components
- Calibration and proper operation of the mass flow meter and it's associated totalizer display
- Calibration and proper operation of the system PLC

The operating procedure for the VMS will address the following processes as a minimum:

- Collection header connection and disconnection to the bin/RCB assembly
- Installation and replacement of charcoal filters
- Installation and replacement of the helium bottle
- Installation and replacement of sample collection bottles
- Installation and removal of the VOST tubes
- Sampler operation
- Setting of the sampler needle valve and the helium control needle valve
- Verification of all alarm functions

5.0 ADMINISTRATIVE AND TRAINING READINESS

Successful implementation of the ISCP requires the development of a number of new procedures to control operational activities, in addition to those that will support the startup and acceptance testing of the systems described in Section 4.0. Table 5-1 identifies the most significant of these administrative controlling procedures. Some procedures which already exist will require modification to address the handling of bins and SWBs. Appendix A provides a detailed list of procedures which will be implemented to control the Bin-Scale Test Program.

The training of personnel to properly utilize these new and revised procedures will require significant attention by management. It is vital that the preparation of new training material is adequate, and that sufficient time is made available for individuals to become proficient in required skills.

Implementing the ISCP incorporates effective management of procedure preparation, validation of the procedures, and training of personnel prior to commencing the Dry Bin-Scale Integrated Checkout. The period during which the Bin-Scale support systems and equipment are installed and acceptance tested is scheduled to provide the opportunity to begin training of operating personnel after procedure validation. Taking advantage of the time frame will significantly improve the likelihood that the appropriate operating procedures will safely control the activities supporting the integrated checkout.

5.1 PROCEDURE READINESS

In preparation for the Dry Bin-Scale Integrated Checkout, a number of procedural controls will be developed and exercised to ensure procedure validity. The Waste Handling Operations Manual, WP 05-1, will control the receipt, emplacement, operation, retrieval, and shipment of bins. Some applicable procedures within WP 05-1 will require changes to reflect bin handling.

- TRUPACT-II Receipt.
- TRUPACT-II Handling. This procedure will require change to reflect 1) unloading overpacked bins; and 2) loading overpacked bins into a TRUPACT-II.
- CH TRU Waste Emplacement.
- CH TRU Waste Retrieval.
- Bin Operation.
- CH Waste Package Retrieval.
- The WWIS will require re-evaluation to determine what, if any, program changes are necessary to accommodate bins in an overpack configuration for shipment from the WIPP.
- The TRAMPAC Compliance Plan will require the development of implementing procedures.

Table 5-1

ADMINISTRATIVE CONTROLLING PROCEDURES

Activity/Procedure	Responsible Organization
Bin receipt and emplacement	Waste Handling Operations
Instrumentation, calibration, and repair	Experimental Programs/SNL
Instrumentation installation on bin/RCB	Waste Handling Operations
Bin operation including: - Bin pressure testing - Argon gas purging - Nitrogen gas purging - Oxygen gettering - Pressurization - Tracer gas injection - Gas sampling	Waste Handling Operations
RCB lid	Waste Handling Operations
DAS operation	Experimental Programs/SNL
Gas sample analysis and disposal	Dosimetry and Analytical Technology
Bin/RCB retrieval	Waste Handling Operations
Bin processing for TRUPACT-II loading	Waste Handling Operations
Radiological controls	Radiation Safety
Hazardous chemical controls	Safety and Plant Protection
Bins gas collection system operation	Waste Handling Operations
VMS operation	Regulatory and Environmental Programs

As described in Section 3.0, a number of procedures addressing specific systems and component startup and acceptance testing will be developed during the preparation for the integrated checkout. Included in this development will be specific operating procedures. Appendix A identifies responsibilities for procedural development of controls pertaining to the activities within the scope of the ISCP.

5.2 TRAINING READINESS

The startup and acceptance testing, and the operating procedure validation for systems supporting the test bins in the Bin-Scale Test Room, provide some excellent training opportunities. The TTG within the Human Resources department shall review the operating procedures associated with the ISCP in the initial draft stage and identify specific training needs and opportunities. The TTG will place emphasis on the development of documentation to support the following:

- OJT activities accomplished during the startup and test program, which can be applied to requalification training at the time of termination of bin-scale testing and retrieval, if necessary
- Systematic job/task needs analysis of the required activities to ensure development of training materials to support initial and requalification training
- Direct observation of the startup and test activities, supervisory feedback for the systematic evaluation of previous training, and measurement of the effectiveness of that training
- The identification of SMEs and their area of expertise, to ensure qualified resources for future training needs

An individual within the TTG will be dedicated to supporting responsible managers to ensure that maximum advantage is taken of the training opportunities made available by this ISCP.

Training will be coordinated with the receipt of equipment and the development of training materials. As equipment is received and system components are assembled, operator indoctrination and OJT will be introduced during the startup and acceptance testing of the systems or system components. The actual manual tasks required to startup and test equipment will be performed by personnel assigned to the responsible operating organization, under the guidance of a responsible startup or design engineer.

Upon receipt of instrumentation to support the bins, an appropriate training area will be established within the WHB. This area will be utilized to configure a bin with its instrumentation including the RCB lid, to provide an environment in which to demonstrate and validate those procedures for the following activities:

- Install and remove the SWB Ventilation Hood System
- Reconfigure an SWB to an RCB including installation of hoses and filters from the bin to the RCB lid and from the lid to the instrumentation and support components
- Install bin thermocouples

- Collect gas sample from a bin
- Argon purge a bin
- Nitrogen purge a bin
- Deoxygenate a bin
- Pressure test a bin
- Depressurize a bin
- Emplace and retrieve a bin/RCB assembly
- Remove contaminated instrumentation
- Remove the RCB lid and hoses to the bin
- Emplace the bin in a clean SWB
- Install the SWB lid
- Install and remove connections to the VMS

OJT and qualification for personnel will take place during this training period. When appropriate, as determined by the responsible section managers, the training location should be moved to the underground. A fully configured bin/RCB should be electrically connected to the DAS and the previously-described processes repeated to ensure that the impact of the changed location does not introduce any nuances which are not addressed in the appropriate procedures.

Upon completion of this training cycle, a QA audit in accordance with the WID QA Manual shall be conducted to review the completeness of the documentation supporting the qualification of individuals, the documentation supporting the incorporation of approved changes to procedures, and the close out of deficiencies identified during the training and procedure validation process.

6.0 QUALITY ASSURANCE

All programs identified in this ISCP are to be controlled by the existing DOE-approved WID and SNL QA Programs and supporting procedures for managing and operating the WIPP. The WID QA Program encompasses the 18 Basic Requirements and Supplements of ANSI/ASME NQA-1 as required by DOE Order 5700.6B and AL Order 5700.6B. It additionally invokes the requirements of 10 CFR 71 for the use of the TRUPACT-II Type "B" Packaging and DOE Order 5400.1 for Environmental Monitoring and Surveillance Programs.

The requirements are implemented by a "Graded Approach" program which evaluates and establishes the complexity and nature of each considered item, system, and function. From this, the QA requirements are applied to ensure and document an "in compliance" end product.

The Environmental Monitoring and Surveillance Program includes QA Program requirements for 1) organizational responsibility; 2) program design; 3) procedures; 4) field quality control; 5) laboratory quality control; 6) human factors; 5) redirecting; 6) chain-of-custody procedures; 7) audits; 8) performance reporting; and 9) independent data verification.

All test procedures shall document the performance and verification of all necessary testing to demonstrate that equipment, facilities, and systems 1) will operate in accordance with established design criteria as defined in the FSAR and 2) will operate satisfactorily and safely per approved plant design documents/ specifications (reference WP 03-001, Rev. 5).

All persons conducting startup testing must be qualified and certified test engineers per WP 03-006.

In the event the decision is made to ship waste from the WIPP, revisions and additions to the program will be incorporated to comply with the WACC, 10 CFR 71, the TRUPACT-II SARP, and the DOT requirements for shipping waste in TRUPACT-IIs to other sites. A draft Compliance Plan using the documents previously described will be developed to support the simulation addressed during the ISC.

6.1 SNL QA PROGRAM

All bin-scale activities conducted by Sandia and Sandia-sponsored organizations associated with experimental design, implementation, data collection, and reduction shall be in accordance with the SNL Nuclear Waste Technology Department WIPP QAPP. Activities ancillary to the Sandia mission that have no impact on the assigned tasks, experiments, or resultant data re not required to comply with the QAPP. Good business practices shall be employed for unrelated data tasks.

The QAPP meets the applicable requirements of NQA-1 (latest revision and applicable addenda), DOE 5600.6B, DOE AL 5600.6B, Chapter 11 of the Final Safety Analysis Report, WIPP DOE 87-007, QA Operations Program, WPO Management Directives, and the Sandia National Laboratories Quality Plan. The QAPP is reviewed and approved by the DOE/WPO. The QAPP is subject to audit and reviews by DOE personnel.

As the administrator, DOE/WPO shall be the focal point of interface between SNL and WID for all matters related to quality. It is the responsibility of SNL and

WID to notify the DOE/WPO to resolve programmatic differences or conflicts that may have a significant impact on the other's QA program.

On an annual basis, SNL management assesses the overall effectiveness of the entire QA Program. The appraisal is conducted by the department manager with input from the division supervisors. The results are reported to the WPO QA Manager.

7.0 PROCESS FLOW

Figure 7-1, Bin-Scale Test Operational Process Flow Diagram, is a schematic of the Dry Bin-Scale ISC to be conducted at the WIPP. The flow diagram identifies the major activities and how those activities tie together. A brief narrative description of most of the steps shown in the diagram follows Figure 7-1 to aid the reader in a better understanding of the individual activities. No description is provided for steps 110, 170, 200, and 300. These steps are self-explanatory.

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WIPP BIN-SCALE TEST OPERATIONAL PROC

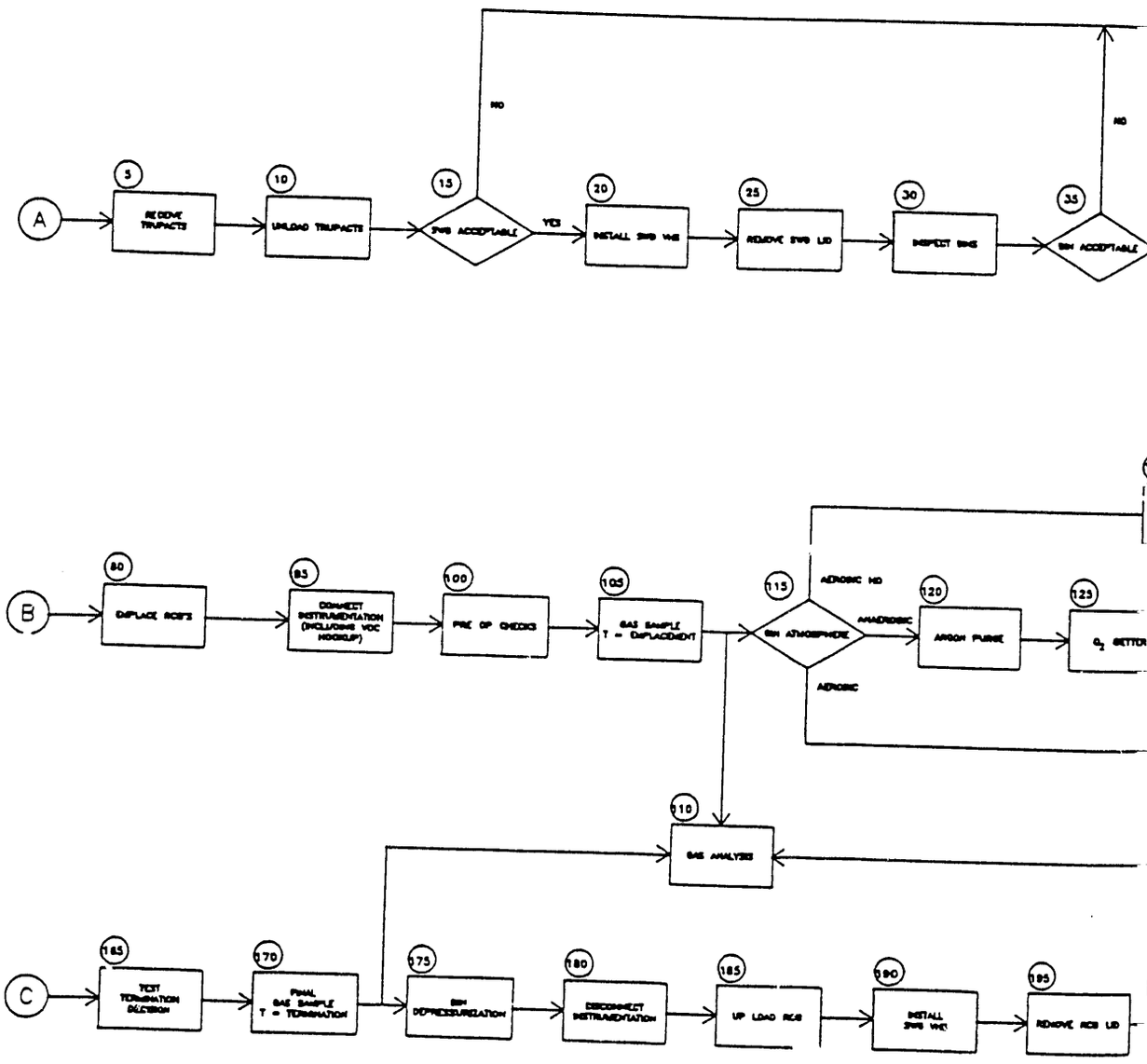
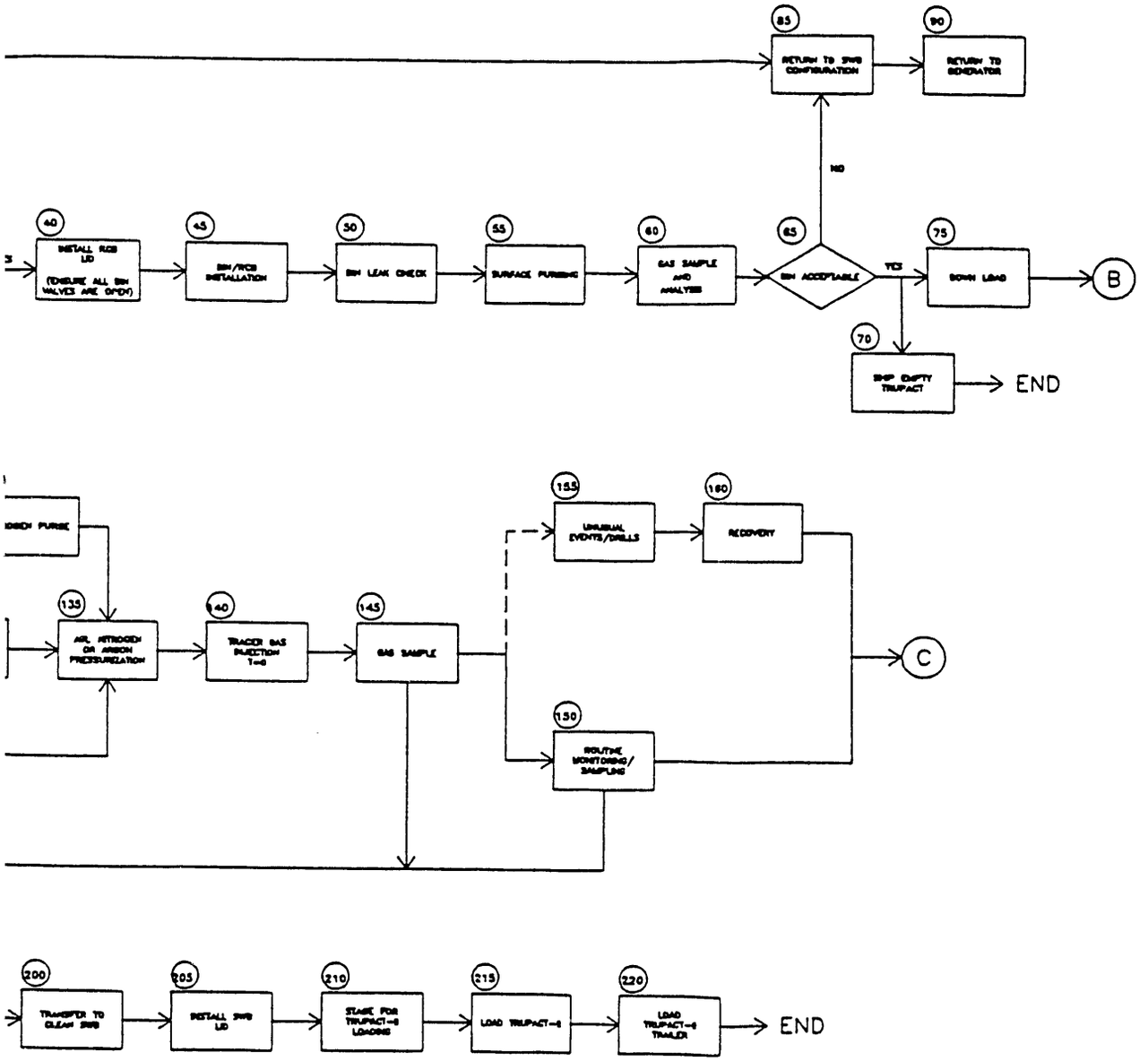


FIGURE 7-1. Bin-Scale Test Op

ESS FLOW DIAGRAM



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rational Process Flow Diagram

BIN-SCALE TEST OPERATIONAL PROCESS FLOW DIAGRAM NARRATIVE

Step 5 "Receive TRUPACTs" includes the actions performed by HP, Security, and Transportation personnel to accept the radioactive shipment from the carrier, Dawn Trucking.

Step 10 "Unload TRUPACTs" includes the actions performed by Waste Handlers, HP, and QA to remove a TRUPACT-II from its trailer, place it in the unloading dock, remove the lids, and place the contents on the floor. The activities document radiological conditions, vacuums pulled on the vessels, the gas sample taken on the TRUPACT INNER vessel head space and installation of the TRUPACT Ventilation Hood System.

Step 20 "Install SWBVHS" includes the actions required to install the SWB Ventilation Hood System on the SWB prior to removing the SWB lid. This will assure that potential releases of aerosals from the SWB are captured and released directly into the WHB ventilation system and passed through filters.

Step 25 "Remove SWB Lid." The SWB is placed under a vent hood and special rigging is attached to the lid. The bolts are removed and the lid is raised enough to allow access to the bin.

Step 30 "Inspect Bins." The visual and radiological surveys are performed. After enough radiological surveys are completed, the vent hood is removed and visual inspections are completed. WWIS data is verified at this time.

Step 40 "Install RCB Lid." The bin is raised and supported on a table. Flexible hoses are attached to the bin valves. HEPA grade filters are connected to the bin valve hoses and to the RCB lid ports with additional flexible hoses. The bin isolation valves are opened and the bin transportation filters are capped. Thermocouples are installed on the exterior surfaces of the bin.

Step 45 "Bin/RCB Installation" consists of activities for lowering the bin with the RCB lid back into the SWB, now called the RCB. The RCB is marked to identify its DAS location with a TByyy unique serial number.

Step 50 "Bin Leak Check" assures that the bin and RCB have been properly assembled. A valve lineup is performed and the leak test rig attached. Upon completion of the leak rate test, the test assembly is removed.

Step 55 "Surface Purging" is the purging of a bin on the surface as applicable. This process is utilized to reduce the oxygen level for anaerobic bins by argon purging, to reduce the oxygen level for high organic aerobic bins by nitrogen purging, or air purge all other aerobic bins prior to their emplacement in the underground.

FIGURE 7-1. Bin-Scale Test Operational Process Flow Diagram (Continued)

BIN-SCALE TEST OPERATIONAL PROCESS FLOW DIAGRAM NARRATIVE

Step 60 "Gas Sample and analysis." A gas recirculation system is attached to the RCB; and after the prescribed recirculation time, a 250cc gas sample is collected. This sample is then analyzed to verify the oxygen concentration of the bin and provide information for fine tuning the bin atmosphere after emplacement.

Step 70 "Ship Empty TRUPACT-II" are the actions required to return an "Empty" TRUPACT-II back to the shipper. It involves HP, Waste Handling, QA, and Transportation personnel.

Step 75 "Download RCBs." The RCB is loaded onto a facility pallet. The facility pallet is then placed onto the conveyance loading car. The conveyance loading car loads the pallet onto the waste hoist conveyance. The load is then lowered down to the underground station. Once in the underground, an underground transporter transports the facility pallet to the storage areas. Required underground air flow is verified prior to taking the RCB into Room 1.

Step 80 "Emplace RCBs." The pallet containing the RCBs is transferred to the Underground Facility Pallet Platform. At that point, the RCB is removed from the facility pallet using a six-ton forklift. The RCB is then placed on an RCB platform at its designated location in Room 1 or on top of another RCB. The WWIS is updated for this new location.

Step 85 "Return to SWB Configuration." If a bin has evidence of damage or leakage, it will be overpacked in an SWB. If the SWB exhibits damage which is evaluated to render it unsuitable for shipment back to the generator site, the bin will be placed into an undamaged SWB.

Step 90 "Return to Generator." The overpacked bin will be loaded into a TRUPACT-II for return to the generating site.

Step 95 "Connect Instrumentation" are the actions required to assemble and leak test the instrument modules, the mechanical relief modules, and the O_2 Sensor/Gas Recirculation modules. Upon completion of assembly, the modules are then mounted on the Instrumentation Interface Board and connected to the appropriate RCB valves and the DAS. This activity includes power connections, instrument leads, flexible hoses and RAFs. Connections are also made to the VMS.

Step 100 "Pre-Op Checks" are the actions required to verify all the instrumentation is connected to DAS and that each signal can be verified.

Step 105 "Gas Sample T=Emplacement" is the initial gas sample that will be analyzed for full list of analytes required by the Test Plan.

FIGURE 7-1. Bin-Scale Test Operational Process Flow Diagram (Continued)

BIN-SCALE TEST OPERATIONAL PROCESS FLOW DIAGRAM NARRATIVE

Step 110 "Gas Analysis" is the analysis of a 250 cc sample of gas from a bin by the off-site contract lab for inorganic and VOC gases, a 100 cc sample for analysis on-site for reactive gases.

Step 120 "Argon Purge" consists of connecting argon gas bottles to a bin and purging out the oxygen until the bin atmosphere has reached a specified oxygen level of approximately 500 ppm.

Step 125 "Oxygen Getter" reduces the O_2 concentration of the bin to achieve anaerobic conditions. This system will remain attached to the bin until it has reduced the O_2 concentration to approximately two ppm as recorded by the DAS

Step 130 "Nitrogen Purge" includes the activities for connecting nitrogen bottles to purge those aerobic bins containing HO wastes to an oxygen level of 3.8 percent - 4.0 percent.

Step 135 "Air, Argon, or Nitrogen Pressurization." The atmosphere inside the bin will be established at the specified operating pressure of .25 psid using argon, air, or nitrogen for the initial pressurization. LO waste filled bins will be pressurized at >0.45 to <0.50 psid.

Step 140 "Tracer Gas Injection" is the injection of the gases Krypton and Xenon into a bin at a concentration of 100 ppm for each gas. The injection is via the Gas Recirculation Loop. Completion of tracer gas injection is defined as test time T=0.

Step 145 "Gas Sample" is a repeat of the sampling conducted in Step 105. This sample must be taken with four hours of T=0 and will suffice as the required first day's sample.

Step 150 "Routing Monitoring/Sampling" consists of collecting gas samples per the test plan, reviewing DAS output to verify operation, and inspecting the test rooms and bins. This activity also applies to VOC monitoring which consists of verifying that sufficient carrier gas is available, that sample bottles are removed at periodic intervals and that the VOC system is powered and appears to be operating properly.

Step 155 "Unusual Events/Drills" describes postulated events that could occur which could effect the test data or the integrity of the bins. These events will include:

- Instrumentation failure
- Bin repressurization
- Oxygen sensor/gas recirculation pump replacement
- Controlled bin depressurization
- Alpha-contaminated gas sample
- Loss of DAS power to two bins
- Bins overpressurization

FIGURE 7-1. Bin-Scale Test Operational Process Flow Diagram (Continued)

BIN-SCALE TEST OPERATIONAL PROCESS FLOW DIAGRAM NARRATIVE

Step 160 "Recovery" is performed concurrently with the previous step's unusual events. It encompasses the actions required to restore the test parameters or terminate the test. It also addresses the corrective maintenance actions required to recover or replace the test equipment.

Step 165 "Test Termination Decision" will be made by the Principal Investigator based upon the bin performance and the data acquired.

Step 170 "Final Gas Sample" is the final gas sample taken for analysis of the full list of analytes required in the Test Plan. The time of taking this sample(s) is defined as T=Termination.

Step 175 "Bin Depressurization" is the action to depressurize the bin into the VMS

Step 180 "Disconnect Instrumentation" disconnects all the instrument leads, power leads and gas lines from the RCB valves to the Instrumentation Interface Board. Final radiological checks are performed.

Step 185 "Upload RCB" takes the bin/RCB from Room 1 and places the assembly on the underground transporter. The assembly is then transferred to the Waste Hoist and transported to the WHB.

Step 190 "Install the SWBVHS" is a repeat of Step 20 in preparation for removal of the RCB lid.

Step 195 "Remove RCB Lid" are the actions necessary to unbolt and lift the RCB lid sufficiently to allow radiation surveys to confirm no contamination within the SWB, lift the bin and RCB lid out of the SWB and place on the table, and then disconnect the flexible hoses from the underside of the RCB lid. The caps are removed from the bin transport filters and the bin port isolation valves are shut. With the bin on the table, a more comprehensive radiation survey can be taken.

Step 200 "Transfer Bin to Clean SWB" is the action to place the bin in a clean SWB. Included in this transfer are the hoses, filters, and thermocouples connected to the bin. The RCB lid is evaluated for contamination and disposed of as clean or contaminated waste depending upon the evaluation results.

Step 205 "Install SWB Lid." The clean SWB containing the bin and its connecting hoses, filters and thermocouples is sealed by installation of an SWB lid.

Step 210 "Stage for TRUPACT-II Loading" are the activities required to make up the SWB assembly for loading into a TRUPACT-II. The assembly will comprise two SWBs which together must meet the load restrictions for the TRUPACT. Shipment certification in accordance with the TRAMPAC requirements are documented and the WWIS is updated.

FIGURE 7-1. Bin-Scale Test Operational Process Flow Diagram (Continued)

BIN-SCALE TEST OPERATIONAL PROCESS FLOW DIAGRAM NARRATIVE

Step 215 "Load TRUPACT-II." The SWBs are placed in the TRUPACT. The TRUPACT lids are installed and leak checked. The TRUPACT is then transported to the trailer.

Step 220 "Load TRUPACT-II Trailer." The TRUPACT-II is placed on the trailer and secured in place. Final radiation surveys are performed and the bill-of-lading prepared. The final update is made to the WWIS in preparation for shipment to a designated location. The TRUPACT-II is ready for shipment.

FIGURE 7-1. Bin-Scale Test Operational Process Flow Diagram (Continued)

8.0 REFERENCES

Conditional No-Migration Determination for the DOE Waste Isolation Pilot Plant - FR Vol. 55 Number 220, November 14, 1990

Design Criteria, A Waste Isolation Pilot Plant (WIPP) Revised Mission Concept-II (RMC-IIa), WIPP/DOE-71, Revision 4, February 1984

Draft Final Plan for the Waste Isolation Pilot Plant Test Phase: Performance Assessment, DOE/WIPP 89-011, December 1989

Draft Plan for the Waste Isolation Pilot Plant Test Phase: Performance Assessment and Operations Demonstration, DOE/WIPP 89-011, April 1989

Environmental Protection Agency Standard, 40 CFR 191, Subpart B, Sections 13 and 15

Final Report for the Contact-Handled Transuranic Waste Mock Retrieval Demonstration, WEC, January 28, 1988

Test Plan Addendum #1: WIPP Bin-Scale CH TRU Waste Tests, December 1990, SAND 90-2082

Test Plan: WIPP Bin-Scale CH TRU Waste Tests, Martin A. Molecke, SNL, January 1990

Title 40 Code of Federal Regulations Part 191

TRU Waste Acceptance Criteria for the Waste Isolation Pilot Plant, WIPP/DOE-069, Revision 3, January 1989

WP 02-9, Final Safety Analysis Report

WP 05-1, WIPP Waste Handling Operations Manual

WP 05-WH5101, WIPP Dry Bin-Scale CH TRU Waste Integrated System Checkout

WP 12-1, Safety Manual

WP 12-3, WIPP Radiation Safety Manual

WP 12-9, Emergency Plan and Procedures

WP 12-914, Response to Contamination Events

WP 13-1, WIPP Quality Assurance Program Manual

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PROCEDURE DEVELOPMENT RESPONSIBILITY	
Procedure Scope	Organizational Section
Loading TRUPACT-II Trailer	WHO
Varian Model 938-41 Porta-Test Leak Detector	WHO
TRUPACT-II Assembly Verification Leak Check	WHO
TRUPACT-II Maintenance Verification Leak Check	WHO
Bin Connection to VOC Sample Collection Manifold	RWHE
Helium Cylinder Installation and Removal	RWHE
Bin VOST Tubes and Carbon Filter	RWHE
VOC Sample Canister Handling	RWHE
Model TGS-2/A VOC Sampler Timer Programming and Flow Control Adjustment	RWHE
QA Field Sampling (VOCS)	REP
Oxygen Gettering of Bin	SNL
Oxygen Getter Regeneration	SNL
Argon Purge of Bin	SNL
Nitrogen Purge of Bin	SNL
Air Purge of Bin	SNL
Underground Bin Sampling	SNL
Generator Operation. B-49	SNL
Measurand Definition File Nomenclature for WIPP	SNL
Training of SNL Support Personnel	SNL
Restoring Data to Restored Data Files From Daily Master Tapes	SNL
The Process Used to Install and Verify Measurements in the MODCOMP Data Acquisition	SNL
Transfer of Gage Coefficients to MODCOMP	SNL
Description of Function Routines (Algorithms) Used by the MODCOMP Computer	SNL
Cable Testing Using the Totalizer Bypass Cable Checkout Box and the Time Delay Relay Bypass Cable	SNL
TRUPACT-II Receipt	WHO
Bin Handling	WHO

PROCEDURE DEVELOPMENT RESPONSIBILITY	
Procedure Scope	Organizational Section
Thermocouple Lead Routing	SNL
Bin Leak Rate Test	RWHE
Shipping an Empty TRUPACT	WHO
Bin Equipment Connection/Disconnection	SNL
Bin Pressurization Connection/Disconnection	SNL
Tracer Gas Injection	SNL
Routine Sampling and Monitoring of Bins	WHO
Bin Depressurization	SNL
Bin Retrieval	WHO
TRUPACT-II Loading	WHO
B-49 Alarm Verification Methods	SNL
First and Last Checks in B-49 Trailer	SNL
MODCOMP Classic Computer System Power-Up in B-49 Trailer	SNL
Weekly Checklist in B-49 Trailer	SNL
Backing-Up B-49 Trailer MODCOMP System	SNL
Process Used to Select and Run Correct Gage Polynomial Fit Programs	SNL
Calibration of HP-3455A, HP-3456A and EDC-501J Instruments	SNL
Calibration Procedures HP-3466 "On Station" Tests	SNL
Remote OC Input to Trailer B-49 MODCOMP Computer by Modem	SNL
Cable Testing	SNL
Measurand Definition File Maintenance	SNL
Cable Fabrication Procedure for WIPP DAS Cables	SNL
Manual Start of Trailer B-49 Diesel Generators	SNL
Calibration of the HP-3467 Logging Multimeter	SNL
Pressure Gage and Transducer Repair and Calibration	SNL

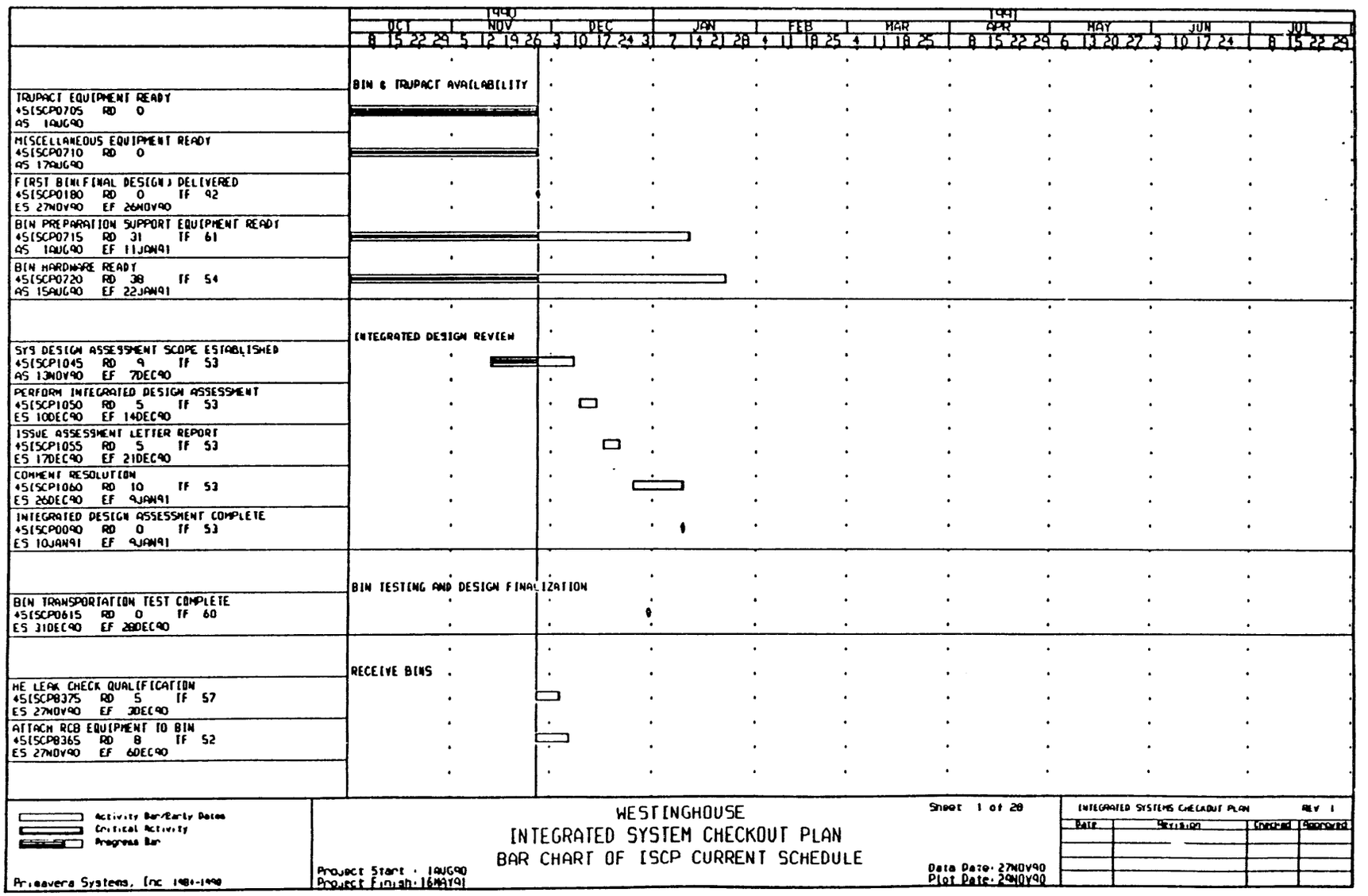
PROCEDURE DEVELOPMENT RESPONSIBILITY	
Procedure Scope	Organizational Section
Connection and Activation of Thermocouple Gages into DAS	SNL
Type E Thermocouple Repair and Termination	SNL
Error Calculation for out of Calibration Meters	SNL
Quality Assurance Records/Notebook System at the WIPP Site	SNL
WIPP Alarm Limits	SNL
Removal and Replacement of HP-3456A Digital Voltmeter in the WIPP DAS	SNL
Removal and Replacement of the EDC Model 501J Programmable DC Voltage Standard	SNL
Description of the Process used to Implement Test Plan Instrumentation Requirements into the DAS	SNL
Removal and Replacement of the HP-3497A Data Acquisition/Control Unit	SNL
Removal and Replacement of the HP-3498A Data Extender Unit	SNL
Instrument and Power Cable Receival Procedures	SNL
B-49 Diesel Generator Exercises	SNL
Thermocouple Installation for Bin Scale Test	SNL
Pressure Gage Installation, Calibration and Checkout	SNL
Pressure Gage Connection and Activation onto the DAS	SNL
Solenoid Operated (GAS) Pressure Relief Valve Installation and Calibration	SNL
Solenoid Operated Control Valve connection and Activation onto the DAS	SNL
Gas Flow Meter Installation, Calibration and Checkout	SNL
Gas Flow Meter Connection and Activation Onto the DAS	SNL
Oxygen Sensor Installation, Calibration Checkout and Maintenance	SNL

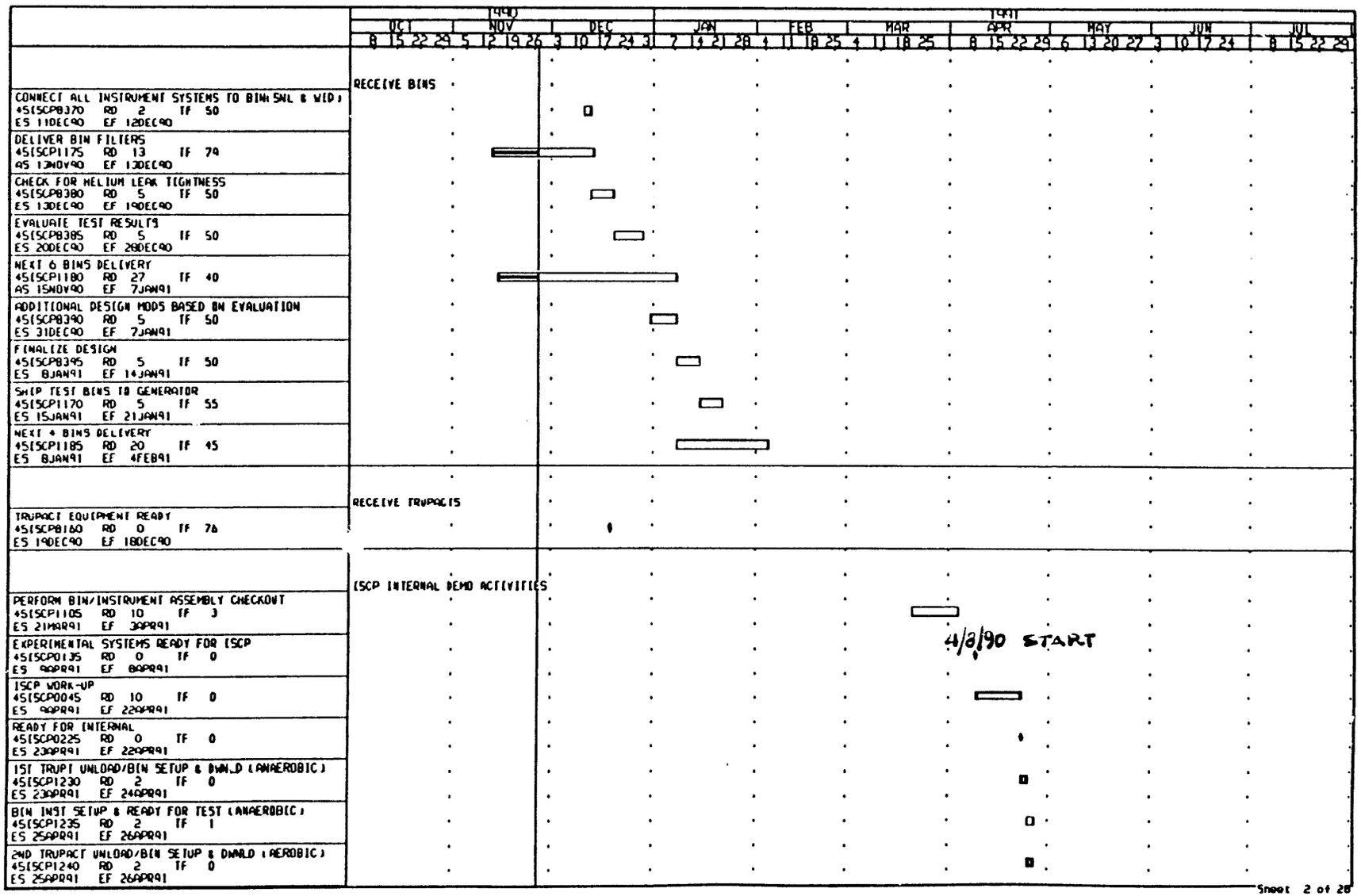
PROCEDURE DEVELOPMENT RESPONSIBILITY

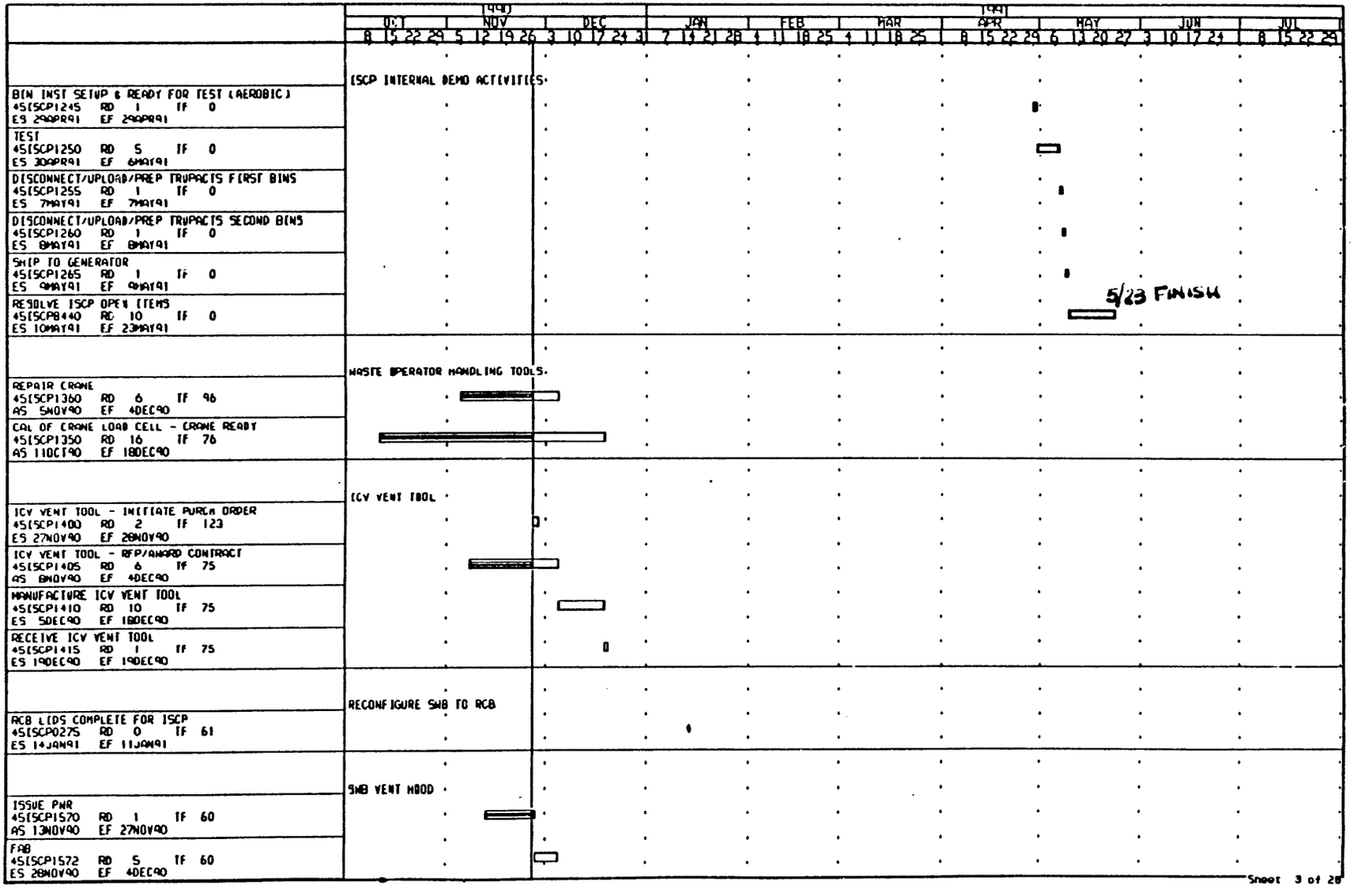
Procedure Scope	Organizational Section
Bin-Scale and Alcove Tests Gage Hookup	SNL
Review and Approval of ISCP Operating Procedures	Pub & Pro
ISCP Operating Procedures Writer's Manual	Pub & Pro
Operational Safety Review of Design and Procedure Changes	Pub & Pro
TRAMPAC Administrative Control	WHO
Gas Chromatograph/Mass Spec Startup, Calibration, Shutdown, and Operation Procedures	DAT
Dry Bin-Scale CH TRU Waste ISCP	RWHE
WWIS	SI
Operation Radiological and Safety Procedures	Rad Safe

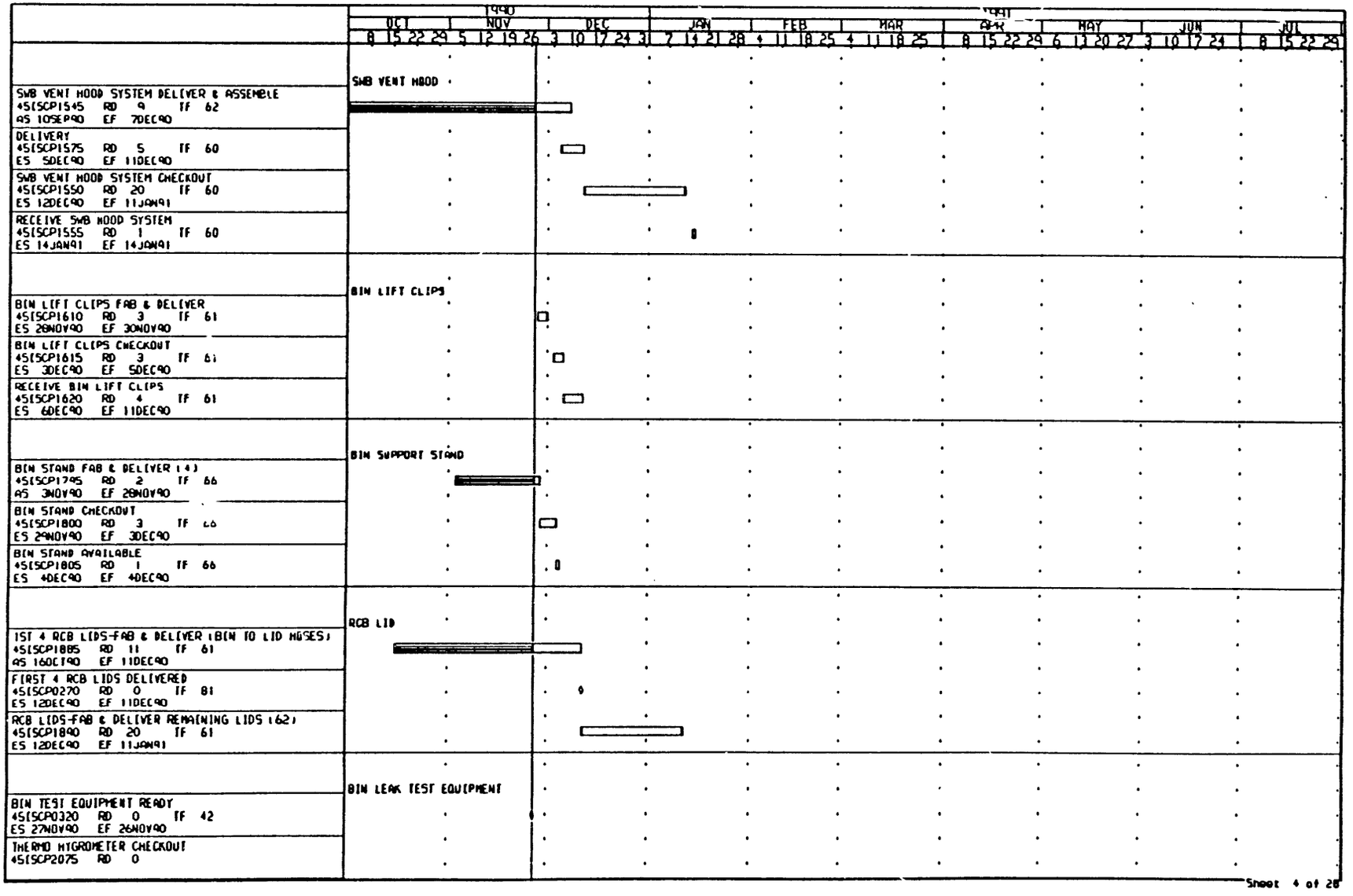
LEGEND: DAT - Dosimetry and Analytical Technology
Pub & Pro - Publications and Procedures
Rad Safe - Radiation Safety
REP - Regulatory and Environmental Programs
RWHE - Radioactive Waste Handling Engineering
SI - Systems Integration
SNL - Sandia National Laboratory
WHO - Waste Handling Operations

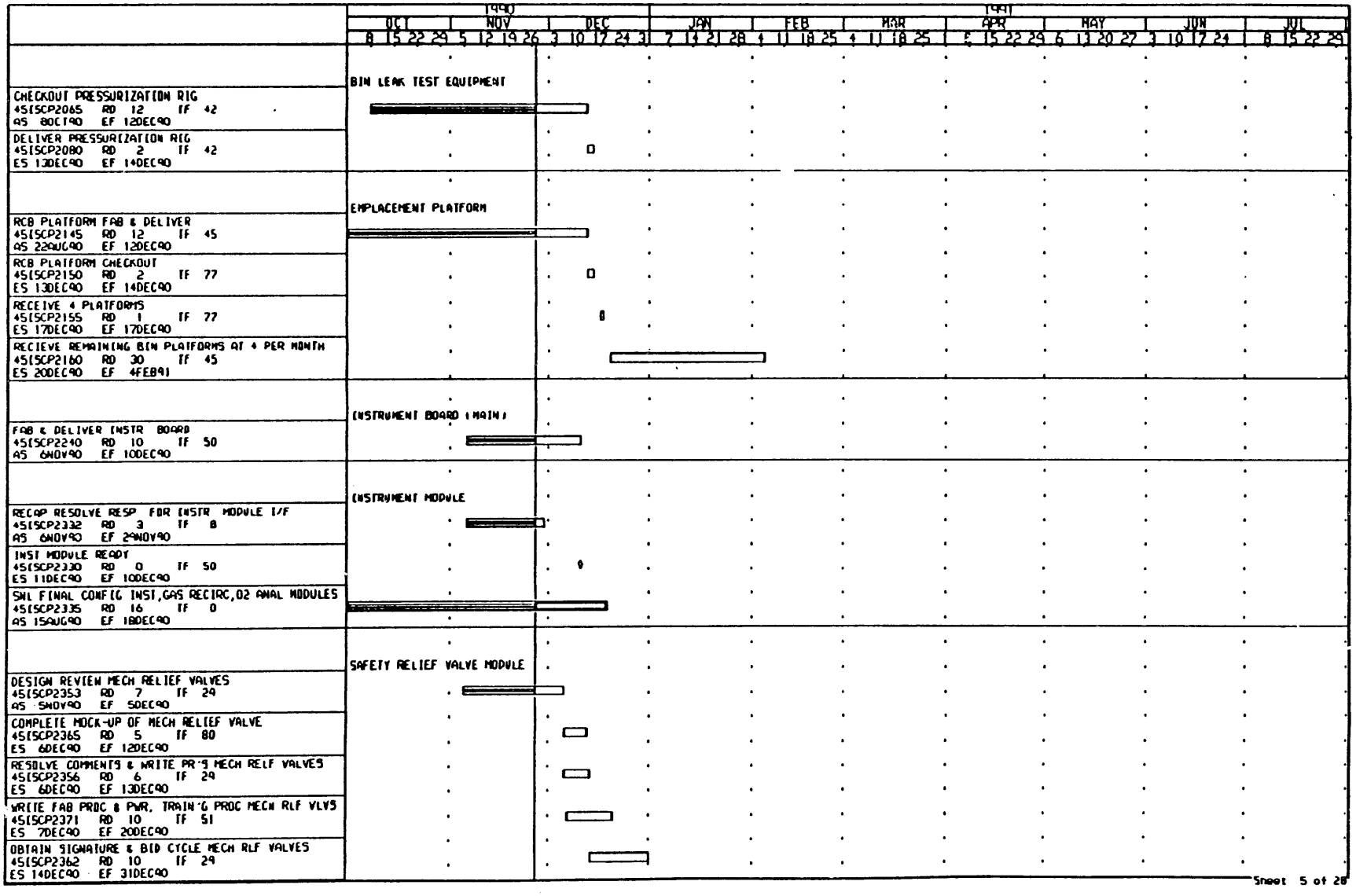
NOTE: The above list is preliminary and subject to change as individual procedures are combined or otherwise modified to ensure that appropriate human factor considerations are implemented. the scope of information contained within these procedures will ultimately be addressed by the final procedure used in conducting the ISC.

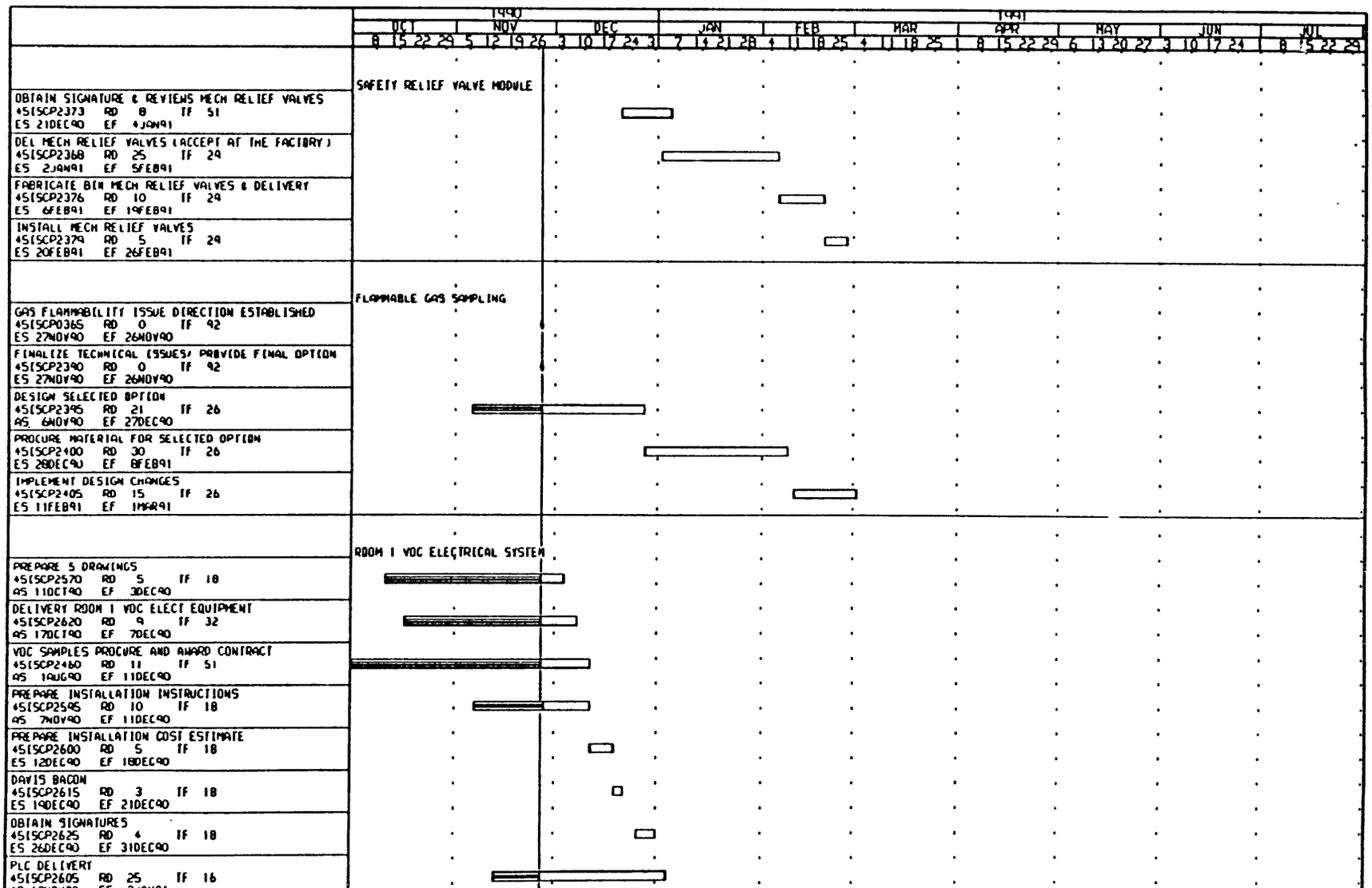

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BIN & TRUPACT AVAILABILITY
TRUPACT EQUIPMENT READY
4S(SCP0705 RD 0
AS 1AUG90
MISCELLANEOUS EQUIPMENT READY
4S(SCP0710 RD 0
AS 17AUG90
FIRST BIN(FINAL DESIGN) DELIVERED
4S(SCP0180 RD 0 TF 92
ES 27NOV90 EF 26NOV90
BIN PREPARATION SUPPORT EQUIPMENT READY
4S(SCP0715 RD 31 TF 61
AS 1AUG90 EF 11JAN91
BIN HARDWARE READY
4S(SCP0720 RD 38 TF 54
AS 15AUG90 EF 22JAN91
INTEGRATED DESIGN REVIEW
SYS DESIGN ASSESSMENT SCOPE ESTABLISHED
4S(SCP1045 RD 9 TF 53
AS 13NOV90 EF 7DEC90
PERFORM INTEGRATED DESIGN ASSESSMENT
4S(SCP1050 RD 5 TF 53
ES 10DEC90 EF 14DEC90
ISSUE ASSESSMENT LETTER REPORT
4S(SCP1055 RD 5 TF 53
ES 17DEC90 EF 21DEC90
COMMENT RESOLUTION
4S(SCP1060 RD 10 TF 53
ES 26DEC90 EF 9JAN91
INTEGRATED DESIGN ASSESSMENT COMPLETE
4S(SCP0090 RD 0 TF 53
ES 10JAN91 EF 9JAN91
BIN TESTING AND DESIGN FINALIZATION
BIN TRANSPORTATION TEST COMPLETE
4S(SCP0615 RD 0 TF 60
ES 31DEC90 EF 28DEC90
RECEIVE BINS
HE LEAK CHECK QUALIFICATION
4S(SCP8375 RD 5 TF 57
ES 27NOV90 EF 30DEC90
ATTACH RCB EQUIPMENT TO BIN
4S(SCP8365 RD 8 TF 52
ES 27NOV90 EF 6DEC90
Activity Bar/Early Dates
Critical Activity
Progress Bar
Primavera Systems, Inc 1981-1990
WESTINGHOUSE
INTEGRATED SYSTEM CHECKOUT PLAN
BAR CHART OF ISCP CURRENT SCHEDULE
Sheet 1 of 20
Project Start : 1AUG90
Project Finish: 16MAY91
Data Date: 27NOV90
Plot Date: 29NOV90
INTEGRATED SYSTEMS CHECKOUT PLAN REV 1
Date
Revision
Checked
Approved

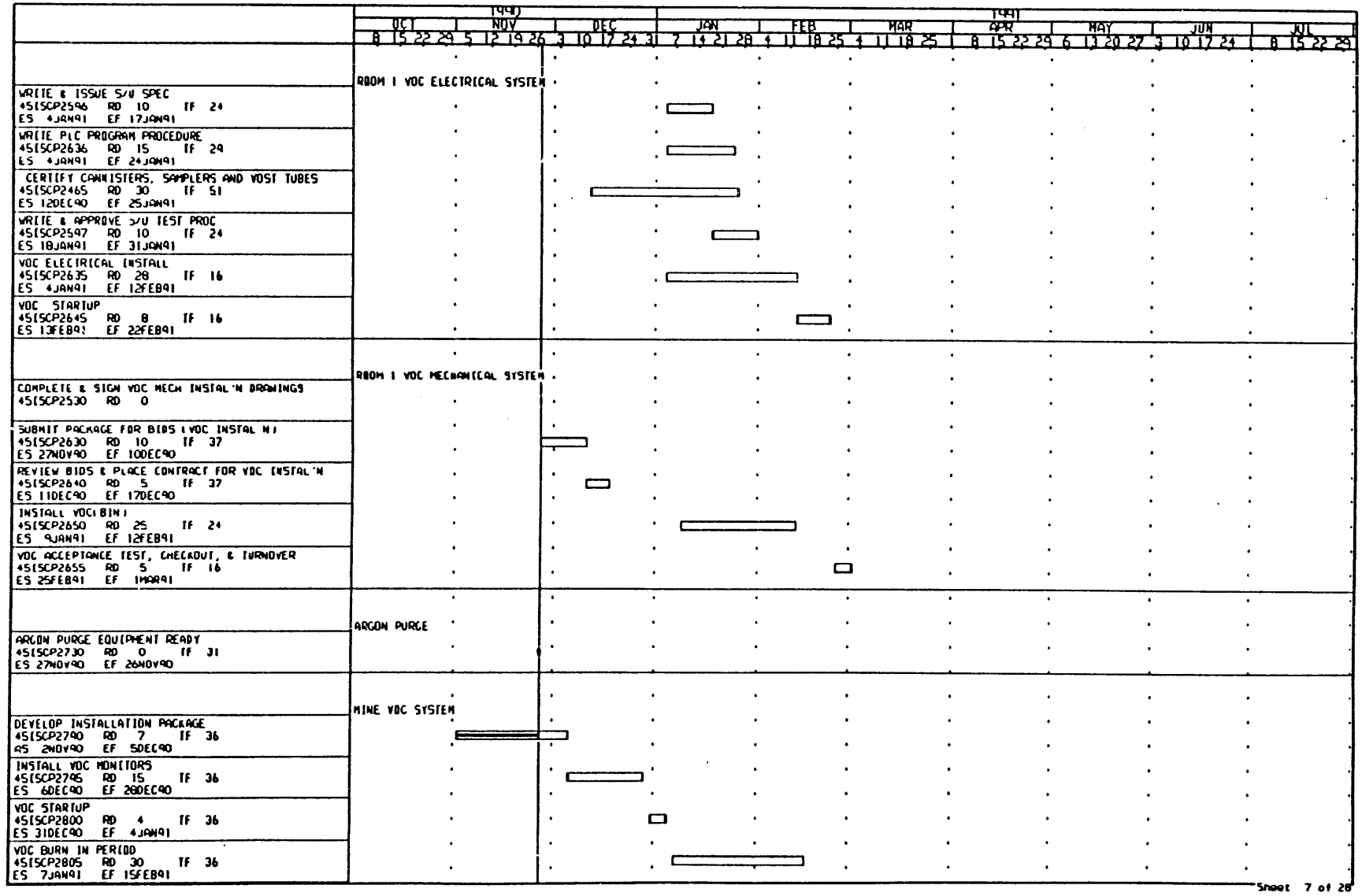

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RECEIVE BINS
CONNECT ALL INSTRUMENT SYSTEMS TO BIN(SNL & WID)
4S(SCP8370 RD 2 TF 50
ES 11DEC90 EF 12DEC90
DELIVER BIN FILTERS
4S(SCP1175 RD 13 TF 79
AS 13NOV90 EF 13DEC90
CHECK FOR HELIUM LEAK TIGHTNESS
4S(SCP8380 RD 5 TF 50
ES 13DEC90 EF 19DEC90
EVALUATE TEST RESULTS
4S(SCP8385 RD 5 TF 50
ES 20DEC90 EF 26DEC90
NEXT 6 BINS DELIVERY
4S(SCP1180 RD 27 TF 40
AS 15NOV90 EF 7JAN91
ADDITIONAL DESIGN MODS BASED ON EVALUATION
4S(SCP8390 RD 5 TF 50
ES 31DEC90 EF 7JAN91
FINALIZE DESIGN
4S(SCP8395 RD 5 TF 50
ES 8JAN91 EF 14JAN91
SHIP TEST BINS TO GENERATOR
4S(SCP1170 RD 5 TF 55
ES 15JAN91 EF 21JAN91
NEXT 4 BINS DELIVERY
4S(SCP1185 RD 20 TF 45
ES 8JAN91 EF 4FEB91
RECEIVE TRUPACTS
TRUPACT EQUIPMENT READY
4S(SCP8160 RD 0 TF 76
ES 19DEC90 EF 18DEC90
ISCP INTERNAL DEMO ACTIVITIES
PERFORM BIN/INSTRUMENT ASSEMBLY CHECKOUT
4S(SCP1105 RD 10 TF 3
ES 21MAR91 EF 3APR91
EXPERIMENTAL SYSTEMS READY FOR ISCP
4S(SCP0135 RD 0 TF 0
ES 9APR91 EF 8APR91
ISCP WORK-UP
4S(SCP0045 RD 10 TF 0
ES 9APR91 EF 22APR91
READY FOR INTERNAL
4S(SCP0225 RD 0 TF 0
ES 23APR91 EF 22APR91
1ST TRUPT UNLOAD/BIN SETUP & DWN.D (ANAEROBIC)
4S(SCP1230 RD 2 TF 0
ES 23APR91 EF 24APR91
BIN INST SETUP & READY FOR TEST (ANAEROBIC)
4S(SCP1235 RD 2 TF 1
ES 25APR91 EF 26APR91
2ND TRUPACT UNLOAD/BIN SETUP & DWNLD (AEROBIC)
4S(SCP1240 RD 2 TF 0
ES 25APR91 EF 26APR91
4/8/90 START

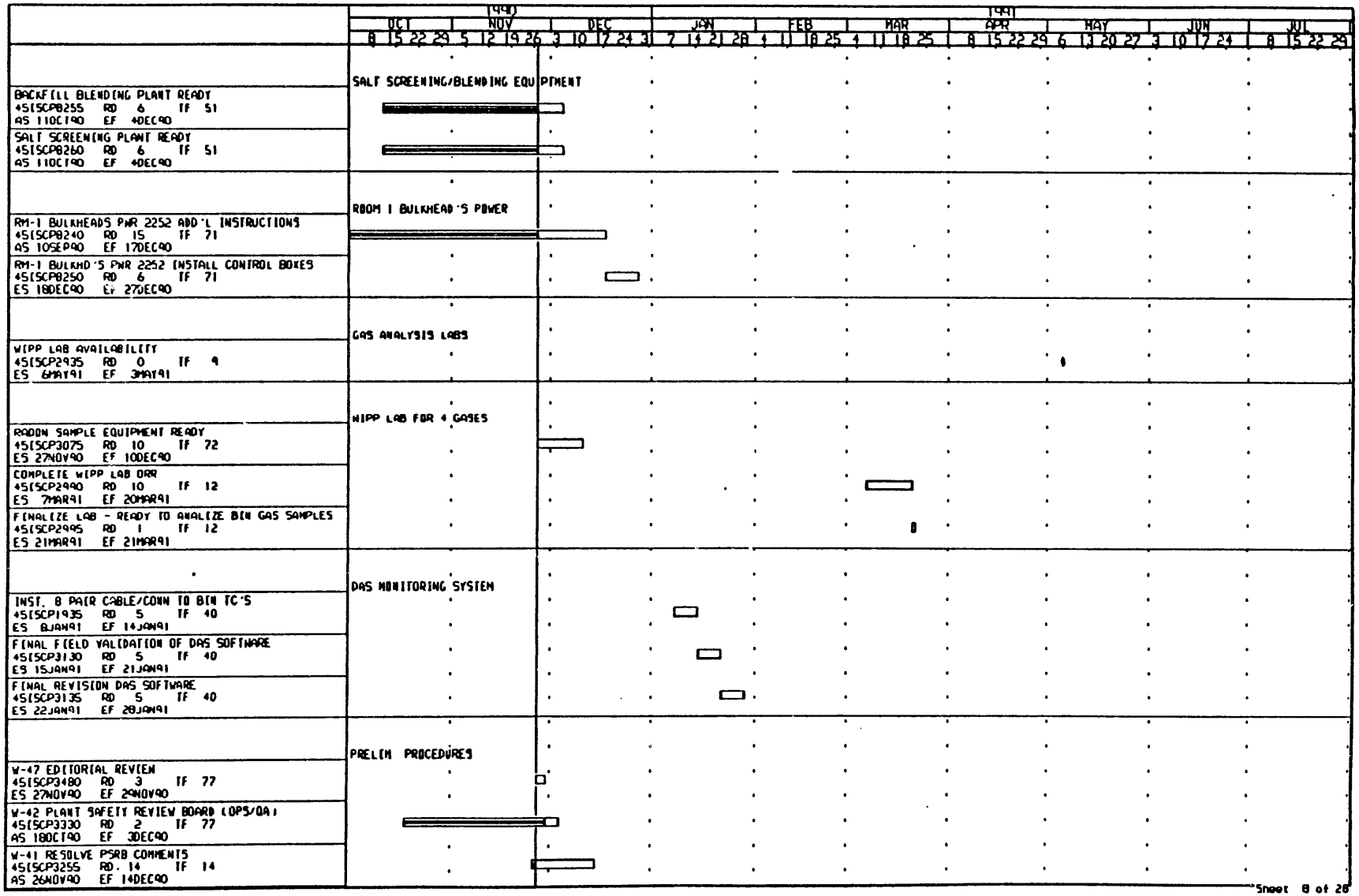

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ISCP INTERNAL DEMO ACTIVITIES
BIN INST SETUP & READY FOR TEST (AEROBIC)
45ISCP1245 RD 1 TF 0
ES 29APR91 EF 29APR91
TEST
45ISCP1250 RD 5 TF 0
ES 30APR91 EF 6MAY91
DISCONNECT/UPLOAD/PREP TRUPACTS FIRST BINS
45ISCP1255 RD 1 TF 0
ES 7MAY91 EF 7MAY91
DISCONNECT/UPLOAD/PREP TRUPACTS SECOND BINS
45ISCP1260 RD 1 TF 0
ES 8MAY91 EF 8MAY91
SHIP TO GENERATOR
45ISCP1265 RD 1 TF 0
ES 9MAY91 EF 9MAY91
RESOLVE ISCP OPEN ITEMS
45ISCP8440 RD 10 TF 0
ES 10MAY91 EF 23MAY91
5/23 FINISH
WASTE OPERATOR HANDLING TOOLS
REPAIR CRANE
45ISCP1360 RD 6 TF 96
AS 5NOV90 EF 4DEC90
CAL OF CRANE LOAD CELL - CRANE READY
45ISCP1350 RD 16 TF 76
AS 11OCT90 EF 18DEC90
ICV VENT TOOL
ICV VENT TOOL - INITIATE PURCH ORDER
45ISCP1400 RD 2 TF 123
ES 27NOV90 EF 28NOV90
ICV VENT TOOL - RFP/AWARD CONTRACT
45ISCP1405 RD 6 TF 75
AS 8NOV90 EF 4DEC90
MANUFACTURE ICV VENT TOOL
45ISCP1410 RD 10 TF 75
ES 5DEC90 EF 18DEC90
RECEIVE ICV VENT TOOL
45ISCP1415 RD 1 TF 75
ES 19DEC90 EF 19DEC90
RECONFIGURE SWB TO RCB
RCB LIDS COMPLETE FOR ISCP
45ISCP0275 RD 0 TF 61
ES 14JAN91 EF 11JAN91
SWB VENT HOOD
ISSUE PWR
45ISCP1570 RD 1 TF 60
AS 13NOV90 EF 27NOV90
FAB
45ISCP1572 RD 5 TF 60
ES 28NOV90 EF 4DEC90

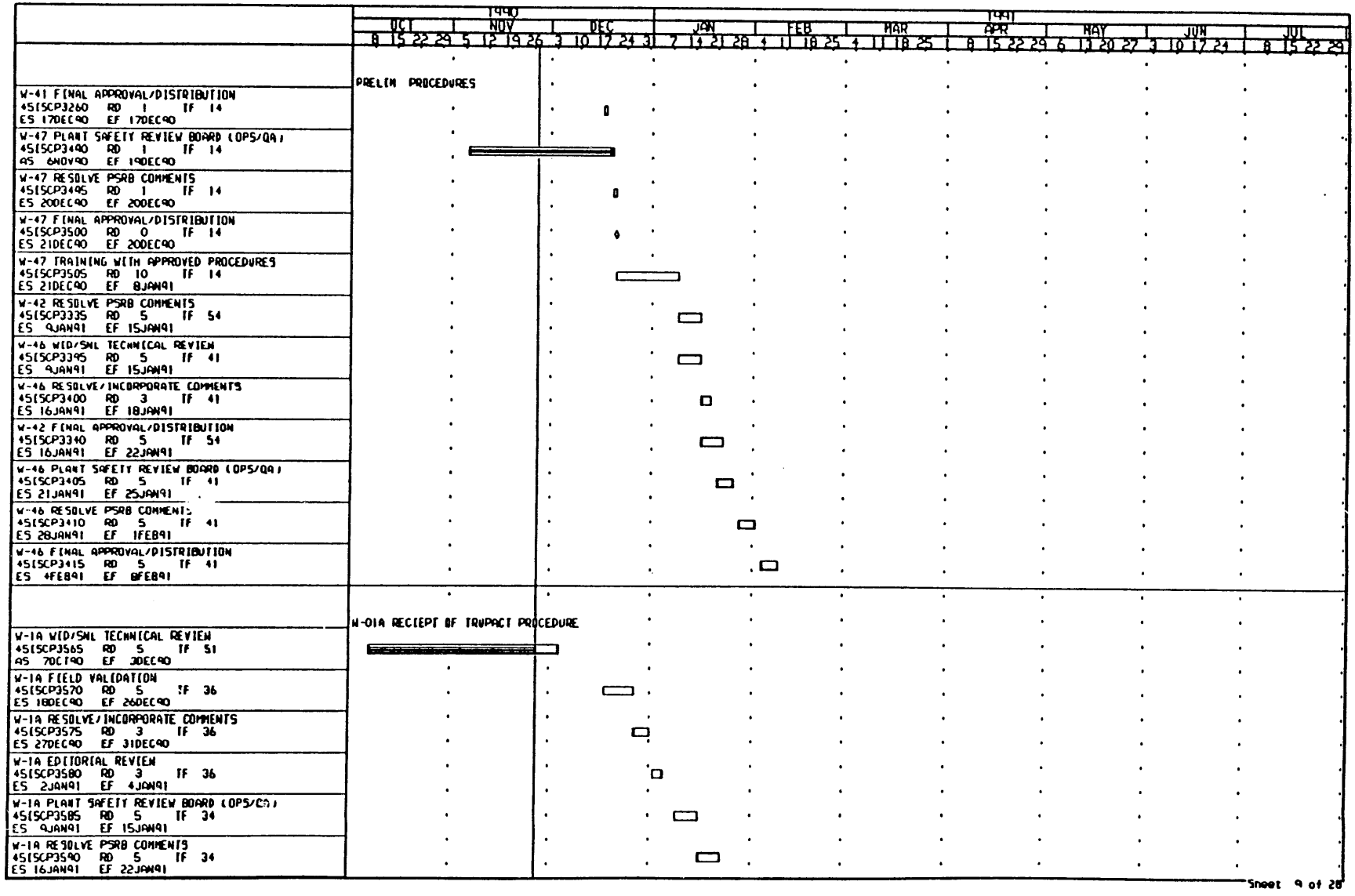

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SWB VENT HOOD
SWB VENT HOOD SYSTEM DELIVER & ASSEMBLE
4S(SCP1545 RD 9 TF 62
AS 10SEP90 EF 7DEC90
DELIVERY
4S(SCP1575 RD 5 TF 60
ES 5DEC90 EF 11DEC90
SWB VENT HOOD SYSTEM CHECKOUT
4S(SCP1550 RD 20 TF 60
ES 12DEC90 EF 11JAN91
RECEIVE SWB HOOD SYSTEM
4S(SCP1555 RD 1 TF 60
ES 14JAN91 EF 14JAN91
BIN LIFT CLIPS
BIN LIFT CLIPS FAB & DELIVER
4S(SCP1610 RD 3 TF 61
ES 28NOV90 EF 30NOV90
BIN LIFT CLIPS CHECKOUT
4S(SCP1615 RD 3 TF 61
ES 3DEC90 EF 5DEC90
RECEIVE BIN LIFT CLIPS
4S(SCP1620 RD 4 TF 61
ES 6DEC90 EF 11DEC90
BIN SUPPORT STAND
BIN STAND FAB & DELIVER (4)
4S(SCP1795 RD 2 TF 66
AS 3NOV90 EF 28NOV90
BIN STAND CHECKOUT
4S(SCP1800 RD 3 TF 66
ES 29NOV90 EF 3DEC90
BIN STAND AVAILABLE
4S(SCP1805 RD 1 TF 66
ES 4DEC90 EF 4DEC90
RCB LID
1ST 4 RCB LIDS-FAB & DELIVER (BIN TO LID HOSES)
4S(SCP1885 RD 11 TF 61
AS 16OCT90 EF 11DEC90
FIRST 4 RCB LIDS DELIVERED
4S(SCP0270 RD 0 TF 81
ES 12DEC90 EF 11DEC90
RCB LIDS-FAB & DELIVER REMAINING LIDS (62)
4S(SCP1840 RD 20 TF 61
ES 12DEC90 EF 11JAN91
BIN LEAK TEST EQUIPMENT
BIN TEST EQUIPMENT READY
4S(SCP0320 RD 0 TF 42
ES 27NOV90 EF 26NOV90
THERMO HYGROMETER CHECKOUT
4S(SCP2075 RD 0

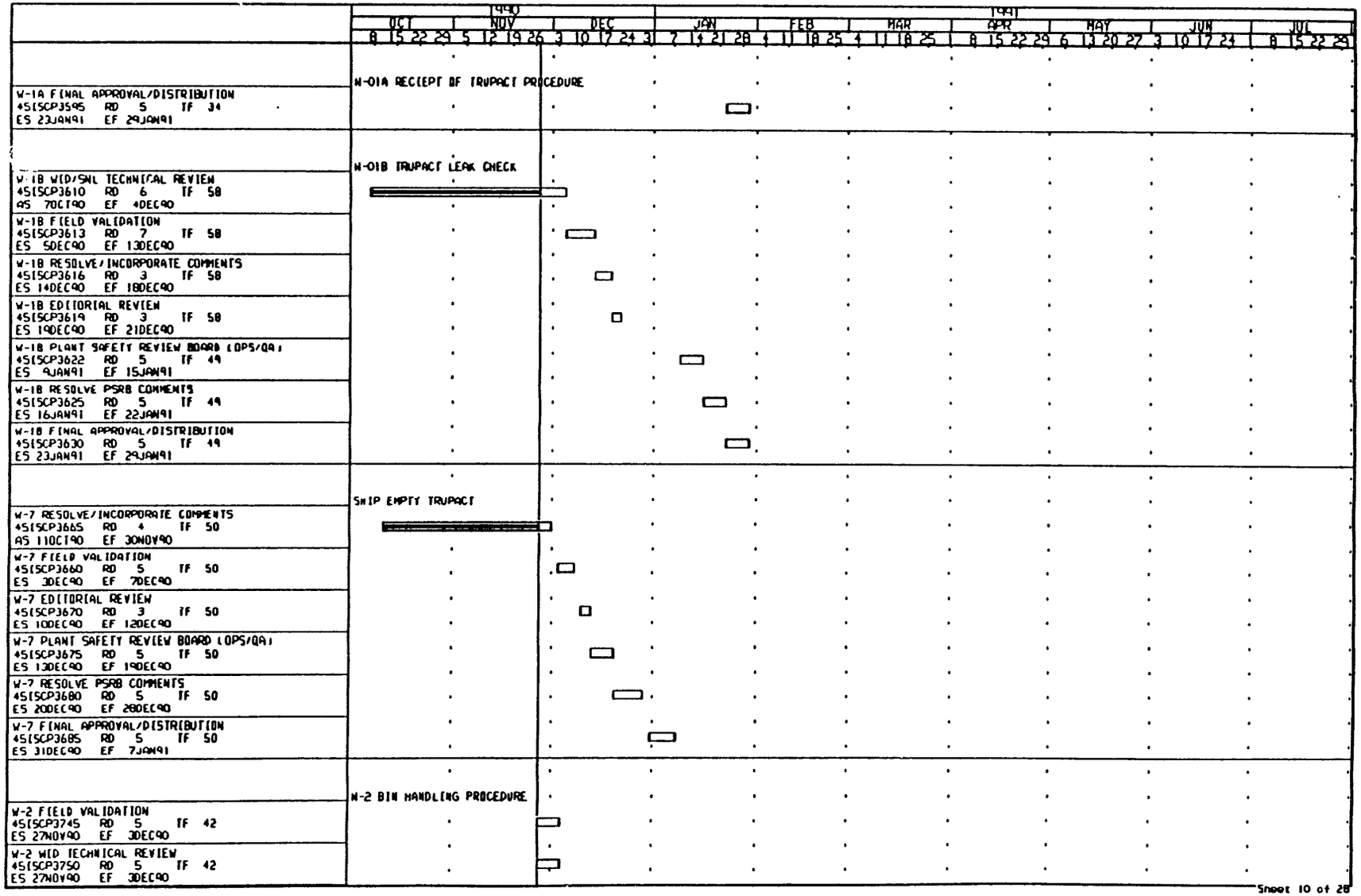

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BIN LEAK TEST EQUIPMENT
CHECKOUT PRESSURIZATION RIG
45(SCP2065 RD 12 TF 42
AS 80CT90 EF 12DEC90
DELIVER PRESSURIZATION RIG
45(SCP2080 RD 2 TF 42
ES 13DEC90 EF 14DEC90
EMPLACEMENT PLATFORM
RCB PLATFORM FAB & DELIVER
45(SCP2145 RD 12 TF 45
AS 22AUG90 EF 12DEC90
RCB PLATFORM CHECKOUT
45(SCP2150 RD 2 TF 77
ES 13DEC90 EF 14DEC90
RECEIVE 4 PLATFORMS
45(SCP2155 RD 1 TF 77
ES 17DEC90 EF 17DEC90
RECIEVE REMAINING BIN PLATFORMS AT 4 PER MONTH
45(SCP2160 RD 30 TF 45
ES 20DEC90 EF 4FEB91
(NSTRUMENT BOARD (MAIN)
FAB & DELIVER (NSTR BOARD
45(SCP2240 RD 10 TF 50
AS 6NOV90 EF 10DEC90
(NSTRUMENT MODULE
RECAP RESOLVE RESP FOR (NSTR MODULE I/F
45(SCP2332 RD 3 TF 8
AS 6NOV90 EF 29NOV90
INST MODULE READY
45(SCP2330 RD 0 TF 50
ES 11DEC90 EF 10DEC90
SNL FINAL CONFIG INST,GAS RECIRC,02 ANAL MODULES
45(SCP2335 RD 16 TF 0
AS 15AUG90 EF 18DEC90
SAFETY RELIEF VALVE MODULE
DESIGN REVIEW MECH RELIEF VALVES
45(SCP2353 RD 7 TF 29
AS 5NOV90 EF 5DEC90
COMPLETE MOCK-UP OF MECH RELIEF VALVE
45(SCP2365 RD 5 TF 80
ES 6DEC90 EF 12DEC90
RESOLVE COMMENTS & WRITE PR'S MECH RELF VALVES
45(SCP2356 RD 6 TF 29
ES 6DEC90 EF 13DEC90
WRITE FAB PROC & PWR, TRAIN'G PROC MECH RLF VLVS
45(SCP2371 RD 10 TF 51
ES 7DEC90 EF 20DEC90
OBTAIN SIGNATURE & BID CYCLE MECH RLF VALVES
45(SCP2362 RD 10 TF 29
ES 14DEC90 EF 31DEC90

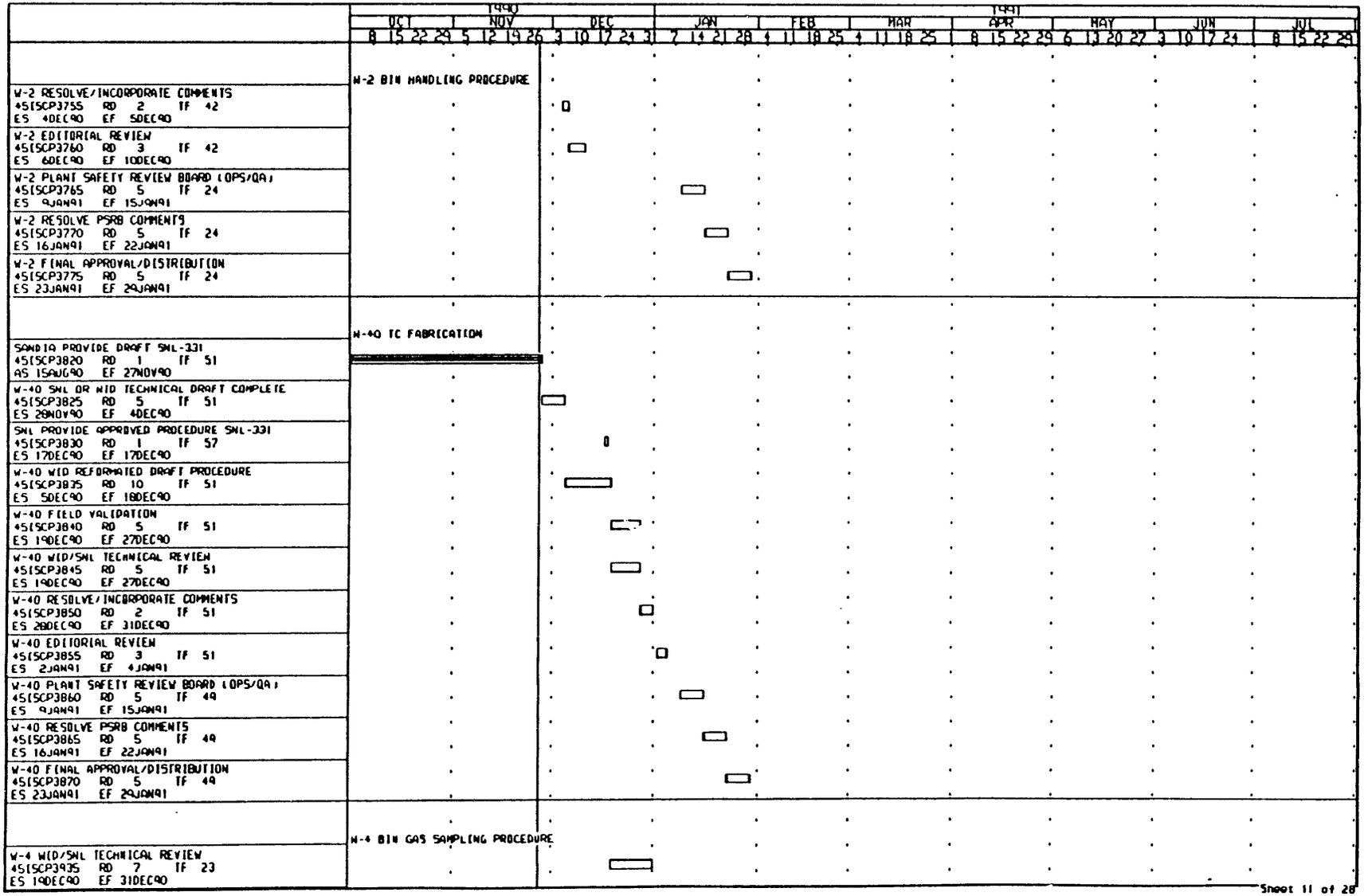

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SAFETY RELIEF VALVE MODULE
OBTAIN SIGNATURE & REVIEWS MECH RELIEF VALVES
45ISCP2373 RD 8 TF 51
ES 21DEC90 EF 4JAN91
DEL MECH RELIEF VALVES (ACCEPT AT THE FACTORY)
45ISCP2368 RD 25 TF 29
ES 2JAN91 EF 5FEB91
FABRICATE BIN MECH RELIEF VALVES & DELIVERY
45ISCP2376 RD 10 TF 29
ES 6FEB91 EF 19FEB91
INSTALL MECH RELIEF VALVES
45ISCP2379 RD 5 TF 29
ES 20FEB91 EF 26FEB91
FLAMMABLE GAS SAMPLING
GAS FLAMMABILITY ISSUE DIRECTION ESTABLISHED
45ISCP0365 RD 0 TF 92
ES 27NOV90 EF 26NOV90
FINALIZE TECHNICAL ISSUES/ PROVIDE FINAL OPTION
45ISCP2390 RD 0 TF 92
ES 27NOV90 EF 26NOV90
DESIGN SELECTED OPTION
45ISCP2395 RD 21 TF 26
AS 6NOV90 EF 27DEC90
PROCURE MATERIAL FOR SELECTED OPTION
45ISCP2400 RD 30 TF 26
ES 28DEC90 EF 8FEB91
IMPLEMENT DESIGN CHANGES
45ISCP2405 RD 15 TF 26
ES 11FEB91 EF 1MAR91
ROOM 1 VOC ELECTRICAL SYSTEM
PREPARE 5 DRAWINGS
45ISCP2570 RD 5 TF 18
AS 11OCT90 EF 3DEC90
DELIVERY ROOM 1 VOC ELECT EQUIPMENT
45ISCP2620 RD 9 TF 32
AS 17OCT90 EF 7DEC90
VOC SAMPLES PROCURE AND AWARD CONTRACT
45ISCP2460 RD 11 TF 51
AS 1AUG90 EF 11DEC90
PREPARE INSTALLATION INSTRUCTIONS
45ISCP2595 RD 10 TF 18
AS 7NOV90 EF 11DEC90
PREPARE INSTALLATION COST ESTIMATE
45ISCP2600 RD 5 TF 18
ES 12DEC90 EF 18DEC90
DAVIS BACON
45ISCP2615 RD 3 TF 18
ES 19DEC90 EF 21DEC90
OBTAIN SIGNATURES
45ISCP2625 RD 4 TF 18
ES 26DEC90 EF 31DEC90
PLC DELIVERY
45ISCP2605 RD 25 TF 16
AS 13NOV90 EF 3JAN91

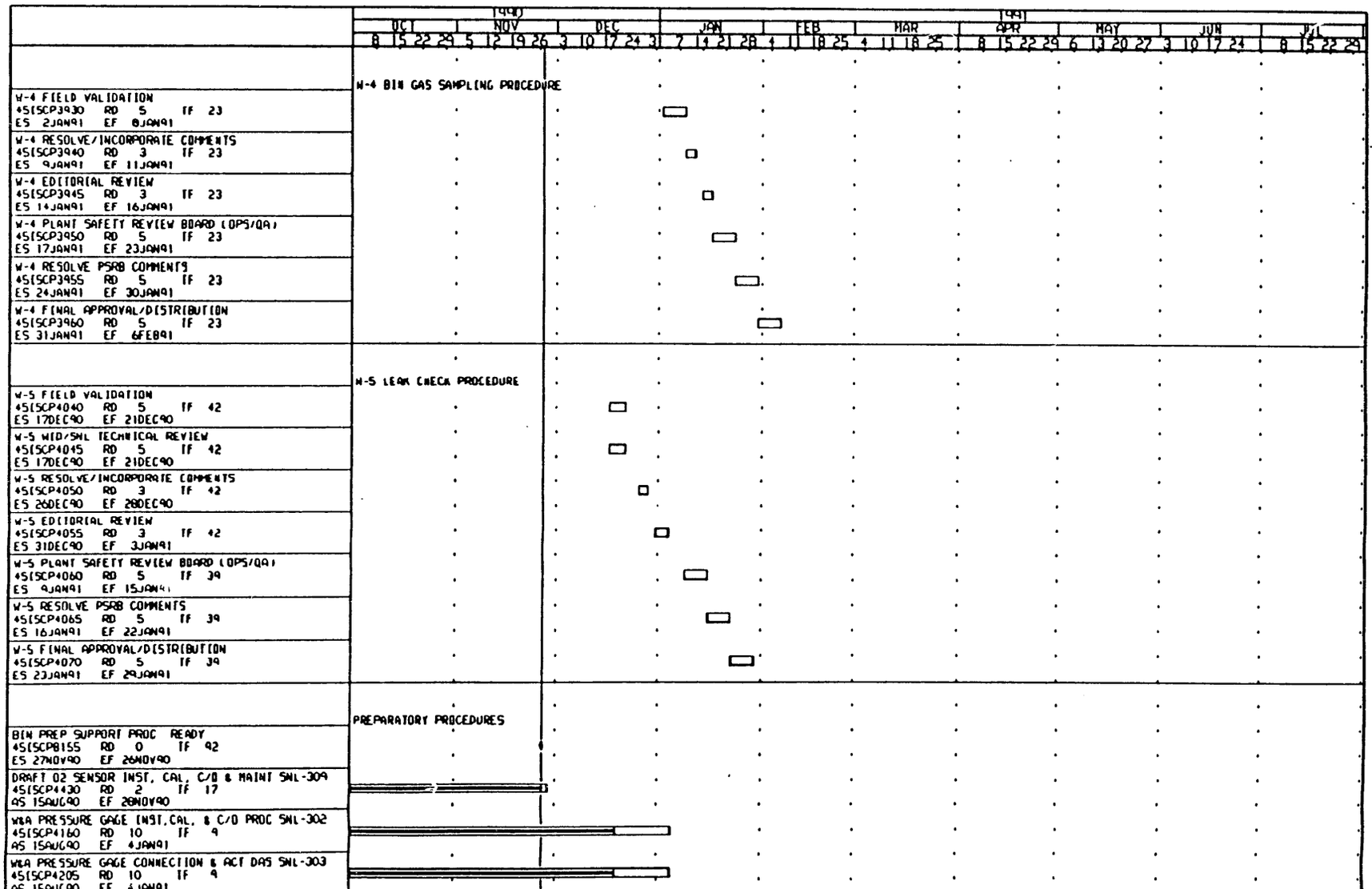

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ROOM 1 VOC ELECTRICAL SYSTEM
WRITE & ISSUE S/U SPEC
4S(SCP2596 RD 10 TF 24
ES 4JAN91 EF 17JAN91
WRITE PLC PROGRAM PROCEDURE
4S(SCP2636 RD 15 TF 29
ES 4JAN91 EF 24JAN91
CERTIFY CANNISTERS, SAMPLERS AND VOST TUBES
4S(SCP2465 RD 30 TF 51
ES 12DEC90 EF 25JAN91
WRITE & APPROVE S/U TEST PROC
4S(SCP2597 RD 10 TF 24
ES 18JAN91 EF 31JAN91
VOC ELECTRICAL INSTALL
4S(SCP2635 RD 28 TF 16
ES 4JAN91 EF 12FEB91
VOC STARTUP
4S(SCP2645 RD 8 TF 16
ES 13FEB91 EF 22FEB91
ROOM 1 VOC MECHANICAL SYSTEM
COMPLETE & SIGN VOC MECH INSTAL'N DRAWINGS
4S(SCP2530 RD 0
SUBMIT PACKAGE FOR BIDS (VOC INSTAL'N)
4S(SCP2630 RD 10 TF 37
ES 27NOV90 EF 10DEC90
REVIEW BIDS & PLACE CONTRACT FOR VOC INSTAL'N
4S(SCP2640 RD 5 TF 37
ES 11DEC90 EF 17DEC90
INSTALL VOC(BIN)
4S(SCP2650 RD 25 TF 24
ES 9JAN91 EF 12FEB91
VOC ACCEPTANCE TEST, CHECKOUT, & TURNOVER
4S(SCP2655 RD 5 TF 16
ES 25FEB91 EF 1MAR91
ARGON PURGE
ARGON PURGE EQUIPMENT READY
4S(SCP2730 RD 0 TF 31
ES 27NOV90 EF 26NOV90
MINE VOC SYSTEM
DEVELOP INSTALLATION PACKAGE
4S(SCP2790 RD 7 TF 36
ES 2NOV90 EF 5DEC90
INSTALL VOC MONITORS
4S(SCP2795 RD 15 TF 36
ES 6DEC90 EF 26DEC90
VOC STARTUP
4S(SCP2800 RD 4 TF 36
ES 31DEC90 EF 4JAN91
VOC BURN IN PERIOD
4S(SCP2805 RD 30 TF 36
ES 7JAN91 EF 15FEB91

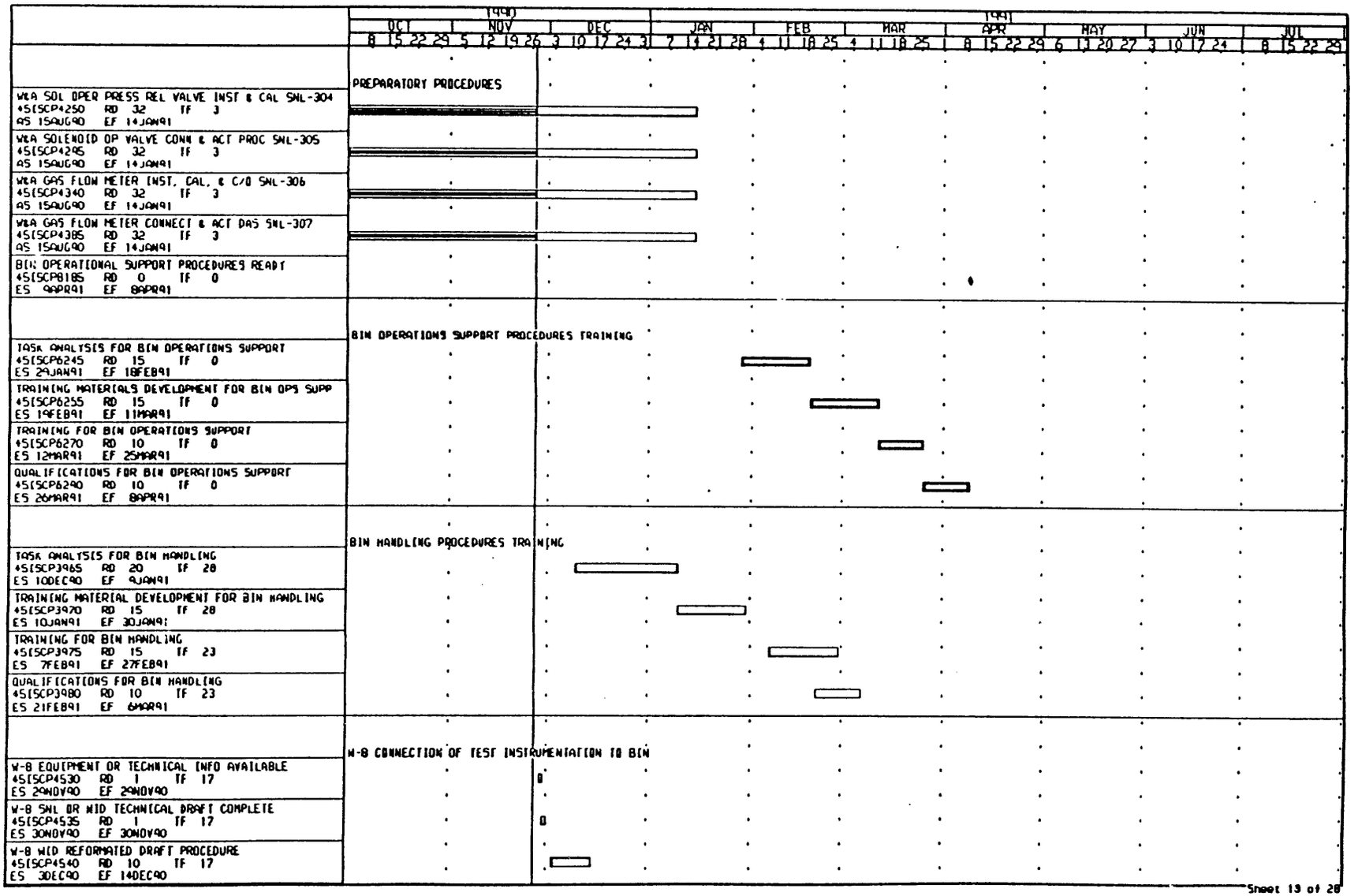

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SALT SCREENING/BLENDING EQUIPMENT
BACKFILL BLENDING PLANT READY
45(SCP8255 RD 6 TF 51
AS 11OCT90 EF 4DEC90
SALT SCREENING PLANT READY
45(SCP8260 RD 6 TF 51
AS 11OCT90 EF 4DEC90
ROOM 1 BULKHEAD'S POWER
RM-1 BULKHEADS PWR 2252 ADD'L INSTRUCTIONS
45(SCP8240 RD 15 TF 71
AS 10SEP90 EF 17DEC90
RM-1 BULKHD'S PWR 2252 INSTALL CONTROL BOXES
45(SCP8250 RD 6 TF 71
ES 18DEC90 EF 27DEC90
GAS ANALYSIS LABS
WIPP LAB AVAILABILITY
45(SCP2935 RD 0 TF 9
ES 6MAY91 EF 3MAY91
WIPP LAB FOR 4 GASES
RADON SAMPLE EQUIPMENT READY
45(SCP3075 RD 10 TF 72
ES 27NOV90 EF 10DEC90
COMPLETE WIPP LAB ORR
45(SCP2990 RD 10 TF 12
ES 7MAR91 EF 20MAR91
FINALIZE LAB - READY TO ANALIZE BIN GAS SAMPLES
45(SCP2995 RD 1 TF 12
ES 21MAR91 EF 21MAR91
DAS MONITORING SYSTEM
INST. 8 PAIR CABLE/CONN TO BIN TC'S
45(SCP1935 RD 5 TF 40
ES 8JAN91 EF 14JAN91
FINAL FIELD VALIDATION OF DAS SOFTWARE
45(SCP3130 RD 5 TF 40
ES 15JAN91 EF 21JAN91
FINAL REVISION DAS SOFTWARE
45(SCP3135 RD 5 TF 40
ES 22JAN91 EF 28JAN91
PRELIM PROCEDURES
W-47 EDITORIAL REVIEW
45(SCP3480 RD 3 TF 77
ES 27NOV90 EF 29NOV90
W-42 PLANT SAFETY REVIEW BOARD (OPS/QA)
45(SCP3330 RD 2 TF 77
AS 18OCT90 EF 3DEC90
W-41 RESOLVE PSRB COMMENTS
45(SCP3255 RD. 14 TF 14
AS 26NOV90 EF 14DEC90

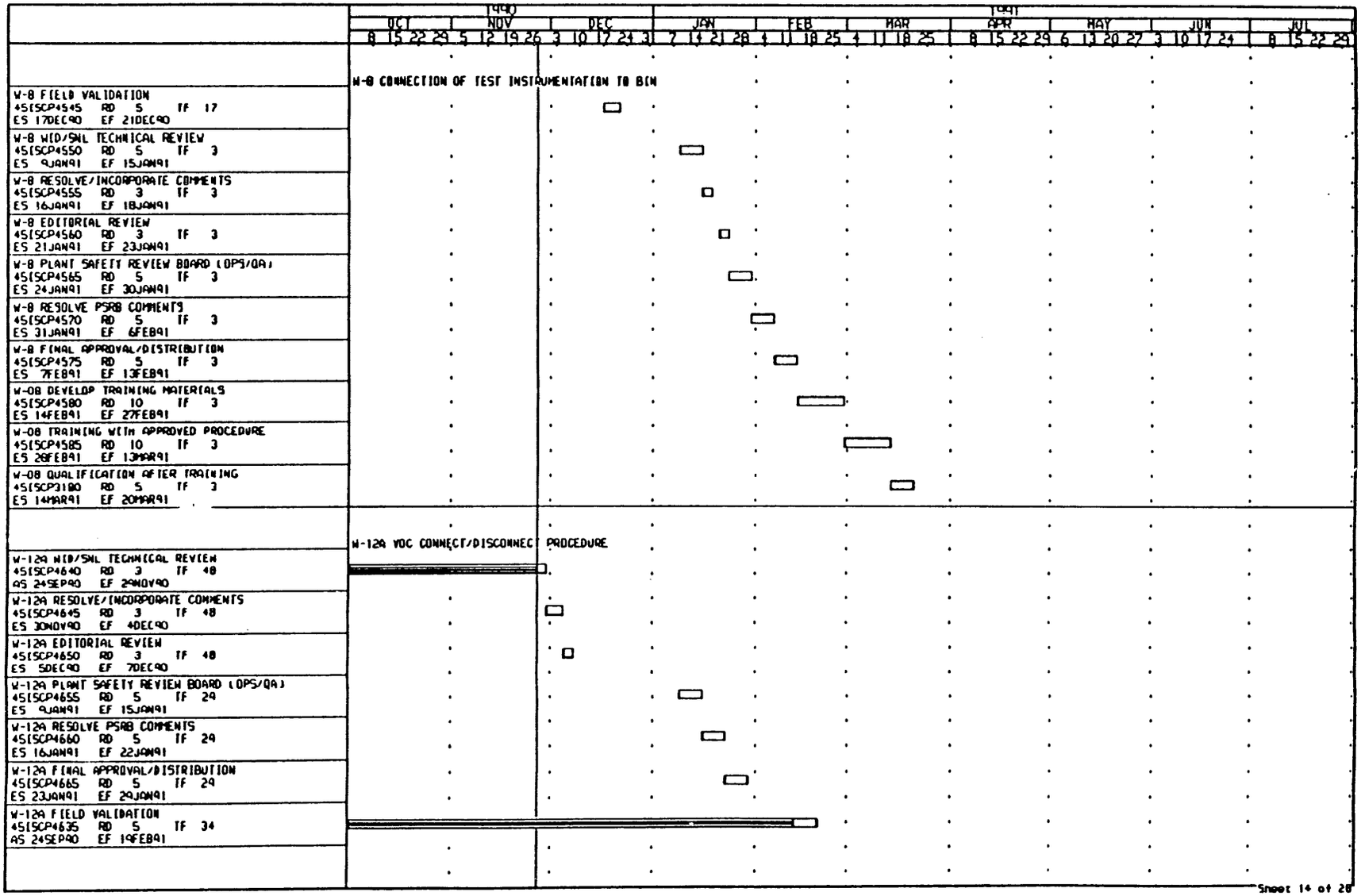

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PRELIM PROCEDURES
W-41 FINAL APPROVAL/DISTRIBUTION
4S(SCP3260 RD 1 TF 14
ES 17DEC90 EF 17DEC90
W-47 PLANT SAFETY REVIEW BOARD (OPS/QA)
4S(SCP3490 RD 1 TF 14
AS 6NOV90 EF 19DEC90
W-47 RESOLVE PSRB COMMENTS
4S(SCP3495 RD 1 TF 14
ES 20DEC90 EF 20DEC90
W-47 FINAL APPROVAL/DISTRIBUTION
4S(SCP3500 RD 0 TF 14
ES 21DEC90 EF 20DEC90
W-47 TRAINING WITH APPROVED PROCEDURES
4S(SCP3505 RD 10 TF 14
ES 21DEC90 EF 8JAN91
W-42 RESOLVE PSRB COMMENTS
4S(SCP3335 RD 5 TF 54
ES 9JAN91 EF 15JAN91
W-46 WID/SNL TECHNICAL REVIEW
4S(SCP3395 RD 5 TF 41
ES 9JAN91 EF 15JAN91
W-46 RESOLVE/INCORPORATE COMMENTS
4S(SCP3400 RD 3 TF 41
ES 16JAN91 EF 18JAN91
W-42 FINAL APPROVAL/DISTRIBUTION
4S(SCP3340 RD 5 TF 54
ES 16JAN91 EF 22JAN91
W-46 PLANT SAFETY REVIEW BOARD (OPS/QA)
4S(SCP3405 RD 5 TF 41
ES 21JAN91 EF 25JAN91
W-46 RESOLVE PSRB COMMENTS
4S(SCP3410 RD 5 TF 41
ES 28JAN91 EF 1FEB91
W-46 FINAL APPROVAL/DISTRIBUTION
4S(SCP3415 RD 5 TF 41
ES 4FEB91 EF 8FEB91
W-01A RECIEPT OF TRUPACT PROCEDURE
W-1A WID/SNL TECHNICAL REVIEW
4S(SCP3565 RD 5 TF 51
AS 70CT90 EF 30DEC90
W-1A FIELD VALIDATION
4S(SCP3570 RD 5 TF 36
ES 18DEC90 EF 26DEC90
W-1A RESOLVE/INCORPORATE COMMENTS
4S(SCP3575 RD 3 TF 36
ES 27DEC90 EF 31DEC90
W-1A EDITORIAL REVIEW
4S(SCP3580 RD 3 TF 36
ES 2JAN91 EF 4JAN91
W-1A PLANT SAFETY REVIEW BOARD (OPS/QA)
4S(SCP3585 RD 5 TF 34
ES 9JAN91 EF 15JAN91
W-1A RESOLVE PSRB COMMENTS
4S(SCP3590 RD 5 TF 34
ES 16JAN91 EF 22JAN91

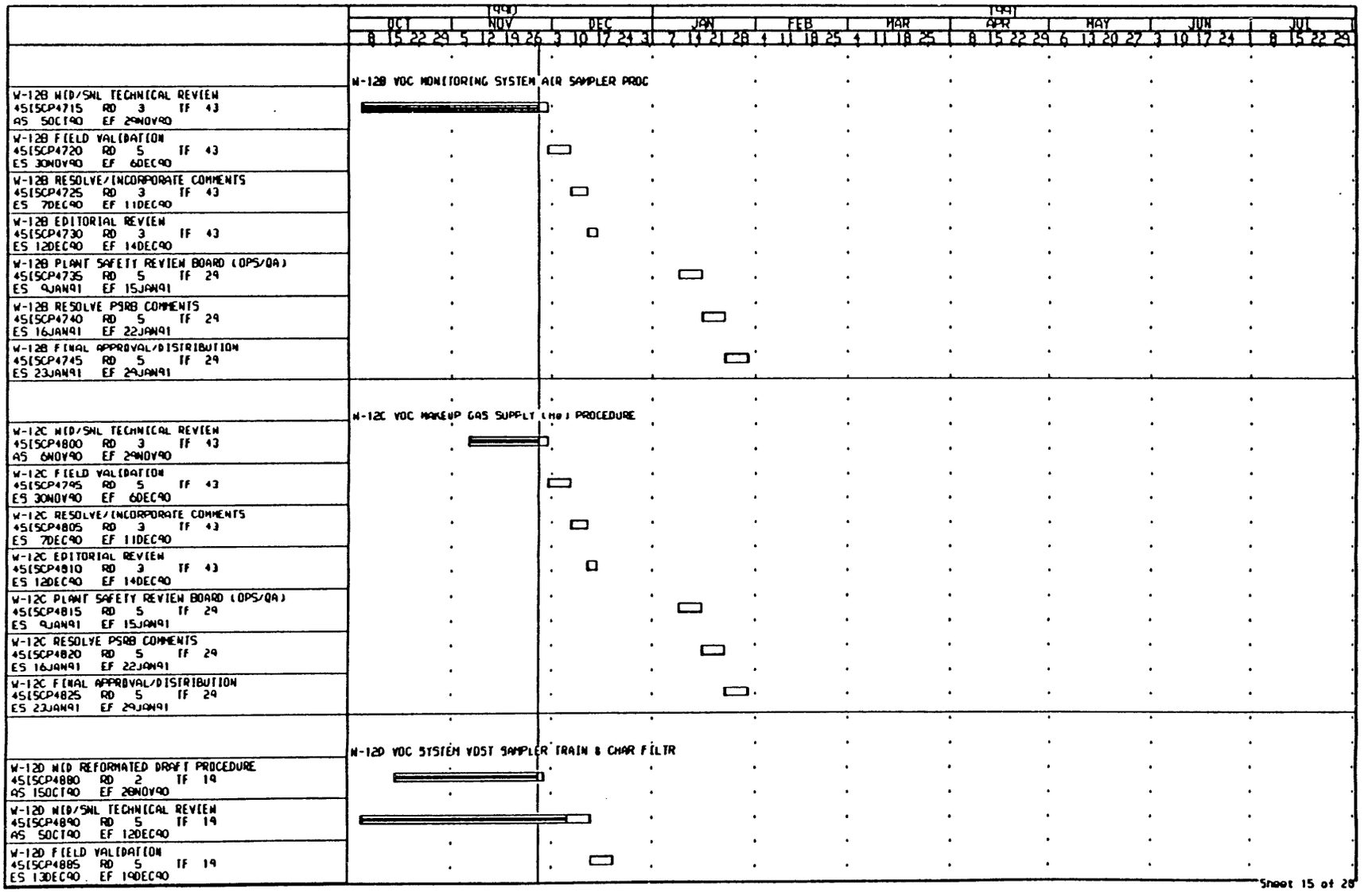

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W-1A FINAL APPROVAL/DISTRIBUTION
45ISCP3595 RD 5 TF 34
ES 23JAN91 EF 29JAN91
W-01A RECEIPT OF TRUPACT PROCEDURE
W-1B W(D/SNL TECHNICAL REVIEW
45ISCP3610 RD 6 TF 58
AS 70CT90 EF 4DEC90
W-01B TRUPACT LEAK CHECK
W-1B FIELD VALIDATION
45ISCP3613 RD 7 TF 58
ES 5DEC90 EF 13DEC90
W-1B RESOLVE/INCORPORATE COMMENTS
45ISCP3616 RD 3 TF 58
ES 14DEC90 EF 18DEC90
W-1B EDITORIAL REVIEW
45ISCP3619 RD 3 TF 58
ES 19DEC90 EF 21DEC90
W-1B PLANT SAFETY REVIEW BOARD (OPS/QA)
45ISCP3622 RD 5 TF 49
ES 9JAN91 EF 15JAN91
W-1B RESOLVE PSRB COMMENTS
45ISCP3625 RD 5 TF 49
ES 16JAN91 EF 22JAN91
W-1B FINAL APPROVAL/DISTRIBUTION
45ISCP3630 RD 5 TF 49
ES 23JAN91 EF 29JAN91
SHIP EMPTY TRUPACT
W-7 RESOLVE/INCORPORATE COMMENTS
45ISCP3665 RD 4 TF 50
AS 110CT90 EF 30NOV90
W-7 FIELD VALIDATION
45ISCP3660 RD 5 TF 50
ES 3DEC90 EF 7DEC90
W-7 EDITORIAL REVIEW
45ISCP3670 RD 3 TF 50
ES 10DEC90 EF 12DEC90
W-7 PLANT SAFETY REVIEW BOARD (OPS/QA)
45ISCP3675 RD 5 TF 50
ES 13DEC90 EF 19DEC90
W-7 RESOLVE PSRB COMMENTS
45ISCP3680 RD 5 TF 50
ES 20DEC90 EF 26DEC90
W-7 FINAL APPROVAL/DISTRIBUTION
45ISCP3685 RD 5 TF 50
ES 31DEC90 EF 7JAN91
W-2 BIN HANDLING PROCEDURE
W-2 FIELD VALIDATION
45ISCP3745 RD 5 TF 42
ES 27NOV90 EF 3DEC90
W-2 WID TECHNICAL REVIEW
45ISCP3750 RD 5 TF 42
ES 27NOV90 EF 3DEC90

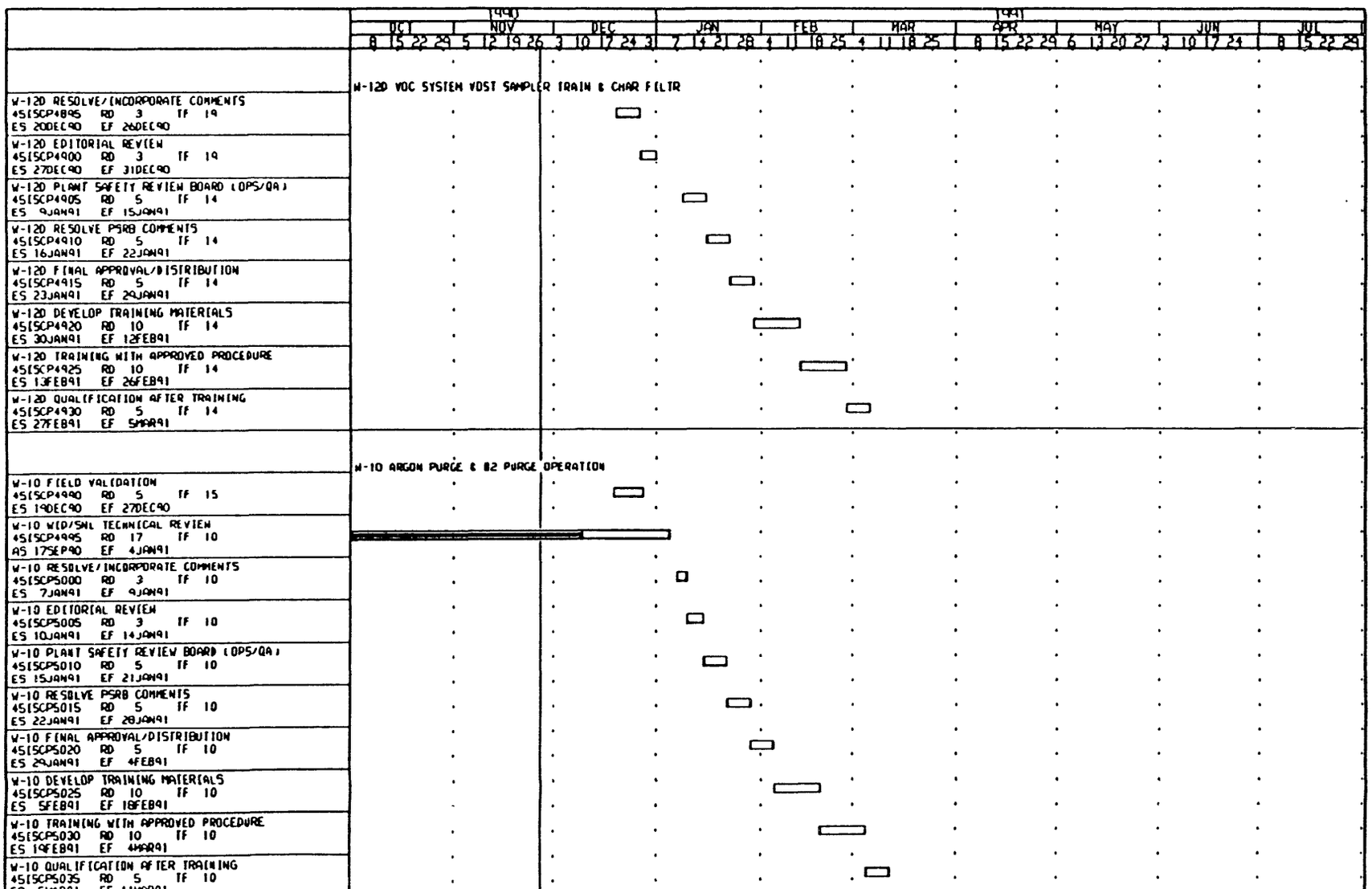

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W-2 BIN HANDLING PROCEDURE
W-2 RESOLVE/INCORPORATE COMMENTS
45(SCPJ375S RD 2 TF 42
ES 4DEC90 EF 5DEC90
W-2 EDITORIAL REVIEW
45(SCPJ376O RD 3 TF 42
ES 6DEC90 EF 10DEC90
W-2 PLANT SAFETY REVIEW BOARD (OPS/QA)
45(SCPJ376S RD 5 TF 24
ES 9JAN91 EF 15JAN91
W-2 RESOLVE PSRB COMMENTS
45(SCPJ377O RD 5 TF 24
ES 16JAN91 EF 22JAN91
W-2 FINAL APPROVAL/DISTRIBUTION
45(SCPJ377S RD 5 TF 24
ES 23JAN91 EF 29JAN91
W-40 TC FABRICATION
SANDIA PROVIDE DRAFT SNL-331
45(SCPJ382O RD 1 TF 51
AS 15AUG90 EF 27NOV90
W-40 SNL OR WID TECHNICAL DRAFT COMPLETE
45(SCPJ3825 RD 5 TF 51
ES 28NOV90 EF 4DEC90
SNL PROVIDE APPROVED PROCEDURE SNL-331
45(SCPJ383O RD 1 TF 57
ES 17DEC90 EF 17DEC90
W-40 WID REFORMATED DRAFT PROCEDURE
45(SCPJ3835 RD 10 TF 51
ES 5DEC90 EF 18DEC90
W-40 FIELD VALIDATION
45(SCPJ384O RD 5 TF 51
ES 19DEC90 EF 27DEC90
W-40 WID/SNL TECHNICAL REVIEW
45(SCPJ3845 RD 5 TF 51
ES 19DEC90 EF 27DEC90
W-40 RESOLVE/INCORPORATE COMMENTS
45(SCPJ385O RD 2 TF 51
ES 28DEC90 EF 31DEC90
W-40 EDITORIAL REVIEW
45(SCPJ3855 RD 3 TF 51
ES 2JAN91 EF 4JAN91
W-40 PLANT SAFETY REVIEW BOARD (OPS/QA)
45(SCPJ386O RD 5 TF 49
ES 9JAN91 EF 15JAN91
W-40 RESOLVE PSRB COMMENTS
45(SCPJ3865 RD 5 TF 49
ES 16JAN91 EF 22JAN91
W-40 FINAL APPROVAL/DISTRIBUTION
45(SCPJ3870 RD 5 TF 49
ES 23JAN91 EF 29JAN91
W-4 BIN GAS SAMPLING PROCEDURE
W-4 WID/SNL TECHNICAL REVIEW
45(SCPJ393S RD 7 TF 23
ES 19DEC90 EF 31DEC90

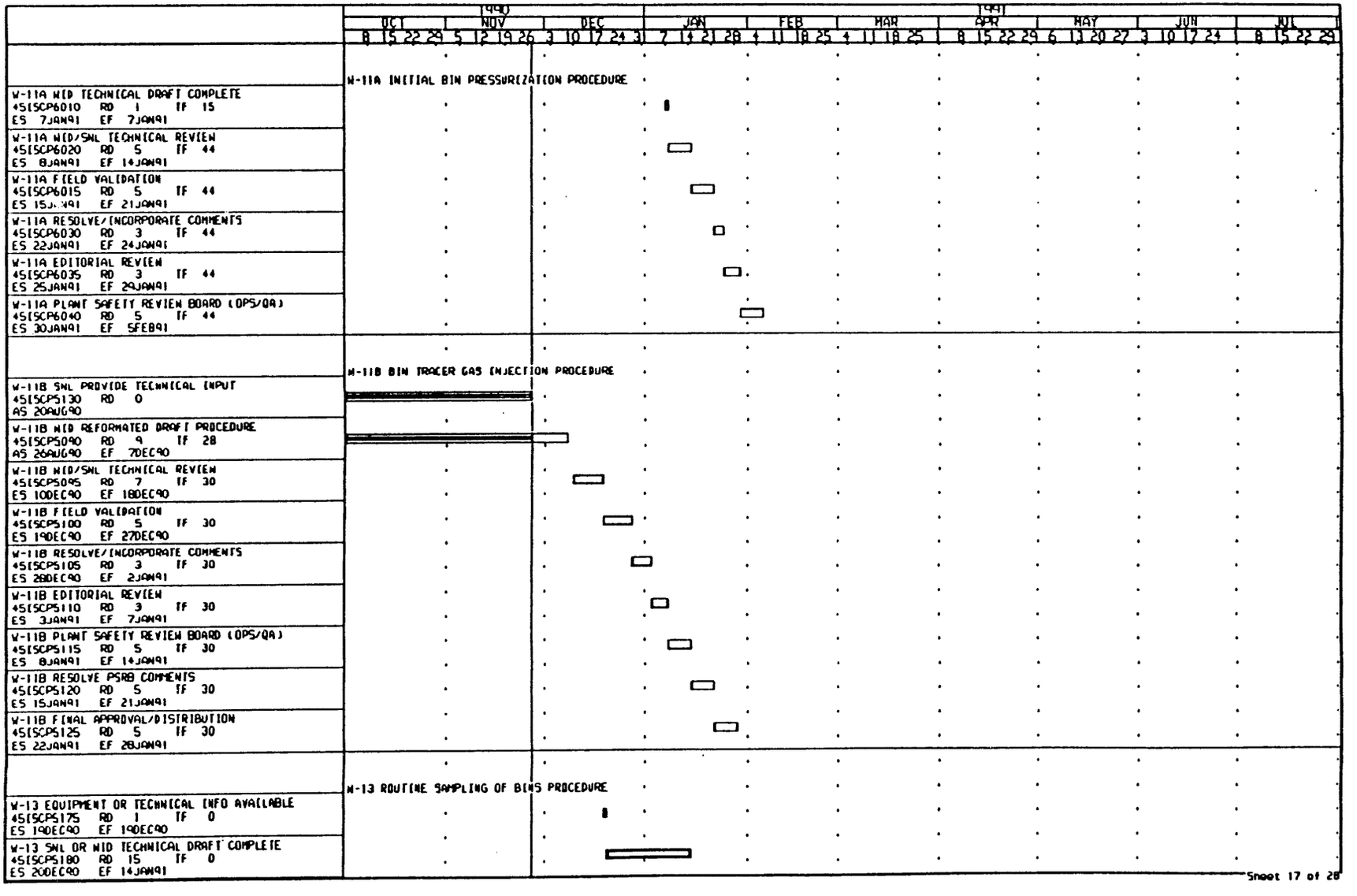

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W-4 BIN GAS SAMPLING PROCEDURE
W-4 FIELD VALIDATION
4S(SCP3930 RD 5 TF 23
ES 2JAN91 EF 8JAN91
W-4 RESOLVE/INCORPORATE COMMENTS
4S(SCP3940 RD 3 TF 23
ES 9JAN91 EF 11JAN91
W-4 EDITORIAL REVIEW
4S(SCP3945 RD 3 TF 23
ES 14JAN91 EF 16JAN91
W-4 PLANT SAFETY REVIEW BOARD (OPS/QA)
4S(SCP3950 RD 5 TF 23
ES 17JAN91 EF 23JAN91
W-4 RESOLVE PSRB COMMENTS
4S(SCP3955 RD 5 TF 23
ES 24JAN91 EF 30JAN91
W-4 FINAL APPROVAL/DISTRIBUTION
4S(SCP3960 RD 5 TF 23
ES 31JAN91 EF 6FEB91
W-5 LEAK CHECK PROCEDURE
W-5 FIELD VALIDATION
4S(SCP4040 RD 5 TF 42
ES 17DEC90 EF 21DEC90
W-5 WID/SNL TECHNICAL REVIEW
4S(SCP4045 RD 5 TF 42
ES 17DEC90 EF 21DEC90
W-5 RESOLVE/INCORPORATE COMMENTS
4S(SCP4050 RD 3 TF 42
ES 26DEC90 EF 28DEC90
W-5 EDITORIAL REVIEW
4S(SCP4055 RD 3 TF 42
ES 31DEC90 EF 3JAN91
W-5 PLANT SAFETY REVIEW BOARD (OPS/QA)
4S(SCP4060 RD 5 TF 39
ES 9JAN91 EF 15JAN91
W-5 RESOLVE PSRB COMMENTS
4S(SCP4065 RD 5 TF 39
ES 16JAN91 EF 22JAN91
W-5 FINAL APPROVAL/DISTRIBUTION
4S(SCP4070 RD 5 TF 39
ES 23JAN91 EF 29JAN91
PREPARATORY PROCEDURES
BIN PREP SUPPORT PROC READY
4S(SCP8155 RD 0 TF 92
ES 27NOV90 EF 26NOV90
DRAFT O2 SENSOR INST, CAL, C/O & MAINT SNL-309
4S(SCP4430 RD 2 TF 17
AS 15AUG90 EF 28NOV90
W&A PRESSURE GAGE INST,CAL, & C/O PROC SNL-302
4S(SCP4160 RD 10 TF 4
AS 15AUG90 EF 4JAN91
W&A PRESSURE GAGE CONNECTION & ACT DAS SNL-303
4S(SCP4205 RD 10 TF 4
AS 15AUG90 EF 4JAN91

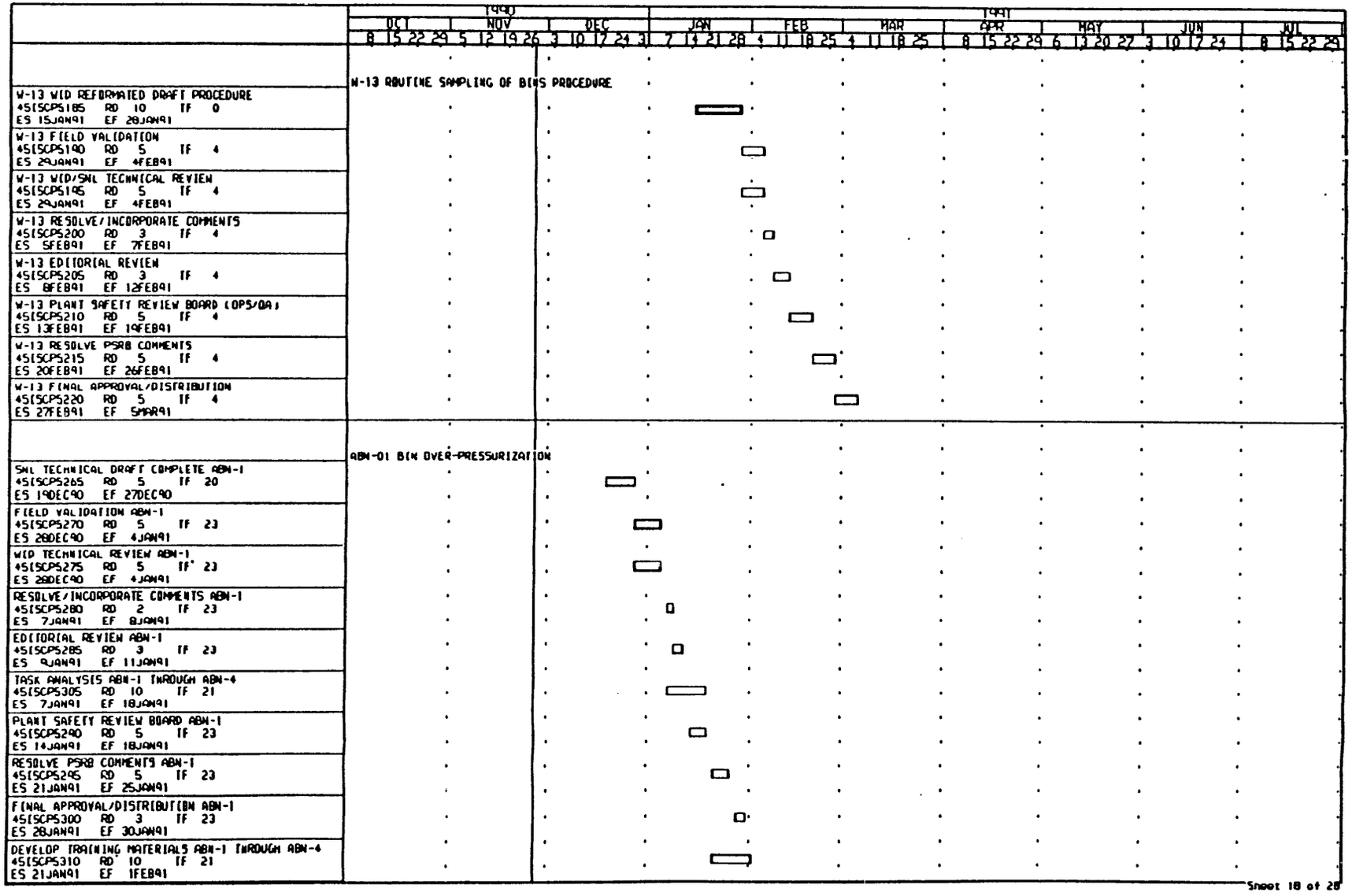

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PREPARATORY PROCEDURES
W&A SOL OPER PRESS REL VALVE INST & CAL SNL-304
4S(SCP4250 RD 32 TF 3
AS 15AUG90 EF 14JAN91
W&A SOLENOID OP VALVE CONN & ACT PROC SNL-305
4S(SCP4295 RD 32 TF 3
AS 15AUG90 EF 14JAN91
W&A GAS FLOW METER INST, CAL, & C/O SNL-306
4S(SCP4340 RD 32 TF 3
AS 15AUG90 EF 14JAN91
W&A GAS FLOW METER CONNECT & ACT DAS SNL-307
4S(SCP4385 RD 32 TF 3
AS 15AUG90 EF 14JAN91
BIN OPERATIONAL SUPPORT PROCEDURES READY
4S(SCP8185 RD 0 TF 0
ES 9APR91 EF 8APR91
BIN OPERATIONS SUPPORT PROCEDURES TRAINING
TASK ANALYSIS FOR BIN OPERATIONS SUPPORT
4S(SCP6245 RD 15 TF 0
ES 24JAN91 EF 18FEB91
TRAINING MATERIALS DEVELOPMENT FOR BIN OPS SUPP
4S(SCP6255 RD 15 TF 0
ES 19FEB91 EF 11MAR91
TRAINING FOR BIN OPERATIONS SUPPORT
4S(SCP6270 RD 10 TF 0
ES 12MAR91 EF 25MAR91
QUALIFICATIONS FOR BIN OPERATIONS SUPPORT
4S(SCP6290 RD 10 TF 0
ES 26MAR91 EF 8APR91
BIN HANDLING PROCEDURES TRAINING
TASK ANALYSIS FOR BIN HANDLING
4S(SCP3965 RD 20 TF 28
ES 10DEC90 EF 9JAN91
TRAINING MATERIAL DEVELOPMENT FOR BIN HANDLING
4S(SCP3970 RD 15 TF 28
ES 10JAN91 EF 30JAN91
TRAINING FOR BIN HANDLING
4S(SCP3975 RD 15 TF 23
ES 7FEB91 EF 27FEB91
QUALIFICATIONS FOR BIN HANDLING
4S(SCP3980 RD 10 TF 23
ES 21FEB91 EF 6MAR91
W-8 CONNECTION OF TEST INSTRUMENTATION TO BIN
W-8 EQUIPMENT OR TECHNICAL INFO AVAILABLE
4S(SCP4530 RD 1 TF 17
ES 29NOV90 EF 29NOV90
W-8 SNL OR WID TECHNICAL DRAFT COMPLETE
4S(SCP4535 RD 1 TF 17
ES 30NOV90 EF 30NOV90
W-8 WID REFORMATED DRAFT PROCEDURE
4S(SCP4540 RD 10 TF 17
ES 3DEC90 EF 14DEC90

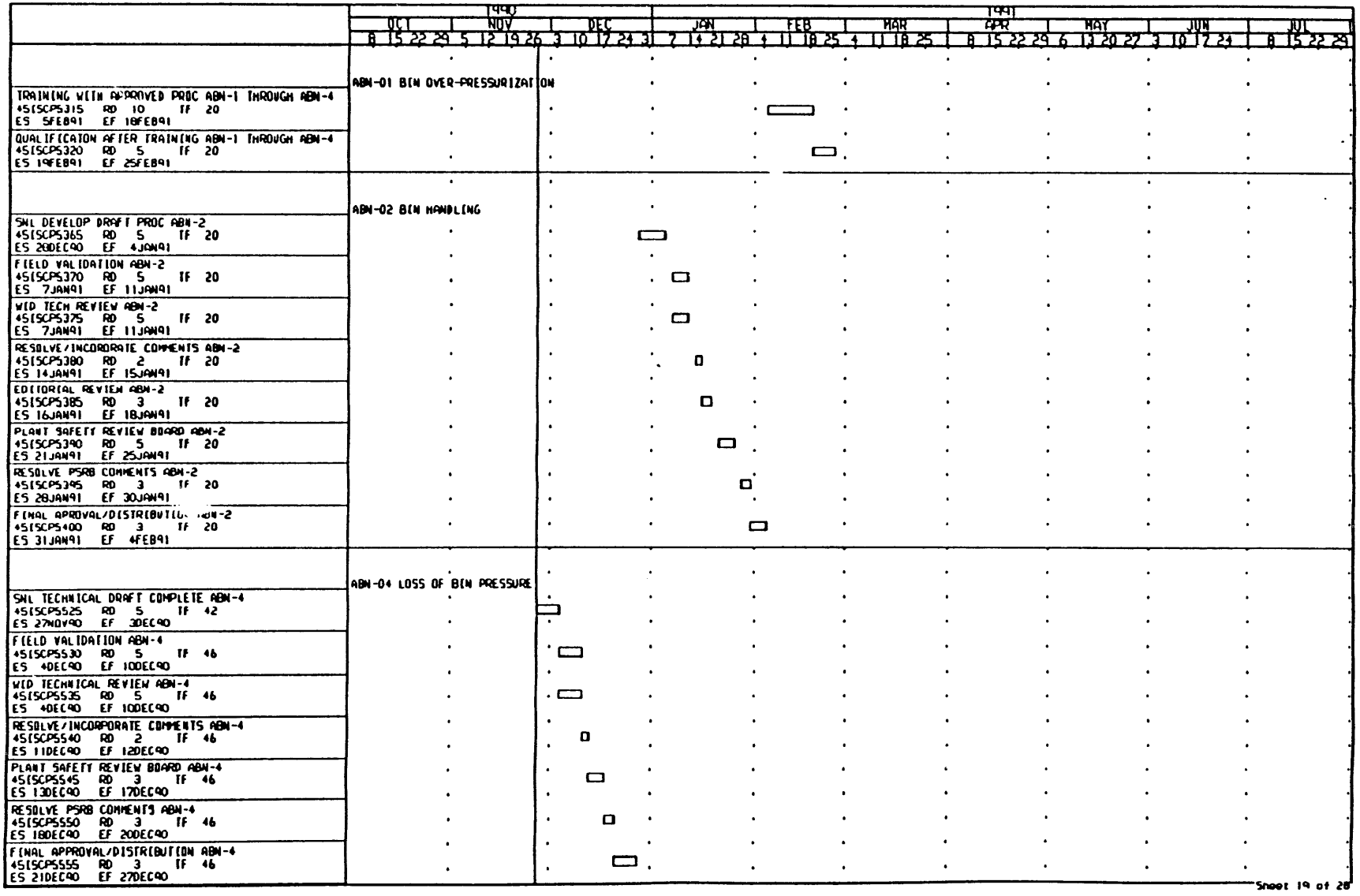

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W-8 CONNECTION OF TEST INSTRUMENTATION TO BIN
W-8 FIELD VALIDATION
4S(SCP4545 RD 5 TF 17
ES 17DEC90 EF 21DEC90
W-8 WID/SNL TECHNICAL REVIEW
4S(SCP4550 RD 5 TF 3
ES 9JAN91 EF 15JAN91
W-8 RESOLVE/INCORPORATE COMMENTS
4S(SCP4555 RD 3 TF 3
ES 16JAN91 EF 18JAN91
W-8 EDITORIAL REVIEW
4S(SCP4560 RD 3 TF 3
ES 21JAN91 EF 23JAN91
W-8 PLANT SAFETY REVIEW BOARD (OPS/QA)
4S(SCP4565 RD 5 TF 3
ES 24JAN91 EF 30JAN91
W-8 RESOLVE PSRB COMMENTS
4S(SCP4570 RD 5 TF 3
ES 31JAN91 EF 6FEB91
W-8 FINAL APPROVAL/DISTRIBUTION
4S(SCP4575 RD 5 TF 3
ES 7FEB91 EF 13FEB91
W-08 DEVELOP TRAINING MATERIALS
4S(SCP4580 RD 10 TF 3
ES 14FEB91 EF 27FEB91
W-08 TRAINING WITH APPROVED PROCEDURE
4S(SCP4585 RD 10 TF 3
ES 28FEB91 EF 13MAR91
W-08 QUALIFICATION AFTER TRAINING
4S(SCP3180 RD 5 TF 3
ES 14MAR91 EF 20MAR91
W-12A VOC CONNECT/DISCONNECT PROCEDURE
W-12A WID/SNL TECHNICAL REVIEW
4S(SCP4640 RD 3 TF 48
AS 24SEP90 EF 28NOV90
W-12A RESOLVE/INCORPORATE COMMENTS
4S(SCP4645 RD 3 TF 48
ES 30NOV90 EF 4DEC90
W-12A EDITORIAL REVIEW
4S(SCP4650 RD 3 TF 48
ES 5DEC90 EF 7DEC90
W-12A PLANT SAFETY REVIEW BOARD (OPS/QA)
4S(SCP4655 RD 5 TF 29
ES 9JAN91 EF 15JAN91
W-12A RESOLVE PSRB COMMENTS
4S(SCP4660 RD 5 TF 29
ES 16JAN91 EF 22JAN91
W-12A FINAL APPROVAL/DISTRIBUTION
4S(SCP4665 RD 5 TF 29
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W-12A FIELD VALIDATION
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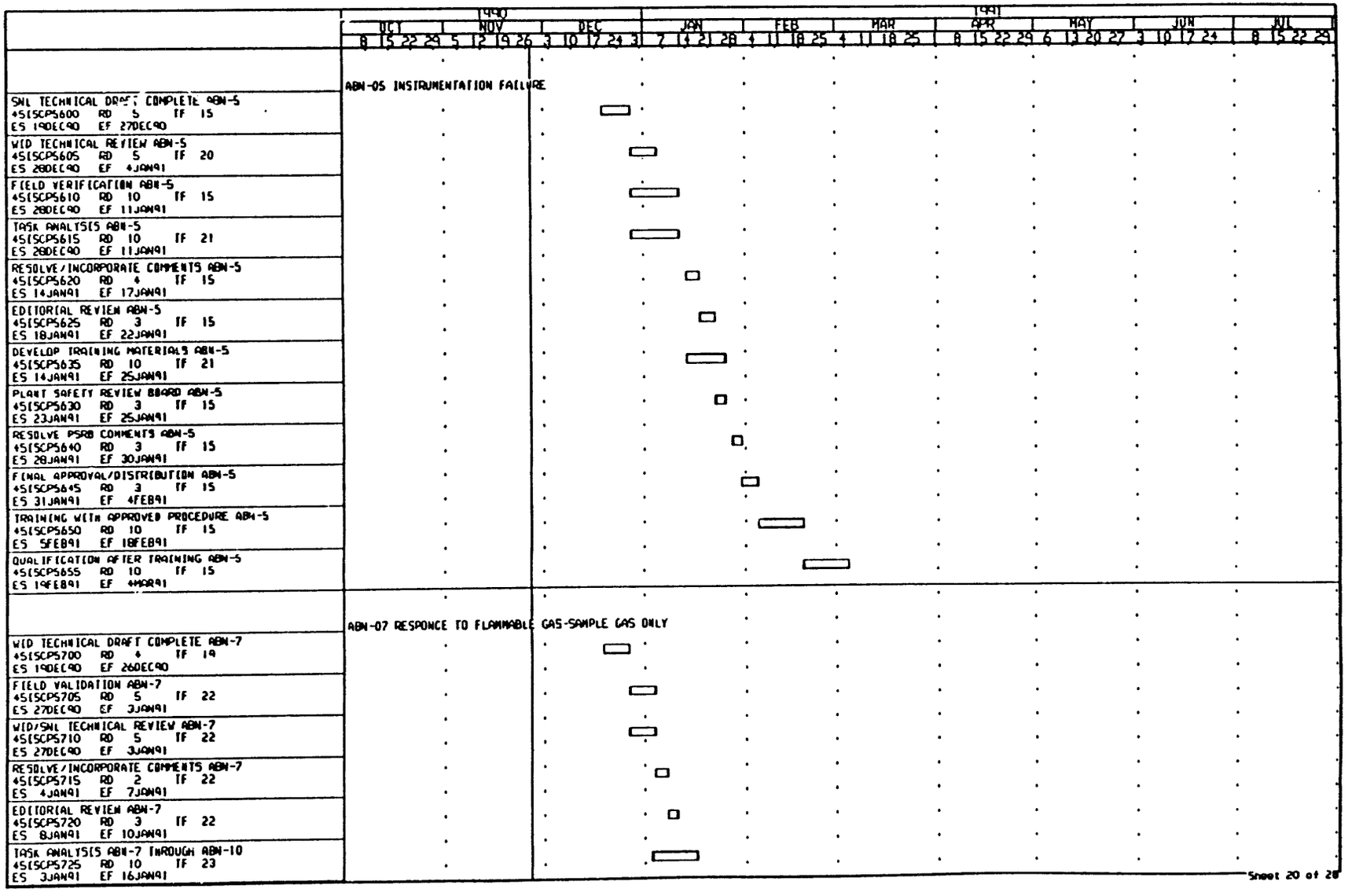

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W-12B VOC MONITORING SYSTEM AIR SAMPLER PROC
W-12B WID/SNL TECHNICAL REVIEW
45ISCP4715 RD 3 TF 43
AS 5OCT90 EF 29NOV90
W-12B FIELD VALIDATION
45ISCP4720 RD 5 TF 43
ES 30NOV90 EF 6DEC90
W-12B RESOLVE/INCORPORATE COMMENTS
45ISCP4725 RD 3 TF 43
ES 7DEC90 EF 11DEC90
W-12B EDITORIAL REVIEW
45ISCP4730 RD 3 TF 43
ES 12DEC90 EF 14DEC90
W-12B PLANT SAFETY REVIEW BOARD (OPS/QA)
45ISCP4735 RD 5 TF 29
ES 9JAN91 EF 15JAN91
W-12B RESOLVE PSRB COMMENTS
45ISCP4740 RD 5 TF 29
ES 16JAN91 EF 22JAN91
W-12B FINAL APPROVAL/DISTRIBUTION
45ISCP4745 RD 5 TF 29
ES 23JAN91 EF 29JAN91
W-12C VOC MAKEUP GAS SUPPLY (Mg) PROCEDURE
W-12C WID/SNL TECHNICAL REVIEW
45ISCP4800 RD 3 TF 43
AS 6NOV90 EF 29NOV90
W-12C FIELD VALIDATION
45ISCP4795 RD 5 TF 43
ES 30NOV90 EF 6DEC90
W-12C RESOLVE/INCORPORATE COMMENTS
45ISCP4805 RD 3 TF 43
ES 7DEC90 EF 11DEC90
W-12C EDITORIAL REVIEW
45ISCP4810 RD 3 TF 43
ES 12DEC90 EF 14DEC90
W-12C PLANT SAFETY REVIEW BOARD (OPS/QA)
45ISCP4815 RD 5 TF 29
ES 9JAN91 EF 15JAN91
W-12C RESOLVE PSRB COMMENTS
45ISCP4820 RD 5 TF 29
ES 16JAN91 EF 22JAN91
W-12C FINAL APPROVAL/DISTRIBUTION
45ISCP4825 RD 5 TF 29
ES 22JAN91 EF 29JAN91
W-12D VOC SYSTEM VOST SAMPLER TRAIN & CHAR FILTR
W-12D WID REFORMATED DRAFT PROCEDURE
45ISCP4880 RD 2 TF 19
AS 15OCT90 EF 26NOV90
W-12D WID/SNL TECHNICAL REVIEW
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W-12D FIELD VALIDATION
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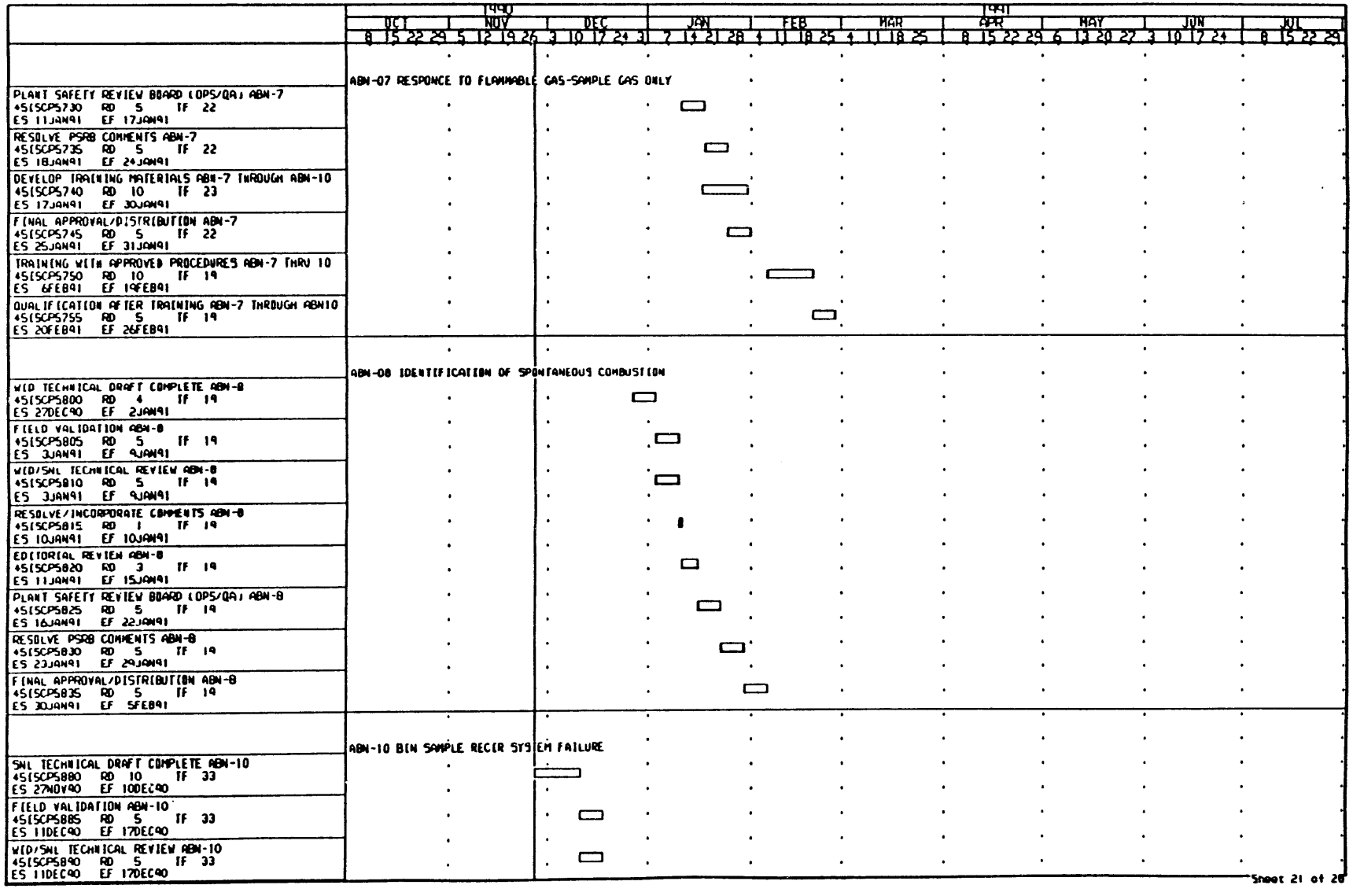

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W-120 RESOLVE/INCORPORATE COMMENTS
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W-120 EDITORIAL REVIEW
45ISCP4900 RD 3 TF 19
ES 27DEC90 EF 31DEC90
W-120 PLANT SAFETY REVIEW BOARD (OPS/QA)
45ISCP4905 RD 5 TF 14
ES 9JAN91 EF 15JAN91
W-120 RESOLVE PSRB COMMENTS
45ISCP4910 RD 5 TF 14
ES 16JAN91 EF 22JAN91
W-120 FINAL APPROVAL/DISTRIBUTION
45ISCP4915 RD 5 TF 14
ES 23JAN91 EF 29JAN91
W-120 DEVELOP TRAINING MATERIALS
45ISCP4920 RD 10 TF 14
ES 30JAN91 EF 12FEB91
W-120 TRAINING WITH APPROVED PROCEDURE
45ISCP4925 RD 10 TF 14
ES 13FEB91 EF 26FEB91
W-120 QUALIFICATION AFTER TRAINING
45ISCP4930 RD 5 TF 14
ES 27FEB91 EF 5MAR91
W-10 ARGON PURGE & B2 PURGE OPERATION
W-10 FIELD VALIDATION
45ISCP4990 RD 5 TF 15
ES 19DEC90 EF 27DEC90
W-10 WID/SNL TECHNICAL REVIEW
45ISCP4995 RD 17 TF 10
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W-10 RESOLVE/INCORPORATE COMMENTS
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W-10 EDITORIAL REVIEW
45ISCP5005 RD 3 TF 10
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W-10 PLANT SAFETY REVIEW BOARD (OPS/QA)
45ISCP5010 RD 5 TF 10
ES 15JAN91 EF 21JAN91
W-10 RESOLVE PSRB COMMENTS
45ISCP5015 RD 5 TF 10
ES 22JAN91 EF 28JAN91
W-10 FINAL APPROVAL/DISTRIBUTION
45ISCP5020 RD 5 TF 10
ES 29JAN91 EF 4FEB91
W-10 DEVELOP TRAINING MATERIALS
45ISCP5025 RD 10 TF 10
ES 5FEB91 EF 18FEB91
W-10 TRAINING WITH APPROVED PROCEDURE
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W-10 QUALIFICATION AFTER TRAINING
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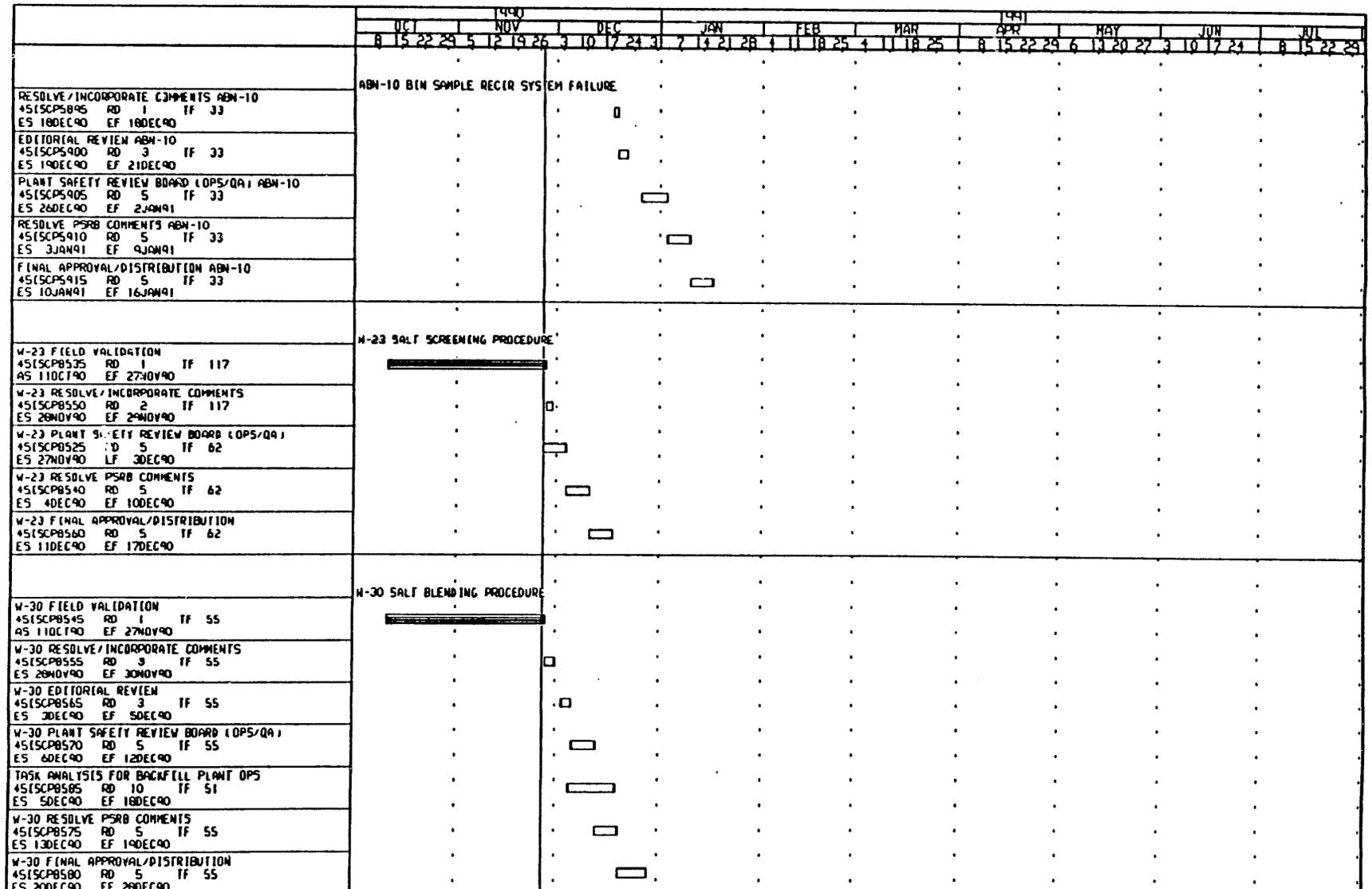

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W-11A INITIAL BIN PRESSURIZATION PROCEDURE
W-11A WID TECHNICAL DRAFT COMPLETE
45ISCP6010 RD 1 TF 15
ES 7JAN91 EF 7JAN91
W-11A WID/SNL TECHNICAL REVIEW
45ISCP6020 RD 5 TF 44
ES 8JAN91 EF 14JAN91
W-11A FIELD VALIDATION
45ISCP6015 RD 5 TF 44
ES 15JAN91 EF 21JAN91
W-11A RESOLVE/INCORPORATE COMMENTS
45ISCP6030 RD 3 TF 44
ES 22JAN91 EF 24JAN91
W-11A EDITORIAL REVIEW
45ISCP6035 RD 3 TF 44
ES 25JAN91 EF 29JAN91
W-11A PLANT SAFETY REVIEW BOARD (OPS/QA)
45ISCP6040 RD 5 TF 44
ES 30JAN91 EF 5FEB91
W-11B BIN TRACER GAS INJECTION PROCEDURE
W-11B SNL PROVIDE TECHNICAL INPUT
45ISCP5130 RD 0
AS 20AUG90
W-11B WID REFORMATED DRAFT PROCEDURE
45ISCP5090 RD 9 TF 28
AS 26AUG90 EF 7DEC90
W-11B WID/SNL TECHNICAL REVIEW
45ISCP5095 RD 7 TF 30
ES 10DEC90 EF 18DEC90
W-11B FIELD VALIDATION
45ISCP5100 RD 5 TF 30
ES 19DEC90 EF 27DEC90
W-11B RESOLVE/INCORPORATE COMMENTS
45ISCP5105 RD 3 TF 30
ES 28DEC90 EF 2JAN91
W-11B EDITORIAL REVIEW
45ISCP5110 RD 3 TF 30
ES 3JAN91 EF 7JAN91
W-11B PLANT SAFETY REVIEW BOARD (OPS/QA)
45ISCP5115 RD 5 TF 30
ES 8JAN91 EF 14JAN91
W-11B RESOLVE PSRB COMMENTS
45ISCP5120 RD 5 TF 30
ES 15JAN91 EF 21JAN91
W-11B FINAL APPROVAL/DISTRIBUTION
45ISCP5125 RD 5 TF 30
ES 22JAN91 EF 28JAN91
W-13 ROUTINE SAMPLING OF BINS PROCEDURE
W-13 EQUIPMENT OR TECHNICAL INFO AVAILABLE
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W-13 SNL OR WID TECHNICAL DRAFT COMPLETE
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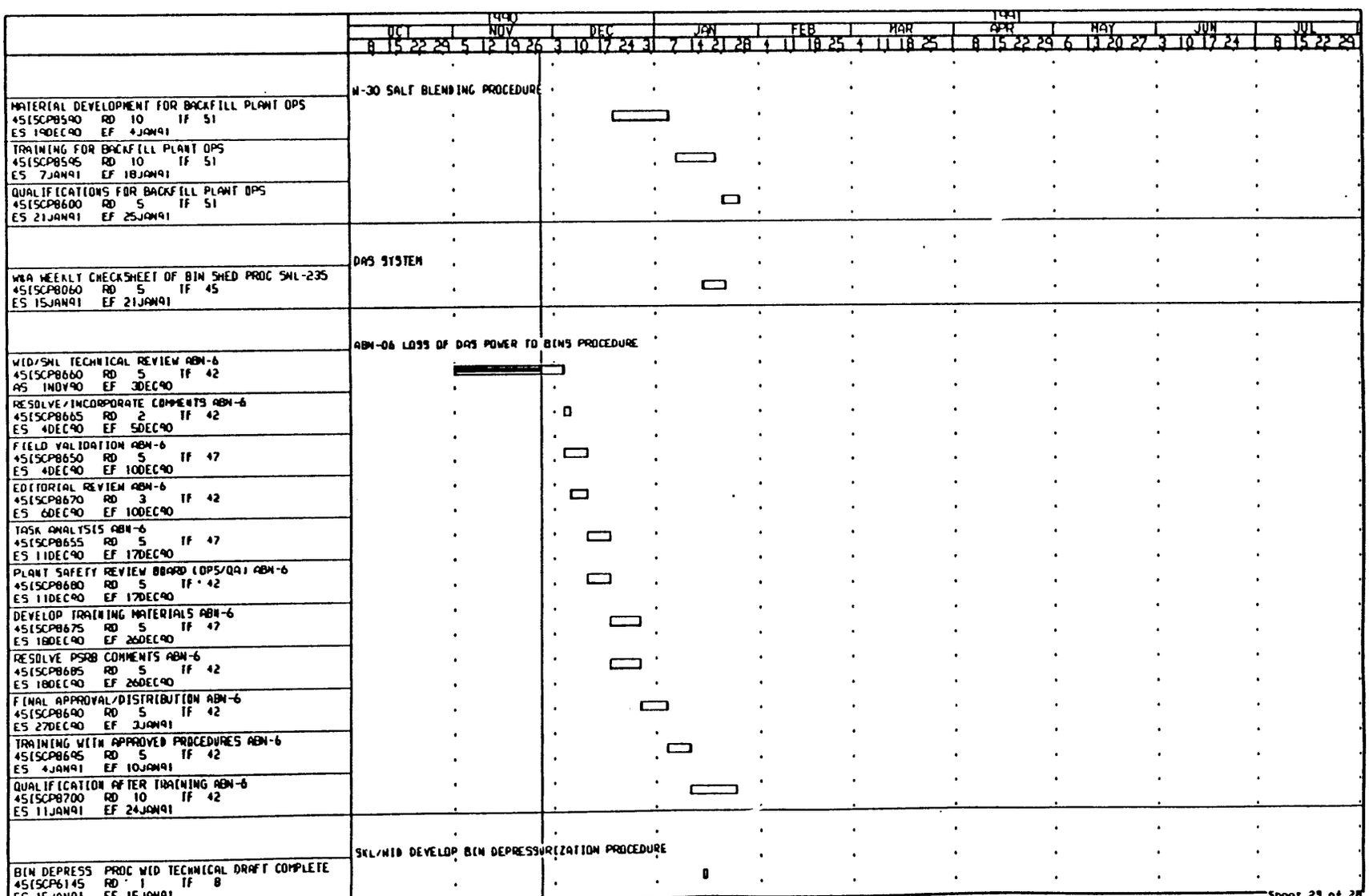

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W-13 ROUTINE SAMPLING OF BINS PROCEDURE
W-13 WID REFORMATED DRAFT PROCEDURE
4S(SCPS185 RD 10 TF 0
ES 15JAN91 EF 28JAN91
W-13 FIELD VALIDATION
4S(SCPS190 RD 5 TF 4
ES 29JAN91 EF 4FEB91
W-13 WID/SNL TECHNICAL REVIEW
4S(SCPS195 RD 5 TF 4
ES 29JAN91 EF 4FEB91
W-13 RESOLVE/INCORPORATE COMMENTS
4S(SCPS200 RD 3 TF 4
ES 5FEB91 EF 7FEB91
W-13 EDITORIAL REVIEW
4S(SCPS205 RD 3 TF 4
ES 8FEB91 EF 12FEB91
W-13 PLANT SAFETY REVIEW BOARD (OPS/QA)
4S(SCPS210 RD 5 TF 4
ES 13FEB91 EF 19FEB91
W-13 RESOLVE PSRB COMMENTS
4S(SCPS215 RD 5 TF 4
ES 20FEB91 EF 26FEB91
W-13 FINAL APPROVAL/DISTRIBUTION
4S(SCPS220 RD 5 TF 4
ES 27FEB91 EF 5MAR91
ABN-01 BIN OVER-PRESSURIZATION
SNL TECHNICAL DRAFT COMPLETE ABN-1
4S(SCPS265 RD 5 TF 20
ES 19DEC90 EF 27DEC90
FIELD VALIDATION ABN-1
4S(SCPS270 RD 5 TF 23
ES 28DEC90 EF 4JAN91
WID TECHNICAL REVIEW ABN-1
4S(SCPS275 RD 5 TF 23
ES 28DEC90 EF 4JAN91
RESOLVE/INCORPORATE COMMENTS ABN-1
4S(SCPS280 RD 2 TF 23
ES 7JAN91 EF 8JAN91
EDITORIAL REVIEW ABN-1
4S(SCPS285 RD 3 TF 23
ES 9JAN91 EF 11JAN91
TASK ANALYSIS ABN-1 THROUGH ABN-4
4S(SCPS305 RD 10 TF 21
ES 7JAN91 EF 18JAN91
PLANT SAFETY REVIEW BOARD ABN-1
4S(SCPS290 RD 5 TF 23
ES 14JAN91 EF 18JAN91
RESOLVE PSRB COMMENTS ABN-1
4S(SCPS295 RD 5 TF 23
ES 21JAN91 EF 25JAN91
FINAL APPROVAL/DISTRIBUTION ABN-1
4S(SCPS300 RD 3 TF 23
ES 28JAN91 EF 30JAN91
DEVELOP TRAINING MATERIALS ABN-1 THROUGH ABN-4
4S(SCPS310 RD 10 TF 21
ES 21JAN91 EF 1FEB91

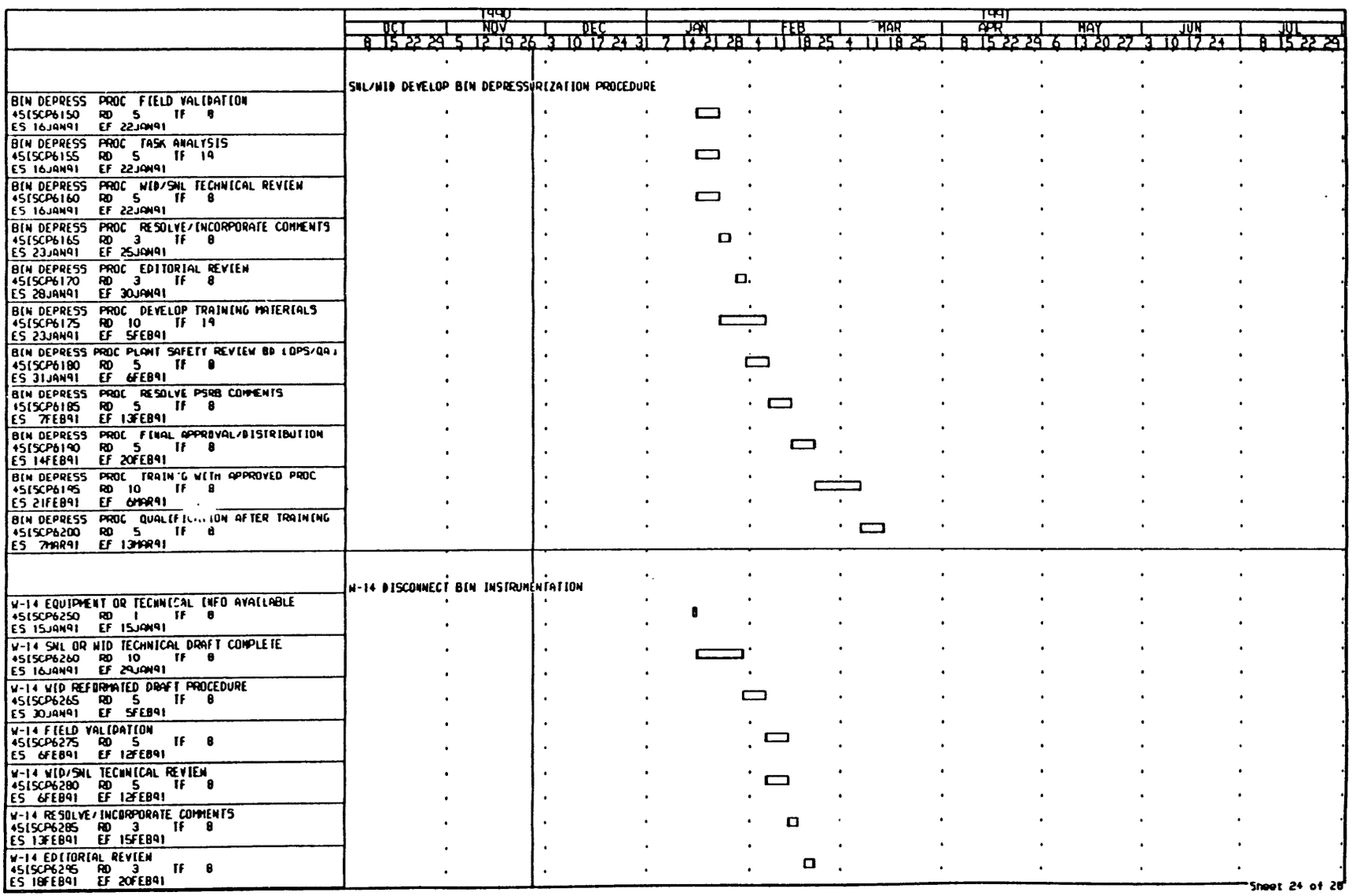

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ABN-01 BIN OVER-PRESSURIZATION
TRAINING WITH APPROVED PROC ABN-1 THROUGH ABN-4
45ISCPS315 RD 10 TF 20
ES 5FEB91 EF 18FEB91
QUALIFICATON AFTER TRAINING ABN-1 THROUGH ABN-4
45ISCPS320 RD 5 TF 20
ES 19FEB91 EF 25FEB91
ABN-02 BIN HANDLING
SNL DEVELOP DRAFT PROC ABN-2
45ISCPS365 RD 5 TF 20
ES 28DEC90 EF 4JAN91
FIELD VALIDATION ABN-2
45ISCPS370 RD 5 TF 20
ES 7JAN91 EF 11JAN91
WID TECH REVIEW ABN-2
45ISCPS375 RD 5 TF 20
ES 7JAN91 EF 11JAN91
RESOLVE/INCORORATE COMMENTS ABN-2
45ISCPS380 RD 2 TF 20
ES 14JAN91 EF 15JAN91
EDITORIAL REVIEW ABN-2
45ISCPS385 RD 3 TF 20
ES 16JAN91 EF 18JAN91
PLANT SAFETY REVIEW BOARD ABN-2
45ISCPS390 RD 5 TF 20
ES 21JAN91 EF 25JAN91
RESOLVE PSRB COMMENTS ABN-2
45ISCPS395 RD 3 TF 20
ES 28JAN91 EF 30JAN91
FINAL APROVAL/DISTRIBUTION ABN-2
45ISCPS400 RD 3 TF 20
ES 31JAN91 EF 4FEB91
ABN-04 LOSS OF BIN PRESSURE
SNL TECHNICAL DRAFT COMPLETE ABN-4
45ISCPS525 RD 5 TF 42
ES 27NOV90 EF 3DEC90
FIELD VALIDATION ABN-4
45ISCPS530 RD 5 TF 46
ES 4DEC90 EF 10DEC90
WID TECHNICAL REVIEW ABN-4
45ISCPS535 RD 5 TF 46
ES 4DEC90 EF 10DEC90
RESOLVE/INCORPORATE COMMENTS ABN-4
45ISCPS540 RD 2 TF 46
ES 11DEC90 EF 12DEC90
PLANT SAFETY REVIEW BOARD ABN-4
45ISCPS545 RD 3 TF 46
ES 13DEC90 EF 17DEC90
RESOLVE PSRB COMMENTS ABN-4
45ISCPS550 RD 3 TF 46
ES 18DEC90 EF 20DEC90
FINAL APPROVAL/DISTRIBUTION ABN-4
45ISCPS555 RD 3 TF 46
ES 21DEC90 EF 27DEC90

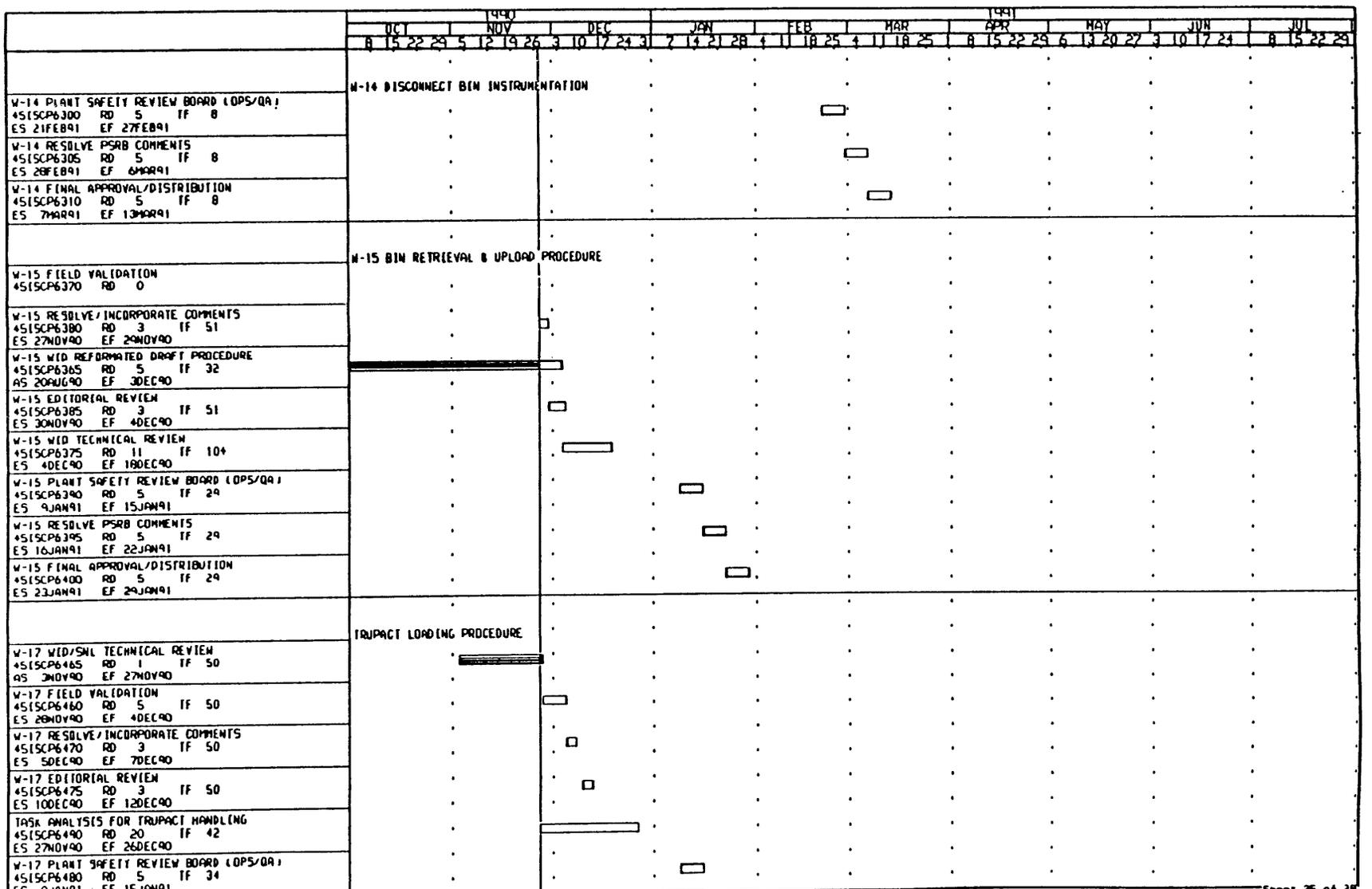

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ABN-05 INSTRUMENTATION FAILURE
SNL TECHNICAL DRAFT COMPLETE ABN-5
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ES 19DEC90 EF 27DEC90
WID TECHNICAL REVIEW ABN-5
4S(SCPS605 RD 5 TF 20
ES 28DEC90 EF 4JAN91
FIELD VERIFICATION ABN-5
4S(SCPS610 RD 10 TF 15
ES 28DEC90 EF 11JAN91
TASK ANALYSIS ABN-5
4S(SCPS615 RD 10 TF 21
ES 28DEC90 EF 11JAN91
RESOLVE/INCORPORATE COMMENTS ABN-5
4S(SCPS620 RD 4 TF 15
ES 14JAN91 EF 17JAN91
EDITORIAL REVIEW ABN-5
4S(SCPS625 RD 3 TF 15
ES 18JAN91 EF 22JAN91
DEVELOP TRAINING MATERIALS ABN-5
4S(SCPS635 RD 10 TF 21
ES 14JAN91 EF 25JAN91
PLANT SAFETY REVIEW BOARD ABN-5
4S(SCPS630 RD 3 TF 15
ES 23JAN91 EF 25JAN91
RESOLVE PSRB COMMENTS ABN-5
4S(SCPS640 RD 3 TF 15
ES 28JAN91 EF 30JAN91
FINAL APPROVAL/DISTRIBUTION ABN-5
4S(SCPS645 RD 3 TF 15
ES 31JAN91 EF 4FEB91
TRAINING WITH APPROVED PROCEDURE ABN-5
4S(SCPS650 RD 10 TF 15
ES 5FEB91 EF 18FEB91
QUALIFICATION AFTER TRAINING ABN-5
4S(SCPS655 RD 10 TF 15
ES 19FEB91 EF 4MAR91
ABN-07 RESPONCE TO FLAMMABLE GAS-SAMPLE GAS ONLY
WID TECHNICAL DRAFT COMPLETE ABN-7
4S(SCPS700 RD 4 TF 19
ES 19DEC90 EF 26DEC90
FIELD VALIDATION ABN-7
4S(SCPS705 RD 5 TF 22
ES 27DEC90 EF 3JAN91
WID/SNL TECHNICAL REVIEW ABN-7
4S(SCPS710 RD 5 TF 22
ES 27DEC90 EF 3JAN91
RESOLVE/INCORPORATE COMMENTS ABN-7
4S(SCPS715 RD 2 TF 22
ES 4JAN91 EF 7JAN91
EDITORIAL REVIEW ABN-7
4S(SCPS720 RD 3 TF 22
ES 8JAN91 EF 10JAN91
TASK ANALYSIS ABN-7 THROUGH ABN-10
4S(SCPS725 RD 10 TF 23
ES 3JAN91 EF 16JAN91

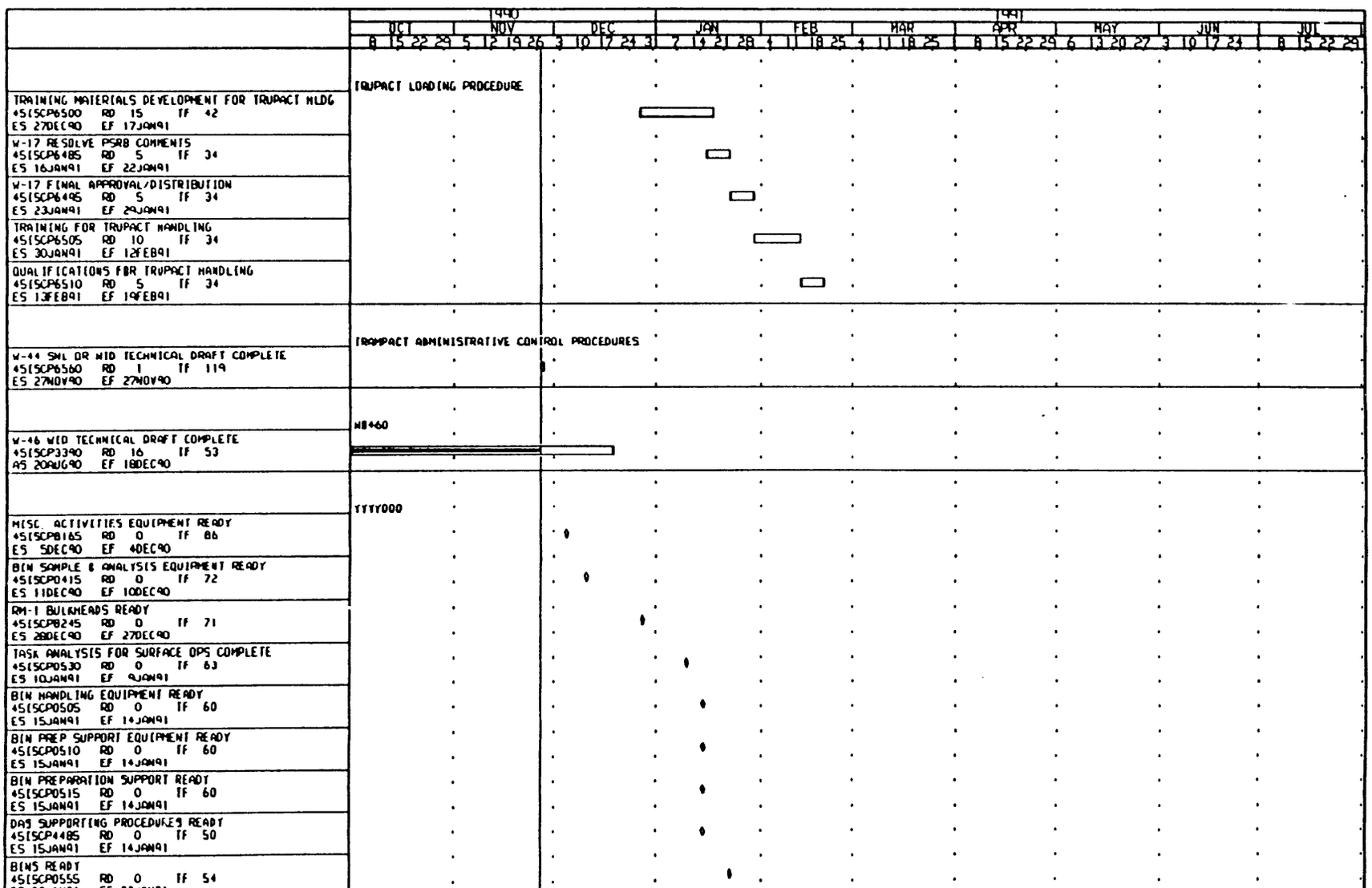

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ABN-07 RESPONCE TO FLAMMABLE GAS-SAMPLE GAS ONLY
PLANT SAFETY REVIEW BOARD (OPS/QA) ABN-7
4S(SCPS730 RD 5 TF 22
ES 11JAN91 EF 17JAN91
RESOLVE PSRB COMMENTS ABN-7
4S(SCPS735 RD 5 TF 22
ES 18JAN91 EF 24JAN91
DEVELOP TRAINING MATERIALS ABN-7 THROUGH ABN-10
4S(SCPS740 RD 10 TF 23
ES 17JAN91 EF 30JAN91
FINAL APPROVAL/DISTRIBUTION ABN-7
4S(SCPS745 RD 5 TF 22
ES 25JAN91 EF 31JAN91
TRAINING WITH APPROVED PROCEDURES ABN-7 THRU 10
4S(SCPS750 RD 10 TF 19
ES 6FEB91 EF 19FEB91
QUALIFICATION AFTER TRAINING ABN-7 THROUGH ABN10
4S(SCPS755 RD 5 TF 19
ES 20FEB91 EF 26FEB91
ABN-08 IDENTIFICATION OF SPONTANEOUS COMBUSTION
WID TECHNICAL DRAFT COMPLETE ABN-8
4S(SCPS800 RD 4 TF 19
ES 27DEC90 EF 2JAN91
FIELD VALIDATION ABN-8
4S(SCPS805 RD 5 TF 19
ES 3JAN91 EF 9JAN91
WID/SNL TECHNICAL REVIEW ABN-8
4S(SCPS810 RD 5 TF 19
ES 3JAN91 EF 9JAN91
RESOLVE/INCORPORATE COMMENTS ABN-8
4S(SCPS815 RD 1 TF 19
ES 10JAN91 EF 10JAN91
EDITORIAL REVIEW ABN-8
4S(SCPS820 RD 3 TF 19
ES 11JAN91 EF 15JAN91
PLANT SAFETY REVIEW BOARD (OPS/QA) ABN-8
4S(SCPS825 RD 5 TF 19
ES 16JAN91 EF 22JAN91
RESOLVE PSRB COMMENTS ABN-8
4S(SCPS830 RD 5 TF 19
ES 23JAN91 EF 29JAN91
FINAL APPROVAL/DISTRIBUTION ABN-8
4S(SCPS835 RD 5 TF 19
ES 30JAN91 EF 5FEB91
ABN-10 BIN SAMPLE RECER SYSTEM FAILURE
SNL TECHNICAL DRAFT COMPLETE ABN-10
4S(SCPS880 RD 10 TF 33
ES 27NOV90 EF 10DEC90
FIELD VALIDATION ABN-10
4S(SCPS885 RD 5 TF 33
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WID/SNL TECHNICAL REVIEW ABN-10
4S(SCPS890 RD 5 TF 33
ES 11DEC90 EF 17DEC90

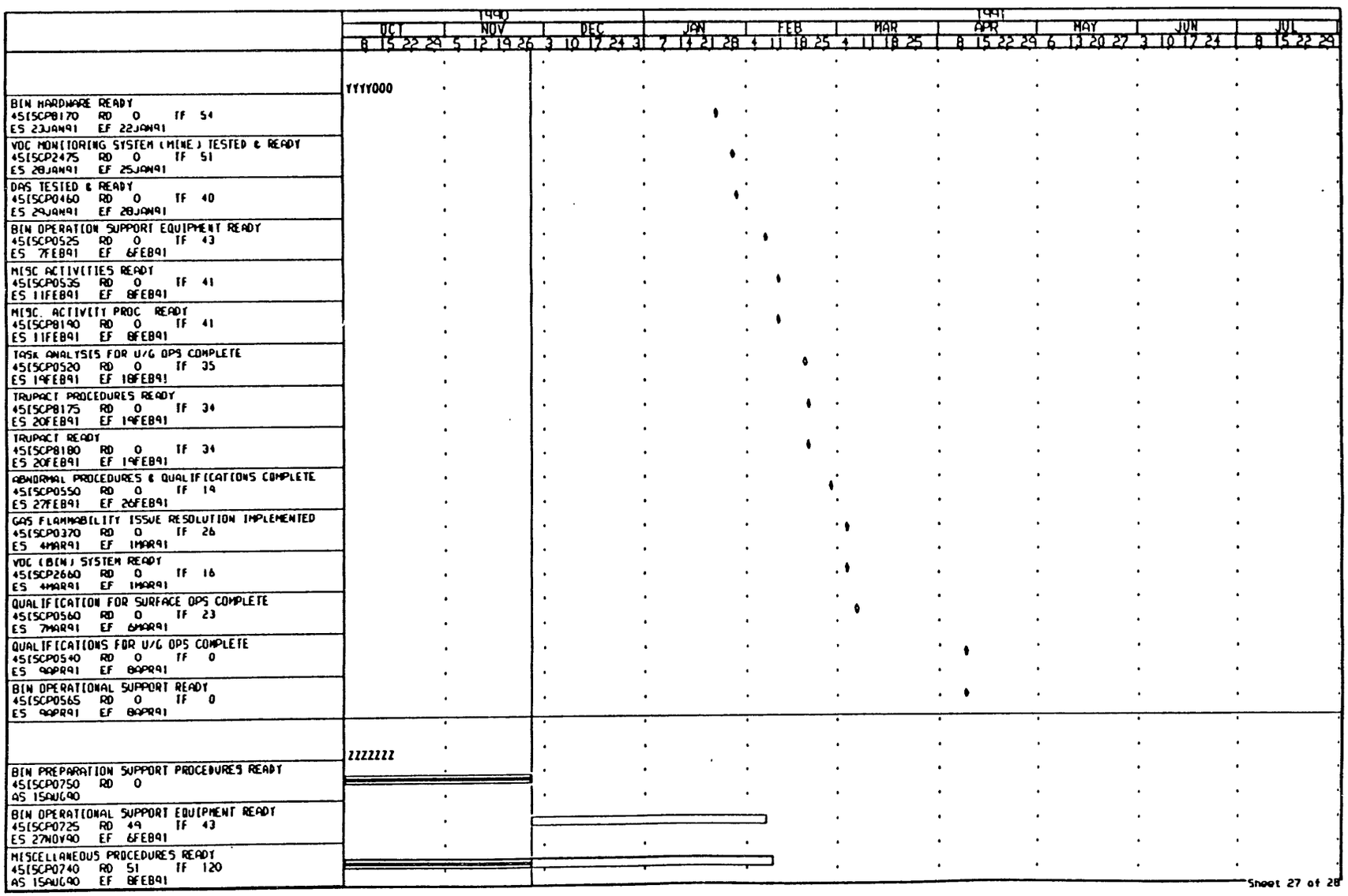

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ABN-10 BIN SAMPLE RECIR SYSTEM FAILURE
RESOLVE/INCORPORATE COMMENTS ABN-10
4S(SCP5895 RD 1 TF 33
ES 18DEC90 EF 18DEC90
EDITORIAL REVIEW ABN-10
4S(SCP5900 RD 3 TF 33
ES 19DEC90 EF 21DEC90
PLANT SAFETY REVIEW BOARD (OPS/QA) ABN-10
4S(SCP5905 RD 5 TF 33
ES 26DEC90 EF 2JAN91
RESOLVE PSRB COMMENTS ABN-10
4S(SCP5910 RD 5 TF 33
ES 3JAN91 EF 9JAN91
FINAL APPROVAL/DISTRIBUTION ABN-10
4S(SCP5915 RD 5 TF 33
ES 10JAN91 EF 16JAN91
W-23 SALT SCREENING PROCEDURE
W-23 FIELD VALIDATION
4S(SCP8535 RD 1 TF 117
AS 11OCT90 EF 27NOV90
W-23 RESOLVE/INCORPORATE COMMENTS
4S(SCP8550 RD 2 TF 117
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W-23 PLANT SAFETY REVIEW BOARD (OPS/QA)
4S(SCP8525 RD 5 TF 62
ES 27NOV90 LF 3DEC90
W-23 RESOLVE PSRB COMMENTS
4S(SCP8540 RD 5 TF 62
ES 4DEC90 EF 10DEC90
W-23 FINAL APPROVAL/DISTRIBUTION
4S(SCP8560 RD 5 TF 62
ES 11DEC90 EF 17DEC90
W-30 SALT BLENDING PROCEDURE
W-30 FIELD VALIDATION
4S(SCP8545 RD 1 TF 55
AS 11OCT90 EF 27NOV90
W-30 RESOLVE/INCORPORATE COMMENTS
4S(SCP8555 RD 3 TF 55
ES 28NOV90 EF 30NOV90
W-30 EDITORIAL REVIEW
4S(SCP8565 RD 3 TF 55
ES 3DEC90 EF 5DEC90
W-30 PLANT SAFETY REVIEW BOARD (OPS/QA)
4S(SCP8570 RD 5 TF 55
ES 6DEC90 EF 12DEC90
TASK ANALYSIS FOR BACKFILL PLANT OPS
4S(SCP8585 RD 10 TF 51
ES 5DEC90 EF 18DEC90
W-30 RESOLVE PSRB COMMENTS
4S(SCP8575 RD 5 TF 55
ES 13DEC90 EF 19DEC90
W-30 FINAL APPROVAL/DISTRIBUTION
4S(SCP8580 RD 5 TF 55
ES 20DEC90 EF 26DEC90

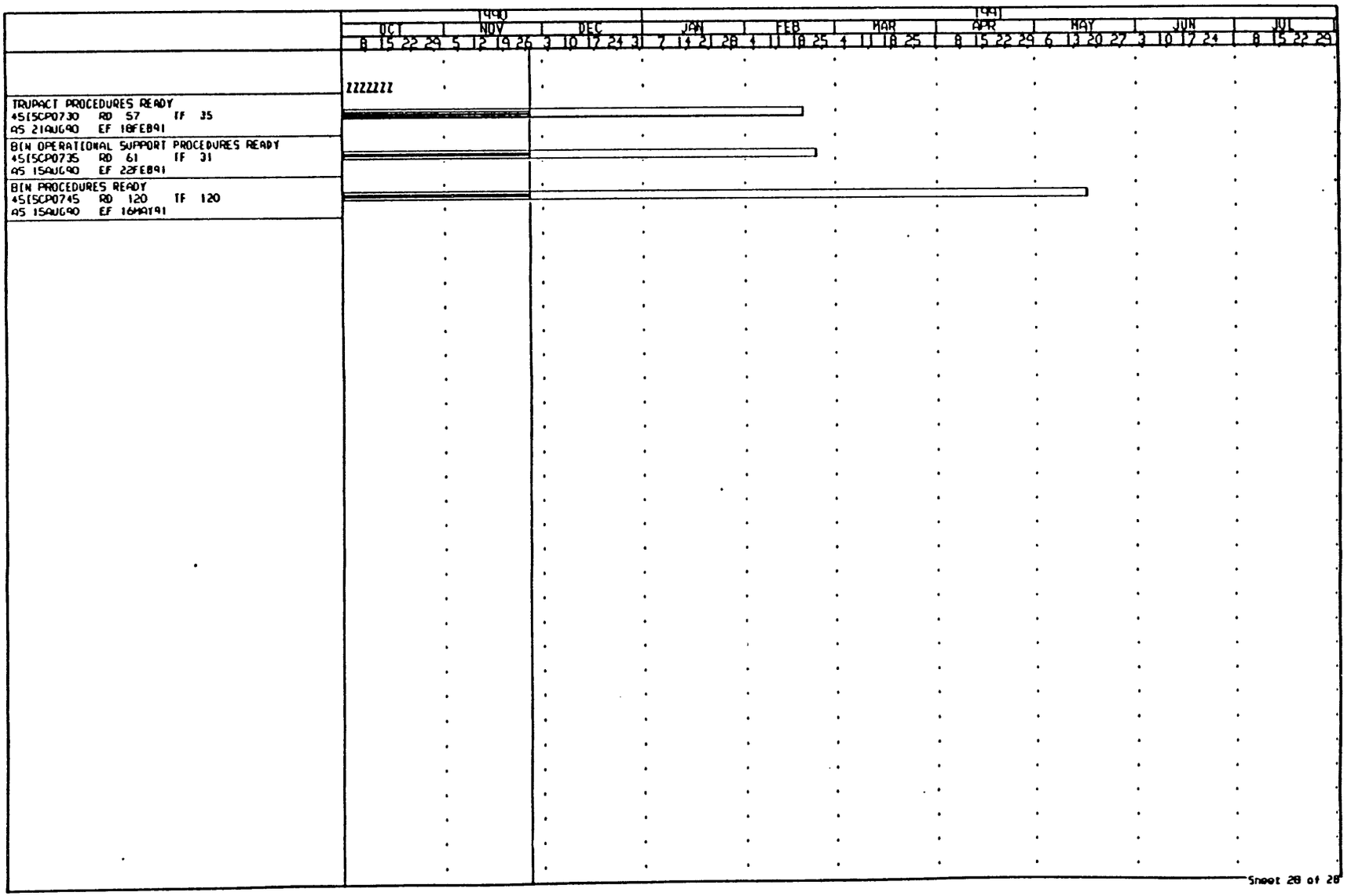

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W-30 SALT BLENDING PROCEDURE
MATERIAL DEVELOPMENT FOR BACKFILL PLANT OPS
45(SCP8590 RD 10 TF 51
ES 19DEC90 EF 4JAN91
TRAINING FOR BACKFILL PLANT OPS
45(SCP8595 RD 10 TF 51
ES 7JAN91 EF 18JAN91
QUALIFICATIONS FOR BACKFILL PLANT OPS
45(SCP8600 RD 5 TF 51
ES 21JAN91 EF 25JAN91
DAS SYSTEM
W&A WEEKLY CHECKSHEET OF BIN SHED PROC SNL-235
45(SCP8060 RD 5 TF 45
ES 15JAN91 EF 21JAN91
ABN-06 LOSS OF DAS POWER TO BINS PROCEDURE
WID/SNL TECHNICAL REVIEW ABN-6
45(SCP8660 RD 5 TF 42
AS INDY90 EF 3DEC90
RESOLVE/INCORPORATE COMMENTS ABN-6
45(SCP8665 RD 2 TF 42
ES 4DEC90 EF 5DEC90
FIELD VALIDATION ABN-6
45(SCP8650 RD 5 TF 47
ES 4DEC90 EF 10DEC90
EDITORIAL REVIEW ABN-6
45(SCP8670 RD 3 TF 42
ES 6DEC90 EF 10DEC90
TASK ANALYSIS ABN-6
45(SCP8655 RD 5 TF 47
ES 11DEC90 EF 17DEC90
PLANT SAFETY REVIEW BOARD (OPS/QA) ABN-6
45(SCP8680 RD 5 TF 42
ES 11DEC90 EF 17DEC90
DEVELOP TRAINING MATERIALS ABN-6
45(SCP8675 RD 5 TF 47
ES 18DEC90 EF 26DEC90
RESOLVE PSRB COMMENTS ABN-6
45(SCP8685 RD 5 TF 42
ES 18DEC90 EF 26DEC90
FINAL APPROVAL/DISTRIBUTION ABN-6
45(SCP8690 RD 5 TF 42
ES 27DEC90 EF 3JAN91
TRAINING WITH APPROVED PROCEDURES ABN-6
45(SCP8695 RD 5 TF 42
ES 4JAN91 EF 10JAN91
QUALIFICATION AFTER TRAINING ABN-6
45(SCP8700 RD 10 TF 42
ES 11JAN91 EF 24JAN91
SNL/WID DEVELOP BIN DEPRESSURIZATION PROCEDURE
BIN DEPRESS PROC WID TECHNICAL DRAFT COMPLETE
45(SCP6145 RD 1 TF 8
ES 15JAN91 EF 15JAN91


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SNL/WID DEVELOP BIN DEPRESSURIZATION PROCEDURE
BIN DEPRESS PROC FIELD VALIDATION
45ISCP6150 RD 5 TF 8
ES 16JAN91 EF 22JAN91
BIN DEPRESS PROC TASK ANALYSIS
45ISCP6155 RD 5 TF 14
ES 16JAN91 EF 22JAN91
BIN DEPRESS PROC WID/SNL TECHNICAL REVIEW
45ISCP6160 RD 5 TF 8
ES 16JAN91 EF 22JAN91
BIN DEPRESS PROC RESOLVE/INCORPORATE COMMENTS
45ISCP6165 RD 3 TF 8
ES 23JAN91 EF 25JAN91
BIN DEPRESS PROC EDITORIAL REVIEW
45ISCP6170 RD 3 TF 8
ES 28JAN91 EF 30JAN91
BIN DEPRESS PROC DEVELOP TRAINING MATERIALS
45ISCP6175 RD 10 TF 14
ES 23JAN91 EF 5FEB91
BIN DEPRESS PROC PLANT SAFETY REVIEW BD (OPS/QA)
45ISCP6180 RD 5 TF 8
ES 31JAN91 EF 6FEB91
BIN DEPRESS PROC RESOLVE PSRB COMMENTS
45ISCP6185 RD 5 TF 8
ES 7FEB91 EF 13FEB91
BIN DEPRESS PROC FINAL APPROVAL/DISTRIBUTION
45ISCP6190 RD 5 TF 8
ES 14FEB91 EF 20FEB91
BIN DEPRESS PROC TRAIN'G WITH APPROVED PROC
45ISCP6195 RD 10 TF 8
ES 21FEB91 EF 6MAR91
BIN DEPRESS PROC QUALIFI...ION AFTER TRAINING
45ISCP6200 RD 5 TF 8
ES 7MAR91 EF 13MAR91
W-14 DISCONNECT BIN INSTRUMENTATION
W-14 EQUIPMENT OR TECHNICAL INFO AVAILABLE
45ISCP6250 RD 1 TF 8
ES 15JAN91 EF 15JAN91
W-14 SNL OR WID TECHNICAL DRAFT COMPLETE
45ISCP6260 RD 10 TF 8
ES 16JAN91 EF 29JAN91
W-14 WID REFORMATED DRAFT PROCEDURE
45ISCP6265 RD 5 TF 8
ES 30JAN91 EF 5FEB91
W-14 FIELD VALIDATION
45ISCP6275 RD 5 TF 8
ES 6FEB91 EF 12FEB91
W-14 WID/SNL TECHNICAL REVIEW
45ISCP6280 RD 5 TF 8
ES 6FEB91 EF 12FEB91
W-14 RESOLVE/INCORPORATE COMMENTS
45ISCP6285 RD 3 TF 8
ES 13FEB91 EF 15FEB91
W-14 EDITORIAL REVIEW
45ISCP6295 RD 3 TF 8
ES 18FEB91 EF 20FEB91


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W-14 DISCONNECT BIN INSTRUMENTATION
W-14 PLANT SAFETY REVIEW BOARD (OPS/QA)
4S(SCP6300 RD 5 TF 8
ES 21FEB91 EF 27FEB91
W-14 RESOLVE PSRB COMMENTS
4S(SCP6305 RD 5 TF 8
ES 28FEB91 EF 6MAR91
W-14 FINAL APPROVAL/DISTRIBUTION
4S(SCP6310 RD 5 TF 8
ES 7MAR91 EF 13MAR91
W-15 BIN RETRIEVAL & UPLOAD PROCEDURE
W-15 FIELD VALIDATION
4S(SCP6370 RD 0
W-15 RESOLVE/INCORPORATE COMMENTS
4S(SCP6380 RD 3 TF 51
ES 27NOV90 EF 29NOV90
W-15 WID REFORMATED DRAFT PROCEDURE
4S(SCP6365 RD 5 TF 32
AS 20AUG90 EF 30DEC90
W-15 EDITORIAL REVIEW
4S(SCP6385 RD 3 TF 51
ES 30NOV90 EF 4DEC90
W-15 WID TECHNICAL REVIEW
4S(SCP6375 RD 11 TF 104
ES 4DEC90 EF 18DEC90
W-15 PLANT SAFETY REVIEW BOARD (OPS/QA)
4S(SCP6390 RD 5 TF 29
ES 9JAN91 EF 15JAN91
W-15 RESOLVE PSRB COMMENTS
4S(SCP6395 RD 5 TF 29
ES 16JAN91 EF 22JAN91
W-15 FINAL APPROVAL/DISTRIBUTION
4S(SCP6400 RD 5 TF 29
ES 23JAN91 EF 29JAN91
TRUPACT LOADING PROCEDURE
W-17 WID/SNL TECHNICAL REVIEW
4S(SCP6465 RD 1 TF 50
AS 30NOV90 EF 27NOV90
W-17 FIELD VALIDATION
4S(SCP6460 RD 5 TF 50
ES 28NOV90 EF 4DEC90
W-17 RESOLVE/INCORPORATE COMMENTS
4S(SCP6470 RD 3 TF 50
ES 5DEC90 EF 7DEC90
W-17 EDITORIAL REVIEW
4S(SCP6475 RD 3 TF 50
ES 10DEC90 EF 12DEC90
TASK ANALYSIS FOR TRUPACT HANDLING
4S(SCP6490 RD 20 TF 42
ES 27NOV90 EF 26DEC90
W-17 PLANT SAFETY REVIEW BOARD (OPS/QA)
4S(SCP6480 RD 5 TF 34
ES 9JAN91 EF 15JAN91


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TRUPACT LOADING PROCEDURE
TRAINING MATERIALS DEVELOPMENT FOR TRUPACT HLDG
4S(SCP6500 RD 15 TF 42
ES 27DEC90 EF 17JAN91
W-17 RESOLVE PSRB COMMENTS
4S(SCP6485 RD 5 TF 34
ES 16JAN91 EF 22JAN91
W-17 FINAL APPROVAL/DISTRIBUTION
4S(SCP6495 RD 5 TF 34
ES 23JAN91 EF 29JAN91
TRAINING FOR TRUPACT HANDLING
4S(SCP6505 RD 10 TF 34
ES 30JAN91 EF 12FEB91
QUALIFICATIONS FOR TRUPACT HANDLING
4S(SCP6510 RD 5 TF 34
ES 13FEB91 EF 19FEB91
TRAMPACT ADMINISTRATIVE CONTROL PROCEDURES
W-44 SWL OR WID TECHNICAL DRAFT COMPLETE
4S(SCP6560 RD 1 TF 119
ES 27NOV90 EF 27NOV90
WB460
W-46 WID TECHNICAL DRAFT COMPLETE
4S(SCP3390 RD 16 TF 53
AS 20AUG90 EF 18DEC90
YYYYDDD
MISC. ACTIVITIES EQUIPMENT READY
4S(SCP8165 RD 0 TF 86
ES 5DEC90 EF 4DEC90
BIN SAMPLE & ANALYSIS EQUIPMENT READY
4S(SCP0415 RD 0 TF 72
ES 11DEC90 EF 10DEC90
RM-1 BULKHEADS READY
4S(SCP8245 RD 0 TF 71
ES 28DEC90 EF 27DEC90
TASK ANALYSIS FOR SURFACE OPS COMPLETE
4S(SCP0530 RD 0 TF 63
ES 10JAN91 EF 9JAN91
BIN HANDLING EQUIPMENT READY
4S(SCP0505 RD 0 TF 60
ES 15JAN91 EF 14JAN91
BIN PREP SUPPORT EQUIPMENT READY
4S(SCP0510 RD 0 TF 60
ES 15JAN91 EF 14JAN91
BIN PREPARATION SUPPORT READY
4S(SCP0515 RD 0 TF 60
ES 15JAN91 EF 14JAN91
DAS SUPPORTING PROCEDURES READY
4S(SCP4485 RD 0 TF 50
ES 15JAN91 EF 14JAN91
BINS READY
4S(SCP0555 RD 0 TF 54
ES 23JAN91 EF 22JAN91


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BIN HARDWARE READY
4S(SCP8170 RD 0 TF 54
ES 23JAN91 EF 22JAN91
VOC MONITORING SYSTEM (MINE) TESTED & READY
4S(SCP2475 RD 0 TF 51
ES 28JAN91 EF 25JAN91
DAS TESTED & READY
4S(SCP0460 RD 0 TF 40
ES 29JAN91 EF 28JAN91
BIN OPERATION SUPPORT EQUIPMENT READY
4S(SCP0525 RD 0 TF 43
ES 7FEB91 EF 6FEB91
MISC ACTIVITIES READY
4S(SCP0535 RD 0 TF 41
ES 11FEB91 EF 8FEB91
MISC. ACTIVITY PROC READY
4S(SCP8190 RD 0 TF 41
ES 11FEB91 EF 8FEB91
TASK ANALYSIS FOR U/G OPS COMPLETE
4S(SCP0520 RD 0 TF 35
ES 19FEB91 EF 18FEB91
TRUPACT PROCEDURES READY
4S(SCP8175 RD 0 TF 34
ES 20FEB91 EF 19FEB91
TRUPACT READY
4S(SCP8180 RD 0 TF 34
ES 20FEB91 EF 19FEB91
ABNORMAL PROCEDURES & QUALIFICATIONS COMPLETE
4S(SCP0550 RD 0 TF 19
ES 27FEB91 EF 26FEB91
GAS FLAMMABILITY ISSUE RESOLUTION IMPLEMENTED
4S(SCP0370 RD 0 TF 26
ES 4MAR91 EF 1MAR91
VOC (BIN) SYSTEM READY
4S(SCP2660 RD 0 TF 16
ES 4MAR91 EF 1MAR91
QUALIFICATION FOR SURFACE OPS COMPLETE
4S(SCP0560 RD 0 TF 23
ES 7MAR91 EF 6MAR91
QUALIFICATIONS FOR U/G OPS COMPLETE
4S(SCP0540 RD 0 TF 0
ES 9APR91 EF 8APR91
BIN OPERATIONAL SUPPORT READY
4S(SCP0565 RD 0 TF 0
ES 9APR91 EF 8APR91
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BIN PREPARATION SUPPORT PROCEDURES READY
4S(SCP0750 RD 0
AS 15AUG90
BIN OPERATIONAL SUPPORT EQUIPMENT READY
4S(SCP0725 RD 49 TF 43
ES 27NOV90 EF 6FEB91
MISCELLANEOUS PROCEDURES READY
4S(SCP0740 RD 51 TF 120
AS 15AUG90 EF 8FEB91


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TRUPACT PROCEDURES READY
4S(SCP0730 RD 57 TF 35
AS 21AUG90 EF 18FEB91
BIN OPERATIONAL SUPPORT PROCEDURES READY
4S(SCP0735 RD 61 TF 31
AS 15AUG90 EF 22FEB91
BIN PROCEDURES READY
4S(SCP0745 RD 120 TF 120
AS 15AUG90 EF 16MAY91
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MEETING MINUTES

Attendees		Distribution
Name	Organization	Attendees Plus
R. J. Rodriguez	WID	See Distribution List
J. E. Johnson	WID	
B. H. Kirkes	WID	
W. Chase	WID	
J. J. Garcia	WID	
H. R. Leos	WID	
D. Mackney	WID	
R. Beerman	WID	
C. R. Kelley	WID	
J. L. Lee	WID	
D. C. Blackstone	WPO	
B. C. Bower	WPO	
D. R. Brewer	SNL	

Prepared By	Date
Rodriguez	2-14-91

Subject or Purpose of Meeting	Location	Date
MINUTES OF THE FEBRUARY 14, 1991 ISC PROGRESS MEETING	Room 1	2-14-91

Item Number	Discussions or Resolutions	Action By	Date
	A meeting to update and review the most recent ISC schedule was held on Thursday, February 14, 1991, at 8:00 a.m. in Conference Room 1 of the Engineering Building. The following highlights of the meeting do not address the specific updates presented for inclusion to the schedule.		
1.	J. Johnson gave a brief update of Bin Prep Task Force activities. o The Waste Characterization Plan has been distributed. Implementation of the plan will be impacted by the RCRA Part B submittal activity. The extent of that impact is unknown. o State approval of the Waste Analysis plan is not included in the schedule for readiness to ship waste to the WIPP. The impact could be considerable. o The approval of the RCRA Part B submittal could take up to 2 years. However, that approval is not needed in order to ship waste to WIPP. o ANL West has advised DOE of their intent to shutdown the Waste Characterization effort on 2/18/91 unless budget is provided to continue the effort.		

Item Number		Action By	Date
2.	J. J. Garcia briefly reviewed the success of the last two weeks effort on the ISC schedule. The negative float has been reduced from -45 days to -24 days with a continuing effort to improve still further. Making this change realistic will require sustained effort and excellent interfacing among all parties.		
3.	J. Lee reported that he had met with WID senior managers to discuss the need for a Test Program QAPP. No one supported that concept. WID's senior managers conclude that the current QA program adequately covers the activities associated with the Bin-Scale Test Program. J. Lee will develop a white paper documenting WID's position vis-a-vis the QAPP issue. L. Fitch is attending a meeting sponsored by DOE Headquarters on 2/15/91 in which he will air this issue with DOE personnel. Action: J. Lee by 2/28/91.		
4.	The commitment by V. Daub to sponsor the development of a DOE directive to the generating sites to ship waste to WIPP only on the condition that they are willing to receive it back was discussed. D. Blackstone stated that J. Lippis has described three possibilities for unacceptable waste received at WIPP. 1. Return the bin to the generating site. 2. Repair any damage to the bin and clean it up. 3. Store the bin as derivative waste. The discussion centered on the fact that only acceptable waste should be allowed to remain on site. J. Johnson will pursue this issue and report at the 2/21/91 meeting. Action: J. Johnson by 2/21/91.		
5.	C. R. Kelley stated that he intends to sponsor a site specific review of the TRAMPAC on Friday 2/15/91 at WOIC. He has requested that IT be represented at the review meeting. He also intends to give the TRAMPAC to the WACC on 2/19/91 for their review. It is still intended that the ISC will not require an approved TRAMPAC. The ISC will be conducted in accordance with the draft TRAMPAC.		

Item Number		Action By	Date
6.	The third bin with the new T/C arrangement is due for delivery to WIPP today. The first two bins have already been shipped to INEL. D. Blackstone requested that no action be taken with this third bin until V. Daub has acted on its disposition. D. Blackstone will address this issue with V. Daub. Action: D. Blackstone by 2/21/91.		
7.	D. Mackney reported that he intends to start field validation of procedures on Monday 2/19/91. The majority of procedures should be approved by 3/1/91. The first Plant Safety Review Committee (PSRC) meeting will be conducted next week.		
8.	D. Blackstone reported that A. L. Trego and W. Weart have reached an agreement with respect to the turn over of equipment from SNL to WID. S. A. Orrell is tasked with drafting a letter describing the turnover arrangement. J. J. Garcia cautioned that some of the SNL equipment will require maintenance that WID is neither equipped nor staffed to accomplish. Some calibration equipment is also located in Albuquerque. D. Blackstone stated that A. Orrell's draft letter is past due. He will contact A. Orrell as a follow-up. Action: D. Blackstone by 2/21/91.		
9.	Investigation by Health Physics of the VCR sintered filters is to start on 2/19/91.		
10.	R. J. Rodriguez described memos from P. Gregory and R. Kehrman addressing the following issues: salt contamination of the SWB and its cleaning; TRUCON codes for flexible hoses and kevlar filters in SWBs; flammable gas sampling on the surface; VOC charcoal filter requirements on the surface and VOC sampling requirements in the WHB. C. R. Kelley stated that it is his intent to wipe down SWBs to remove salt contamination and then use the SWBs as clean containers for shipping bins. J. J. Garcia requested that C. Kelley meet with him separately to discuss this plan of action in more detail. Action: J. J. Garcia/C. R. Kelley by 2/21/91.		

Item Number		Action By	Date
11.	J. J. Garcia stated his position that development of the bin assembly mock-up and the bin assembly interface drawing have satisfied the intent of the integrated design review requested by W. Walker last Fall. Currently, a requirement for a design review chaired by E. K. Hunter and incorporating a new scope is to be scheduled by 3/2/91. J. J. Garcia will discuss closing of the previous commitment with E. K. Hunter. Action: J. J. Garcia by 2/21/91.		
12.	Argon purge equipment readiness is pending resolution of proper pressure regulators to use on Argon, Nitrogen, and Air. J. J. Garcia also requested that gas bottles be orificed to limit gas flow rate to the capacity of the solenoid operated valves. Action: D. Brewer by 2/21/91.		
13.	R. J. Rodriguez reported that H. Mashaw has been assigned the RWHE responsibility for addressing Radiation Assessment Filters (RAF). H. Mashaw has identified a 47mm filter holder that will meet the Helium leak criteria. He has also identified a 293 mm filter holder that might be suitable for the O_2 Gettering and Gas Purge operations. The schedule information relative to this equipment will be added to the ISC schedule as it becomes available. Action: R. J. Rodriguez by 2/21/91.		
14.	K. Kirkes and R. Beerman were asked to determine what was driving the following task analyses into a negative float: o Conversion of SWB to RCB 45ISCP8780 -7 days o Room 1 VOC Air Sample 45ISCP9030 -24 days Action: K. Kirkes and R. Beerman by 2/21/91.		

MEETING MINUTES

Item Number		Action By	Date
	The following commitment actions were reviewed and updated as indicated.		
1.	Work out issue of turnover of equipment in a smaller group meeting. J. Carr will check with V. Daub and set up a meeting by 9/7/90. D. Blackstone will follow-up on status by 9/28/90. Meeting tentatively scheduled for 10/10/90. This issue remains open pending D. Blackstone's conferring with SNL regarding Halverson to Daub letter WD:90:01424, TURNOVER OF SNL PROCURED EQUIPMENT TO WID, dated 10/03/90.	V. Daub D. Blackstone	Open
2.	L. Porter reported that P. Gregory has been asked by Publications and Procedures to provide criteria governing how much salt contamination a SWB can have for loading into a TRUPACT-II. This raised the issue of whether or not a bin would be placed into a clean SWB upon retrieval. HP does not support the additional exposure and risk of dropping the bin filters during this transfer operation. C. R. Kelley will confer with HP and resolve this issue. Action: C. R. Kelley by 1/17/91. R. J. Rodriguez will follow-up with P. Gregory to submit the letter by 1/31/91.	R. J. Rodriguez	Close
3.	C. R. Kelley raised the issue that the technique and equipment for drawing a gas sample on the surface from a bin is not established. During the discussion, attendees who have participated in Bin Prep Task Force meetings agree that WIPP is to use the same technique as is being used at the Generating Sites. D. Brewer is to obtain an answer as to what technique is to be used and who is responsible for providing the equipment and procedure. In a previous ISC meeting, A. Orrell stated that L. Storz is responsible for the WIPP/Generating Site(s) gas sampling and analysis coordination. Action: D. Brewer by 1/24/91. A Bin-Scale Test QAPP is required. Responsibility is to be established by the Bin Prep Task Force according to J. Ferguson on 1/31/91.	J. Ferguson	Close
4.	L. Porter reported that he and D. Kump were investigating the use of various filter mesh sizes in addressing the resolution to assessment filters for the one-half inch lines on the bin assembly. Action: L. Porter report results by 1/31/91. Start 2/19/91.	L. Porter	Open

Item Number		Action By	Date
5.	J. Ferguson stated that the Bin Prep Task Force has determined that a specific QAPP for the Bin-Scale Test Program is required. Yet to be resolved is who is responsible for writing the QAPP and providing the schedule for its development. J. J. Garcia stated that the QAPP will be required for the ISC. This could represent a significant impact on implementing the ISC. Pending resolution of this issue, it will be carried on the commitment list as an open item. Action: J. Lee will determine the validity of the requirement by 2/16/91.	J. Lee	Close
6.	A. Orrell stated that C. R. Kelley will have equipment and technical information for installation of the thermocouples and eight pair cable by 2/25/91. Action: S. A. Orrell by 2/25/91. Possibly close by 2/20/91.	A. Orrell	Open
7.	If a bin is found to be unsuitable for placing into operation, it will be returned to the GS. DOE will issue a directive to the Generating Sites not to ship any bin to the WIPP unless the GS is willing to accept return of the bin. Action: V. Daub by 1/28/91.	V. Daub	Open
8.	A discussion regarding the required leak rate check which needs to be conducted in the underground resulted in A. Orrell committing to provide a decision on this matter at the 2/7/91 ISC Progress meeting. Action: S. A. Orrell by 2/7/91.	A. Orrell	Open
9.	S. A. Orrell stated that the equipment and the procedure pressurizing a bin prior to placing the bin into operation will be provided by 3/1/91. Action: C. Kinabrew by 3/1/91.	C. Kinabrew	Open
10.	R. J. Rodriguez stated that R. Kehrman committed to write a memorandum to J. J. Garcia by 2/14/91 that will make the following positions clear: o There is no requirement to take a gas sample from a bin on the surface at WIPP prior to emplacing the bin in the underground.	R. Kehrman	Close

MEETING MINUTES

Item Number		Action By	Date
10.	(Continued) o There is no requirement to provide for a charcoal filter to absorb VOC from a bin while on the surface. o There is no requirement to have a VOC sampling system in support of the SWB Vent Hood System. Action: R. Kehrman by 2/16/91.		
11.	J. J. Garcia asked DOE if the Bin Assembly Mockup satisfied the requirement for an integrated design review. B. Bower stated that a separate meeting should address that subject. Subsequent to the meeting, it was determined that an integrated design review using the mockup would be accomplished. Kent Hunter will chair that review. He will also schedule the review. Action: K. Hunter by 2/23/91.	K. Hunter	Open
12.	A. Orrell stated that the Helium Leak Tightness Test will be included in the resolution of the questions related to the hookup of modules to the Instrumentation Interface Board. He requested that the Helium Leak Tightness Procedure be added to the procedure list. Action: D. Mackney by 2/16/91.	D. Mackney	Close
13.	L. Frank stated that in accordance with EPA Compendium Method TO-14, the SIS VOC sampling equipment will have to undergo cleaning and certification by a laboratory prior to initiating sampling. She stated the current schedule is to have the sub-contract award for procurement of analytical services be made by 2/28/91. Action: L. Frank by 2/28/91.	L. Frank	Open

WP 15-7, The Operations Procedures Writers' Guide for the Waste Isolation Plant provides instructions for the preparation of WID operating procedures NOT covered by WP 15-101, Preparing, Reviewing, and Canceling Procedures. All of the ISC procedures developed for the WHO, Analytical Laboratory, and VOC Monitoring Group were prepared using WP 15-7.

The purpose of WP 15-7 is to provide consistency and user friendliness. WP 15-7 also establishes the standard outline and content descriptions for various types of procedures. The standard content descriptions should be considered the minimum requirements.

The following documentation was used in development of WP 15-7.

Baseline Documents

- INPO 85-003, Alarm Response Procedures
- INPO 85-017, Rev. 1 of 1988, Guidelines for Conduct of Operations at Nuclear Power Plants
- INPO 85-026, Writing Guideline for Maintenance, Test, and Calibration Procedures
- INPO Good Practice OP-214, (INPO 87-003) of April 1988, Independent Verification

Referenced Documents

- Drawing 412-X-001-W, OSR Related Equipment
- WP 02-9, Final Safety Analysis Report, Section 3.1.7.1, and Table 3.1.8
- WP 15-101, Preparing, Revising, Reviewing, and Canceling Procedures
- WP 15-105, Forms Control
- WP 15-701, Review and Approval of WID Operations Procedures

The procedures were formatted with margins, headers, footers, step numbering, use of warnings, cautions, and notes, the mechanics of style, and definitions of key words and acronyms as required by WP 15-7. The procedures used by the technicians and supervisors in the field were grouped as NO procedures. NO procedures provide instructions for the directing the operation of systems and components under normal conditions. Normal includes those configurations and alignments for which the system or component was designed and which are expected to occur on a routine basis.

The content of NO procedures consist of the following sections:

1.0 Purpose and Scope

The Purpose describes the function, goal, or desired results of the procedure.

The Scope describes the area of responsibility or the limitations placed on the purpose (i.e. the bins received during the initial test phase of the WIPP). The Scope is generally defined by the procedure title, number, and responsible group as stated in the procedure header.

2.0 References

There are two types of references documented. Baseline documents contain a listing of all specific references used to develop and maintain the procedure. Referenced documents contain a listing of all specific procedures or documents referenced in the procedure.

3.0 Definitions

This Section is used to define specific (non-standard) meanings of terms as required.

4.0 Equipment List

This section is used to list that equipment specific to the performance of the procedure that is NOT installed OR normally located in the area of procedure performance (i.e. overhead cranes, tool boxes). The Section is broken into subsections as applicable: Measuring and Test Equipment, Special Test Equipment, Replacement Parts, Consumable Materials.

5.0 Precautions and Limitations

Precautions and Limitations are directed at those items that are NOT covered by Conduct of Operations, normal safety practices as defined in the Safety Manual, OR normal radiological practices as defined in the Radiation Safety Manual. The precaution OR limitation should be one that is essential to be followed during the entire course of performing the actions of the procedure. Those items that are specific to individual steps in the procedure should be addressed as a caution, warning, OR note in the body of the procedure prior to the applicable step.

6.0 Initial Conditions

Those conditions that are required to be met prior to performance of the procedure. These include requirements for notifying individuals of their presence in aiding in the performance of the procedure, obtaining proper forms or other documentation, operability of sub or supporting systems, OR completion of other procedures.

7.0 Procedure

The body of the procedure contains those steps that will complete the stated purpose of the procedure. The steps are written as action statements to be performed by the operator, technician, OR supervisor of the cognizant organization. Additional steps may require the cognizant group to request outside organizations to perform functions that support the procedure. These supportive steps are actions controlled by the outside organizations own procedures (i.e., security releasing a TRUPACT-II Trailer from the Security Trap).

The level of detail of the step is sufficient to clearly describe the process, function, AND/OR the process interfaces. The language is clear and concise using the terminology identified by manufacturers or engineering design. The user of the procedure should be able to perform the function without further supporting data from persons or documentation NOT specified within the procedure.

ALL information is presented in sequential order. ALL steps are to be performed in order as required by the Conduct of Shift Operations, unless otherwise specified in the procedure. Placekeeping aids are provided as determined necessary by the cognizant organization. Signoffs for initials OR signatures are identified for critical steps OR Hold Points and Independent Verifications. These signatures may be established in the body of the procedure OR may be consolidated on a separate form for ease of record keeping, as required by the cognizant group.

8.0 Review

The Review Section provides instruction to ensure the data/records developed are properly examined.

9.0 Records

This Section identifies the permanent OR nonpermanent records developed as a result of performing the procedure. The record is called out and is assigned to a responsible organization (normally the cognizant organization). Non-permanent records are further defined as to their required retention and storage location. The final validator for records sent to the MRC is identified. The RIDS that identifies the record is also noted.

Signatures that are obtained during the performance of the procedure are required to be identified by printed name, signature OR initials as used in the procedure, and the date. The space for recording this information is found in the Records Section if the signatures/initials appear in the body of the procedure, OR is found at the end of the Form used to record the data signatures/initials.

Attachments

Attachments are added to the procedure to provided aids to the procedure user such as figures or tables, brief system descriptions, or to provide examples of the forms to be used in the performance of the procedure. Illustrations, figures, or drawings provided are to refresh operator familiarity with component identification, and ARE NOT intended to replace Engineering design drawings. The forms are constructed as needed to properly document actions performed or data obtained during procedure performance.

APPENDIX E
INTRODUCTION

Appendix E is a record of individual comments identified by the internal observer group during the conduct of the ISC. The primary function of these observers was to witness the ISC activities and make judgements with respect to technicic n compliance to safe industrial and radiological operating conditions, compliance with operating procedures, the extent to which the procedures adequately addressed the required tasks, and training adequacy.

Observer comments were presented to the ISC Scheduling Group on a daily basis for their review and disposition. Responsibility was normally assigned to a group member for accountability. Those comments which have a documented ACTUAL date are closed. Those comments which remain open are being manage outside the ISC program. This apppendix reflects the status of closure as of July 31, 1991.

1. COMMENT: WP 05-WH1910, BIN EQUIPMENT CONNECTION, has no precautions regarding the maximum compression or stretch of the flexible tubing. Information previously provided to Waste Handling Operations (WHO) was 20% compression and 50% stretch. Flexible tubing is primarily susceptible to torsional damage. Questioning of some Waste Handling Technicians (WHTs) indicates that this information may not have been sufficiently provided to them.

   RESOLUTION: Include in required reading and WHT briefing.

   RESPONSIBILITY: C. R. Kelley

   COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/16/91

2. COMMENT: WP 05-WH1910 does not provide any guidance for the installation of grounding pig tails to the instrumentation modules installed on the Instrumentation Interface Board. Operator had difficulty installing a washer over the pig tail and, therefore, left it off.

   RESOLUTION: Procedure will be updated via a Procedure Change Notice (PCN). PCN 0004 issued.

   RESPONSIBILITY: D. Mackney

   COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/15/91

3. COMMENT: Current underground Radiological Control Boundary (RCB) configuration does not provide for realistic interferences from adjacent RCBs which may impose access restraints not fully recognized or accommodated by the current ladder configuration.

   RESOLUTION: Enhance the ladder design for bin access. Not required for Integrated Sytems Checkout (ISC).

   RESPONSIBILITY: J. J. Garcia

   COMPLETION DATE: SCHEDULED: 9/3/91 ACTUAL: -------

4. COMMENT: Step 7.2.3 of WP 05-WH1910 has a typographical error identifying valve GR-5 and GR-12.

   RESOLUTION: Correct procedure via PCN.

   RESPONSIBILITY: D. Mackney

   COMPLETION DATE: SCHEDULED: ------- ACTUAL: 7/12/91

5. COMMENT: WP 05-WH1910 has no specific direction for where to precisely connect to the Volatile Organic Compound (VOC) block manifold. The Waste Handling Supervisor (WHS) stated that the WHTs have been instructed to con-

nect bottom RCBs to bottom of the VOC block and top RCBs to top of the VOC block.

RESOLUTION: No requirement to specify exact location. Issue is closed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: -------- ACTUAL: 7/12/91

6. COMMENT: Form 2138 was initialed by the WHT after completion of the entire procedure instead of as the steps were completed.

RESOLUTION: WHTs were counseled on the Conduct of Operations requirements for sign off as steps are completed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: -------- ACTUAL: 7/12/91

7. COMMENT: Step 7.4.5.3 should have SIGN-OFF REQUIRED block added for consistency.

RESOLUTION: D. Mackney will determine the need to address this comment. PCN-004 issued to include the comment.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/15/91

8. COMMENT: A set of Bin Assembly Drawings and a P&ID should be made available in Room 1.

RESOLUTION: Controlled drawings are available in the underground WHO field office. This issue is closed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: -------- ACTUAL: 7/15/91

9. COMMENT: Identified broken TRUPACT-II U-bolt tie down.

RESOLUTION: Quality Assurance (QA) issued Nonconformance Report (NCR). NCR 91-034.

RESPONSIBILITY: W. Chiquelin

COMPLETION DATE: This is a long term assignment.

10. COMMENT: Step 7.4.15 on the data sheet of WP 05-WH1011, TRUPACT-II UNLOADING, should be Step 7.4.13.

RESOLUTION: Typo has been corrected.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: ------- ACTUAL: 7/11/91

11. COMMENT: Independent verification step should be added after step 7.1.12 of WP 05-WH1901, BIN HANDLING, to check that the proper spacer is used for the bolt being used to attach the lift fixture to the Standard Waste Box (SWB) lid. Also, should check for at least four thread engagements.

RESOLUTION: A procedure PCN has been issued addressing this issue.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: ------- ACTUAL: 7/12/91

12. COMMENT: Step 7.1.4 of WP 05-WH1011 was performed before step 7.1.5. (The forklift pockets were removed before the tiedowns were released.)

RESOLUTION: WHTs were counseled on the Conduct of Operations requirements. This issue is closed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ------- ACTUAL: 7/12/91

13. COMMENT: Is step 7.4.16 of WP 05-WH1011 required? Step 7.5.11 duplicates 7.4.13. Procedure possibly needs clarification.

RESOLUTION: This is not an issue. The duplication is appropriate for the activity described.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ------- ACTUAL: 7/15/91

14. COMMENT: In procedure WP 05-WH1901, BIN HANDLING, the filter cradle was lifted in place and the plug disconnected at step 7.1.35. However, it wasn't connected until step 7.1.46.

RESOLUTION: This is not an issue. The procedure is correct.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ------- ACTUAL: 7/15/91

15. COMMENT: Step 7.1.45 of WP 05-WH1901 is redundant to step 7.1.43.

RESOLUTION: This is not an issue. Procedure is correct.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ------- ACTUAL: 7/15/91

16. COMMENT: It is not clear from WP 05-WH1807, BIN LEAK RATE TEST, if it is okay to proceed to step 7.3 before the 4-hour stabilization ends.

RESOLUTION: This is not an issue. Procedure is correct. WHT must wait 4 hours.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ------- ACTUAL: 7/15/91

17. COMMENT: In WP 05-WH1901, step 7.1.11 requires lowering of the lid, but the caution statement for avoiding damage to the vent hood doesn't appear until step 7.1.12.

RESOLUTION: Not an issue. Precaution is in the proper location.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ------- ACTUAL: 7/15/91

18. COMMENT: Safety issues associated with surface and underground activities:

- Personnel barring down TRUPACTs to release tie downs need gloves.

  RESOLUTION: All WHO personnel are issued gloves.

- Forklift with TRUPACT was backing without a spotter.

  RESOLUTION: No spotter is required when backing with a TRUPACT.

- Tripping hazard is excessive when using Vent Hood in place.

  RESOLUTION: WHTs are aware of the hazard and are under on-site supervision.

- Power Tool should be used when removing SWB lid bolts.

  RESOLUTION: Comment noted. New power tool is on order. However, Conduct of Operations does not require use of a power tool.

- Should preform the thermocouple wires before installation.

  RESOLUTION: This is not an issue. Preforming is not appropriate for this task.

18. (continued)

- 13 ton forklift needs a seat belt.

  RESOLUTION: Not an issue. Forklift has a cab and a safety seat.

- Forklift should have reference marks to eliminate need for the driver to stand up to check clearance.

  RESOLUTION: Too many variable operating conditions to make reference marks reasonable. C. R. Kelley.

- QA was inside the Radiological Materials Area Control Area (RMACA) without a hard hat while the crane was operating.

  RESOLUTION: QA personnel will be counseled by M. Trefren on 7/15/91.

- ACGLF trailing cable was left laying on the floor creating a tripping hazard.

  RESOLUTION: Comment noted. Personnel are aware of the hazard and cable on the floor is a standard practice.

- Has the Safety Department approved the ladders being used by WHTs to access the bin assemblies?

  RESOLUTION: Yes. C. R. Kelley

- WHTs are holding the power wrench by the body of and not by the handle only to remove bolts.

  RESOLUTION: The WHM has deleted the use of a power tool under the Vent Hood. He has also ordered a more appropriately configured power tool.

- Lighting at the miniaturized integrated leak rate test (MILRT) work station is inadequate.

  RESOLUTION: G. Buchanan will take a light survey of the area on 7/15/91 and report results and requirements.

  RESULTS: Lighting levels vary from 0.75 to 5.0 footcandles. Safety Department requirements for this area is a minimum of 20.0 footcandles.

  ACTION: C. R. Kelley initiated a Plant Work Request (PWR) to correct the lighting condition on 7/16/91. PWR 11598.

18. (continued)

- Lighting at the door switch of the conveyance loading room is inadequate.

  RESOLUTION: G. Buchanan will take a light survey of the area on 7/15/91 and report results and requirements.

  RESULTS: Lighting levels vary from 0.75 to 5.0 footcandles. Safety Department requirements for this area is a minimum of 20.0 footcandles.

  ACTION: C. R. Kelley initiated a PWR to correct the lighting condition on 7/16/91. PWR 11598.

- Why isn't it cooler in the Waste Handling Building (WHB)?

  RESOLUTION: G. Buchanan has contacted K. Eldon to investigate whether or not the Heating, Ventilation, and Air Conditioning System (HVAC) can support additional cooling. Response by 7/18/91. On 7/23/91 it was determined to delete any further action on this comment. The HVAC for the WHB has been tested and qualified.

  COMPLETION DATE: SCHEDULED: _____ ACTUAL: 7/23/91

- Are the MILRT Nitrogen cylinder regulator gages calibrated?

  RESOLUTION: Calibration is not required. C. R. Kelley

RESOLUTION: As identified for each issue.

RESPONSIBILITY: As indicated.

COMPLETION DATE: Indicated where appropriate.

19. COMMENT: The Hold Point at step 7.4.12 of WP 05-WH1011 doesn't correspond with step signoff sheet, Attachment 1.

RESOLUTION: D. Mackney will verify consistency with formal requirements. PCN-0005 issued to correct discrepancy.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/15/91

20. COMMENT: 120 volt Feeder breaker to RCB at position 57 tripped twice when the Varian was powered from it. Electrician checked the circuit and found no loose connections. Varian operated satisfactorily from an alternate 120 volt feeder breaker.

RESOLUTION: Uninterruptable Power Supply (UPS) battery was at a reduced charge state causing excessive current. Battery has been recharged and instructions given to leave it on charge when not in use.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ------- ACTUAL: 7/12/91

21. COMMENT: Leak Test Technician stated that the Varian is designed to remain powered up. Frequent de-energizing may result in trouble obtaining proper calibration.

RESOLUTION: Concern is noted. However, Room 1 configuration dictates that frequent unplugging of the Varian Leak Detector will be necessary. This issue is closed.

RESPONSIBILITY: J. J. Garcia

COMPLETION DATE: SCHEDULED: ------- ACTUAL: 7/15/91

22. COMMENT: Lab should have a check sheet to assure that any sample manifold released to WHO has been properly assembled, cleaned, leak checked, and released with the proper form. The Water Vapor Manifold did not have Radiological Assessment Filters (RAFs) and did not pass a leak check.

RESOLUTION: D. Mackney will assign R. Albright to contact R. Bisping and resolve this issue. Special tag will be placed on the manifold certifying cleanliness, leak tight, and proper assembly.

RESPONSIBILITY: R. Bisping/D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/16/91

23. COMMENT: A Helium bottle should be placed on the Varian cart to reduce bottle handling.

RESOLUTION: Not a requirement. Additional bottle will be addressed as an enhancement.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: Not required ACTUAL: --------

24. COMMENT: The Training Department teaches that when installing VCR fittings, the fitting should be tightened one flat beyond hand tight (1/8-1/6 turn). The WHM stated that his direction to WHTs in 1/8-1/4 turn beyond hand tight.

RESOLUTION: Verify that training meets the VCR technical specifications. WHM will cover requirements in WHT briefing.

RESPONSIBILITY: S. Cassingham/C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/16/91

25. COMMENT: Step 6.3 of WP 05-WH1806, BIN SAMPLING, should be clarified that the gage reading should be $\geq$ 22 inches Hg vacuum.

RESOLUTION: D. Mackney will review the procedure and determine the need for action. PCN-0101 issued to correct problem.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/15/91

26. COMMENT: The handling of the used VCR gaskets should be more disciplined. Recommend that used gaskets be placed in a plastic bag for disposal and not permitted to lay adrift.

RESOLUTION: The WHM will address the Conduct of Operations principle in briefings with the WHTs.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/16/91

27. COMMENT: WP 05-WH1806 specifically identifies the LTT (Leak Test Technician) to perform functions inside and outside the RMACA. Recommend deleting reference to the LTT or provide in the procedure authorization for the LTT to utilize the WHT to assist in performance of the leak test.

RESOLUTION: This clarification to the procedure is not required for the ISC.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 9/3/91 ACTUAL: --------

28. COMMENT: A recently assigned WHT made up VCR fittings in the presence of a qualified WHT. A check of the new WHT's training and qualification records indicates that he has not been qualified to make up VCR fittings nor has he had any training to do so.

RESOLUTION: Comment was noted and WHM counseled WHTs on Conduct of Operations requirements.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: -------- ACTUAL: 7/12/91

29. COMMENT: WHTs should be provided with spare male-to-male and female-to-female fittings to preclude having to makeup and take down the Varian connection.

RESOLUTION: Enhancement not required for ISC. Additional spares are available to the underground.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: -------- ACTUAL: 7/15/91

30. COMMENT: The Cognizant Test Engineer (CTE) has not received the Declaration of Readiness signed by the chairman of the Readiness Review Board (RRB) to proceed with the ISC.

RESOLUTION: The CTE has received the Conditional Declaration to start internal ISC (I) but no Declaration to start the external ISC (I).

RESPONSIBILITY: J. J. Garcia

COMPLETION DATE: SCHEDULED: 7/16/91 ACTUAL: 7/17/91

31. COMMENT: Calibration of many of the components on the Baseline Reference Bins and on TBX-07 will expire during the week of 7/15/91.

RESOLUTION: Sandia National Laboratories (SNL) will tag the affected components and identify the NCR which authorizes continued use beyond the calibration due date.

RESPONSIBILITY: S. A. Orrell

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/17/91

32. COMMENT: WP 05-WH1806 provides no instructions as to what action should be taken if a leak rate requirement cannot be met.

RESOLUTION: Procedure is satisfactory as written.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: -------- ACTUAL: 7/15/91

33. COMMENT: Page 9 of Equipment Log 74-H-010 Forklift has a deficiency noted, but no corrective action taken. Supervisor is not signing all sheets.

RESOLUTION: Comment is noted. Supervisor is not required to sign every day. Issue is closed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: -------- ACTUAL: 7/15/91

34. COMMENT: The pressure relief system on the MILRT may not be adequate. There appears to be only one relief valve on the inside of the box which could be considered a single point failure. There is no protection for the worker if a failure occurs in the manifold or tubing and no secondary protection for the bin if the check valve fails.

RESOLUTION: The regulator is also equipped with a relief valve. Issue is closed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: -------- ACTUAL: 7/15/91

35. COMMENT: A white board should be installed and annotated to indicate what procedure is in progress. This will assist personnel viewing the video tapes in the future.

RESOLUTION: Install a white board adjacent to the RCB being exercised.

RESPONSIBILITY: D. Ripley

COMPLETION DATE: SCHEDULED: 7/12/91 ACTUAL: 7/12/91

36. COMMENT: Procedures available to the observers were not as current as the copies available to the WHTs. Observers had Rev 0 with PCNs 1-3. WHTs had Rev 1 of WP 05-WH1811, TRACER GAS INJECTION.

RESOLUTION: It is not required to maintain observer copies of procedures current with WHTs.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: -------- ACTUAL: 7/15/91

37. COMMENT: Step 7.2.31 of WP 05-WH1811 requires shutting down the Varian. QA (LTT and LTS) would like the procedure changed to leave the decision up to the LTT.

RESOLUTION: D. Mackney will review the validity of this comment. PCN-0101 issued to delete the step.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/15/91

38. COMMENT: Step 7.2.3 of WP 05-WH1811 when requiring closed verification uses the phrase "...attempting to position the valve." This might be interpreted to attempt to open and then close the valve. Wording should be clarified to assure that when verifying a valve to be closed, it is not to be cracked open and then reclosed.

RESOLUTION: The procedure will be changed to delete the phrase via a PCN. PCN-0101 issued to delete the phrase.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/15/91

39. COMMENT: All copies of WP 05-WH1810, ROUTINE BIN MONITORING, in observers handbooks are missing page 10.

RESOLUTION: D. Mackney will issue copies of page 10 for the observer's handbooks.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/16/91

40. COMMENT: WP 05-WH1810 requires that Waste Isolation Division (WID) and SNL management meet, evaluate and make a decision regarding continued bin operation for a contamination incident on an operating bin. The drill scenarios stopped well short of this requirement. How are external observer questions regarding this action to be addressed?

RESOLUTION: R. Kuginskie and D. Mackney will review WH1810 to determine what, if any, changes are necessary. Question is to be addressed that the NRB will act upon recommendation(s) provided by the technical managers from WID and SNL in determining disposition of an affected bin. PCN has been issued to the procedure.

RESPONSIBILITY: R. Kuginskie/D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/16/91

41. COMMENT: During removal of the contaminated sampling manifold, the open ends of the manifold are not capped to prevent any additional contamination spread during the bagging of the manifold.

RESOLUTION: Contaminated ends should be capped. Health Physics Technicians (HPTs) are aware of this. This issue is closed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ------- ACTUAL: 7/15/91

42. COMMENT: The chain of custody isn't very clear and is not a traceable system.

RESOLUTION: Procedure WP 12-AD3014 has been approved and issued to address the chain of custody requirements. This issue is closed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ------- ACTUAL: 7/15/91

43. COMMENT: A contaminated piece of equipment should be doubled bagged at the RMACA prior to releasing it to HP CONNEX. Sharp edges and points on the equipment should be cushioned prior to bagging the equipment.

RESOLUTION: R. Boyer stated that all contaminated waste will be double bagged before it leaves the immediate work area.

RESPONSIBILITY: R. Boyer

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/17/91

44. COMMENT: Leak Test Technicians and "others" do not have qualifications to operate compressed gas bottles.

RESOLUTION: S. Cassingham stated that compressed gas bottle training is not a site requirement. M. Trefren stated that as of 7/15/91, WHTs and three QA Technicians will have completed the training.

RESPONSIBILITY: S. Cassingham/M. Trefren

COMPLETION DATE: SCHEDULED: -------- ACTUAL: 7/15/91

45. COMMENT: The valve on the Tracer Gas Syringe is not human factored. There is no open or closed indication.

RESOLUTION: This is not an issue. WHT experience with the syringe correct the concern.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: -------- ACTUAL: 7/15/91

46. COMMENT: Change steps 7.5.2 and 7.5.7 of the VOC Change of Custody Procedure to eliminate the requirement to sign on a specific line and simply require a signature "on the next available signature line".

RESOLUTION: Leave as is. The VOC Technician has been counseled to assure that he signs the steps as prescribed by the procedure.

RESPONSIBILITY: R. Bisping/D. Mackney

COMPLETION DATE: SCHEDULED: 7/18/91 ACTUAL: 7/22/91

47. COMMENT: WHT missed turning off the circulator (step 7.52 of WP 05-WH1801, OXYGEN GETTERING). The step is at the very bottom of the page below the required 1 inch bottom margin.

RESOLUTION: Repaginate the procedure to provide an adequate margin at the bottom of the page.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: Incorporate in Revision 1 by 9/3/91

48. COMMENT: WP 05-WH1801, OXYGEN GETTERING, does not prescribe the depressurization of the compressed gas regulators upon completion of oxygen getting a bin.

RESOLUTION: Change the procedure via a PCN to depressurize the regulators.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/23/91 ACTUAL: 7/24/91

49. COMMENT: During the Oxygen Gettering exercise, the large one inch flexible hoses fell on two occasions. The first occurred after removing one hose from the storage T and unbalancing the remaining hoses on the J-hook. The second fall put a sudden stretching stress on the 2 foot flexible tubing to OG/AP-2.

RESOLUTION: Provide direction to the WHT to secure the hoses to preclude their falling or stressing the flexible tubing. Provide additional physical restraints for hoses.

RESPONSIBILITY: C. R. Kelley/D. Schoen

COMPLETION DATE: SCHEDULED: 8/15/91 ACTUAL: _____

50. COMMENT: During installation of the grounding strap from the bin to the RCB on the surface for TBX-05, the fastening bolt would not fix the grounding lug tightly.

RESOLUTION: NCR 91-036 was written to document the condition and develop an approved disposition.

RESPONSIBILITY: J.J. Garcia/C.R.Kelley

COMPLETION DATE: SCHEDULED: 7/18/91 ACTUAL: 7/18/91

51. COMMENT: TB-001 leaks and will not maintain pressure to permit the Data Acquisitioning System (DAS) to be put into a pressure monitoring mode for TBX-05 and TBX-07.

RESOLUTION: Develop NCR 91-037 to document the issue, disposition to isolate the rupture discs and isolate the TB-001 rupture.

RESPONSIBILITY: J. J. Garcia/C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/18/91 ACTUAL: 7/19/91

52. COMMENT: There are a number of issues related to the proper engineering and installation of grounding straps on the bins assembly.

RESOLUTION: Initiate ECOs and PCNs as required to address the proper installation of grounding straps. ECO complete 7/30/91. No PCN is required. C.R. Kelley 7/31/91.

RESPONSIBILITY: Gary Perry/C.R. Kelley

COMPLETION DATE: SCHEDULED: ECOS-7/22/91 PCNS-7/24/91 ACTUAL:7/31/91

53. COMMENT: The wrong compressed gas bottle was used as oxygen regeneration gas on 7/18/91.

RESOLUTION: Identify the proper resolution after further investigation. Briefing was held with WHTs emphasizing the need to assure exercising care when selecting the appropriate compressed gas. All affected procedures will be revised requiring signed off verification that the correct compressed gas was used. PCN for the O_2 Getter was completed 7/22/91.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/26/91 ACTUAL: 7/30/91

54. COMMENT: Inadvertent dumping of data in the MILRT can occur.

RESOLUTION: Develop and implement a PCN to the procedure to provide instructions for retrieving data from the disc using the MILRT computer.

RESPONSIBILITY: M. King/D. Mackney

COMPLETION DATE: SCHEDULED: 8/2/91 ACTUAL: _____

55. COMMENT: The Varian has failed calibration on 7/18/91 and 7/19/91 after transfer from the surface to the underground.

RESOLUTION: Investigate the cause of the Varian failures. Collect any foreign material found in the Varian and submit it to A. Stevens of SNL for analysis. On 7/23/91 it was determined that this issue should be considered closed based upon a commitment for RWHE to develop a leak check specification.

RESPONSIBILITY: M. Trefren

COMPLETION DATE: SCHEDULED: 7/23/91 ACTUAL: 7/23/91

56. COMMENT: Step 7.2 of WP 05-WH1810, ROUTINE BIN MONITORING, should be changed to require that management be informed in the event that a flammable gas mixture is identified.

RESOLUTION: Issue a PCN to WH1810 implementing the suggested change.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/24/91 ACTUAL: 7/23/91

57. COMMENT: The right and left RCB configurations in the underground require right and left hand gas purge manifold configurations in order to accommodate upper and lower RCB access for installation and hook-up.

RESOLUTION: Design and fabricate a right hand configuration of the gas purge manifold.

RESPONSIBILITY: J. J. Garcia/C. R. Kelley

COMPLETION DATE: SCHEDULED: 8/1/91 ACTUAL: _____

58. COMMENT: WP 05-WH1803, ARGON PURGE OF BIN, requires revision to address the purging of an anaerobic bin in order to minimize introduction of oxygen during the purging activity and increasing the rotameter setting to 100 with the steel ball.

RESOLUTION: Redesign the gas purge manifolds and write and issue a PCN to WP 05-WH1803 incorporating the appropriate changes to address the comment.

RESPONSIBILITY: A. Stevens/C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/30/91 ACTUAL: _____

59. COMMENT: The compressed gas purge manifolds need to be human factored and reconfigured to improve operability of the system and access to reading the flow meter.

RESOLUTION: Reconfigure all the compressed gas manifolds to address the comment. Physical work completed on 7/29/91. Completion requires as-builts.

RESPONSIBILITY: D. Schoen/A. Stevens

COMPLETION DATE: SCHEDULED: 8/15/91 ACTUAL: _____

60. COMMENT: The WHT has no consistently available laydown facility to accommodate the staging of bin assembly equipment prior to attaching the equipment to the bin.

RESOLUTION: Provide a table, cart, or other facility to permit laydown of staged equipment.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 9/3/91 ACTUAL: _____

61. COMMENT: Provision should be made to allow the VOC Group Technician to skip step 7.6.12 of WP 12-EM1624, SAMPLE CANISTER HANDLING, if the RAF is determined to be clean. On 7/23/91 it was determined to delete this issue. R. Boyer/D. Kump representing Operational Health Physics stated that swipe surveys should be taken when connections are broken even though the RAF was found clean.

RESOLUTION: The procedure is not appropriate.

RESPONSIBILITY: C. F. Wu/D. Mackney

COMPLETION DATE: SCHEDULED: 7/24/91 ACTUAL: 7/24/91

62. COMMENT: WHO should conduct a exercise to purge a bin to less than 5000 ppm O_2 and then oxygen getter the bin to less than 10 ppm O_2 in accordance with the applicable procedures.

RESOLUTION: Implement the comment.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: Initiate by 7/31/91 ACTUAL: 7/30/91

63. COMMENT: There is no need to use an Alpha 6 radiation detector during purging of a bin in accordance with step 7.1.73 of WP 05-WH1506, BIN SURFACE GAS PURGE.

RESOLUTION: Write and issue PCNs to WP 05-WH1506, BIN SURFACE GAS PURGE and WP 05-WH1507, BIN SURFACE AIR PURGE, removing the requirement to install an Alpha 6 Sampler Head.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 8/15/91 ACTUAL: _____

64. COMMENT: More training for the crane operators is required to assure that they utilize WHTs and HPTs as spotters to enhance operations.

RESOLUTION: WHM brief the WHTs on proper spotting policy. Spotting is not an HPT responsibility.

RESPONSIBILITY: C. R. Kelley/D. Boyer

COMPLETION DATE: SCHEDULED: 7/25/91 ACTUAL: 7/25/91

65. COMMENT: A PCN was generated to WP 05-WH1801 to clarify utilization of the foot pedal pressure control.

RESOLUTION: Implement the PCN.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/23/91 ACTUAL: 7/24/91

66. COMMENT: The assembling of sampling manifolds, relief valve assemblies, instrument strings, tracer gas injection manifolds and all other bin assemblies should be conducted with a detailed signed checklist to assure accuracy and accountability.

RESOLUTION: Develop and implement the appropriate checklists.

RESPONSIBILITY: C. R. Kelley/J. J. Garcia/C. F. Wu

COMPLETION DATE: SCHEDULED: 8/15/91 ACTUAL: _____

67. COMMENT: There is no step in WP 05-WH1811, TRACER GAS ADDITION, to verify that TG-1 is shut.

RESOLUTION: Write and implement a PCN to assure TG-1 is shut. On 7/25/91, after reviewing WH1811, C. R. Kelley determined that the comment in not valid for the condition of initial installation of the Tracer Gas Manifold.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/25/91 ACTUAL: 7/25/91

68. COMMENT: SNL's printed form for tracer gas addition provides a blank for specifying the pressure in filling the gas injection syringe.

RESOLUTION: Re-issue the SNL form with the required 5 psig pressure preprinted.

RESPONSIBILITY: D. Brewer

COMPLETION DATE: SCHEDULED: 7/29/91 ACTUAL: 7/30/91

69. COMMENT: The High Efficiency Particulate Air (HEPA) filter used for depressurizing a tracer gas injection manifold is not listed as special equipment in procedure WP 05-WH1811, TRACER GAS INJECTION.

RESOLUTION: Write and implement a PCN to include the HEPA filter in the list of special equipment.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/25/91 ACTUAL: 7/26/91

70. COMMENT: It was noted that in verifying a shut valve, the WHT momentarily cracked the valve open and then shut it.

RESOLUTION: Re-address the Conduct of Operations policy regarding verifying valve position.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/24/91 ACTUAL: 7/23/91

71. COMMENT: During the Loss of DAS Power drill, the Central Monitoring Room Operator (CMRO) was prompted by the CTE. WP 05-WH1810, ROUTINE BIN MONITORING, requires that the CMRO call the WHS and inform him of the power loss. The CMRO does not have access to WH1810 and does not know of this requirement.

RESOLUTION: Provide a copy of WH1810 to the CMR and assure that the CMRO is familiar with its content.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 8/1/91 ACTUAL: 7/29/91

72. COMMENT: Step 7.2 of WP 05-WH1912, BIN EQUIPMENT REMOVAL FOR RETRIEVAL, should be changed to notify the DAS Shed Operator instead of the DAS operator.

RESOLUTION: Write and implement a PCN to WH1912 to incorporate the comment.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/25/91 ACTUAL: 7/25/91

73. COMMENT: Delete the reference to RAFs in Section 4.1 of WP 05-WH1912 and add a step to cap PR-2 after step 7.57.

RESOLUTION: Write and implement a PCN to include the comment.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/25/91 ACTUAL: 7/30/91

74. COMMENT: WP 05-WH 1080, TRUPACT-II VERIFICATION LEAK CHECKS, should specifically direct WHTs to proceed if acceptance criteria is met.

RESOLUTION: Write and implement a PCN to incorporate the comment at step 3.8. of Attachment 2. No PCN is required. Conduct of Operations addresses this comment. C.R. Kelley 7/30/91

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/26/91 ACTUAL: 7/30/91

75. COMMENT: WP 05-WH1001, TRUPACT-II LOADING, should specifically direct the WHT to clean when necessary.

RESOLUTION: Write and implement a PCN to incorporate the comment as step 5.3. A PCN is not required. The SARP requires cleaning under all conditions. C.R. Kelly 7/30/91.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/26/91 ACTUAL: 7/30/91

76. COMMENT: Should the TRUPACT-II hold-downs be provided with locking devices to enhance their security?

RESOLUTION: The current design does not require locking devices of the TRUPACT-II hold-downs.

RESPONSIBILITY: W. Chiquelin

COMPLETION DATE: SCHEDULED: 7/24/91 ACTUAL: 7/24/91

77. COMMENT: The cause for bending U-bolts on the TRUPACT-II hold downs should be determined.

RESOLUTION: Provide resolution to NCR 91-034.

RESPONSIBILITY: W. Chiquelin

COMPLETION DATE: SCHEDULED: TBD ACTUAL: 7/31/91

78. COMMENT: While torquing bolts on the Outer Containment Vessel (OCV) head in WP 05-WH1080, TRUPACT-II VERIFICATION LEAK CHECKS the extension bar can come apart.

RESOLUTION: The WHM will provide the proper length extension bar and determine if a PCN to the procedure is appropriate. On 7/25/91, C. R. Kelley stated that after review of the procedure and the process, the current tool is sufficient and the issue is resolved.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 8/1/91 ACTUAL: 7/25/91

79. COMMENT: WP 12-EM1603, VOST TUBES AND CARBON BEDS, should identify valves specifically by valve number to assure that the necessary valves are properly positioned.

RESOLUTION: Revise the necessary drawings to put valve numbers on all valves associated with the carbon bed and VOST tubes on the VOC Monitoring System and label the valves. Write and implement a PCN to EM-1603 to incorporate the valve numbers as identification for all valves requiring manipulation.

RESPONSIBILITY: J. Davis/C. Wu

COMPLETION DATE: SCHEDULED: 9/3/91 ACTUAL: 7/25/91

80. COMMENT: During the course of conducting the ISC, a number of observations regarding the operation of the Varian Leak Detector and its impact on underground operations have been made. A leak detector specification should be developed considering these observations and unique conditions in the underground environment.

RESOLUTION: Develop a leak detector specification for equipment to be used in the underground environment which will provide a high degree of reliability with reduced maintenance requirements of those experienced with the current equipment.

RESPONSIBILITY: J. J. Garcia

COMPLETION DATE: SCHEDULED: 8/15/91 ACTUAL: _____

81. COMMENT: During the exercising of the Carbon Bed and VOST Tube changeout procedure it was found that the observers were provided with Revision 0 of WP 05-WH1603 approved by J. Lee on 5/28/91 and the VOC Technician had Revision 0 of WP 12-WH1603 approved by L. L. Reed on 6/21/91. The two procedures had some differences.

RESOLUTION: Determine why two different versions of the same procedure (VOST TUBES AND CARBON BED) signed by two different managers are being made available as the current copies. On 7/24/91, D. Mackney stated that the procedures provided to the observers were outdated. The VOC Technician had the current procedure to conduct the activity.

RESPONSIBILITY: C. Wu/D. Mackney

COMPLETION DATE: SCHEDULED: 7/26/91 ACTUAL: 7/24/91

82. COMMENT: When disconnecting piping during the conduct of WP 12-EM1603, VOST TUBES AND CARBON BEDS, steps should require that the HPT take swipe samples of the tube ends even though the RAF results indicated no radioactivity.

RESOLUTION: The Operational Health Physics Manager stated on 7/24/91 the taking of swipes down stream of an RAF checked to be clean is an HPT option and no strict guidance should be stated.

RESPONSIBILITY: C. F. Wu/D. MACKNEY

COMPLETION DATE: SCHEDULED: 7/26/91 ACTUAL: 7/24/91

83. COMMENT: When disconnecting piping during the conduct of WP 12-WH1603, VOST TUBES AND CARBON BEDS, there is no requirement to put caps over the piping ends to maintain cleanliness.

RESOLUTION: Write and implement a PCN to WH1603 to incorporate the comment. On 7/25/91, R. Bisping stated that after reviewing the circumstances, he did not consider it appropriate to require caps. Use of plastic caps could introduce contamination. The issue is resolved.

RESPONSIBILITY: C. F. Wu/D. Mackney

COMPLETION DATE: SCHEDULED: 8/2/91 ACTUAL: 7/25/91

84. COMMENT: Steps 7.4.8 and 7.4.14 of WP 05-WH1603 refer to Velcro Straps. No Velcro Straps exist on the currently installed VOST Tubes.

RESOLUTION: Complete the installation or write and implement a PCN to delete the reference to Velcro Straps.

RESPONSIBILITY: C. F. Wu/D. Mackney

COMPLETION DATE: SCHEDULED: 8/2/91 ACTUAL: 7/29/91

85. COMMENT: The shipping of samples from the Analytical Lab and the VOC Group should be conducted through the warehouse and not the mail room.

RESOLUTION: The Dosimetry and Analytical Technology Section should make the appropriate changes to procedures WP 12-AL6010 and WP 12-EM1624 to assure that all sample shipments are made through the warehouse with sample identification numbers indicated on the "L" order and the Federal Express shipping papers.

RESPONSIBILITY: C. F. Wu/L. J. Ortega

COMPLETION DATE: SCHEDULED: 7/26/91 ACTUAL: 7/29/91

86. COMMENT: WP 05-WH1806, BIN SAMPLING, should be changed to assure that when collecting the reactive gas sample a minimum of 5.0 liters at <1.0 liter per minute is allowed to pass through the reactive gas sample container. In addition the recorded time of collecting the reactive gas sample should be recorded to the nearest 0.1 minute.

RESOLUTION: Write and implement a PCN to incorporate the comment.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 8/2/91 ACTUAL: 7/31/91

87. COMMENT: Checkout from the Analytical Lab of cleaned, leak checked, certified Sample Manifolds should not exceed 24 hours to assure positive chain of custody control. A secured storage facility should be provided for the Sample Manifolds in the underground.

RESOLUTION: Implement the actions prescribed in the comment through the appropriate procedure changes and/or training and provide secured storage. R. Bisping provide training to the WHTs.

RESPONSIBILITY: C. R. Kelley/R. Bisping

COMPLETION DATE: SCHEDULED: 8/2/91 ACTUAL: 7/31/91

88. COMMENT: The thermal enclosure used for the MILRT should be upgraded to remove the fire hazard represented by the plywood construction and the closure door should be stabilized.

RESOLUTION: Modify the thermal enclosure used for the MILRT to a more permanent configuration.

RESPONSIBILITY: J. J. Garcia

COMPLETION DATE: SCHEDULED: 7/31/91 ACTUAL:_____

89. COMMENT: The rupture discs used for the Mechanical Relief Valves will not meet the required bin leak rate of 1% per month.

RESOLUTION: Identify, procure, and install an alternative device which will meet the required leak rate.

RESPONSIBILITY: J. J. Garcia

COMPLETION DATE: SCHEDULED: 8/2/91 ACTUAL:_____

90. COMMENT: Post emergency numbers and current telephone list at each telephone in the WHB.

RESOLUTION: Obtain the most current telephone list and post at each telephone in the WHB. Also post the appropriate emergency numbers conspicuously adjacent to each telephone. Establish a process to maintain the posted telephone lists current.

RESPONSIBILITY: L. Rencehausen

COMPLETION DATE: SCHEDULED 7/26/91 ACTUAL:_____

91. COMMENT: Bumpers or Stop Blocks are needed to prevent the forklifts from backing into the battery chargers in the WHB.

RESOLUTION: The WHM will issue a PWR for installation of Stop Blocks to address this comment. PWR 11948 issued 7/31/91.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/26/91 ACTUAL:7/31/91

92. COMMENT: The compressed gas bottle regulator assembly on the O_2 Getter Cart extends outside the overhead protection.

RESOLUTION: Reconfigure the oxygen getter arrangement on the cart and develop an ECO to document the change correcting the issue. Cart number 2 was completed on 7/30/91. SNL needs to configure OG-1 like OG-2.

RESPONSIBILITY: J. J. Garcia/A. Stevens

COMPLETION DATE: SCHEDULED: 8/15/91 ACTUAL:_____

93. COMMENT: Due to the close proximity of technicians and the configuration of the loading platform in the WHB, movement of TRUPACT payload, OCV upper assembly, and Inner Containment Vessel (ICV) lid have hazards similar to being under the load if hoist or lift fixture failure occurs. The technicians should be standing a distance from the load that would provide a measure of safety in the event of hoist of equipment failure.

RESOLUTION: Current configuration meets design requirements. Strict enforcement of the periodic testing of the crane and hoisting equipment is an operating policy. Technician supervision is on station during hazardous activities. No additional enhancements are justified. C. R. Kelley

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/25/91 ACTUAL:7/25/91

94. COMMENT: The location and height of the OCV and ICV lid stands with the lids in place is a potential overhead hazard.

RESOLUTION: Move the stands to the south side of the work area. Verify that drawings permit this move.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 8/15/91 ACTUAL:_____

95. COMMENT: The area around the loading dock is crowded and does not provide a clear working area.

RESOLUTION: The overhead crane access limits the available area. No additional action to address this comment is warranted. C. R. Kelley

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/25/91 ACTUAL: 7/25/91

96. COMMENT: Hand tools should be designed for the work being performed. Use a battery powered, 90° impact wrench to remove cover bolts.

RESOLUTION: The WHM is procuring a more efficient tool.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 9/3/91 ACTUAL:_____

97. COMMENT: The WHT was observed wiping his forehead and mouth with the sleeve of his lab coat.

RESOLUTION: The WHTs should be counseled with respect to HP practices and precautions to prevent the spread of contamination to their bodies.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/26/91 ACTUAL:7/31/91

98. COMMENT: When using a ladder, a second person must help secure the ladder.

RESOLUTION: The WHTs should be counseled on ladder safety.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/26/91 ACTUAL:7/31/91

99. COMMENT: When the TRUPACT-II is transported by forklift from the trailer to the dock a spotter is needed on the floor when the TRUPACT is placed in the dock and when the forklift backs away from the dock.

RESOLUTION: Assess the operations, identify when a spotter is needed, and implement policy to assure that a spotter is provided when required.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/25/91 ACTUAL: 7/25/91

100. COMMENT: The tubing and wiring from the Alpha 6 counter to the bin and SWB presents an unnecessary tripping hazard.

RESOLUTION: The Operational Health Physics Manager should address this issue and resolve it. Manager counseled HPTs to caution them on the hazard. No physical changes implemented.

RESPONSIBILITY: R. Boyer

COMPLETION DATE: SCHEDULED: 7/31/91 ACTUAL:7/31/91

101. COMMENT: The extension cord used to provide power to the leak test equipment at the MILRT is a potential tripping hazard. Also the Nitrogen bottle in the dolly is chained to the table leg. This also is a hazard.

RESOLUTION: Correct the hazards described in the comment.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/25/91 ACTUAL: 7/25/91

102. COMMENT: Line supervisors should be trained and qualified to operate all equipment/systems under their cognizance.

RESOLUTION: On 7/29/91, C.R. Kelley stated that the Waste Handling Supervisors have been trained and qualified and that qualification has been documented. The status of training, qualification, and documentation of supervisors for Health Physics, Analytical Technology, Experimental Operations, and VOC Group needs to be addressed. Qualification card for EO supervisors approved and training started 7/31/91.

RESPONSIBILITY: C.R. Kelley/R. Boyer/C.F. Wu/F. Padilla

COMPLETION DATE: SCHEDULED: 7/31/91 ACTUAL: _____

103. COMMENT: Training/practice should be accomplished with representatives from each department that will be involved during the actual activity.

RESOLUTION: Waste Handling Operations training/practice will commmence on 7/30/91. Participation of other departments in this training should be determined and implemented as appropriate.

RESPONSIBILITY: S. Cassingham/R. Boyer/C.F. Wu/F. Padilla

COMPLETION DATE: SCHEDULED: 7/30/91 ACTUAL: 7/30/91

104. COMMENT: Conduct spontaneous exercies during slack time.

RESOLUTION: The WHM will incorporate exercises in the training/practice starting on 7/30/91 and document these exercises on OJT forms.

RESPONSIBILITY: C.R. Kelley

COMPLETION DATE: SCHEDULED: Initiate on 7/30/91 ACTUAL: 7/30/91

105. COMMENT: Provide detailed departmental training that explains how each department is impacted by the activities of another.

RESOLUTION: The training department will implement the concept described in the comment by incorporating material in current training modules and develop modules for those departments which are not participating in the currently available training.

RESPONSIBILITY: S. Cassingham

COMPLETION DATE: SCHEDULED: 9/6/91 ACTUAL: _____

106. COMMENT: Provide supervisors with "response" training (What happens, how they should respond to abnormal situations, who and how are other departments possibly affected, etc.)

RESOLUTION: The currently available Waste Handling Emergencies training course will be revised to address the comment for all abnormal conditions covered in WP 05-WH1810, ROUTINE BIN MONITORING. The course will be given to supervisors of supporting organizations as appropriate to ensure their knowledge is complete.

RESPONSIBILITY: S. Cassingham

COMPLETION DATE: SCHEDULED: 9/6/91 ACTUAL: _____

107. COMMENT: The insertion of embedded or attached drawings and diagrams would greatly enhance each technician's understanding and usage of the procedures.

RESOLUTION: Inclusion of attached drawings and diagrams in procedures is not a standard practice at WIPP. Up to date drawings are available to supervisors and maintained under a separate program not impactive to the procedure maintenance program.

RESPONSIBILITY: J.J. Garcia

COMPLETION DATE: SCHEDULED: 7/29/91 ACTUAL: 7/29/91

108. COMMENT: The ground wiring size for grounding module mounted on the Instrumentation Interface Board is too large. This makes attaching the grounding wire difficult.

RESOLUTION: Replace the number 2 grounding wire with number 8 wire. Develop an ECO to document this change.

RESPONSIBILITY: Gary Perry

COMPLETION DATE: SCHEDULED: 8/?/91 ACTUAL: _____

WIPP OPERATIONS
WASTE HANDLING
BIN SCALE OPERATIONS

CANDIDATE:_____ DATE STARTED:_____

SOC.SEC.#:_____ INITIAL _____ REQUAL _____

APPROVAL: This Qualification Card is approved for use.

K Kuczynski 6/6/91
Deputy Manager, Operations / Date

FORMAT: This Qualification Card has been reviewed and meets format requirements in effect.

S Lowry 6-6-91
Training Manager / Date

GENERAL INSTRUCTIONS:

This Qualification Card is to be completed by all operators prior to operating this equipment without the direct supervision of a qualified operator. Initials must be made by an approved Subject Matter Expert. The initials indicate that the operator trainee has demonstrated satisfactory knowledge and shown the ability to perform the task indicated.

All items must be completed unless deletion is indicated by the Department Manager with initials, date, and reason for each item deleted.

The Qualification Card is divided into the following parts:

A. Required Reading
B. Equipment Practical

This card will normally be retained by the operator trainee until completed. When completed, it must be routed to Training for review, approval, and retention. If completion of this training is specified as part of job position certification requirements the trainee and Training should ensure the certification card requirement is signed as completed.

> Indicates a revision to the text of the qualification card. This indicator will be shown in the left margin, adjacent to the change.

QUALIFICATION LIMIT: This Qualification is valid for two years.

REQUALIFICATION: Competency statements that must be completed during requalification are designated with asterisks (*)

WIPP OPERATIONS
WASTE HANDLING
BIN SCALE OPERATIONS

PREREQUISITES:

1. Completed formal Radiation Worker A Training
2. Completed Compressed Gas Cylinder and Regulator Assembly Hook-Up and Disconn ion OJT.
3. Completed VCR fitting assembly OJT.

_____
Training Coordinator / Date

REQUIRED READING

I have read and understand WP 05-WH1810 Routine Sampling and Monitoring.

_____
Operator Signature / Date

I have read and understand Chapter 10 of the FSAR Addendum.

_____
Operator Signature / Date

	INITIALS	DATE

B. EQUIPMENT PRACTICAL:

NOTE to SMEs: The trainee must satisfactorily complete the associated Job Performance Measures (JPM) listed below and initials and date entered for each. Attach all JPMs to this qualification card when complete.

TASK		SME INITIALS	DATE
* 21	Operate the Digital Humidity Analyzer		
> *06	Perform Bin Leak Test		

I have read the required reading material pertaining to this equipment and understand my responsibilities as an operator. I have received on the job training and can operate the equipment safely and efficiently.

_____
Operator Signature / Date

WIPP OPERATIONS
WASTE HANDLING
BIN SCALE OPERATIONS

I have witnessed the trainee complete this qual card and am satisfied with his/her ability to conduct Bin Scale Operations.

Subject Matter Expert / Date

Approved for equipment operation.

W.H. Operations Manager / Date

This qualification card has been reviewed for completeness and signature verification by a Training Coordinator.

Training Coordinator / Date

JOB PERFORMANCE MEASURE
PERFORM BIN LEAK TEST

NAME (printed) Date

SS# Company/Department/Section

JOB PERFORMANCE: PERFORM BIN LEAK TEST (Task #06)

TRAINING ANALYST: Billy Kirkes (printed name) (signature)

APPROVED: Larry Foster 6/18/91
Technical Reviewer Date

APPROVED: 6-18-91
Training Manager Date

TERMINAL OBJECTIVE
Given that a bin has been placed in an RCB, perform a bin leak rate test using the Mini Integrated Leakage Rate Tester (MILRT).

STANDARDS
1. In accordance with WP 05-WH1807.

REFERENCES
1. Maintenance and Operational Manual for Volumetrics Inc. Model 14652 Mass Leak Detector
2. Bin Leak Rate Test WP 05-WH1807

EQUIPMENT KNOWLEDGE

SME INITIALS

_____ 1. State the function of the thermistors. (Ref. 1)

_____ 2. Describe the location of the Supply Pressure port. (Ref. 1)

_____ 3. State the location of the Test pressure port. (Ref. 1)

EQUIPMENT KNOWLEDGE

SME INITIALS

_____ 4. Describe the location of the Pressure Sensing port. (Ref. 1)

_____ 5. State the location of the disk drive. (Ref. 1)

_____ 6. State the location of PR-1 and PR-2 valves. (Ref. 1)

_____ 7. Explain the actions you should take if the FILL cycle does not stabilize after 15 minutes. (Ref. 2)

_____ 8. State the location of the thermister adjustment knobs. (Ref. 1)

_____ 9. Describe where the adjustment for the channel resistors are located. (Ref. 1)

_____ 10. Explain when you would have to adjust the channel resistors. (Ref. 2)

_____ 11 Describe what is an acceptable leak rate. (Ref. 2)

_____ 12 Explain how to determine if the leak rate is acceptable. (Ref. 1,2)

_____ 13 State the purpose of the reference bottle. (Ref. 2)

_____ 14 State which thermister is connected to the reference bottle. (Ref. 2)

_____ 15. Explain how you obtain the bin volume. (Ref. 2)

_____ 16. State the location of the Bin Block Valve. (Ref. 1,2)

_____ 17. State the location of the Reference Volume and Vent Valves. (Ref. 1,2)

_____ 18. Explain how to abort bin pressurization leak test. (Ref. 2)

JOB PERFORMANCE		CONDITIONS/STANDARDS
SME INITIALS		
_____	06.01 Energize MILRT and Printer.	Power switch depressed

JOB PERFORMANCE		CONDITION/STANDARD
_____	06.02 Place the three magnetic thermistors on the bin.	Three thermistors placed on the center of the bin lid in a line 4 inches apart
_____	06.03 Record MILRT serial number.	Serial number recorded on WP Form 2087
_____	06.04 Record calibration due date.	Calibration number recorded on WP Form 2087
_____	06.05 Connect the thermistor cables to the thermosensor box.	Three thermistor cables connected
_____	06.06 Remove valve cap from nitrogen cylinder.	Cap removed
_____	06.07 Install regulator on cylinder.	Two stage regulator installed
_____	06.08 Adjust regulator to zero output.	Regulator adjustment turned counterclockwise until it moves freely
_____	06.09 Connect hose to nitrogen regulator.	Flexible hose connected to regulator
_____	06.10 Connect other end of hose to SUPPLY PRESSURE port.	Hose connected to SUPPLY PRESSURE port on front of MILRT
_____	06.11 Install PR-1 assessment filter assembly to TEST PRESSURE PORT.	PR-1 filter assembly installed on TEST PRESSURE PORT
_____	06.12 Install PR-2 assessment filter assembly to PRESSURE SENSING PORT.	PR-2 filter assembly installed on PRESSURE SENSING PORT

	JOB PERFORMANCE	CONDITION/STANDARD
_____	06.13 Insert 3.5 inch MILRT floppy disk	Disk inserted into disk drive on front of MILRT
_____	06.14 Press any key.	Any key on keyboard pressed
_____	06.15 Enter current month, day, year and time.	Day, month, year and time entered on keyboard
_____	06.16 Open RCB valves PR-1 and PR-2.	PR-1 and PR-2 valves open counterclockwise
_____	06.17 Open nitrogen cylinder valve.	Valve open counterclockwise
_____	06.18 Adjust nitrogen cylinder regulator output pressure to 120psig ± 10psig.	Regulator pressure adjusted clockwise to 120psig ± 10psig
_____	06.19 Open regulator outlet valve.	Regulator outlet valve open
_____	06.20 Type LT and enter	LT is typed on keyboard and enter key is depressed
_____	06.21 Select FILL from main menu and press enter.	FILL selected using keyboard arrow keys
_____	06.22 Enter bin ID number.	Correct bin ID entered into MILRT
_____	06.23 Press enter key.	Enter key pressed to start pressurization cycle
_____	06.24 Close Bin Block valve.	Block valve closed

JOB PERFORMANCE		CONDITION/STANDARD
_____	06.25 Open Reference Volume and Vent Valves	Valves open
_____	06.26 Press enter.	Enter key pressed to start pressurization cycle
_____	06.27 Press enter.	Enter key pressed
_____	06.28 Close Reference Volume Valve	Valve closed when "press any key to start test" appears on screen
_____	06.29 Close Vent Valve.	Vent Valve closed 10 seconds after closing reference volume valve
_____	06.30 Open Bin Block Valve.	Bin Block Valve open
_____	06.31 Obtain ambient temperature.	Correct temperature reading obtained by temperature measuring device
_____	06.32 Enter temperature value.	Temperature value entered into the MILRT within ± 1 degree F
_____	06.33 Press enter key.	Enter key pressed when display states "ready to start"
_____	06.34 Adjust PRESSURE REGULATOR knob.	FLOW indication shows 3.5 liters per minute ± 0.4 l/m on display
_____	06.35 Press F3 key.	F3 key pressed to obtain printout
_____	06.36 Close nitrogen cylinder valve.	Valve closed after display "Fill cycle is complete"

JOB PERFORMANCE		CONDITION/STANDARD
_____	06.37 Close RCB valve PR-1.	PR-1 valve closed clockwise
_____	06.38 Close thermal enclosure door.	Door closed
_____	06.39 Record stabilization period start time.	Time recorded on WP Form 2087
_____	06.40 Select "Test" from displayed menu.	"Test" selected using MILRT keyboard
_____	06.41 Select "read A/D" and enter	"read A/D" selected from menu and entered
_____	06.42 Read voltage for each channel.	Channel #0, #1, #2, and #3 voltages are indicated on the display
_____	06.43 Adjust voltages that are not 2.5 ± .05	Corresponding knob on thermosensor box adjusted AND if necessary, adjust corresponding channel resistor inside thermosensor box
_____	06.44 Press Esc Key.	Esc key pressed on keyboard
_____	06.45 Select "Configure".	"Configure" selected from menu
_____	06.46 Type "nitrogen" after using tab key to shift column.	"Nitrogen" typed to replace Air
_____	06.47 Record time.	Time recorded on WP Form 2087
_____	06.48 Select and enter LEAK TEST.	LEAK TEST selected
_____	06.49 Select "VOLUME".	"VOLUME" selected

JOB PERFORMANCE		CONDITION/STANDARD
_____	06.50 Enter Bin volume.	Bin volume entered
_____	06.51 Select "time interval" and type 10.	"Time interval" selected and 10 is typed
_____	06.52 Select "test duration" and type 30.	"Test duration" selected and 30 is typed
_____	06.53 Measure ambient temperature.	Temperature indicating device used to measure temperature
_____	06.54 Select "Ambient Temperature".	"Ambient Temperature" selected using arrow key
_____	06.55 Type in ambient temperature.	Ambient Temperature typed on MILRT keyboard
_____	06.56 Move cursor to "start test".	Cursor placed on "start test"
_____	06.57 Press enter.	Enter key pressed
_____	06.58 Close Bin Block Valve.	Bin Block valve closed
_____	06.59 Open Reference Volume and Vent Valves.	Reference Volume and Vent Valves open
_____	06.60 Press enter key.	Enter key pressed
_____	06.61 Close Reference Volume Valve.	Reference Volume Valve closed
_____	06.62 Close Vent Valve.	Vent Valve closed
_____	06.63 Open Bin Block Valve.	Bin Block Valve open
_____	06.64 Press any key.	Any key pressed to start bin leak test
_____	06.65 Press any key when leak test is complete.	Any key is pressed when display reads "leak rate test is complete"

JOB PERFORMANCE			CONDITION/STANDARD
_____	06.66	Press Esc key.	Esc key pressed
_____	06.67	Select "Report".	"Report" selected from menu
_____	06.68	Press enter.	Enter key pressed
_____	06.69	Select "text reports".	"Text reports" selected from menu
_____	06.70	Press enter key.	Enter key pressed
_____	06.71	Select bin number.	Bin number selected from list displayed on monitor
_____	06.72	Press enter key.	Enter key pressed
_____	06.73	Press Y key.	"Y" key pressed to obtain a printed report
_____	06.74	Press enter key.	Enter key pressed
_____	06.75	Press Esc key.	Esc key pressed
_____	06.76	Select "Graphs" from menu.	"Graphs" selected by using arrow key
_____	06.77	Select bin number.	Bin number selected from list displayed on monitor
_____	06.78	Press F3 key.	F3 key on keyboard pressed to obtain a printed graph
_____	06.79	Press escape key.	Escape key pressed
_____	06.80	Press escape key.	Escape key pressed
_____	06.81	Determine maximum bin leak rate.	Leak rate determined by reviewing printout of graph $\leq$.001cc per second
_____	06.82	Attach MILRT printout to WP Form 2087.	Printout attached

JOB PERFORMANCE			CONDITION/STANDARD
_____	06.83	Press Esc.	Esc key pressed
_____	06.84	Select "Exit".	"Exit selected from menu
_____	06.85	Press enter key.	Enter key pressed
_____	06.86	Shut off power.	Power switch is pressed

SAT *UNSAT (CIRCLE ONE)

_____

SME signature
CONDITION/STANDARD

JOB PERFORMANCE MEASURE
OPERATE 911 DEWALL DIGITAL HUMIDITY ANALYZER

NAME (printed) Date

SS# Company/Department/Section

JOB PERFORMANCE: OPERATE 911 DEWALL DIGITAL HUMIDITY ANALYZER (TASK 21)

TRAINING ANALYST: Bob Devoe (printed name) R. L. Devoe (signature)

APPROVED: Technical Reviewer 3-22-91 Date

APPROVED: Training Manager 3-22-91 Date

TERMINAL OBJECTIVE
Given that the Water Vapor Sample Assembly with the Digital Humidity Analyzer is connected to the Bin Recirculation Loop, the Water Vapor Sampling Assembly is evacuated, and the Digital Humidity Analyzer has power, collect and record Dew Point.

STANDARDS
1. In accordance with WP 05-1806.

REFERENCES
1. Model 911 DewAll Technical Manual
2. Digital Humidity Analyzer Operators Manual
3. WP 05-1806 Underground Bin Sampling

EQUIPMENT KNOWLEDGE

SME INITIALS

_____ 1. Describe the location of the Dew Point switch. (Ref. 1)

_____ 2. State the location of the BAL/OPR switch. (Ref. 1)

_____ 3. State the function of the BAL/OPR switch. (Ref. 1,2,3)

EQUIPMENT KNOWLEDGE

SME INITIALS

_____ 4. Describe the function of the BALANCE knob. (Ref. 1,2,3)

_____ 5. Describe how to adjust the needle on the CONTROL CONDITION Meter. (Ref. 1,2)

_____ 6. State the location of the Recirculation Loop Bypass Valve. (Ref. 3)

SME INITIALS	JOB PERFORMANCE	CONDITIONS/STANDARDS
_____	21.01 Depress POWER switch	"Amber" color appears on switch face
_____	21.02 Depress DEW POINT switch.	"Blue color will appear on switch face
_____	21.03 Depress BAL/OPR switch allowing one minute warm-up.	"Amber color appears on switch face. Arrow illuminates over the ± sign
_____	21.04 Adjust BALANCE control knob to obtain a balance indication on the CONTROL CONDITION Meter.	Needle is in the white range of the meter.
_____	21.05 Depress BAL/OPR switch.	Switch face changes color from "Amber" to "Black. Change from balance function to operator function
_____	21.06 Open Sample Port inlet and outlet valves.	Valves are in the OPEN position
_____	21.07 Close the Recirculation Loop Bypass valve.	Valve is in the CLOSED position. Digital Display is allowed to stabilize before proceeding

JOB PERFORMANCE

SME INITIALS

_____	21.08 Record Dew Point, Date, and Time.	Data Recorded
_____	21.09 Open the Recirculation Loop Bypass valve.	Valve is in the OPEN position.
_____	21.10 Close the Sample Port inlet and outlet valves.	Valves are in the SHUT position
_____	21.11 Depress POWER Switch on the Digital Humidity Analyzer.	DHA is deactivated. Color on switch changes from "Amber to "Black. Display is blank

SAT *UNSAT (CIRCLE ONE)

_____

SME signature

CONDITION/STANDARD

APPENDIX G

ISC PROCEDURE

APPENDIX G
INTEGRATED SYSTEMS CHECKOUT PROCEDURE

INTRODUCTION

The Integrated Systems Checkout procedure was generated to be performed and filed as a record of completion of the receipt and satisfactory processing of CH TRU Waste to the repository and retrieval for shipment off-site in compliance with Section 3.2, Integrated Checkout Acceptance Criteria of the Integrated Systems Checkout Plan, DOE-WIPP 90-002, Revision 2, Appendix A of this report.

Over a period of eight days, the Integrated Systems Checkout procedure, WP 05-WH5101, Rev. 0, was performed both in the underground and on the surface, in a parallel effort toward completion. Two Cognizant Test Engineers (CTE), one each for the surface and the underground, directed activities, following a schedule which time optimized the demonstration of tasks and drills, with minimal duplication steps, which provided and end-to-end performance of the waste handling process at WIPP.

Procedure performance, for the first three days of the ISC checkout, demonstrated the procedure section steps that pertained to surface and underground duplicated activities for internal demonstration, and was observed by Department of Energy's (DOE's) WIPP Project Office (WPO) and Westinghouse's Waste Isolation Division (WID) management. The purpose for accomplishing this approach was to allow the WHTs a last chance to brush up on some duplicate tasks being documented in the ISC, and this would shorten the overall procedure performance time for the external portion of the end-to-end run, which was to verify that a bin could be received, reconfigured, emplaced underground, assembled with bin equipment, and subsequently sampled, disconnected, and retrieved for shipment off-site. The next five days of the ISC checkout demonstrated the remaining section steps of the procedure for the benefit of the external review organizations to observe the status of WIPP readiness. Overall, the ISC went very well, including the Unusual Events/Drills, which were performed satisfactorily, as documented by the drill critique sheets, Attachment 4 to the ISC procedure, Appendix G.

Review of this appendix will result in the following conclusions: 1) the procedure was performed in two places at once, and required the use of two bins labeled TBX-05, and two CTEs. This approach was to ensure separation of activities from the surface and the underground, allowing parallel demonstrations to minimize the time required to run the end-to-end process for the external observers. 2) The procedure had flexibility, allowing the CTE to perform tasks out of sequence or in parallel as may be desired. Following the sequence of events as they were performed, will require familiarity with the schedule of daily events and the checkout logs, Attachment 6 for both the surface and the underground.

SURFACE

SECTION

ISC

PROCEDURE CHANGE NOTICE

PCN NO. 00-01 08-01-91

COGNIZANT ORGANIZATION Waste Handling Operation WP 05- WH1501510

SAIL OSR/SAIL 2 Rev. 0

PROCEDURE TITLE WIPP Dry Bin-Scale CH TRU Waste Integrated System Checkout

WRITER (Print) Ronald R Albright

TYPE OF CHANGE: [ ] MAJOR CHANGE [✓] MINOR CHANGE

DURATION OF CHANGE [✓] PERMANENT [ ] TEMPORARY

AFFECTED SECTION	DESCRIPTION OF CHANGE
9.5	DELETE NOTE - covered by Note 1.4.4
9.5.1	ADD NOTE - allows CTE choice of drills 9.5.1, 9.5.2, 9.5.3, and 9.5.5 to be representative of failure on each board.
ATTACHMENT 2 page 5 of 8	CHANGE 2 9.3.2 b) record entrys from NONE to 1834. CHANGE 9.3.3 B) record entry from NONE to Shipping Pappers
	Pages 29 and 6c

LOCATIONS PCN ADDED (PRINT):

QUALIFIED OPERATOR: D. J. Mackney (Print Name) (Signature) 7/15/91 (Date)

REVIEWERS: PRINT NAME	SIGNATURE	COG. ORG.	DATE
		/	/
		/	/
		/	/
		/	/

COM: Clinton R Kelley (Print Name) (Signature) 7/15/91 (Date)

CONTROLLED COPY

RECORD OF REVISION

Rev./PCN No.	Reason for Revision/Change
0	New procedure to track the Integrated System Checkout.

TECHNICAL REVIEW ORGANIZATIONS (check as applicable)

Waste Handling Operations	X	Radioactive Waste Handling Engineering	X	Facility Operations	N/A	Facility Engineering	N/A
Operations Department	X	Sandia National Laboratories	X	Quality Assurance	X	Environmental	N/A
Technical Services	X	DOE/WPO	X	Regulatory Assurance	N/A	Sandia National Laboratories	N/A

Initiated By: A. Brown D. Mackney (Name) — 7/2/91 (Date)

OPSRC Approval: [signature] (Signature) — 7/8/91 (Date)

Approved By: [signature] (Signature) — 7/8/91 (Date)

Effective Date: 7/8/91

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1.0 PURPOSE AND SCOPE

1.1 The purpose of this procedure is to track and document those activities required for Contact Handled Transuranic (CH TRU) bin receipt, handling, emplacement, operation, retrieval, and off-site shipping preparation at the Waste Isolation Pilot Plant (WIPP).

1.2 This procedure is a tool to be used in the assessment of the WIPP Integrated Systems Checkout (ISC).

1.3 The ISC will be used to exercise the systems, operating procedures, and training readiness of personnel to safely carry out specifically dedicated activities to determine the effectiveness of the WIPP to conduct the Bin-Scale Test Plan.

NOTE: This Note applies to Step 1.4.
The measurement/assessment and evaluation of the ISC is performed in part by the use of this procedure, the observation reports formulated for the ISC, Operational Readiness Review (ORR) findings, Training and Qualification documentation, and other input as required by the Department of Energy (DOE), the Waste Isolation Division (WID) of Westinghouse, and Sandia National Labs (SNL).

1.4 The scope of the ISC requires a measurement/assessment and evaluation of the following:

1.4.1 The adequacy of procedural controls.

1.4.2 The use of safety, efficiency, and procedural compliance in job performance.

1.4.3 The ability of personnel to manage and resolve simulated unusual events.

NOTE: There are no radioactive materials used during the performance of this procedure. For the unusual events/drills that simulate contamination conditions, it is important that the concept of As Low As Reasonably Achievable (ALARA) be incorporated into the way test personnel perform their individual tasks.

1.4.4 The ability to maintain personnel radiological dose ALARA within the WIPP Final Safety Analysis Report and Addendum (FSAR) assumptions.

1.4.5 Compliance to requirements of regulations regarding the receipt and preparation for shipment of CH TRU waste.

1.4.6 Documentation of qualifications of personnel performing activities.

1.4.7 The adequacy of equipment and systems to meet design performance requirements.

1.4.8 The ability of personnel to perform ISC activities within the requirements of the FSAR Operational Safety Requirements (OSRs) through the use of approved site procedures.

1.5 This checkout utilizes four bins (test bins - TB); TBX05(2), TBX06 and TBX07 which are utilized as follows (Steps are identified for each bin on Attachment 1, ISC Checkout Step Matrix):

- TBX05 will be utilized for checkout demonstrations depicting bin handling from receipt to offsite waste shipment. Two bins (one situated in the underground at the Waste Handling Shaft landing, one on the surface) will be labeled TBX05.

- TBX06 will be utilized for checkout demonstrations depicting waste receipt up to transport to the underground. Once placed on the conveyance loading car, TBX06 will be placed in abeyance on the SURFACE. TBX06 will be used upon resumption of the activities depicting bin retrieval and waste shipment preparation.

- TBX07 will be prestaged in the underground and utilized for checkout demonstrations depicting all activities in the underground.

1.6 This checkout utilizes two production bins (baseline bins): TB001, and TB002, are utilized to provide control information on bin characteristics.

- The baseline bins will be set up and connected to the Data Acquisition System (DAS) in the underground

2.0 REFERENCES

2.1 BASELINE DOCUMENTS

- WP 02-9, Final Safety Analysis Report, and Addendum
- SAND90-1974, Test Plan: WIPP Bin-Scale CH TRU Waste Tests
- SAND90-2082, UC-721, Test Plan Addendum #1: WIPP Bin-Scale CH TRU Waste Tests
- DOE/WIPP 90-002, Dry Bin-Scale Integrated Systems Checkout Plan

2.2 REFERENCED DOCUMENTS

- ASME NQA-1-1989, and Addenda, Quality Assurance Program Requirements for Nuclear Facilities
- WP 05-WH1001, TRUPACT-II Loading
- WP 05-WH1005, Loading TRUPACT-II Trailer
- WP 05-WH1010, TRUPACT-II Receipt
- WP 05-WH1011, TRUPACT-II Unloading
- WP 05-WH1032, TRUPACT-II Payload Transportation Certification
- WP 05-WH1033, Payload Assembly Transportation Certification
- WP 05-WH1051, Varian Model 938-41 Porta-Leak Detector
- WP 05-WH1080, TRUPACT-II Verification Leak Test
- WP 05-WH1506, Surface Gas Purge
- WP 05-WH1507, Surface Air Purge

- WP 05-WH1806, Bin Surface Purging and Gas Sampling 5 07-28-91
- WP 05-WH1801, Oxygen Gettering of Bin
- WP 05-WH1802, Oxygen Getter Regeneration
- WP 05-WH1803, Argon Purge of Bin
- WP 05-WH1804, Nitrogen Purge of Bin
- WP 05-WH1807, Bin Leak Check
- WP 05-WH1808, Bin Gas Sampling 6 07-28-91
- WP 05-WH1809, Bin Pressurization
- WP 05-WH1810, Routine Sampling and Monitoring of Bins
- WP 05-WH1811, Tracer Gas Injection
- WP 05-WH1901, Bin Handling
- WP 05-WH1902, Bin Retrieval
- WP 05-WH1910, Bin Equipment Connection for Emplacement
- WP 05-WH1912, Bin Equipment Disconnection for Retrieval
- WP 05-WH1913, Bin Oxygen Monitor Recirculation System Replacement
- WP 05-WH1914, Bin Primary Instrument String Replacement
- WP 05-WH1915, Bin Secondary Instrument String Replacement
- WP 05-WH1916, Bin Primary Mechanical Safety Relief Replacement

- WP 05-WH1917, Bin Secondary Mechanical Safety Relief Replacement
- WP 06-102, Shipment of Radioactive Materials
- WP 12-503, Personnel Contamination Surveys for Alpha and Beta-Gamma Radiation
- WP 12-504, Surface Contamination Surveys: Alpha and Beta-Gamma Radiation
- WP 12-523, Small Area "Spot" Decontamination
- WP 12-AL6010, Shipping and Receiving Sample Canisters
- WP 12-EM1602, Helium Cylinder Installation and Removal
- WP 12-EM1603, VOST Tubes and Carbon Bed
- WP 12-EM1622, VOC Sample Canister Handling
- WP 12-EM1624, VOC-10 Sampler Canister Handling
- SNL-346, Bin-Scale Instrumentation String Board, Oxygen Sensor and Thermocouple (Removal/Installation/Checkout)
- SNL-352, Connection and Activation of Bin Scale Gages into D.A.S.
- SNL-362, Alarms Identification Methods for the Bin Tests
- WP Form 1834 (in WP 12-AL6005) Sample Chain-of Custody

3.0 DEFINITIONS

NOTE: This note applies to Steps 3.1 through 3.3. A Surface and Underground position of each of the following positions will be manned for the Checkout. The definition and the procedure refer to only a singular individual and that individual will be the assigned person on the scene of the activity (Refer to Attachment 1, ISC OBSERVER ORGANIZATION and INTERFACE CHART).

3.1 CHECKOUT TEST ENGINEER (CTE) - That designated individual having overall responsibility for coordinating the checkout activities of the ISC.

3.2 ISC OBSERVER - A WID/SNL individual chosen to view a stated process/procedure of the ISC and to provide determined opinions as to the successful completion of the process/procedure, based upon observation and using stated guidelines. The individuals are chosen in line with Attachment 1.

3.3 ISC LEAD OBSERVER - That designated individual chosen to coordinate the observation activities of the ISC Observers and observers from other organizations viewing the ISC process.

4.0 RESPONSIBILITIES

4.1 The CTE has the responsibility for the following Bin-Scale Test activities:

4.1.1 Coordinating checkout activities during the performance of this procedure.

4.1.2 Monitoring checkout activities during the performance of this procedure.

4.1.3 Preparing the final report regarding completion of this procedure and plant participation in the performance of the procedures that support the ISC.

4.2 The ISC Observer has the responsibility to monitor activities performed during this procedure and report findings to the Lead ISC Observer.

4.3 The ISC Lead Observer has the responsibility to compile and consolidate the observations of the ISC Observers, and to provide this information to the CTE.

4.4 The ISC Lead Observer has the responsibility to provide data and information to ISC participants during ISC activities AND drill scenarios, if a drill requires information or data that would normally be seen or available to the system operators that IS NOT available due to the non-existence of the suggested condition(s).

5.0 TRAINING

5.1 Inividuals performing duties per Section 8.0 complete Attachment 2, ISC Checkout Tracking Report.

5.2 CTE complete Attachment 2 during ISC activities.

5.2.1 Upon directing the start of the procedure, print the name of the individual notified, the start time and date, and initial for signoff.

5.2.2 Upon notification of procedure completion, print the name of the notifying individual, the stop time and date, and initial for signoff.

5.3 ISC QA Observer complete Attachment 2 by verifying completion of activity, notification of the CTE, and receipt of record of activity, by initialing as Verifier (VER).

6.0 SPECIAL EQUIPMENT

NONE

7.0 PRECAUTIONS AND LIMITATIONS

7.1 The ALARA concept **SHALL** be practiced even though NO radioactive materials are used in the performance this procedure.

8.0 INITIAL CONDITIONS

[✓] 8.1 The CTE obtains a copy of the Readiness Review Board (RRB) declaration that all systems required to support the ISC have been verified ready as a part or the Operational Readiness Review. This declaration **SHALL** be signed by the Chairman of the RRB.

SIGNOFF REQUIRED

8.2 The Manager, Waste Handling Operations (WHO) verifies the completion of the following:

[✓] 8.2.1 Test Bins TBX05 and TBX06 are assembled in accordance with the guidelines provided by Radwaste Handling Engineering (RWHE) and loaded into TRUPACT-IIs in accordance with WP 05-WH1001, TRUPACT-II Loading.

SIGNOFF REQUIRED

[✓] 8.2.2 TRUPACT-IIs are loaded onto TRUPACT trailer in accordance with procedure WP 05-WH1005, Loading TRUPACT-II Trailer, and are available for transport to the outer gate of the Security vehicle trap.

SIGNOFF REQUIRED

[✓] 8.2.3 Bin/RCB TBX07 is prestaged in Panel 1, Room 1 in location 57 (top bin) on top of an empty SWB in position 58.

SIGNOFF REQUIRED

[✓] 8.2.4 Baseline Bins TB001 and TB002 are setup in Panel 1, Room 1 in locations 1 and 3.

SIGNOFF REQUIRED

[✓] 8.3 The Transportation Engineer completes and provides the proper shipping papers and Bar Codes required for shipment simulation and receipt of the TRUPACT-IIs with the Test Bins.

SIGNOFF REQUIRED

[✓] 8.4 The CTE verifies a pre-checkout briefing(s) was held for the managers and observers and other participants involved in the conduct of this checkout procedure, and documents the completion of the briefing(s) on Attachment 3, ISC Briefing Sheet.

SIGNOFF REQUIRED

9.0 PROCEDURE

NOTE: Steps throughout Section 9.0 may be performed concurrently or in parallel where multiple test bins or test TRUPACTs are involved, if feasible and at the direction of the CTE.

NOTE: Steps in Section 9.5 perform unusual events/drills which may be performed out of sequence, with the concurrence of the CTE as they are called out in the specific section of the checkout procedure.

NOTE: Placekeeping Aids may contain numbers, corresponding to a bin, between the brackets as an aid in tracking.

9.1 WASTE RECEIPT, INSPECTION, DOWNLOAD AND EMPLACEMENT

9.1.1 Direct Transportation and Hazardous Material Handling to initiate procedure WP 05-WH1010, TRUPACT-II Receipt, upon notification of TRUPACT-II shipment arrival, and to notify CTE upon completion of the procedure.

SIGNOFF REQUIRED

A) Major steps

[✓] • Tractor/Trailer/TRUPACT-IIs released from Security trap

NOTE: This note applies to the following bullet of Step 9.1.1 A). The total number of smears counted may be reduced after successful demonstration of counting techniques as observed by the ISC HP Observer.

[✓] • Tractor/Trailer/TRUPACT-IIs radiologically surveyed

[✓] • Shipping papers reviewed by Transportation Engineer

[✓] • TRUPACT-IIs released to Waste Handling Operations for offload

B) Procedure completed

[1] ✓ • TRUPACT received

SIGNOFF REQUIRED

9.1.2 Direct WHO to perform WP 05-WH1011, TRUPACT-II Unloading, for unloading bins TBX05 and TBX06 from each TRUPACT-II received and to notify the CTE upon completion of the procedure.

SIGNOFF REQUIRED

A) Major steps

[5] ✓ [6] ✓ • TRUPACT-II placed into loading dock

NOTE: This note applies to the following bullet of Step 9.1.2 A). The total number of smears counted may be reduced after successful demonstration of counting techniques as observed by the ISC HP Observer.

[5] ✓ [6] ✓ • Health Physics monitor TRUPACT-II for radiological assessment during unloading

[5] ✓ [6] ✓ • Dock Vacuum and Vent Hood Systems utilized

[5] ✓ [6] ✓ • Outer Containment Vessel (OCV) and Inner Containment Vessel (ICV) heads removed and placed in designated areas

[5] ✓ [6] ✓ • ICV head space sampled

[5] ✓ [6] ✓ • SWB package verified against WIPP Waste Information System (WWIS)

B) Procedure completed

[5] ✓ • TRUPACT-II containing Test Bin TBX05 unloaded

SIGNOFF REQUIRED

[6] ✓ • TRUPACT-II containing Test Bin TBX06 unloaded

SIGNOFF REQUIRED

9.1.3 Direct WHO to perform WP 05-WH1901, Bin Handling, for bins TBX05 and TBX06, directing that bin TBX06 DOES NOT require to be surface purged, sampled, oxygen gettered, or pressurized. and to notify CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

NOTE: This note applies to the following bullet of Step 9.1.3 A). The total number of smears counted may be reduced after successful demonstration of counting techniques as observed by the ISC HP Observer.

[5]✓[6]✓ • HP monitors bin for radiation and contamination

[5]✓[6]✓ • Bins removed from SWBs

[5]✓[6]✓ • Hoses, filters, thermocouples installed

[5]✓[6]✓ • Bin placed into SWB and converted to RCB

[5]✓[6]✓ • Bin leak tested in accordance with WP 05-WH1807 (**Proceed to Step 9.1.4; upon completion, return to this Step.**)

[5]✓ • Bin TBX05 surface purged and sampled for oxygen concentration in 1447-18-21 accordance with WP 05-WH~~1606~~ (**Proceed to Step 9.1.5; upon completion, return to this Step.**)

[5]✓ • Bin TBX05 gettered of oxygen concentration in accordance with WP 05-WH1801 (**Proceed to Step 9.1.7; upon completion, return to this Step.**)

[5]✓ • Oxygen getter regeneration in accordance with WP 05-WH1802 (**Proceed to Step 9.1.8; upon completion, return to this Step.**)

[5]✓ • Bin TBX05 pressurized in accordance with WP 05-WH1506 (**Proceed to Step 9.1.5 AND 9.1.6; upon completion, return to this Step.**)

[5] • Bin TBX05 emplaced in position #28 in underground

[6]✓ • Bin TBX06 placed on conveyance loading car in abeyance

B) Procedure completed (**Requires prior completion of Steps 9.1.4, 9.1.5, 9.1.7, and 9.1.8**).

[5] • Test Bin TBX05 emplaced

SIGNOFF REQUIRED

[6]✓ • Test Bin TBX06 placed in abeyance on conveyance loading car until retrieval (Step 9.6.4)

SIGNOFF REQUIRED

• Proceed to Step 9.2

9.1.4 Direct WHO to perform procedure WP 05-WH1807, Bin Leak Rate Test, for bins TBX05 and TBX06, and to notify CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

NOTE: This note applies to the following bullet of Step 9.1.4 A). The time duration required to complete the Bin Leak Rate Test may be reduced after successful demonstration of the technique as determined by the ISC Lead Observer.

[5]✓[6]✓ • Thermistors set on Bin

[5]✓[6]✓ • Leak tester set up for operation

NOTE: This note applies to the following bullet of Step 9.1.4 A).The ISC Radioactive Waste Handling Engineer Observer will supply a Base Leak Rate Test value of $1x10^{-3}$ cc/sec.

[5]✓[6]✓ • Bin leak tested and result reviewed

B) Procedure completed

[5]✓ • Test Bin TBX05 leak tested

SIGNOFF REQUIRED

[6]✓ • Test Bin TBX06 leak tested

SIGNOFF REQUIRED

• Return to Step 9.1.3

9.1.5 Direct WHO to perform procedure WP 05-WH1506, Bin Surface Purging and Gas Sampling, for bin TBX05, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5] ✓ • Purging and recirculation system installed on RCB

NOTE: This note applies to the following bullet of Step 9.1.5 A). The purge of the bin may be STOPPED after procedure and techniques have been demonstrated, as determined by the ISC Lead Observer.

[5] ✓ • Bin purged and oxygen concentration monitored

[5] ✓ • Bin sampled and sample sent to WIPP lab in accordance with 12-AL6010, Sample Custody

• Return to Step 9.1.3

NOTE: This note applies to the following bullet of Step 9.1.5 A). The pressurization of the bin may be STOPPED after procedure and techniques have been demonstrated, as determined by the ISC Lead Observer.

• Bin pressurized for transport underground

B) Procedure completed

[5] ✓ • Test Bin TBX05 purged, sampled, and pressurized

SIGNOFF REQUIRED

• Return to Step 9.1.3

[5] ✓ 9.1.6 Direct WHO to depressurize bin TBX05 and place it in abeyance on the surface.

9.1.7 Direct WHO to perform procedure WP WH1801, Oxygen Gettering of Bin, for bin TBX05, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5] ✓ • Gettering hoses installed on RCB

NOTE: This note applies to the following bullet of step 9.1.7 A). The Bin Oxygen Gettering may be stopped after procedure techniques have been successfully demonstrated as determined by the ISC Lead Observer.

[5] ✓ • Bin gettered

B) Procedure completed

[5] ✓ • Test Bin TBX05 gettered

SIGNOFF REQUIRED

9.1.8 Direct WHO to perform procedure WP 05-WH1802, Oxygen Getter Regeneration, and notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[✓ • Gas cylinders aligned for operation

[✓ • Bed requiring regeneration selected

[✓ • Getter system pressurized

[✓ • Getter bed regenerated

B) Procedure completed

[✓ • Oxygen Getter Regenerated

SIGNOFF REQUIRED

9.2 BIN/RCB EMPLACEMENT AND OPERATIONAL PREPARATION

9.2.1 Direct WHO to perform procedure WP 05-WH1910, Bin Equipment Connection for Emplacement, for bins TBX05 and TBX07, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5] [7] • Gas Recirculation System connected

[5] [7] • Primary Pressure Relief Instrumentation String connected

[5] [7] • Secondary Pressure Relief Instrumentation String connected

[5] [7] • Primary Mechanical Relief Valve Assembly connected

[5] [7] • Secondary Relief Valve Assembly connected

[5] [7] • Bin connected to Volatile Organic Compound (VOC) Sample Collection Manifold

[5] [7] • Bin equipment connected to DAS and checked out in accordance with procedures SNL-346 and SNL-352 per 9.4.1

B) Procedure completed

[5] • Test Bin TBX05 equipment connected to DAS

[5] • Test Bin TBX05 equipment activated

SIGNOFF REQUIRED

[7] • Test Bin TBX07 equipment connected to DAS

[7] • Test Bin TBX07 equipment activated

SIGNOFF REQUIRED

9.2.2 Direct WHO to perform procedure WP-05-WH1806, Bin Gas Sampling, for the T=Emplacement sample for bin TBX07, and to notify the CTE upon completion

SIGNOFF REQUIRED

A) Major steps

[7] • Sample canisters received from lab with Chain-of-Custody, WP Form 1834 (in WP 12-AL6005)

[7] • Water vapor cell leak tested and sample measured

[7] • Gas Sample manifold leak tested

[7] • Gas samples taken

[7] • Samples returned to lab using WP Form 1834

B) Procedure completed

[7] • Test bin TBX07 sampled

SIGNOFF REQUIRED

9.2.3 Direct WHO to perform procedure WP 05-WH1803, Argon Purge of Bin, for bin TBX05, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5] • Purging hose assembly installed on RCB

[5] • Purge assembly installed to VOC exhaust header

NOTE: This note applies to the following bullet of step 9.2.3 A). The purge of the bin may be stopped after procedure techniques have been demonstrated, as determined by the ISC Lead Observer.

[5] • Bin/RCB purged

B) Procedure completed

[5] • Test Bin TBX05 purged

SIGNOFF REQUIRED

9.2.4 Direct WHO to perform procedure WP 05-WH1801, Oxygen Gettering of Bin, for bin TBX05, and notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5] • Gettering hoses installed on RCB

NOTE: This note applies to the following bullet of step 9.2.4 A). The Bin Oxygen Gettering may be stopped after procedure techniques have been demonstrated, as determined by the ISC Lead Observer.

[5] • Bin Gettered

B) Procedure completed

[5] • Test Bin TBX05 Gettered

SIGNOFF REQUIRED

9.2.5 Direct WHO to perform procedure WP 05-WH1802, Oxygen Getter Regeneration, and notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[ ] • Gas cylinders aligned for operation

[ ] • Bed requiring regeneration selected

[ ] • Getter system pressurized

[ ] • Getter bed regenerated

B) Procedure completed

[ ] • Oxygen Getter Regenerated

SIGNOFF REQUIRED

9.2.6 Direct WHO to perform procedure WP 05-WH1809, Bin Pressurization, for bins TBX05 and TBX07, and to notify CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5] [7] • Gas cylinder required for bin obtained

[5] [7] • Regulator/hose assembly attached to gas cylinder

[5] [7] • Bin pressurized

[5] [7] • Bin DAS pressure relief program activated per Step 9.4.1

B) Procedure completed

[5] • Test Bin TBX05 Pressurized

SIGNOFF REQUIRED

[7] • Test Bin TBX07 Pressurized

SIGNOFF REQUIRED

9.2.7 Direct WHO to perform procedure WP 05-WH1811, Tracer Gas Injection, for bins TBX05 and TBX07, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5] [7] • Injection volume provided by SNL

[5] [7] • Tracer gas injection assembly attached to sample port connectors

[5] [7] • Leak test performed on tracer gas and evacuation port assembly

[5] [7] • Tracer gas syringe filled

[5] [7] • Tracer gas injected and circulated

[5] [7] • Tracer gas assembly and leak detector removed

[5] [7] • Sample port connectors plugged

B) Procedure completed

[5] • Test Bin TBX05 tracer gas injected

SIGNOFF REQUIRED

[7] • Test Bin TBX07 tracer gas injected

SIGNOFF REQUIRED

9.3 BIN/RCB OPERATION, ROUTINE MONITORING AND SAMPLING

NOTE: This Note applies to Step 9.3.1. Gas sampling **SHALL** be performed at T = 0. Further samples will be taken at the discretion of the CTE.

9.3.1 Direct WHO to commence procedure WP 05-WH1810, Routine Bin Monitoring, for bins TBX05 and TBX07, and to notify the CTE upon completion of the day's monitoring of each bin.

SIGNOFF REQUIRED

A) Major steps

[5] [7]

- Bin monitoring log generated for each bin (1 log per bin per week)

[5] [7]

- Bin monitored for pressure relief path to satisfy OSR

NOTE: This note applies to the following bullet of step 9.3.1 A). ISC Lead Observer will provide simulated flammable gas sample results to the lab and/or the WHO technician.

[5] [7] [D9.5.12]

- Bin flammable gas sample results verified to be below flammability requirements to satisfy OSR

B) Procedure completed

NOTE: This note applies to the following bullet of step 9.3.1 B). For this step, completion is considered once the bin has a monitoring log started with the first day's monitoring completed.

[5]

- Bin TBX05 routinely monitored

SIGNOFF REQUIRED

[7]

- Bin TBX07 routinely monitored

SIGNOFF REQUIRED

9.3.2 Direct WHO to perform procedure WP 05-WH1806, Underground Bin Sampling, for the T=0 sample, for bins TBX05 and TBX07, and to notify the CTE upon completion

SIGNOFF REQUIRED

A) Major steps

[5] [7] • Sample canisters received from lab with WP Form 1834

[5] [7] • Water vapor cell leak tested and sample measured

[5] [7] • Gas Sample manifold leak tested

[5] [7] • Gas samples taken

[5] [7] • Samples returned to lab using WP Form 1834

B) Procedure completed

[5] • Test bin TBX05 sampled

SIGNOFF REQUIRED

[7] • Test bin TBX07 sampled

SIGNOFF REQUIRED

[D9.5.11]

9.3.3 Direct Analytical Lab to take sample and perform procedure WP 12-AL6010, Shipping and Receiving Sample Canisters, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[ ] • Sample packaged

[ ] • Custody form completed

[ ] • Sample shipped

B) Procedure completed

[ ] • Sample shipped

SIGNOFF REQUIRED

9.3.4 Direct VOC Monitoring to perform procedure WP 12-EM1624, VOC 10 (Room 1) VOC Sampler Canister Handling, for the Bin VOC Sampler, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[ ] • Certified sample canister obtained from VOC Monitoring Program Storage Area

[ ] • Filled canister removed from sampler

[ ] • Chain-of-Custody form completed

[ ] • Sample canister returned with Chain-of Custody form to VOC Monitoring Storage Area

B) Procedure completed

[ ] • VOC 10 sample canister removed and replaced

SIGNOFF REQUIRED

9.3.5 Direct VOC Monitoring to perform procedure WP 12-EM1603, VOST Tubes and Carbon Bed, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[ ] • Carbon bed obtained from VOC Monitoring Storage Area

[ ] • Remove used Carbon Bed and replace with new unit

[ ] • Three VOST tubes obtained from VOC Monitoring Storage Area

[ ] • Used VOST removed

[ ] • VOST tubes assembled as a VOST and placed into system

[ ] • Used VOST tubes labeled and returned to VOC Monitoring Storage Area

B) Procedure completed

[ ] • Carbon Bed replaced

SIGNOFF REQUIRED

[ ] • VOST replaced

SIGNOFF REQUIRED

9.4 DAS SYSTEM READINESS

NOTE: This note applies to step 9.4.1. The ISC Test Bins will provide for testing the systems and equipment supporting the Dry Bin-Scale CH TRU Waste Test. The Data Acquisition System (DAS) is designed and tested to ensure that it meets the requirements for collecting data from the ISC Test Bins. The following Section 9.4.1 Steps are provided for documenting the interface between the ISC Test Bins and the DAS.

9.4.1 DAS operation acceptance. CTE verify with Experimental Operations the following Major steps in accordance with SNL procedures:

A) Major steps

[5] [7] • SNL verify bin instrumentation electrical is operational in accordance with SNL-346 and SNL-352

[5] [7] • SNL verify bin valves are connecting instrumentation to bins in accordance with WP 05-WH1910

[5] [7] • SNL verify bin pressure is in accordance with WP 05-WH1809

B) Procedure complete

[5] • Bin TBX05 Instrumentation activated to DAS

[5] • Bin TBX05 Pressure Relief Program activated to DAS

SIGNOFF REQUIRED

[7] • Bin TBX07 Instrumentation activated to DAS

• Bin TBX07 Pressure Relief Program activated to DAS

SIGNOFF REQUIRED

NOTE: This note applies to Section 9.5. Steps that simulate contamination conditions, it is important that the concept of ALARA be incorporated into the way test personnel perform their individual tasks.

9.5 BIN/RCB OPERATIONAL UNUSUAL EVENTS/DRILLS

9.5.1 Primary Instrument String Pressure Sensor/Transducer Failure

A) Objective:

- Evaluate the response to a faulty pressure sensor/transducer

B) Expected Response:

- DAS Operator will implement the Bin-Scale Instrument Failure Response section of WP 05-WH1810 and SNL 362, as required
- Initiate replacement of the Primary Instrument String in accordance with WP 05-WH1914
- DAS Operator contact and inform the CMRO

C) Initiation:

- Post Drill Observer with Technician at the DAS and CMR
- Initiate drill and the Drill Critique form, Attachment 4, page 1 of 26
- Technician disconnect the amphenol connector

D) Termination and Recovery:

- Terminate upon drill players' initiation of steps for replacement of the instrument
- Direct the technician to reconnect the amphenol connector
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.2 Solenoid Operated Control Valve Failure

A) Objective:

- Evaluate the response to a failed solenoid operated control valve

B) Expected response:

- DAS Operator will implement the Bin-Scale Instrument Failure Response section of WP 05-WH1810 and SNL 362, as required
- Initiate replacement of the Primary Instrument String in accordance with WP 05-WH1914

C) Initiation:

- Post drill observer with technician at the DAS and CMR
- Initiate drill and the Drill Critique form, Attachment 4, page 3 of 26
- Direct the technician to disconnect the solenoid connector

D) Termination and Recovery:

- Terminate upon drill players' initiation of steps for replacement of the instrument
- Direct the technician to reconnect the solenoid connector
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.3 Oxygen Analyzer/Sensor Failure

A) Objective:

- Evaluate the response to an Oxygen Analyzer/Sensor failure

B) Expected response:

- DAS Operator will implement the Bin-Scale Instrument Failure Response section of WP 05-WH1810 and SNL 362, as required
- Initiate replacement of the Primary Instrument String in accordance with WP 05-WH1914

C) Initiation:

- Post drill observer with technician at the DAS and CMR
- Initiate drill and the Drill Critique form, Attachment 4, page 5 of 26
- Direct the technician to turn OFF an oxygen analyzer channel

D) Termination and Recovery:

- Terminate upon drill players' initiation of steps for replacement of the instrument
- Direct the technician to re-energize the oxygen analyzer channel
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.4 Primary Mechanical Relief Path Failure

A) Objective:

- Evaluate the response to a failed mechanical safety relief valve during functional testing

B) Expected response:

- Initiate replacement of the Bin Primary Mechanical Safety Relief valve in accordance with WP 05-WH1916
- Pressurize bin in accordance with WP 05-WH1808

C) Initiation:

- Post drill observer and technician at Bin/RCB
- Initiate drill and the Drill Critique form, Attachment 4, page 7 of 26
- Drill observer have the technician remove the cap and open PR-9 Purge Port to depressurize the RCB instrumentation and then close valve and replace cap
- Direct the DAS Operator to perform a demand scan of RCB instrumentation

D) Termination and Recovery:

- Terminate upon drill players' initiation of steps for the replacement of the relief valve
- Verify bin is pressurized in accordance with WP 05-WH1808
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.5 Secondary Instrument String Flow Transducer Failure

A) Objective:

- Evaluate the response to a faulty flow transducer on the Secondary Instrument String

B) Expected response:

- DAS Operator will implement the Bin-Scale Instrument Failure Response section of WP 05-WH1810 and SNL 362, as required
- Initiate replacement of the Secondary Instrument String in accordance with WP 05-WH1914

C) Initiation:

- Post drill observer with technician at the DAS and CMR
- Initiate drill and the Drill Critique form, Attachment 4, page 9 of 26
- Direct the technician to disconnect the AMP connector

D) Termination and Recovery:

- Terminate upon drill players' initiation of steps for the replacement of the instrument
- Direct the technician to reconnect the AMP connector
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.6 Bin Low Pressure

A) Objective:

- Evaluate the ability to repressurize the bin

B) Expected response:

- Repressurize bin in accordance with WP 05-WH1809

C) Initiation:

- Post drill observer at Bin/RCB
- Initiate drill and the Drill Critique form, Attachment 4, page 11 of 26
- ISC Lead Observer direct the designated Waste Handling Technician to perform the following:

  1) Verify valves PR-1,2,7 and 8 are open
  2) Remove cap from PR-10
  3) Connect hose to VOC manifold
  4) Open valve PR-10 as required to depressurize bin to 0.1 psig as indicated on local bin pressure gage
  5) Close valve PR-10
  6) Remove the hose and replace cap

D) Termination and Recovery:

- Terminate upon completion of pressurization of the bin
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.7 Contaminated Assessment Filter

A) Objective:

- Evaluate the response to a Contaminated Assessment Filter

B) Expected response:

- Implement the Contaminated Assessment Filter Response section of WP 05-WH1810

C) Initiation:

- Initiate drill and the Drill Critique form, Attachment 4, page 13 of 26
- Post drill observer at Bin/RCB
- Direct technician to take bin gas samples in accordance with WP 05-WH1806
- Assessment filter contaminated with 200 dpm alpha

D) Termination and Recovery:

- Terminate upon completion of contaminated material being contained in accordance with Radiation Safety procedures
- Reestablish initial conditions in accordance with WP 05-WH1806, to realign the recirculation system for normal operations
- Inform drill participants of drill completion

9.5.8 Contaminated Equipment Module Fitting

A) Objective:

- Evaluate the response to a Contaminated Module fitting

B) Expected response:

- Implement the requirements of WP 12-504

C) Initiation:

- Initiate drill and the Drill Critique form, Attachment 4, page 15 of 26
- Post drill observer at Bin/RCB
- Direct technician to take bin gas samples in accordance with WP 05-WH1806
- Assessment filter module fitting contaminated with 150 dpm alpha

D) Termination and Recovery:

- Terminate upon completion of contaminated material being contained in accordance with Radiation Safety procedures
- Reestablish initial conditions in accordance with WP 05-WH1806, to realign the recirculation system for normal operations
- Inform drill participants of drill completion

9.5.9 Loose Surface Contamination on Bin

NOTE: This note applies to Step 9.5.9. This unusual event sets the scene for Step 9.5.10, Contaminated Personnel, which should be performed concurrently.

A) Objective:

- Evaluate the personnel response to a Loose Surface Contamination on bin, involving small area decontamination

B) Expected response:

- HPT will implement the requirements of WP 12-504 and WP 12-523

C) Initiation:

- Post drill observer at Bin/RCB
- Initiate drill and the Drill Critique form, Attachment 4, page 17 of 26
- Direct the HP technician to perform daily surveys in accordance with procedure WP 12-504
- While assessing swipes survey, 300 DPM alpha contamination is found on the bin

D) Termination and Recovery:

- Terminate upon completion of small area (area approximately 200 cm^2) decontamination and disposal of the derivative waste
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.10 Contaminated Personnel During Bin Activities

A) Objective:

- Evaluate the response to Personnel Contamination

B) Expected response:

- Technician implement the personnel decontamination requirements of WP 12-501

C) Initiation:

- Post drill observer at Bin/RCB
- Initiate drill and the Drill Critique form, Attachment 4, page 19 of 26
- During the performance of the personnel body survey in accordance with WP 12-503, ISC HPT Observer identify to the HP technician of survey readings (20 cpm alpha) showing skin contamination found on right index and middle fingers
- HPT initiate personnel decontamination in accordance with WP 12-501

D) Termination and Recovery:

- Terminate upon completion of personnel decontamination and disposal of the derivative waste
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.11 Loss of DAS Shed Power to Bins

A) Objective:

- Evaluate the response to a Loss of Power from the DAS Shed to the bins

B) Expected response:

- DAS Shed auto-dialer calls SNL and the CMR
- CMRO contacts WHS of loss of DAS Shed power
- Underground Ops, WHS and Experimental Ops evaluate cause of the loss of power

C) Initiation:

- Post drill observers at CMR and DAS
- Initiate drill and the Drill Critique form, Attachment 4, page 21 of 26.
- ISC Lead Observer direct the designated DAS technician to turn off the power supply to the DAS Shed (480 Volt), and restore power after a short delay (approximately 30 seconds)

D) Termination and Recovery:

- Terminate upon completion of evaluation as to cause of loss of power and/or upon receipt of the Auto-dial to CMR
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.12 Flammable Gas Concentration High

A) Objective:

- Evaluate the response to a Flammable Gas concentration ≥50 % of the Lower Flammability Limit (LFL) as analyzed and reported by the Analytical Lab

B) Expected response:

- Lab notifies WHO of flammable concentration ≥50 % of the Lower Flammability Limit (LFL)
- WHO and SNL confer on course of action to be taken
- Bin is purged in accordance with WP 05-WH1803

C) Initiation:

- Post drill observers at Bin/RCB
- Initiate drill and the Drill Critique form, Attachment 4, page 23 of 26
- ISC Lead Observer inform Analytical Lab that gas sample results on bin TBX05 has a flammable gas concentration of hydrogen gas 2.1% as analyzed

D) Termination and Recovery:

- Terminate upon the bin being purged
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.13 Particulate Filter and Hose Failure

A) Objective:

- Evaluate the response to an Internally Contaminated RCB with attaching hoses becoming Contaminated Material for disposal

B) Expected response:

- WHO should inform WHS of the Contaminated Material findings
- WHS will organize a meeting with HP, WHO and SNL, as appropriate to discuss the corrective actions response to be taken
- HP Technician and WHO initiate the corrective action as determined by the Command Action Team (CAT)

C) Initiation:

- Post drill observer at Bin/RCB
- Initiate drill and the Drill Critique form, Attachment 4, page 25 of 26
- During the performance of the contamination survey in accordance with WP 12-508, ISC HPT Observer identify to the HP technician results of survey readings (500 dpm alpha) showing that the smears of hoses internal to the RCB lid on TBX06 are contaminated (due to leaking Particulate Filter and failed hose)

NOTE: This note applies to Step 9.5.13 D). These hoses shall be considered contaminated material and treated accordingly for disposal

D) Termination and Recovery:

- Terminate upon completion of contaminated Bin/RCB/material being contained in accordance with Radiation Safety procedures
- Inform drill participants of drill completion

9.6 ISC Termination, Retrieval, Loading TRUPACT-II, Trailer Loading and Offsite Shipping

NOTE: Termination of the checkout and retrieval of the two Test Bins TBX05 and TBX07 is determined by the SNL Principle Investigator with concurrence of the Manager of Waste Handling Operations.

9.6.1 ISC terminated for the bins as notified by SNL Quality Assurance (QA) and WHO Manager.

[5] • Bin TBX05 ISC terminated

SIGNOFF REQUIRED

[7] • Bin TBX07 ISC terminated

SIGNOFF REQUIRED

9.6.2 Direct WHO to perform procedure WP 05-WH1806, Bin Sampling, for bins TBX05 and TBX07 and obtain the final gas sample, T=Termination, and notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

- Take the T=Termination, final gas sample

B) Procedure completed

[5]
- Bin TBX05 Final Gas Sample (T=Termination) obtained

SIGNOFF REQUIRED

[7]
- Bin TBX07 Final Gas Sample (T=Termination) obtained

SIGNOFF REQUIRED

9.6.3 Direct WHO to perform procedure WP 05-WH1912, Bin Equipment Disconnect for Retrieval for bins TBX05 and TBX07, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

NOTE: This note applies to the following bullet of Step 9.6.3 A). The total number of smears counted may be reduced after successful demonstration of counting techniques as observed by the ISC HP Observer.

[5] [7] • Bin depressurized

[5] [7] • Bin equipment disconnected from DAS

[5] [7] • Bin disconnected from VOC Sample Collection Manifold

[5] [7] • Bin equipment disconnected from RCB

B) Procedure completed

[5] • Test Bin TBX05 equipment disconnected

SIGNOFF REQUIRED

[7] • Test Bin TBX07 equipment disconnected

SIGNOFF REQUIRED

9.6.4 Direct WHO to perform procedure WP 05-WH1902, Bin Retrieval to return bin TBX05 to the surface, and to retrieve from abeyance on the surface bin TBX06, for transport offsite, and to notify the CTE upon completion

SIGNOFF REQUIRED

A) Major steps

[5]✓ • Bin retrieved from underground

NOTE: This note applies to the following bullet of Step 9.6.4 A). The total number of smears counted may be reduced after successful demonstration of counting techniques as observed by the ISC HP Observer.

[5]✓[6]✓ • RCB reconverted into SWB

[5]✓[6]✓ • Bin repackaged into clean SWB

B) Procedure completed

[5]✓ • Test Bin TBX05 retrieved and converted to SWB

SIGNOFF REQUIRED

[6]✓ • Test Bin TBX06 converted to SWB

SIGNOFF REQUIRED

9.6.5 Direct WHO to perform procedure WP 05-WH1032, Payload Certification for bin TBX05 and TBX06, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5]✓[6]✓ • Determine physical content of bin

[5]✓[6]✓ • Verify decay heat value

[5]✓[6]✓ • Verify SWB weight

[5]✓[6]✓ • WWIS information on each bin is retrieved and reviewed

B) Procedure completed

[5]✓ • Bin TBX05 certified for transport

SIGNATURE REQUIRED

[6]✓ • Bin TBX06 certified for transport

SIGNATURE REQUIRED

9.6.6 Direct WHO to perform procedure WP 05-WH1033, Payload Assembly Transportation Certification for bins TBX05 and TBX06, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5]✓[6]✓ • Documents prepared to allow loading of bin into TRUPACT-II

B) Procedure completed

[5]✓[6]✓ • Bin TBX05 and TBX06 assembled for transport

SIGNATURE REQUIRED

9.6.7 Direct WHO to perform procedure WP 05-WH1001, TRUPACT-II Loading, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5]✓[6]✓ • TRUPACT-II disassembled

[5]✓[6]✓ • OCV inspected

[5]✓[6]✓ • ICV inspected

[5]✓[6]✓ • SWB containing Test Bin loaded into TRUPACT-II

B) Procedure completed

[5]✓ • TRUPACT-II loaded with Test Bin TBX05 and TBX06

SIGNATURE REQUIRED

9.6.8 Direct WHO to perform procedure WP 05-WH1080, TRUPACT-II Verification Leak Test, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5]✓[6]✓ • ICV leak tested

[5]✓[6]✓ • OCV leak tested

B) Procedure completed

[5]✓ • TRUPACT-II containing Test Bin TBX05 and TBX06 leak tested

SIGNOFF REQUIRED

9.6.9 Direct WHO to perform procedure WP 05-WH1005, Loading TRUPACT-II Trailer, and to notify the CTE upon completion.

A) Major steps

[5]✓[6]✓ • TRUPACT-II tie-downs inspected

[5]✓[6]✓ • TRUPACT-II loaded onto trailer

B) Procedure completed

[4] • TRUPACT-II for TBX05 and TBX06 loaded onto trailer

SIGNATURE REQUIRED

9.6.10 Direct the Transportation Engineer to perform procedure WP 06-102 to complete and provide the shipping papers and Bar Codes required for shipment simulation of the TRUPACT-II offsite with the Test Bins, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[4] • Shipping documents complete for TBX05 and TBX06

B) Procedure completed

[4] • TRUPACT-IIs and Trailer ready to be shipped offsite

SIGNOFF REQUIRED

10.0 ACCEPTANCE CRITERIA

10.1 The completion of this procedure is deemed to be acceptable upon review of the following documentation for the ISC generated by this procedure.

- Attachment 2, ISC Checkout Tracking Report
- Attachment 3, ISC Pre-Checkout Briefing Sheet
- Attachment 4, ISC Unusual Event/Drill Critique Sheet
- Attachment 5, ISC System/Subsystem Readiness Verification Sheet
- Attachment 6, ISC CTE Checkout Log
- Attachment 7, ISC Bin Checkout Termination Notification
- Attachment 8, ISC Observer Final Report
- Attachment 9, ISC Procedure Completion Verification Sheet

10.2 All data generated by the individual Operating Procedures will be maintained in accordance with the procedure that generated the Record.

10.3 All data generated by the indivdual Operating Procedures will be stamped "ISC DATA".

10.4 Final acceptance of the ISC by the designated appropriate approval disciplines requires review of the following:

- Site procedures were adequate to perform the individual tasks
- Tasks were performed safely, efficiently and in accordance with approved procedures
- Unusual events/drills that were performed demonstrated the ability for site personnel to respond, manage and resolve the unusual tasks as identified by the Test Plan
- Personnel demonstrated their ability to follow the Radiation Safety ALARA program during the performance of assigned tasks
- Personnel are trained and qualified in accordance with approved site procedures to perform their discipline assigned tasks
- CH TRU systems and equipment provide sufficient confidence in their ability to perform designed functions
- Site personnel involved in the ISC demonstrate an ability to operate existing equipment and respond to given situations with confidence

11.0 REVIEW

11.1 CTE attach copies of Attendance Sheets for Pre-Checkout Briefings, and complete Attachment 3, ISC Pre-Checkout Briefing Sheet by verifying the identified personnel were in attendance at a Pre-Checkout Briefing.

11.2 CTE complete Attachment 4, ISC Unusual Event/Drill Critique Sheet, by reviewing drill comments with ISC Observers, answering the Attachment questions, providing a summation of ISC Observer comments and attaching the ISC observers comments to the procedure.

11.3 CTE complete Attachment 5, ISC System/Subsystem Readiness Verification Sheet, by attaching the copy of the Readiness Review Board declaration, and by verifying receipt of the response to Engineering Department letter HA:91:3623, Certification of System/Equipment Readiness to Support the Integrated Systems Checkout.

11.4 CTE attach to the procedure as Attachment 6, the CTE ISC Checkout Log generated by this procedure.

11.4.1 The CTE log entries **SHALL** include the date (one entry per day), the time of entry, and **SHALL** be initialled after each entry.

11.5 SNL Quality Assurance Officer and WID Waste Handling Operations Manager complete Attachment 7, ISC Bin Checkout Termination Notification, for each bin upon making a checkout termination decision for the bin, and provide the Sheet to the CTE.

11.6 ISC Lead Observer attach to the procedure as Attachment 8, the ISC Lead Observer Final Report generated by the procedure.

11.7 CTE complete Attachment 9, ISC Procedure Completion Verification Sheet.

INDEPENDENT VERIFICATION

11.8 Manager, Radwaste Handling Engineering review the completed WIPP Dry Bin-Scale CH TRU Waste Integrated System Checkout procedure and attached/accompanying ISC CTE reports. Quality Assurance to independently verify.

- Verify that all appropriate designated SIGNOFFS REQUIRED have been completed for identified tasks
- Verify the procedure log is complete with appropriate narration, dates & times, and special points of interests are identified and signed off at the end of each evolution or shift
- Verify the Attachments are complete as required
- Verify the completed procedure appropriately addresses entries made to it in error, and that appropriate corrections have been made
- Complete Attachment 9

SIGNOFF REQUIRED

12.0 RECORDS

12.1 The following Permanent Quality Assurance Records are generated by this procedure:

- Procedure WP 05-WH5101, WIPP Dry Bin-Scale CH TRU Waste Integrated System Checkout; Waste Handling Operations

12.2 The following Non-Permanent Quality Assurance Records are generated by this procedure:

- Copies of the records generated by the procedures implemented by this procedure as denoted on Attachment 2, ISC Checkout Tracking Report

12.3 The Non-Permanent Records are to be retained with the Permanent Records of this procedure for one year at which time they may be referenced to the master record and properly disposed.

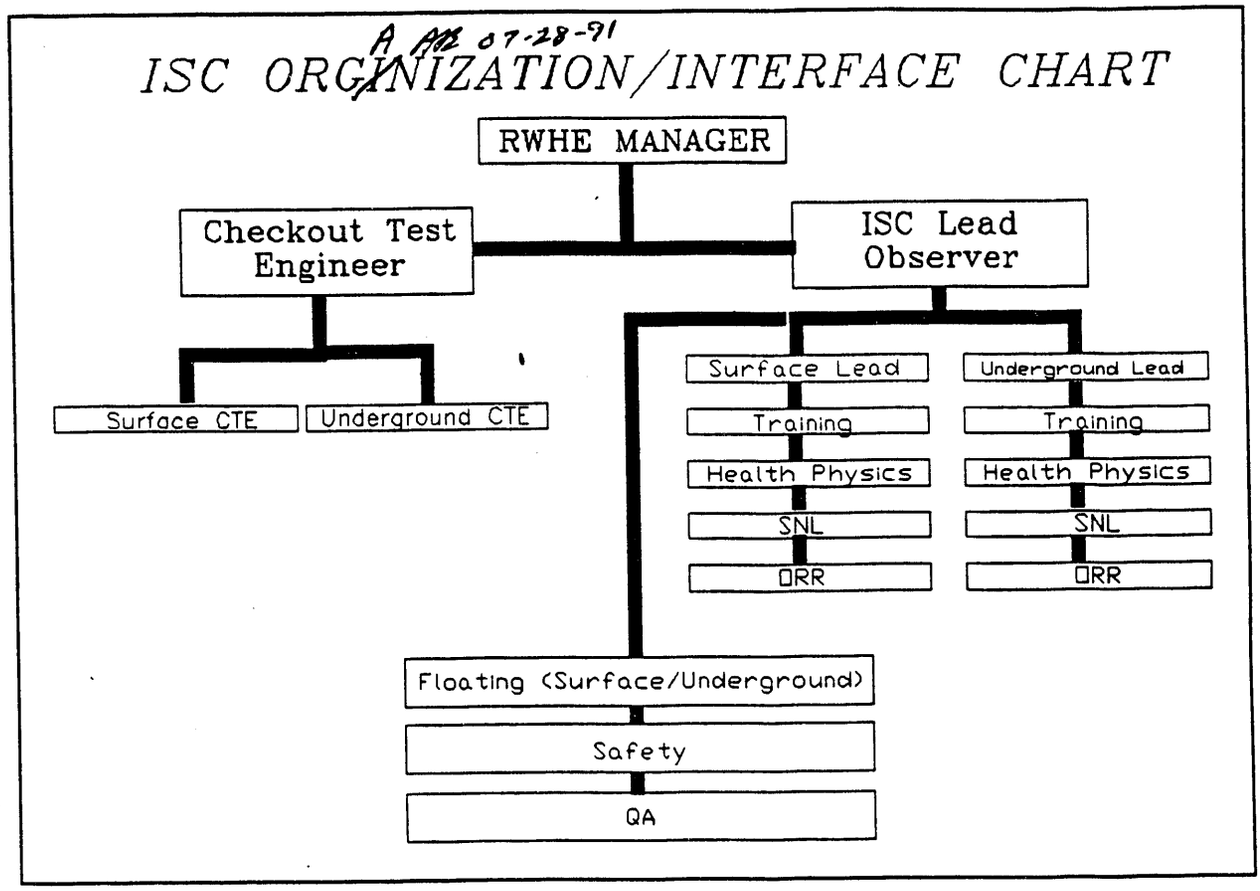
12.4 Quality Assurance Records **SHALL** be corrected, stored, and maintained in accordance with NQA-1-1989.

12.5 Quality Assurance Records from this procedure **SHALL** be identified on the Engineering Department Record Inventory and Disposition Schedule (RIDS).

12.6 The Manager, Waste Handling Operations, is responsible for the validation of the Records to be transmitted to the Master Records Center (MRC).

ATTACHMENT 1

ISC OBSERVER ORGANIZATION and INTERFACE CHART



CONTROLLED COPY

TTACHMENT 1

ISC OBSERVER ORGANIZATION and INTERFACE CHART

Steps in WP 05-WH5101 and Bin to which they correspond.

Step	TBX05	TBX06	TBX07	Step	TBX05	TBX06	TBX07
9.1.1				9.3.1	X		X
9.1.2	X	X		9.3.2	X		X
9.1.3	X	X		9.3.3			
9.1.4	X	X		9.3.4			
9.1.5	X			9.3.5			
9.1.6	X			9.6.1	X		X
9.1.7	X			9.6.2	X		X
9.1.8				9.6.3	X		X
9.2.1	X		X	9.6.4	X	X	
9.2.2			X	9.6.5	X	X	
9.2.3	X			9.6.6	X	X	
9.2.4	X			9.6.7	X	X	
9.2.5	X		X	9.6.8	X	X	
9.2.6	X		X	9.6.9	X	X	
				9.6.10			

ATTACHMENT 2 Page 1 of 8

NOTE: All performers signifying completion of work performed as covered by the procedure steps indicated in Attachment 2, are required to print name, initial and date the last page of this attachment.

ISC CHECKOUT TRACKING REPORT

STEP	PROCEDURE	RECORD	NOTIFY	START	STOP	INT	VER
8.1	RBB Declaration					AW ABB *	JHH
8.2.1	TB001, TB002, TBX05, TBX06, TBX07 assembled					AW ABB	HPL
8.2.2	TRUPACT-IIs loaded onto Trailers					AW ABB	HPL
8.2.3	TBX07 set in position 57					AW ABB	HPL
8.2.4	TB001 and TB002 set in position 1 and 3					AW ABB	HPL
8.3	Transportation papers ready					ABB	HPL
8.4	Pre-Checkout Briefing	WH5101 Attachment 3				ABB	HPL

COMMENTS:
(Initial any entry)

* Received RBB Declaration documents on 07/12/91, 0800 ABB
Received RBB Declaration document on 07/17/91, 0915 for External ISC. All RBB documents RB:91:0547 and RB:91:0569 Provide both, A Conditional Recommendation to Proceed with the Internal ISC and Verification that Sufficient evidence to document readiness to Support Initiation of the External ISC. See Attachment 5 for these documents.

Completion of this signoff Constitutes VALIDATION of Steps 8.2.1 through 8.2.4 Above

Clinton R Keller — C S Keller — 8/2/91 0887
MANAGER WHO (PRINT) — SIGNATURE — DATE / TIME

ATTACHMENT 2

ISC CHECKOUT TRACKING REPORT

STEP	PROCEDURE	RECORD	NOTIFY	START	STOP	INT	VER
9.1.1	05-WH1010		JEFF WINKLE	7-17-91 1000		FWT	
9.1.1 B)	TRUPACT-II receipt	2080	JEFF WINKLE		7-17-91 1100	FWT	
9.1.2	05-WH1011		JOE WILLIS	0830/7/17		FWT	
9.1.2 B)	TRUPACT-II unloaded	2108	JOE WILLIS	7-17-91	7-17-91 1500	FWT	
9.1.2 B)	TRUPACT-II unloaded	2108	JOE WILLIS	7-19-91	7-10-91 01125	FWT	JHW
9.1.3	05-WH1901 TBX05		JOE WILLIS	7-19-91 1520		FWT	
9.1.3	05-WH1901 TBX06		JOE WILLIS	1215/7/19		FWT	
9.1.3 B)	TBX05 converted and emplaced	2098	JOE WILLIS	7-19-91	7-22-91 2100	FWT	
9.1.3 B)	TBX06 converted and abated	2098	JOE WILLIS		7-10-91 1130	FWT.	JHW
9.1.4	05-WH1807 TBX05		JOE WILLIS	1900/7/19		FWT	
9.1.4	05-WH1807 TBX06		JOE WILLIS	7-10-91 1550		FWT	
9.1.4 B)	TBX05 leak tested	2087	JOE WILLIS		7-19-91 1109	FWT	
9.1.4 B)	TBX06 leak tested	2087	JOE WILLIS		7-11-91 1055	FWT	JHW
9.1.5	05-WH1506		JOE WILLIS	7-19-91 1305		FWT	
9.1.5 B)	TBX05 surface purged	2119	JOE WILLIS	7-22-91	7-22-91 1120	FWT	

COMMENTS:
(Initial any entry)

STARTED STEP 9.1.4 AT 1550/7-10-91 COMPLETED AT 1055/7-11-91. FWT 7-11-91

STEP 9.1.2 NOTIFIED JOE WILLIS AT 1210 7-17-91. FWT 7-17-91

RETURNED TO PROCEDURE WP05-WH1506 AT 1045-7-22-91 FWT 7-22-91

RETURNED TO PROCEDURE WP05-WH1901 AT 1142-7-22-91 FWT 7-22-91

ATTACHMENT 2

ISC CHECKOUT TRACKING REPORT

STEP	PROCEDURE	RECORD	NOTIFY	START	STOP	INT	VER
9.1.7	05-WH1801		JOE WILLIS	7-22-91 0840		FWT	
9.1.7 B)	TBX05 gettered	2088	JOE WILLIS		7-22-91 0958	FWT	
9.1.8	05-WH1802		JOE WILLIS	7-22-91 1000		FWT	
9.1.8 B)	Getter regenerated	2090	JOE WILLIS		7-22-91 2100	FWT	

COMMENTS:
(Initial any entry) STEP 9.1.6 SURFACE TBX05 PRESSURIZED FOR UNDERGROUND TRANSPORT ONLY. UNDERGROUND TBX05 DEMONSTRATED DEPRESSURIZED PER PROCEDURE WP 05-WH1506. FWT 7-22-91

ATTACHMENT 2

ISC CHECKOUT TRACKING REPORT

STEP	PROCEDURE	RECORD	NOTIFY	START	STOP	INT	VER
9.2.1	05-WH1910 TBX05						
9.2.1	05-WH1910 TBX07						
9.2.1 B)	TBX05 DAS interfaced	2138					
9.2.1 B)	TBX07 DAS interfaced	2138					
9.2.2	05-WH1806						
9.2.2 B)	TBX07 sampled	1834					
9.2.3	05-WH1803						
9.2.3 B)	TBX07 purged	1915 1922					
9.2.4	05-WH1801						
9.2.4 B)	TBX07 gettered	2088					
9.2.5	05-WH1802						
9.2.5 B)	Getter regenerated	2090					
9.2.5	05-WH1809 TBX05						
9.2.5	05-WH1809 TBX07						
9.2.6 B)	TBX05 pressurized	2086					
9.2.6 B)	TBX07 pressurized	2086					
9.2.7	05-WH1811 TBX05						
9.2.7	05-WH1811 TBX07						
9.2.7 B)	TBX05 tracer gas	NONE					
9.2.7 B)	TBX07 tracer gas	NONE					

COMMENTS:
(Initial any entry) PERFORMED UNDERGROUND SWT 7-26-91

ATTACHMENT 2

ISC CHECKOUT TRACKING REPORT

STEP	PROCEDURE	RECORD	NOTIFY	START	STOP	INT	VER
9.3.1	05-WH1810 TBX05						
9.3.1	05-WH1810 TBX07						
9.3.1 B)	TBX05 routine monitor	2129 2130 2131 2132 2133					
9.3.1 B)	TBX07 routine monitor	2129 2130 2131 2132 2133					
9.3.2	05-WH1806 TBX05						
9.3.2	05-WH1806 TBX07						
9.3.2 B)	TBX05 sampled	NONE					
9.3.2 B)	TBX07 sampled	NONE					
9.3.3	12-AL6010						
9.3.3 B)	Sample shipped	NONE					
9.3.4	12-EM1624						
9.3.4 B)	VOC 10 sample canister						
9.3.5	12-EM1603						
9.3.5 B)	Carbon bed replaced	NONE					
9.3.5 B)	VOST tube replaced	1833					
9.4.1 B)	TBX05 DAS Activated						
9.4.1 B)	TBX07 DAS activated						

COMMENTS:
(Initial any entry) PERFORMED UNDERGROUND JWT 7-26-91

ATTACHMENT 2

ISC CHECKOUT TRACKING REPORT

STEP	PROCEDURE	RECORD	NOTIFY	START	STOP	INT	VER
9.6.1	TBX05 Checkout Terminated	Attachment 7					
9.6.1	TBX07 Checkout Terminated	Attachment 7					
9.6.2	05-WH1806 TBX05						
9.6.2	05-WH1806 TBX07						
9.6.2 B)	TBX05 gas sampled	NONE					
9.6.2 B)	TBX07 gas sampled	NONE					
9.6.2 B)	05-WH1912 TBX05						
9.6.3	05-WH1912 TBX07						
9.6.3 B)	TBX05 equipment disconnected	2139					
9.6.3 B)	TBX07 equipment disconnected	2139					
9.6.4	05-WH1902 TBX05		JOE WILLIS	7-22-91 1245		FWT	
9.6.4	05-WH1902 TBX06		JOE WILLIS	7-11-91 1245		FWT	
9.6.4 B)	TBX05 bin retrieved	2097 2144	JOE WILLIS		7-22-91 1535	FWT	MJ
9.6.4 B)	TBX06 bin retrieved	2097 2144	JOE WILLIS	~~7-11-91~~	FWT 7-11-91 ~~1355~~ 1455 ~~1455~~	FWT	JM
9.6.5	05-WH1032 TBX05		JOE WILLIS	7-22-91 1535		FWT	
9.6.5	05-WH1032 TBX06		JOE WILLIS	7-11-91 1400		FWT	
9.6.5 B)	TBX05 certified	2116	JOE WILLIS		7-22-91 1545	FWT	MJ
9.6.5 B)	TBX06 certified	2116	JOE WILLIS		7-11-91 1500	FWT	JM

COMMENTS:
(Initial any entry) PART OF 9.6.4B & 9.6.5 WORKED IN PAR
STEP 9.6.4B TBX06 STOP TIME 1455. FWT 7-11-91
N/A = PERFORMED UNDERGROUND. FWT 7-26-91

ATTACHMENT 2

ISC CHECKOUT TRACKING REPORT

STEP	PROCEDURE	RECORD	NOTIFY	START	STOP	INT	VER
9.6.6	05-WH1033		JOE WILLIS	7-22-91 1545		[illegible]	
9.6.6 B)	TBX05 and TBX06 assembly for transport	2146 2147	JOE WILLIS		7-27-91 1610	[illegible]	[illegible]
9.6.7	05-WH1001		JOE WILLIS	7-23-91 0805		[illegible]	
9.6.7 B)	TBX05 and TBX06 loaded into TRUPACT	2081	JOE WILLIS		7-23-91 1250	[illegible]	[illegible]
9.6.8	05-WH1080		JOE WILLIS	7-23-91 1010		[illegible]	
9.6.8 B)	TRUPACT leak test	2074 2075 2076 2077 2078 2079	JOE WILLIS		7-23-91 1230	[illegible]	[illegible]
9.6.9	05-WH1005		JOE WILLIS	7-23-91 1325		[illegible]	
9.6.9 B)	TRUPACT on trailer	1826	JOE WILLIS		7-23-91 1359	[illegible]	[illegible]
9.6.10	06-102		JEFF WINKLE	7-23-91 1340		[illegible]	
9.6.10 B)	TBX05 and TBX06 shipping papers		JEFF WINKLE		7-23-91 1355	[illegible]	[illegible]

COMMENTS:
(Initial any entry) STEP 9.6.8 MUST BE COMPLETED PRIOR TO COMPLETION OF STEP 9.6.7. [illegible] 7-23-91

ATTACHMENT 2

ISC CHECKOUT TRACKING REPORT

COMMENTS:
(Initial any entry)

Persons initialling this Attachment **SHALL** enter their printed name, initials, and date below.

Print Name	Initial	Date.
L.W. TREADWAY	LWT	7-10-91
JAMES MCCORMICK	JAM	7-10-91
Michael J Trevrey	MJT	7-12-91
AL BROWN	ALB	07-12-91
Clinton R Kelley	CRK	8-2-91

ATTACHMENT 3

ISC PRE-CHECKOUT BRIEFING SHEET

PRE-CHECKOUT BRIEFING SHEET ROSTER

CTE verify the attendance of the following Organizational Managers and other noted ISC personnel in attendance at a ISC Pre-Checkout Briefing. Attach a copy of the attendance sheet.

[✓]	Waste Handling Operations	[✓]	Facility Operations
[✓]	Operational Health Physics	[✓]	Dosimetry and Analytical Technology
[✓]	Maintenance	[✓]	Safety and Plant Protection
[✓]	Transportation and Hazardous Material Handling	[✓]	Inspection Services and QA Records
[✓]	Facilities Engineering	[✓]	Radiation Waste Handling Engineering
[✓]	Mine Engineering	[✓]	Checkout Test Engineers
[✓]	Sandia National Laboratories		

ISC personnel verified in attendance, and records attached.

	Print Name	Initial	Date
	L W Treadway	LWT	7-10-91
CTE	JC BROWN	JCB	07/10/91

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

ISC PRE-CHECKOUT BRIEFING ROSTER SHEET

Attachment 3

DATE 07-09-91

Print using **BLACK INK PEN ONLY.**

Name	SSN	Discipline	Initials	Signature
AL BROWN	[redacted]	RWHE	AB	A Brown
L. W. TREADWAY	[redacted]	S/U	LWT	L W Treadway
M FORD	[redacted]	MECE	GNP	M Ford
James A Davis	[redacted]	E &	JAD	James A Davis
Ross Bispins	[redacted]	Lab	RB	R. Bispins
L. RENCHENSON	[redacted]	S.P.P.	LR	L Renchenson
D. Krumpf	[redacted]	HP	DK	D. R. Krumpf
R.D. Boyer	[redacted]	CHP	RDB	R. D. Boyer
R. J. Rodriguez	[redacted]	RWHE	RJR	R. J. Rodriguez
HOWARD LEAS	[redacted]	QA	HL	H Leas
JAMES MCCORMICK	[redacted]	QA	JM	James McCormick
M. J. Trefren	[redacted]	QA	MJT	M J Trefren
Lynn Tergeguing	[redacted]	Trans.	ALT	Lynn Tergeguing
Clint Kelley	[redacted]	Op's	CWK	Clint Kelley
John J. Garcia	[redacted]	RWHE	JG	John J. Garcia

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Failure of Primary Instrument String Pressure Sensor/Transducer

05-WH5101 STEP NO. 9.5.1

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [] No []

   Comments:

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No []

   b. Normal wear and tear? Yes [] No []

   Comments:

N/A = PERFORMED UNDERGROUND. [illegible] 1-26-91

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Failure of Primary Instrument String Pressure Sensor/Transducer

05-WH5101 STEP NO. 9.5.1

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

N/A PERFORMED UNDERSTUDY
LMT 7-26-91

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

_____ / _____

CTE Signature /Date

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Solenoid Operated Control Valve Failure

05-WH5101 STEP NO. 9.5.2

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [] No []

   Comments:

   N/A
   [illegible] 7-26-91

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No []

   b. Normal wear and tear? Yes [] No []

   Comments:

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Solenoid Operated Control Valve Failure

05-WH5101 STEP NO. 9.5.2

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

N/A for 7.26.97

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

_____ /

CTE Signature /Date

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Oxygen Analyzer/Sensor Failure

05-WH5101 STEP NO. 9.5.3

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill? Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below. Yes [] No []

   Comments:

N/A PERFORMED UNDERGROUND
7-26-91

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No []

   b. Normal wear and tear? Yes [] No []

   Comments:

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Oxygen Analyzer/Sensor Failure

05-WH5101 STEP NO. 9.5.3

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

N/A PERFORMED UNDER GROUND FAT 7-26-91

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

_____ /

CTE Signature /Date

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Primary Mechanical Safety Relief Path Failure

05-WH5101 STEP NO. 9.5.4

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [] No []

   Comments:

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No []

   b. Normal wear and tear? Yes [] No []

   Comments:

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Primary Mechanical Safety Relief Path Failure

05-WH5101 STEP NO. 9.5.4

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

N/A PERFORMED UNDERGROUND Jun 7, 26-91

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

_____ /
CTE Signature /Date

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Secondary Instrument Board Flow Transducer Failure

05-WH5101 STEP NO. 9.5.5

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [] No []

   Comments:

N/A JAO 7-26-91

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No []

   b. Normal wear and tear? Yes [] No []

   Comments:

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Secondary Instrument Board Flow Transducer Failure

05-WH5101 STEP NO. 9.5.5

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

CTE Signature /Date

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Bin Low Pressure

05-WH5101 STEP NO. 9.5.6

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [] No []

   Comments:

N/A PERFORMED IN UNDERGROUND
7-26-91

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No []

   b. Normal wear and tear? Yes [] No []

   Comments:

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Bin Low Pressure

05-WH5101 STEP NO. 9.5.6

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

N/A PERFORMED

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

CTE Signature /Date

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Contaminated Assessment Filter

05-WH5101 STEP NO. 9.5.7

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [] No []

   Comments:

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No []

   b. Normal wear and tear? Yes [] No []

   Comments:

N/A PERFORMED UNDERGROUND

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Contaminated Assessment Filter

05-WH5101 STEP NO. 9.5.7

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

N/A PERFORMED UNDER GROUND Jad 7-26-91

_____ /
CTE Signature /Date

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Contaminated Equipment Module Fitting

05-WH5101 STEP NO. 9.5.8

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [] No []

   Comments:

   WP PERFORMED UNDERGROUND
   EWT 7-26-91

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No []

   b. Normal wear and tear? Yes [] No []

   Comments:

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Contaminated Equipment Module Fitting

05-WH5101 STEP NO. 9.5.8

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

N/A PERFORMED UNDERGROUND
Jm 7-26-91

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

CTE Signature /Date

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Loose Surface Contamination on Bin

05-WH5101 STEP NO. 9.5.9

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [✓] No [ ]

   Comments: NONE

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [✓] No [ ]

   Comments: NONE

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [ ] No [ ] N/A [✓]

   b. Normal wear and tear? Yes [ ] No [ ] N/A [✓]

   Comments: N/A

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Loose Surface Contamination on Bin

05-WH5101 STEP NO. 9.5.9

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [✓] No [ ]

Comments: NONE

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [✓] No [ ]

Comments: NONE

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [✓] No [ ]

If No, recommendations/comments:
ALL STEPS PERFORMED VERY WELL.

12-12-91
CTF Signature /Date

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Contaminated Personnel

05-WH5101 STEP NO. 9.5.10

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [✓] No [ ]

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [✓] No [ ]

   Comments:

   DELETED IN ERROR Init 7-26-91

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [ ] No [ ] N/A [✓]

   b. Normal wear and tear? Yes [ ] No [ ] N/A [✓]

   Comments:

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Contaminated Personnel

05-WH5101 STEP NO. 9.5.10

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [✓] No [ ]

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [✓] No [ ]

Comments:

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [✓] No [ ]

If No, recommendations/comments:

17-18-91
CTE Signature /Date

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Loss of DAS Shed Power to Bins

05-WH5101 STEP NO. 9.5.11

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [] No []

   Comments:

N/A PERFORMED UNDERGROUND
Jan 7-26-91

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No []

   b. Normal wear and tear? Yes [] No []

   Comments:

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Loss of DAS Shed Power to Bins

05-WH5101 STEP NO. 9.5.11

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

NA PERFORMED UNDERGROUND
JMJ 7-26-91

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

_____ /

CTE Signature /Date

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Flammable Gas Concentration High

05-WH5101 STEP NO. 9.5.12

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [] No []

   Comments:

N/A PERFORMED UNDER GROUND
JM 7-26-91

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No []

   b. Normal wear and tear? Yes [] No []

   Comments:

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Flammable Gas Concentration High

05-WH5101 STEP NO. 9.5.12

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

N/A PERFORMED UNDER GROUND
JM 7-26-91

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

_____ /
CTE Signature /Date

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Failure of a Particulate Filter and Hose

05-WH5101 STEP NO. 9.5.13

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [✓] No [ ]

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [✓] No [ ]

   Comments:

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [ ] No [ ] N/A [✓]

   b. Normal wear and tear? Yes [ ] No [ ] N/A [✓]

   Comments:

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Failure of a Particulate Filter and Hose

05-WH5101 STEP NO. 9.5.13

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [✓] No [ ]

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [✓] No [ ]

Comments:

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [✓] No [ ]

If No, recommendations/comments:

1-18-99
CTE Signature /Date

ATTACHMENT 5

ISC SYSTEM/SUBSYSTEM READINESS VERIFICATION SHEET

The following records were received in accordance with site letter HA:91:3623.

- [✓] Waste Handling Building HVAC
- [✓] SWB and Bin Handling Equipment
- [✓] RCB Lids
- [✓] Gas Analysis Equipment
- [✓] Surface Bin Gas Sampling Equipment
- [✓] Exercise Bins
- [✓] SWB
- [✓] Fork Trucks
- [✓] Conveyance Loading Car
- [✓] Waste Hoist
- [✓] Underground Fork Lifts
- [✓] DAS
- [✓] Room 1 Electrical Distribution
- [✓] Bin VOC Monitoring System
- [✓] Oxygen Gettering/Argon Purge System
- [✓] Tracer Gas Injection System
- [✓] Mechanical Relief Modules
- [✓] Waste Handling Building CAMS and Effluent
- [✓] Contract Lab for VOC
- [✓] Argon, Nitrogen, Air Purge Equipment
- [✓] TRUPACT Unloading Dock and Associated Equipment
- [✓] SWB Ventilation Hood
- [✓] Bin Pressurization Test Rig
- [✓] Bin Gas Recirculation
- [✓] Underground Bin Gas Sampling Equipment
- [✓] Bin Filters
- [✓] Facility Pallet and SWB Hold-downs
- [✓] Overpack Enclosure
- [✓] Underground Transporter
- [✓] Underground Ventilation
- [✓] Room 1 Bulkheads
- [N/A] Site VOC Monitoring Systems
- [✓] Bin Platforms
- [✓] Room 1 CAMs and Fixed Air Monitors
- [✓] Instrumentation Strings
- [✓] Low Level Radiological Monitoring System (smear counting)
- [✓] Backup Power to Panel 1
- [✓] Leak Test Equipment (MILRT)

ATTACHMENT 5

ISC SYSTEM/SUBSYSTEM READINESS VERIFICATION SHEET

The following records were received in accordance with Step 8.1, copy of Readiness Review Board declaration of site and system readiness.

The requirements of Attachment 5 are complete 7-26-91

CTE	A C BROWN		0800 07/12/91
	Print Name	Initial	Date

From : Readiness Review Board
WIN : 887-8230
Date : July 17, 1991
Subject: RRB DOCUMENTATION ON INITIATING THE EXTERNAL INTEGRATED SYSTEM CHECKOUT (ISC)

Reference: (1) WIPP Dry Bin-Scale Integrated Systems Checkout Plan (ISCP) DOE/WIPP 90-002, Rev. 2, April, 1991.

To :

(2) Letter from Mr. C. E. Conway to Mr. J. J. Garcia, RB:91:0445, dated May 9, 1991, Subject, "ISCP/ORR Duplication of Effort"

(3) Letter from Mr. J. J. Garcia to Mr. C. E. Conway, HA:91:3602, dated May 13, 1991, Subject, "Integrated Systems Checkout Plan/ Operational Readiness Review Duplication of Effort"

J. J. Garcia

cc: C. M. Cox
L. R. Fitch
T. W. Halverson
J. L. Lee
L. L. Reed
A. L. Stevens - SNL
A. L. Trego
W. D. Weart - SNL

Prior to initiating the external Integrated Systems Checkout (ISC), the governing plan, reference 1, requires documentation of readiness. An agreement was established and documented in references 2 and 3 that requires the WID Readiness Review Board (RRB) to provide verification that the agreed upon requirements from the "Certification of System/Equipment Readiness to Support the Integrated Checkout" are completed.

The RRB reviewed the affidavits from the Phase II ORR and identified which affidavits supported the requirements for readiness to initiate the ISC. These affidavits have been categorized as "I or I'" and have been reviewed with the WID/SNL NRB and cognizant WID and SNL management to gain concurrence on the categorization and to review closure documentation. Sufficient evidence has been provided to the RRB to close all of the prereadiness actions associated with the affidavits with the following exceptions:

Checklist	Item	Exception
WH06.13	2.4.1.1	The rupture disk does not meet the leak rate criteria of 1×10^{-8} cc/sec. helium. (Vendor data show 1×10^{-4} cc/sec.)

-3 CEC
07/17-91

Checklist	Item	Exception
SNL-RS	4.1.1.1	The oxygen sensor does not meet the leak rate criteria of 1×10^{-8} cc/sec helium.

These exceptions do not preclude a successful integrated system checkout and the deficiencies associated with the leak rate will be tracked as a prereadiness action.

The RRB also reviewed the test results from the Integrated Engineering Test which was completed on 7/16/91 and found no unacceptable test exceptions. The formal closure of the test will be provided in checklist WPBS.5.

To ensure that all readiness requirements addressed in the ISCP (reference 1) are met, the RRB worked with members of your staff and SNL. The results are as follows: 1) The readiness requirements for SNL and Waste Handling Operations are met by evidence provided in the WID ORR or records on file (see attachment 1), 2) The Quality Assurance surveillance of training records has been satisfactorily completed, 3) RWHE will provide documentation to address the remaining readiness requirements agreed to in reference 3.

The Readiness Review Board has sufficient evidence to document readiness to support the initiation of the external ISC.

C. E. Conway
Chairman

CEC:sjl

Attachment

RB:91:0569

Sandia National Laboratories

Albuquerque, New Mexico 87185

date: July 15, 1991

to: T. W. Halverson, WID
C. E. Conway, WID

from: A. L. Stevens, SNL

subject: Comparison of ISC Plan Revision 2 (April 1991) Scope to Current (July 1991) Checkout Scope

Reference: Memorandum, T. W. Halverson to Distribution, same subject, dated July 14, 1991.

Wayne Chase (WID) of the ORR team, Andrew Orrell (SNL) and I examined paragraphs 6, 40, 42, 43, 44, 49, and 50 of the referenced memorandum. These paragraphs are the ones that address SNL obligations defined in the ISC Plan. Together, we concluded that the SNL ORR affidavits, with action items, plus the SNL checkout of the DAS in accordance with SNL Procedure 357 (Verification of Bin-Scale Pressure Relief Program) provide evidence of completion of the SNL activities defined in the ISC Plan as noted above.

Paragraph 44 contains items that are a mix of SNL and WID Waste Handling Operations responsibilities. Clint Kelley and I have examined these items one-by-one and agree that objective evidence exists in our records for each item.

ALS:6311:nr

Copy to:
W. L. Chase, WID
C. R. Kelley, WID
1841 P. J. Clews
1841 K. R. Zavadil
6340 S. Y. Pickering
6340 SWCF In Situ TRU
6343 S. A. Orrell
9325 R. W. Brown
9325 D. C. Browne
6311 A. L. Stevens

MEETING MINUTES

Attendees		Distribution
Name	Organization	Attendees Plus
H. L. Bibby	R. Kuginskie	R. E. Anderson
S. T. Cassingham	J. L. Lee	C. M. Cox
W. L. Chase	H. L. Lucus	T. W. Halverson
C. E. Conway (RRB)	R. A. Palanca (RRB)	L. R. Fitch
J. A. Davis	L. A. Patrick	
F. E. Fairman (RRB)	L. L. Reed	Approved:
J. J. Garcia	D. L. Schoen	C E Conway 7/10/91
K. Horst	A. L. Stevens - SNL	C.E. Conway/Date
W. A. Keeley	R. A. Sowers	
C. R. Kelley	F. P. Tierney (RRB)	RB:91:0547
T. F. Kocialski	S. O. Watson (RRB)	
	D. L. Wells	

Prepared By	Date
R. A. Palanca	07/10/91

Subject or Purpose of Meeting	Location	Date
REVIEW OF PHASE II PREREADINESS ACTIONS AND ISSUES	WIPP SITE	07/09/91

Item Number	Discussions or Resolutions	Action By	Date
	The RRB met with WID line management on 7/8/91 from 2:00 p.m. until 9:30 p.m. to review and status the current list of prereadiness actions for Phase II and the issues for Phase II. The actions and issues were segregated into the following categories: I - required to be complete to support initiating the internal ISC I' - required to be complete to support external ISC W - required to be complete by 7/24/91 to support the WID/SNL declaration of readiness N - recommend for downgrade to punchlist Attached to the minutes are the results of the review and the current status for each action and issue. The RRB will provide a conditional recommendation to proceed with the Internal ISC when it has received reports that the open "I" actions have been completed. Subsequent to the recommendation, the RRB will verify the adequacy of the closure documentation. The ISC Task Force will also provide evidence of prerequisites being met for I C initiation per agreement established in letter HA:91:3602 (attached). The RRB also reviewed the draft letter JJG-76, dated 6/26/91, Subject: Integrated Systems Checkout Plan (April 1991) Scope comparison to current (July 1991) checkout scope. The letter contains prerequisites		

Item Number		Action By	Date
	to initiating the ISC that are not being addressed by either the aforementioned recommendations from the RRB or ISC Task Force. The consensus was that the letter should be revised to incorporate the actions from the meeting and be available by 7/15/91 to present to EM-ORR as a guide to demonstrate compliance with the Integrated System Checkout Plan (April 1991). Closure documentation for the prerequisites listed in the following actions should be submitted to the RRB. The attached list of actions are provided with reference to items provided in the draft letter.		
	This same group reconvened from 3:00 p.m. to 3:45 p.m. on 7/9/91 to review the status of those items identified as prerequisites to starting the internal ISC (I) for which the RRB has not already received closure documentation. That status is as follows:		
	SNL-RS, Item 4.2.1.2 - Mr. A. L. Stevens provided information to close this item and will follow-up his discussion with a letter to the RRB.	A. Stevens	7/10/91
	SNL-TC, Item 4.1.1.1 - Mr. Stevens provided verbal justification for exceeding the SNL Cal. Lab. 1 year calibration period. He will follow-up with a letter to the RRB.	A. Stevens	7/10/91
	WH06.2, Item 4.3.1.3 - Mr. Garcia reported this activity as complete. Will provide a letter to the RRB to document.	J. Garcia	7/10/91
	WH06.4 Item 2.1.2.3 - Mr. Garcia reported the analysis is complete and is receiving independent review. W. H. ENG to a letter to the RRB to document.	J. Garcia	7/10/91
	WH06.5, Item 2.4.1.3 Part 2 - Mr. C. R. Kelley provided a copy of the C. of C. to the RRB. RRB to verify that maintenance has also received this information.	C. Kelley	7/10/91
	WH06.8, Item 4.2.1.2 - W. H. ENG provided a redundant pressure indication. The gage has been calibrated and installed.	J. Garcia	7/10/91
	WH06.9, Item 2.1.2.3 - This action was reported complete W. H. ENG to provide documentation of the analysis to the RRB.	J. Garcia	7/10/91

Item Number		Action By	Date
	WH06.14, Item 2.1.3 - W. H. Engineering to provide the RRB with a letter to justify why this action is not needed.	J. Garcia	7/10/91
	WH06.18, Item 2.4.1.4 - This item should have been listed as I'.	R. Palanca	7/10/91
	WPBS.1, Item 2.4.1.01 - These procedures are complete. Mr. Les Reed to provide documentation to the RRB.	L. Reed	7/10/91
	Based on the documentation and reports received to date, the RRB hereby provides a conditional recommendation to proceed with the internal ISC.		

From: Engineering
WIN: 887-8187
Date: June 11, 1991
Subject: CERTIFICATION OF SYSTEM/EQUIPMENT READINESS TO SUPPORT THE INTEGRATED SYSTEMS CHECKOUT

Reference: (1) C. E. Conway memo, ISCP/ORR DUPLICATION OF EFFORT
(2) ISC READINESS CERTIFICATION MEETING OF 5/6/91

To: Distribution

In reference 1, the Chairman of the Readiness Review Board (RRB) recommended changes to the Integrated Systems Checkout Certification (ISC CERT) to eliminate duplication of Operational Readiness Review (ORR) work. The RRB will verify the readiness aspects of the ISC CERT and the affected systems discussed in reference 2. In response to the Chairman's recommendation, the ISC CERT has been changed. See the attached format.

It is currently anticipated that the RRB will provide its verification by June 17, 1991. It is important that the individual ISC support systems also have the revised ISC CERT verified. Attached is the list of support systems and the responsible Section Manager. I request that the Section Manager's initiate the verification of close-out for:

- Internal Audits
- Nonconformance Reports (NCR), and
- Requests for Corrective Action (RCA)

Completion of scheduled ISC activities are being tracked through the ISC Progress Meetings on a daily basis. The requirement for the Quality Assurance (QA) Manager assessment has also been deleted. This requirement is being met by the ORR as a review organization separate from the individual responsible Section Managers.

The completed ISC CERTs should be submitted to Mr. A. J. Brown, the Cognizant Test Engineer for the ISC, prior to June 24, 1991.

John J. Garcia

J. J. Garcia, Manager
Radioactive Waste Handling Engineering

RJR:rw

Attachments (3)

HA:91:3623

Attachment 1
HA:91:3623
May 21, 1991 Revis on

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the _____ have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal _____

NonConformance Reports (NCR) _____

Requests for Corrective Action (RCAs) _____

_____
(Responsible Section Manager)

Definitions

1. INTERNAL AUDITS: These are primarily audits conducted by the Quality Assurance (QA) representatives from WID, DOE/WPO, or SNL, as appropriate. In addition, the status of audits initiated by WID management for which a formal report has been issued should also be reviewed. The focal point for tracking these audits and their status is Bill Greenlee for WID and DOE/WPO. Susan Pickering is the focal point for SNL audit tracking.

2. NONCONFORMANCE REPORTS: The latest QA status report of NCRs should be reviewed for applicable NCRs not closed. Each of these NCRs should be reviewed against the significant deficiency criteria in Figure 3-1 on page 3-2 of the Integrated Systems Checkout Plan (ISCP), Rev 2. A decision should be made establishing whether each individual NCR requires closure prior to conducting the ISC. For those NCRs requiring closure, the manager should initiate the closure action and provide a schedule for that closure to the ISC Scheduler (x8740) for inclusion in the ISC Schedule. The review of the NCR status list should be completed as soon as possible to assure that any required action can be closed out by June 17, 1991. NCRs not required to be closed prior to the ISC should be so identified and their scheduled closure date provided to the Project Planning Manager for inclusion in the appropriate master schedule of WIPP activities.

3. REQUESTS FOR CORRECTIVE ACTION: The active list of RCAs is maintained by Quality Assurance Engineering. The current list of RCAs should be reviewed as soon as possible and those required for support of the ISC should be identified and scheduled for implementation. The schedule information should be provided to the ISC Scheduler. Subsequent to this review, all new RCAs pertaining to a specific system/equipment supporting the ISC should receive an evaluation of the need for closure to support the ISC and where required the implementation should be scheduled and tracked for progress and closure.

SYSTEM/EQUIPMENT	SECTION MANAGER
Waste Handling Building HVAC	W. R. White
A TRUPACT Unloading Dock and associated support equipment	C. R. Kelley
SWB and Bin handling equipment	C. R. Kelley
SWB Ventilation Hood	C. R. Kelley
RCB Lids	J. J. Garcia
Bin Pressurization Test Rig	J. J. Garcia
Gas Analysis Equipment	C. F. Wu
Underground Gas Sampling Equipment	S. A. Orrell
Surface Gas Sampling Equipment	S. A. Orrell
Bin Gas Recirculation Systems	S. A. Orrell
Exercise Bins	J. J. Garcia
Bin Filters	J. J. Garcia
SWB	L. A. Patrick
Facility Pallet and SWB Holddowns	C. R. Kelley
Fork Trucks	C. R. Kelley
Conveyance Loading Car	C. R. Kelley
Overpack Enclosure	C. R. Kelley
Waste Hoist	T. J. Ferguson
Underground Transporter	C. R. Kelley
Underground Fork Trucks	C. R. Kelley
Underground Ventilation	D. D. Davis
DAS	S. A. Orrell
Room 1 Electrical Distribution	D. D. Davis
Room 1 Bulkheads	S. C. Sethi
Bin VOC Monitoring System	S. C. Cooper
Site VOC Monitoring Systems	S. C. Cooper
Bin Platforms	C. R. Kelley
O_2 Gettering/Argon Purge System	S. A. Orrell
Tracer Gas Injection System	S. A. Orrell
Instrumentation Strings	S. A. Orrell
Mechanical Relief Module	J. J. Garcia
Room 1 CAMs and Fixed Air Monitor	T. E. Merkling
Low Level Radiological Monitoring System (Counting Smear Surveys)	T. E. Merkling
WHB CAMS and Effluent Monitors	T. E. Merkling
Backup Power to Panel 1	D. D. Davis
Contract Lab for VOC	S. C. Cooper
Leak Test Equipment	S. A. Orrell
Argon, Nitrogen and Air Purge Equipment	S. A. Orrell

Attachment 1
HA:91:3623
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the *See List below have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal audits	No findings
NonConformance Reports (NCR)	No findings
Requests for Corrective Action (RCAs)	No findings

J R Hinchman for DD Davis
(Responsible Section Manager)

* U/G Ventilation
Room 1 Elect. Distribution
Backup Power to Panel 1

NCR's - 90-057

NCR's - 90-058

Attachment 1
HA:91:3623
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the WASTE HOIST have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal Audits	none
NonConformance Reports (NCR)	none
Requests for Corrective Action (RCAs)	none

Tom J Ferguson 6/13/91
(Responsible Section Manager)

Attachment 1
HA:91:3623
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the Room 1 Bulkheads have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal Audits	X
NonConformance Reports (NCR)	NONE
Requests for Corrective Action (RCAs)	NONE

6/13/91 ~~10/13/91~~

(Responsible Section Manager)

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the TRUMAN-II Dock have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal

Nonconformance Reports (NCR)

Requests for Corrective Action (RCAs)

(Responsible Section Manager)

NCR's 91-007 ACGLF
RCA 91-012 ACGLF don't effect
ISC operations

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the SWB Welding Equip have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal

Nonconformance Reports (NCR)

Requests for Corrective Action (RCAs)

(Responsible Section Manager)

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the SWB Vent Hood have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal

Nonconformance Reports (NCR)

Requests for Corrective Action (RCAs)

(Responsible Section Manager)

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the Facility Pallet have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal

Nonconformance Reports (NCR)

Requests for Corrective Action (RCAs)

(Responsible Section Manager)

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the Forklift Trucks have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal

Nonconformance Reports (NCR)

Requests for Corrective Action (RCAs)

(Responsible Section Manager)

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the Courageous Lady CVX have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal

Nonconformance Reports (NCR)

Requests for Corrective Action (RCAs)

(Responsible Section Manager)

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the Airlock Enclosure have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal

Nonconformance Reports (NCR)

Requests for Corrective Action (RCAs)

(Responsible Section Manager)

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the [redacted] have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal — No findings

Nonconformance Reports (NCR) — No findings

Requests for Corrective Action (RCAs) — No findings

[redacted]
(Responsible Section Manager)

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the 4/6 Forklift Trucks have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal — No findings

Nonconformance Reports (NCR) — No findings

Requests for Corrective Action (RCAs) — No findings

(Responsible Section Manager)

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the Bin Platforms have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal Audits — X NO findings

Nonconformance Reports (NCR) — X NO findings

Requests for Corrective Action (RCAs) — X NO findings

C. J. Kelley
(Responsible Section Manager)

Attachment 1
HA:91:3623
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the * See list below have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal Audits	✓ See I 91-03 for details all will be closed 7/91 no impact
NonConformance Reports (NCR)	✓ none
Requests for Corrective Action (RCAs)	✓ none

(Responsible Section Manager)

* Room 1 CAM's and FAM's
Low level Radiological Monitoring System
WHB CAM's & Effluent Monitors

Attachment 1
HA:91:3623
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the GAS ANALYSIS EQUIP* have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal Audits	None
NonConformance Reports (NCR)	None
Requests for Corrective Action (RCAs)	None

Chuan-Fu Wu 6/27/91
(Responsible Section Manager)

*Note: Analytical equipment for flammability & reactive gas analyses are completed.

C F Wu
6-27-91

Attachment 1
HA:91:3623
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the Contract Lab. for VOC* have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal Audit	None
NonConformance Reports (NCR)	None
Requests for Corrective Action (RCAs)	None

Chuan-Fu Wu 6/27/91
(Responsible Section Manager)

*Note: The contract labs. for VOC analysis (ITAS) and sampler/canister cleaning & certificat. (ITAQs) are ready to support the ISCP.

C Fu Wu 6/27/91

Attachment 1
HA:91:3623
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the Bldg VOC Monitoring Sys have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal Audits	none
NonConformance Reports (NCR)	none
Requests for Corrective Action (RCAs)	none

W Kay Haulstee 6-26-91
(Responsible Section Manager)

The Bldg VOC monitoring system (VOC 10) system cleaning and certification process was started on 6-26-91 and is scheduled to complete on 7-11-91 with reassembly scheduled to complete on 7-13-91. VOC 10 is expected to be available to start sample collection by 7-14-91.

The Site VOC monitoring system has not to date been identified as having an impact on or being involved in the Integrated Checkout program. This includes VOC 1, 2, 8, and 9.

Attachment 1
HA:91:3623
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the WH BLDG HVAC have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal	X
NonConformance Reports (NCR)	X
Requests for Corrective Action (RCAs)	X

(Responsible Section Manager)

WR WHITE
MGR FACILITY OPS

X8267

November 1, 1990 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS TO SUPPORT THE INTEGRATED CHECKOUT

I certify that the Standard Waste Box is ready to support the Integrated Systems Checkout

- o Scheduled activities identified in the ISC Schedule are complete. — N/A
- o System turnover and acceptance has been documented. — N/A
- o The following documents have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure
  - External Audits — N/A
  - Internal Audits — N/A
  - Non Conformance Reports — N/A
  - Plant Work Requests — N/A
  - Requests For Corrective Action — N/A
  - Start-up and Acceptance Tests — N/A
  - Engineering Change Orders — N/A
- o All associated instrumentation/ equipment is operable and calibration is current. — N/A
- o The design class(es) of equipment is/are in accordance with the FSAR requirements. — N/A
- o System conforms to its design class. — N/A
- o As built/interface control drawings are approved and on file. — N/A
- o Approved fabrication and design drawings are in the controlled engineering file. — N/A
- o Applicable Operating Procedures are approved and the latest revision — N/A

is in the controlled document files.

- o Qualification of assigned personnel is documented and on file — N/A
- o Training of personnel for normal and abnormal system conditions has been conducted and documented — N/A
- o Training to the most recent procedure revision has been completed and documented — N/A
- o Procedure validation is documented — N/A
- o Staffing levels for operation are in conformance to the approved CAPARS or deficiencies are documented and personnel requisitions issued — N/A
- o System affected LCOs are in compliance — N/A
- o No system impacted unreviewed safety question is open — N/A

Kurt Donnor 5/9/91
(Responsible Section Manager)

System/Equipment meets quality assurance requirements

(Appropriate Quality Assurance Manager)

Standard Waste Boxes are procured as certified Type A packagings. I would, therefore, conclude that SWB's are ready to support the ISC, based on the Certificate of Compliance delivered with each box.

Kurt Donnor

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the RCB Lids have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal Audits	No outstanding audits Findings
Nonconformance Reports (NCR)	No outstanding ~~audits~~ NCRs
Requests for Corrective Action (RCAs)	No outstanding audits ACTIONS

JG 7/10/91

John J. Garcia 7/10/91
(Responsible Section Manager)

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the Bin Filters have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal Audits	No outstanding audits findings
Nonconformance Reports (NCR)	No outstanding ~~audits~~. NCRs
Requests for Corrective Action (RCAs)	No outstanding audits ACTIONS

JG 7/10/91

John J. Garcia 7/10/91
(Responsible Section Manager)

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the Bin Pressurization Test Rig (MILRT) have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal Audits	No outstanding audits findings
Nonconformance Reports (NCR)	No outstanding audits NCRs
Requests for Corrective Action (RCAs)	No outstanding ~~audits~~ ACTIONS

JS 7/10/91

John J. Garcia 7/10/91
(Responsible Section Manager)

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the Mechanical Relief Module **have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.**

Internal Audits	No outstanding audits findings
Nonconformance Reports (NCR)	No outstanding ~~audits~~ NCRs
Requests for Corrective Action (RCAs)	No outstanding ~~audits~~ actions

JES 7/10/91

John J. Graeca 7/10/91
(Responsible Section Manager)

Attachment 1
HA:91:3623
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the Exercise Bins have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal Audits	See Below
NonConformance Reports (NCR)	See Below
Requests for Corrective Action (RCAs)	No Outstanding actions

John J. Garcia 7/10/91
(Responsible Section Manager)

The following audit findings and Nonconformance Reports require final disposition. Final disposition to be provided by July 12, 1991.

- Audit I90-04A Finding 02
  03
  04
  07
  09
  11
- NCR 91-016

These issues do not affect the form, fit, or function of the bin. J. Garcia

Westinghouse Electric Corporation
Government Operations

WS:91:00617
Waste Isolation Division
Box 2078
Carlsbad NM 88221

June 14, 1991

Mr. S. A. Orrell
WIPP Site Operations Division
Sandia National Laboratories
P.O. Box 1957
Carlsbad, NM 88221-1957

Subject: CERTIFICATION OF SYSTEM/EQUIPMENT READINESS TO SUPPORT THE INTEGRATED SYSTEMS CHECKOUT

Reference: (1) Memo from Mr. C. E. Conway to Mr. J. J. Garcia, RB:91:0445, dated May 9, 1991, Subject, "Integrated Systems Checkout Plan/Operational Readiness Review Duplication of Effort"

(2) Integrated Systems Checkout Readiness Certification Meeting of May 6, 1991

Dear Mr. Orrell:

In reference (1), the chairman of the Readiness Review Board (RRB) recommended changes to the Integrated Systems Checkout Certification (ISC CERT) to eliminate duplication of Operational Readiness Review (ORR) work. The RRB will verify the readiness aspects of the ISC CERT and the affected systems discussed in reference (2). In response to the chairman's recommendation, the ISC CERT has been changed. (See the attached format.)

It is currently anticipated that the RRB will provide its verification by June 17, 1991. It is important that the individual ISC support systems also have the revised ISC CERT verified. Attached is the list of support systems and the responsible section managers. I request that the section managers initiate the verification of closeout for:

1. Internal Audits,
2. Nonconformance Reports (NCRs), and
3. Requests for Corrective Action (RCA).

Completion of scheduled ISC activities are being tracked through the ISC progress meetings on a daily basis. The requirement for the Quality Assurance manager assessment has also been deleted. This requirement is being met by the ORR as a review organization separate from the individual responsible section managers.

The completed ISC CERTs should be submitted to Mr. A. J. Brown, the cognizant test engineer for the ISC, prior to June 24, 1991.

Sincerely,

T. F. Kocialski, Acting Manager
Engineering

RJR:rw

Attachments (3)

HA:91:3624

Definitions

1. INTERNAL AUDITS: These are primarily audits conducted by the Quality Assurance (QA) representatives from the WID, WPO, or SNL, as appropriate. In addition, the status of audits initiated by WID management for which a formal report has been issued should also be reviewed. The focal point for tracking these audits and their status is Bill Greenlee for the WID and WPO. Susan Pickering is the focal point for SNL audit tracking.

2. NONCONFORMANCE REPORTS: The latest QA status report of NCRs should be reviewed for applicable NCRs not closed. Each of these NCRs should be reviewed against the significant deficiency criteria in Figure 3-1 on page 3-2 of the Integrated Systems Checkout Plan (ISCP), Rev 2. A decision should be made establishing whether each individual NCR requires closure prior to conducting the ISC. For those NCRs requiring closure, the manager should initiate the closure action and provide a schedule for that closure to the ISC Scheduler (x8740) for inclusion in the ISC Schedule. The review of the NCR status list should be completed as soon as possible to assure that any required action can be closed out by June 17, 1991. NCRs not required to be closed prior to the ISC should be so identified and their scheduled closure date provided for inclusion in the appropriate master schedule of WIPP activities.

3. REQUESTS FOR CORRECTIVE ACTION: The active list of RCAs is maintained by Quality Assurance Engineering. The current list of RCAs should be reviewed as soon as possible and those required for support of the ISC should be identified and scheduled for implementation. The schedule information should be provided to the ISC Scheduler. Subsequent to this review, all new RCAs pertaining to a specific system/equipment supporting the ISC should receive an evaluation of the need for closure to support the ISC and where required the implementation should be scheduled and tracked for progress and closure.

Attachment 3
HA:91:3o24

SYSTEM/EQUIPMENT	SECTION MANAGER
Waste Handling Building HVAC	W. R. White
A TRUPACT Unloading Dock and associated support Equipment	C. R. Kelley
SWB and Bin handling equipment	C. R. Kelley
SWB Ventilation Hood	C. R. Kelley
RCB Lids	J. J. Garcia
Bin Pressurization Test Rig	J. J. Garcia
Gas Analysis Equipment	C. F. Wu
Underground Gas Sampling Equipment	S. A. Orrell
Surface Gas Sampling Equipment	S. A. Orrell
Bin Gas Recirculation Systems	S. A. Orrell
Exercise Bins	J. J. Garcia
Bin Filters	J. J. Garcia
SWB	L. A. Patrick
Facility Pallet and SWB Holddowns	C. R. Kelley
Fork Trucks	C. R. Kelley
Conveyance Loading Car	C. R. Kelley
Overpack Enclosure	C. R. Kelley
Waste Hoist	T. J. Ferguson
Underground Transporter	C. R. Kelley
Underground Fork Trucks	C. R. Kelley
Underground Ventilation	D. D. Davis
DAS	S. A. Orrell
Room 1 Electrical Distribution	D. D. Davis
Room 1 Bulkheads	S. C. Sethi
Bin VOC Monitoring System	S. C. Cooper
Site VOC Monitoring Systems	S. C. Cooper
Bin Platforms	C. R. Kelley
O_2 Gettering/Argon Purge System	S. A. Orrell
Tracer Gas Injection System	S. A. Orrell
Instrumentation Strings	S. A. Orrell
Mechanical Relief Module	J. J. Garcia
Room 1 CAMs and Fixed Air Monitor	T. E. Merkling
Low Level Radiological Monitoring System (Counting Smear Surveys)	T. E. Merkling
WHB CAMS and Effluent Monitors	T. E. Merkling
Backup Power to Panel 1	D. D. Davis
Contract Lab for VOC	S. C. Cooper
Leak Test Equipment	S. A. Orrell
Argon, Nitrogen and Air Purge Equipment	S. A. Orrell

Attachment 1
HA:91:3624
May 21, 1991 Revision

CERTIFICATION OF SYSTEM/EQUIPMENT READINESS
TO SUPPORT THE INTEGRATED CHECKOUT

I certify the following documents for the SNL 5065 Stems have been reviewed and action items closed or justification documented to permit operation with the action item open and a schedule developed to implement closure.

Internal	N/A
Nonconformance Reports (NCR)	*
Requests for Corrective Action (RCAs)	N/A

(Responsible Section Manager)

* An NCR, 91-020, was issued on 7/1/91. It was sent to the Principal Investigator for his approval of the corrective action. The fact that the NCR has not been closed, should not negatively impact the ISC exercises. They may proceed as planned. Estimate NCR completion - 7/15/91.

Susan Pickering, SNL QA Chief
7-10-91

ATTACHMENT 6

ISC CTE CHECKOUT LOG

Attached is/are the log(s) maintained by the Checkout Test Engineer.

Log ATTACHMENT 6 TO WP 05-WH5101 ISC PROCEDURE
Print any identifiers

Number of pages 7

Effective dates 7-10-91 TO 7-23-91

CTE L.W. TREADWAY LWT 7-26-91
Print Name Initial Date

Log _____
Print any identifiers

Number of pages _____

Effective dates _____

CTE _____
Print Name Initial Date

Log _____
Print any identifiers

Number of pages _____

Effective dates _____

CTE _____
Print Name Initial Date

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 1 OF 7
ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
7-10-91/0830	9.1.2	NOTIFIED JOE WILLIS TO START	
(SURFACE)		PROCEDURE WP05-WH5101 FOR TBX06	[illegible]
(TBX06)			
0935	9.1.2	DISCOVERED SEPERATED BOLT NCR	
		WRITTEN NO. 91-034.	[illegible]
1125	9.1.2	COMPLETED 9.1.2	[illegible]
1130		BREAK FOR LUNCH	[illegible]
1215	9.1.3	NOTIFIED JOE WILLIS TO RESUME	
		PROCEDURE AT STEP 9.1.3	[illegible]
1720	9.1.3	END OF SHIFT	
		For Tuesday 7-10-91	
7-11-91/0835	9.1.3	NOTIFIED JOE WILLIS TO RESUME	
		WITH PROCEDURE AT STEP 9.1.3	[illegible]
1130	9.1.3	COMPLETED 9.1.3	[illegible]
1145		BREAK FOR LUNCH	[illegible]
1245	9.6.4	NOTIFIED JOE WILLIS TO RESUME	[illegible]
		PROCEDURE AT STEP 9.6.4	
1455	9.6.4	COMPLETED 9.6.4	[illegible]

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 2 OF

ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
1400	9.6.5	NOTIFIED JOE WILLIS TO START	LWT
(SURFACE)		STEP 9.6.5	
(TBX06)			
1500	9.6.5	COMPLETED 9.6.5	LWT
1505		END OF SHIFT	
		LW Tumbleson	
7-12-91/0925	9.5.9	NOTIFIED JOE WILLIS TO START	
		DRILL 9.5.9, LOOSE SURFACE	
		CONTAMINATION ON BIN.	LWT
1100	9.5.9	DRILL COMPLETE, END OF	
		SHIFT.	
		LW Tumbleson	
		N/A	

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 3 OF 7
ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
7-17-91/1000 (SURFACE)	9.1.1	NOTIFIED JEFF WINKLE TO START PROCEDURE, SECTION 9.	FWT
1100	9.1.1	COMPLETED STEP	FWT
1105		LUNCH BREAK	FWT
1210	9.1.2	RESUMED AT 1210, 9.1.2 NOTIFIED JOE WILLIS, BRIEFING HELD FOR HPT, OPERATIONS AND QA.	FWT
1500	9.1.2	COMPLETED STEP	FWT
1500	9.1.3	15 MIN. BREAK	
1515	9.1.3	STARTED STEP 9.1.3, NOTIFIED JOE WILLIS.	FWT.
1545	9.1.3	ALPHA ~~ALPHA~~ 6 ALARM INITIATED, HPT'S DETERMINED NOISE CAUSED ALARM. HPT'S AND WHO PERFORMED AS TRAINED.	FWT 7-17-91 FWT
1550	9.1.3	CONTINUE WITH PROCEDURE	FWT
1915	9.1.3	END OF SHIFT FWT Tuesday	

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 4 OF

ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
7-18-91/0800	9.1.3	NOTIFIED JOE WILLIS TO	
(SURFACE)		CONTINUE AT STEP 9.1.3	FWT
0815	9.1.3	LATE ENTRY: FOR 7-17-91 GROUND	
		STRAP BOLT DID NOT TIGHTEN	
		ON STRAP, NCR 91-036	
		ISSUED TO SHIME WITH	
		WASHER FOR PROPER FIT.	FWT
1110	9.1.3	BREAK FOR LUNCH	FWT
1205	9.5.10	NOTIFIED JOE WILLIS TO INITIATE	
	9.5.13	DRILL CONTAMINATED PERSONNEL	
		DURING BIN ACTIVITIES, AND	
		FAILURE OF A PARTICULATE FILTER AND	
		HOSE.	FWT
1620	9.5.10 9.5.13	COMPLETED DRILLS	FWT
1630	9.1.3	END OF SHIFT	
		FWT 7-18-91	
		N	
		A	

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 5 OF 7
ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
7-15-91/0810 (SURFACE)	9.1.3	NOTIFIED JOE WILLIS TO RESUME PROCEDURE	LWT
1145	9.1.3	BREAK FOR LUNCH	LWT
1305	9.1.3	CONTINUE PROCEDURE	LWT
1631	9.1.3	END OF SHIFT LW Turnbow	
7-22-91/0840	9.1.3	NOTIFIED JOE WILLIS TO RESUME PROCEDURE	LWT
1140	9.1.3	BREAK FOR LUNCH	LWT
1245	9.6.4	CONTINUE PROCEDURE NOTIFIED JOE WILLIS TO START 9.6.4.	LWT
1535	9.6.4	COMPLETED 9.6.4	LWT
1535	9.6.5	NOTIFIED JOE WILLIS TO RESUME PROCEDURE	LWT
1545	9.6.5	COMPLETED 9.6.5	LWT
		N/A	

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 6 OF

ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
7-22-91/1645 (SURFACE)	9.6.6	NOTIFIED JOE WILLIS TO CONTINUE PROCEDURE AT 9.6.6	LWT
1610	9.6.6	COMPLETED 9.6.6	LWT
1613		END OF SHIFT Lee Treadway 7-22-91	
2100	9.1.3	OXYGEN GETTER REGENERATION COMPLETED CYCLE AT APPROX. 2100, 7-22-91, STEP 9.1.3 COMPLETE.	LWT
7-23-91/0805	9.6.7	NOTIFIED JOE WILLIS TO RESUME PROCEDURE AT 9.6.7	LWT
1010	9.6.8	NOTIFIED JOE WILLIS TO CONTINUE PROCEDURE AT 9.6.8. STEP 9.6.8 MUST BE COMPLETED PRIOR TO 9.6.7.	LWT
1230	9.6.8	COMPLETED 9.6.8	LWT
1250	9.6.7	COMPLETED 9.6.7	LWT
1250		BREAK FOR LUNCH	LWT
1325	9.6.9	NOTIFIED JOE WILLIS TO CONTINUE PROCEDURE AT 9.6.9.	LWT

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET
ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
7-23-91/1340 (SURFACE)	9.6.10	NOTIFIED JEFF WINKLE TO CONTINUE PROCEDURE AT STEP 9.6.10	FWT
1355	9.6.10	COMPLETED 9.6.10	FWT
1359	9.6.9	COMPLETED 9.6.9	FWT
1359		SURFACE, SECTION 9 COMPLETED FOR ISC. FWT Tuesday 7-23-91	FWT

ATTACHMENT 7

ISC BIN CHECKOUT TERMINATION NOTIFICATION

Bin TBX05 is terminated from the checkout and is to be retrieved from the underground.

SNL QA ~~Janis Trone~~ JT 7/23/91

WHO MGR _____

Print Name Initial Date

Bin TBX06 is terminated from the checkout and is to be retrieved from abeyance on the surface.

SNL QA x Janis Trone JT 7/23/91

WHO MGR R KUGINSKI for C.R. Kolbe RK 7/23/91

Print Name Initial Date

ATTACHMENT 8

ISC LEAD OBSERVER FINAL REPORT

Attached is/are the final report(s) maintained by the ISC Lead Observer.

Log ISC LEAD OBSERVER FINAL REPORT HA:91:3718
Print any identifiers

Number of pages 36

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N/A [illegible] 07-26-91

From Engineering
WIN 887-8598
Date July 25, 1991
Subject ISC LEAD OBSERVER FINAL REPORT

Reference: WP 05-WH5101, WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

To A. J. Brown

cc: J. J. Garcia

Attached are copies of the ISC COMMENT list and the DAILY NARRATIVE prepared for input into the ISC Report. The NARRATIVE summarizes the daily activities accomplished during the ISC from July 10, 1991 to July 23, 1991. The ISC COMMENT list documents the comments developed during the ISC, the resolutions determined by the ISC management group to be applicable to each comment, the responsible individual, the scheduled completion date and the actual completion date.

In accordance with the reference, this constitutes the final report required by attachment 8 of the reference.

R. J. Rodriguez
Radioactive Waste Handling Engineering

rw

Attachments

HA:91:3718

FORM 3504Z

July 25, 1991 update

ISC COMMENTS

1. COMMENT: WP 05-WH1910, BIN EQUIPMENT CONNECTION, has no precautions regarding the maximum compression or stretch of the flexible tubing. Information previously provided to Waste Handling Operations (WHO) was 20% compression and 50% stretch. Flexible tubing is primarily susceptible to torsional damage. Questioning of some Waste Handling Technicians (WHTs) indicates that this information may not have been sufficiently provided to them.

   RESOLUTION: Include in required reading and WHT briefing.

   RESPONSIBILITY: C. R. Kelley

   COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/16/91

2. COMMENT: WP 05-WH1910 does not provide any guidance for the installation of grounding pig tails to the instrumentation modules installed on the Instrumentation Interface Board. Operator had difficulty installing a washer over the pig tail and therefore, left it off.

   RESOLUTION: Procedure will be updated via a Procedure Change Notice (PCN). PCN 0004 issued.

   RESPONSIBILITY: D. Mackney

   COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/15/91

3. COMMENT: Current underground Radiological Control Boundary (RCB) configuration does not provide for realistic interferences from adjacent RCBs which may impose access restraints not fully recognized or accommodated by the current ladder configuration.

   RESOLUTION: Enhance the ladder design for bin access. Not required for ISC.

   RESPONSIBILITY: J. J. Garcia

   COMPLETION DATE: SCHEDULED: 9/3/91 ACTUAL: ———

4. COMMENT: Step 7.2.3 of WP 05-WH1910 has a typographical error identifying valve GR-5 and GR-12.

   RESOLUTION: Correct procedure via PCN.

4. (Continued)

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/12/91

5. COMMENT: WP 05-WH1910 has no specific direction for where to precisely connect to the Volatile Organic Compound (VOC) block manifold. The Waste Handling Supervisor (WHS) stated that the WHTs have been instructed to connect bottom RCBs to bottom of the VOC block and top RCBs to top of the VOC block.

RESOLUTION: No requirement to specify exact location. Issue is closed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/12/91

6. COMMENT: Form 2138 was initialed by the WHT after completion of the entire procedure instead of as the steps were completed.

RESOLUTION: WHTs were counseled on the Conduct of Operations requirements for sign off as steps are completed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/12/91

7. COMMENT: Step 7.4.5.3 should have SIGN-OFF REQUIRED block added for consistency.

RESOLUTION: D. Mackney will determine the need to address this comment. PCN-004 issued to include the comment.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/15/91

8. COMMENT: A set of Bin Assembly Drawings and a P&ID should be made available in Room 1.

RESOLUTION: Controlled drawings are available in the underground WHO field office. This issue is closed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

9. COMMENT: Identified broken TRUPACT-II U-bolt tie down.

RESOLUTION: Quality Assurance (QA) issued Nonconformance Report (NCR) 91-034.

RESPONSIBILITY: W. Chiquelin

COMPLETION DATE: This is a long term assignment.

10. COMMENT: Step 7.4.15 on the data sheet of WP 05-WH1011, TRUPACT-II UNLOADING, should be Step 7.4.13.

RESOLUTION: Typo has been corrected.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/11/91

11. COMMENT: Independent verification step should be added after step 7.1.12 of WP 05-WH1901, BIN HANDLING, to check that the proper spacer is used for the bolt being used to attach the lift fixture to the Standard Waste Box (SWB) lid. Also, should check for at least four thread engagements.

RESOLUTION: A procedure PCN has been issued addressing this issue.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/12/91

12. COMMENT: Step 7.1.4 of WP 05-WH1011 was performed before step 7.1.5. (The forklift pockets were removed before the tiedowns were released.)

RESOLUTION: WHTs were counseled on the Conduct of Operations requirements. This issue is closed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/12/91

13. COMMENT: Is step 7.4.16 of WP 05-WH1011 required? Step 7.5.11 duplicates 7.4.13. Procedure possibly needs clarification.

RESOLUTION: This is not an issue. The duplication is appropriate for the activity described.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

14. COMMENT: In procedure WP 05-WH1901, BIN HANDLING, the filter cradle was lifted in place and the plug disconnected at step 7.1.35. However, it wasn't connected until step 7.1.46.

RESOLUTION: This is not an issue. The procedure is correct.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

15. COMMENT: Step 7.1.45 of WP 05-WH1901 is redundant to step 7.1.43.

RESOLUTION: This is not an issue. Procedure is correct.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

16. COMMENT: It is not clear from WP 05-WH1807, BIN LEAK RATE TEST, if it is okay to proceed to step 7.3 before the 4 hour stabilization ends.

RESOLUTION: This is not an issue. Procedure is correct. WHT must wait 4 hours.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

17. COMMENT: In WP 05-WH1901, step 7.1.11 requires lowering of the lid, but the caution statement for avoiding damage to the vent hood doesn't appear until step 7.1.12.

RESOLUTION: Not an issue. Precaution is in the proper location.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

18. COMMENT: Safety issues associated with surface and underground activities:

- o Personnel barring down TRUPACTs to release tie downs need gloves.

  RESOLUTION: All WHO personnel are issued gloves.

- o Forklift with TRUPACT was backing without a spotter.

  RESOLUTION: No spotter is required when backing with a TRUPACT.

18. (Continued)

COMMENT: Safety issues associated with surface and underground activities:

- o Tripping hazard is excessive when using Vent Hood in place.

  RESOLUTION: WHTs are aware of the hazard and are under on-site supervision.

- o Power Tool should be used when removing SWB lid bolts.

  RESOLUTION: Comment noted. New power tool is on order. However, Conduct of Operations does not require use of a power tool.

- o Should preform the thermocouple wires before installation.

  RESOLUTION: This is not an issue. Preforming is not appropriate for this task.

- o 13 ton forklift needs a seat belt.

  RESOLUTION: Not an issue. Forklift has a cab and a safety seat.

- o Forklift should have reference marks to eliminate need for the driver to stand up to check clearance.

  RESOLUTION: Too many variable operating conditions to make reference marks reasonable. C. R. Kelley.

- o QA was inside the Radioactive Materials Area Control Area (RMACA) without a hard hat while the crane was operating.

  RESOLUTION: QA personnel will be counseled by M. Trefren on 7/15/91.

- o Automatic Center-of-Gravity Lift Fixture (ACGLF) trailing cable was left laying on the floor creating a tripping hazard.

  RESOLUTION: Comment noted. Personnel are aware of the hazard and cable on the floor is a standard practice.

- o Has the Safety Department approved the ladders being used by WHTs to access the bin assemblies?

  RESOLUTION: Yes. C. R. Kelley

18. (Continued)

COMMENT: Safety issues associated with surface and underground activities:

- o WHTs are holding the power wrench by the body of and not by the handle only to remove bolts.

  RESOLUTION: The Waste Handling Manager (WHM) has deleted the use of a power tool under the Vent Hood. He has also ordered a more appropriately configured power tool.

- o Lighting at the Mini-Integrated Leak Rate Test (MILRT) work station is inadequate.

  RESOLUTION: G. Buchanan will take a light survey of the area on 7/15/91 and report results and requirements.

  RESULTS: Lighting levels vary from 0.75 to 5.0 footcandles. Safety Department requirements for this area is a minimum of 20.0 footcandles.

  ACTION: C. R. Kelley initiated a Plant Work Request (PWR) to correct the lighting condition on 7/16/91. PWR 11598.

- o Lighting at the door switch of the conveyance loading room is inadequate.

  RESOLUTION: G. Buchanan will take a light survey of the area on 7/15/91 and report results and requirements.

  RESULTS: Lighting levels vary from 0.75 to 5.0 footcandles. Safety Department requirements for this area is a minimum of 20.0 footcandles.

  ACTION: C. R. Kelley initiated a PWR to correct the lighting condition on 7/16/91. PWR 11598.

- o Why isn't it cooler in the Waste Handling Building (WHB).

  RESOLUTION: G. Buchanan has contacted K. Ealden to investigate whether or not the Heating, Ventilation, and Air Conditioning (HVAC) can support additional cooling. Response by 7/18/91. On 7/23/ - it was determined to delete any further action on this comment. The HVAC for the WHB has been tested and qualified.

COMPLETION DATE: SCHEDULED: _____ ACTUAL: 7/23/91

18. (Continued)

COMMENT: Safety issues associated with surface and underground activities:

- o Are the MILRT Nitrogen cylinder regulator gages calibrated?

  RESOLUTION: Calibration is not required. C. R. Kelley

RESOLUTION: As identified for each issue.

RESPONSIBILITY: As indicated.

COMPLETION DATE: Indicated where appropriate.

19. COMMENT: The Hold Point at step 7.4.12 of WP 05-WH1011 doesn't correspond with step signoff sheet, attachment #1.

RESOLUTION: D. Mackney will verify consistency with formal requirements. PCN-0005 issued to correct discrepancy.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/15/91

20. COMMENT: 120 volt Feeder breaker to RCB at position 57 tripped twice when the Varian was powered from it. Electrician checked the circuit and found no loose connections. Varian operated satisfactorily from an alternate 120 volt feeder breaker.

RESOLUTION: Uninterruptible Power Supply (UPS) battery was at a reduced charge state causing excessive current. Battery has been recharged and instructions given to leave it on charge when not in use.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/12/91

21. COMMENT: Leak Test Technician stated that the Varian is designed to remain powered up. Frequent de-energizing may result in trouble obtaining proper calibration.

RESOLUTION: Concern is noted. However, Room 1 configuration dictates that frequent unplugging of the Varian Leak Detector will be necessary. This issue is closed

RESPONSIBILITY: J. J. Garcia

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

22. COMMENT: Lab should have a check sheet to assure that any sample manifold released to WHO has been properly assembled, cleaned, leak checked, and released with the proper form. The Water Vapor Manifold did not have Radiological Assessment Filters (RAFs) and did not pass a leak check.

RESOLUTION: D. Mackney will assign R. Albright to contact R. Bisping and resolve this issue. Special tag will be placed on the manifold certifying cleanliness, leak tight, and proper assembly.

RESPONSIBILITY: R. Bisping/D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/16/91

23. COMMENT: A Helium bottle should be placed on the Varian cart to reduce bottle handling.

RESOLUTION: Not a requirement. Additional bottle will be addressed as an enhancement.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: Not required ACTUAL: ———

24. COMMENT: The Training Department teaches that when installing VCR fittings, the fitting should be tightened one flat beyond hand tight (1/8-1/6 turn). The WHM stated that his direction to WHTs in 1/8-1/4 turn beyond hand tight.

RESOLUTION: Verify that training meets the VCR technical specifications. WHM will cover requirements in WHT briefing.

RESPONSIBILITY: S. Cassingham/C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/16/91

25. COMMENT: Step 6.3 of WP 05-WH1806, BIN SAMPLING, should be clarified that the gage reading should be $\geq$ 22 inches Hg vacuum.

RESOLUTION: D. Mackney will review the procedure and determine the need for action. PCN-0101 issued to correct problem.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/15/91

26. COMMENT: The handling of the used VCR gaskets should be more disciplined. Recommend that used gaskets be placed in a plastic bag for disposal and not permitted to lay adrift.

RESOLUTION: The WHM will address the Conduct of Operations principle in briefings with the WHTs.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/16/91

27. COMMENT: WP 05-WH1806 specifically identifies the LTT (Leak Test Technician) to perform functions inside and outside the RMACA. Recommend deleting reference to the LTT or provide in the procedure authorization for the LTT to utilize the WHT to assist in performance of the leak test.

RESOLUTION: This clarification to the procedure is not required for the ISC.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 9/3/91 ACTUAL: _____

28. COMMENT: A recently assigned WHT made up VCR fittings in the presence of a qualified WHT. A check of the new WHT's training and qualification records indicates that he has not been qualified to make up VCR fittings nor has he had any training to do so.

RESOLUTION: Comment was noted and WHM counseled WHTs on Conduct of Operations requirements.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: _____ ACTUAL: 7/12/91

29. COMMENT: WHTs should be provided with spare male-to-male and female-to-female fittings to preclude having to makeup and take down the Varian connection.

RESOLUTION: Enhancement not required for ISC. Additional spares are available to the underground.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: _____ ACTUAL: 7/15/91

30. COMMENT: The Cognizant Test Engineer (CTE) has not received the Declaration of Readiness signed by the chairman of the Readiness Review Board (RRB) to proceed with the ISC.

RESOLUTION: The CTE has received the Conditional Declaration to start internal ISC (I) but no Declaration to start the external ISC (I').

RESPONSIBILITY: J. J. Garcia

COMPLETION DATE: SCHEDULED: 7/16/91 ACTUAL: 7/17/91

31. COMMENT: Calibration of many of the components on the Baseline Reference Bins and on TBX-07 will expire during the week of 7/15/91.

RESOLUTION: SNL will tag the affected components and identify the NCR which authorizes continued use beyond the calibration due date.

RESPONSIBILITY: S. A. Orrell

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/17/91

32. COMMENT: WP 05-WH1806 provides no instructions as to what action should be taken if a leak rate requirement cannot be met.

RESOLUTION: Procedure is satisfactory as written.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

33. COMMENT: Page 9 of Equipment Log 74-H-010 Forklift has a deficiency noted but no corrective action taken. Supervisor is not signing all sheets.

RESOLUTION: Comment is noted. Supervisor is not required to sign every day. Issue is closed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

34. COMMENT: The pressure relief system on the MILRT may not be adequate. There appears to be only one relief valve on the inside of the box which could be considered a single point failure. There is no protection for the worker if a failure occurs in the manifold or tubing and no secondary protection for the bin if the check valve fails.

34. (Continued)

RESOLUTION: The regulator is also equipped with a relief valve. Issue is closed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

35. COMMENT: A white board should be installed and annotated to indicate what procedure is in progress. This will assist personnel viewing the video tapes in the future.

RESOLUTION: Install a white board adjacent to the RCB being exercised.

RESPONSIBILITY: D. Ripley

COMPLETION DATE: SCHEDULED: 7/12/91 ACTUAL: 7/12/91

36. COMMENT: Procedures available to the observers were not as current as the copies available to the WHTs. Observers had Rev 0 with PCNs 1-3. WHTs had Rev 1 of WP 05-WH1811, TRACER GAS INJECTION.

RESOLUTION: It is not required to maintain observer copies of procedures current with WHTs.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

37. COMMENT: Step 7.2.31 of WP 05-WH1811 requires shutting down the Varian. QA (LTT and LTS) would like the procedure changed to leave the decision up to the LTT.

RESOLUTION: D. Mackney will review the validity of this comment. PCN-0101 issued to delete the step.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/15/91

38. COMMENT: Step 7.2.3 of WP 05-WH1811 when r[illegible]ring closed verification uses the phrase "...[illegible]empting to position the valve." This might be interpreted to attempt to open and then close the valve. Wording should be clarifies to assure that when verifying a valve to be closed, it is not to be cracked open and then reclosed.

38. (Continued)

RESOLUTION: The procedure will be changed to delete the phrase via a PCN. PCN-0101 issued to delete the phrase.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/15/91

39. COMMENT: All copies of WP 05-WH1810, ROUTINE BIN MONITORING, in observers handbooks are missing page 10.

RESOLUTION: D. Mackney will issue copies of page 10 for the observer's handbooks.

RESPONSIBILITY: D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/16/91

40. COMMENT: WP 05-WH1810 requires that WID and SNL management meet, evaluate and make a decision regarding continued bin operation for a contamination incident on an operating bin. The drill scenarios stopped well short of this requirement. How are external observer questions regarding this action to be addressed.

RESOLUTION: R. Kuginskie and D. Mackney will review WH1810 to determine what, if any, changes are necessary. Question is to be addressed that the Nuclear Review Board (NRB) will act upon recommendation(s) provided by the technical managers from WID and SNL in determining disposition of an affected bin. PCN has been issued to the procedure.

RESPONSIBILITY: R. Kuginskie/D. Mackney

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/16/91

41. COMMENT: During removal of the contaminated sampling manifold, the open ends of the manifold are not capped to prevent any additional contamination spread during the bagging of the manifold.

RESOLUTION: Contaminated ends should be capped. Health Physics Technicians (HPTs) are aware of this. This issue is closed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

42. COMMENT: The chain of custody isn't very clear and is not a traceable system.

RESOLUTION: Procedure WP 12-AD3014 has been approved and issued to address the chain of custody requirements. This issue is closed.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

43. COMMENT: A contaminated piece of equipment should be doubled bagged at the RMACA prior to releasing it to HP CONNEX. Sharp edges and points on the equipment should be cushioned prior to bagging the equipment.

RESOLUTION: R. Boyer stated that all contaminated waste will be double bagged before it leaves the immediate work area.

RESPONSIBILITY: R. Boyer

COMPLETION DATE: SCHEDULED: 7/15/91 ACTUAL: 7/17/91

44. COMMENT: Leak Test Technicians and "others" do not have qualifications to operate compressed gas bottles.

RESOLUTION: S. Cassingham stated that compressed gas bottle training is not a site requirement. M. Trefren stated that as of 7/15/91, WHTs and three QA Technicians will have completed the training.

RESPONSIBILITY: S. Cassingham/M. Trefren

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

45. COMMENT: The valve on the Tracer Gas Syringe is not human factored. There is no open or closed indication.

RESOLUTION: This is not an issue. WHT experience with the syringe correct the concern.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: ——— ACTUAL: 7/15/91

46. COMMENT: Change steps 7.5.2 and 7.5.7 of the VOC Change of Custody Procedure to eliminate the requirement to sign on a specific line and simply require a signature "on the next available signature line".

46. (Continued)

RESOLUTION: Leave as is. The VOC Technician has been counseled to assure that he signs as steps as prescribed by the procedure.

RESPONSIBILITY: R. Bisping/D. Mackney

COMPLETION DATE: SCHEDULED: 7/18/91 ACTUAL: 7/22/91

47. COMMENT: WHT missed turning off the circulator (step 7.52 of WP 05-WH1801, OXYGEN GETTERING). The step is at the very bottom of the page below the required 1 inch bottom margin.

RESOLUTION: Repaginate the procedure to provide an adequate margin at the bottom of the page.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: Incorporate in Revision 1 by 9/3/91.

48. COMMENT: WP 05-WH1801, OXYGEN GETTERING, does not prescribe the depressurization of the compressed gas regulators upon completion of oxygen getting a bin.

RESOLUTION: Change the procedure via a PCN to depressurize the regulators.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/23/91 ACTUAL: 7/24/91

49. COMMENT: During the Oxygen Gettering exercise, the large one inch flexible hoses fell on two occasions. The first occurred after removing one hose from the storage T and unbalancing the remaining hoses on the J-hook. The second fall put a sudden stretching stress on the 2 foot flexible tubing to OG/AP-2.

RESOLUTION: Provide direction to the WHT to secure the hoses to preclude their falling or stressing the flexible tubing. Provide additional physical restraints for hoses.

RESPONSIBILITY: C. R. Kelley/D. Schoen

COMPLETION DATE: SCHEDULED: 8/15/91 ACTUAL: _____

50. COMMENT: During installation of the grounding strap from the bin to the RCB on the surface for TBX-05, the fastening bolt would not fix the grounding lug tightly.

RESOLUTION: NCR 91-036 was written to document the condition and develop an approved disposition.

RESPONSIBILITY: J.J. Garcia/C.R.Kelley

COMPLETION DATE: SCHEDULED: 7/18/91 ACTUAL: 7/18/91

51. COMMENT: TB-001 leaks and will not maintain pressure to permit the DAS to be put into a pressure monitoring mode for TBX-05 and TBX-07.

RESOLUTION: Develop NCR 91-037 to document the issue, disposition to isolate the rupture discs and isolate the TB-001 rupture.

RESPONSIBILITY: J. J. Garcia/C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/18/91 ACTUAL: 7/19/91

52. COMMENT: There are a number of issues related to the proper engineering and installation of grounding straps on the bins assembly.

RESOLUTION: Initiate Engineering Change Orders (ECOs) and PCNs as required to address the proper installation of grounding straps

RESPONSIBILITY: Gary Perry/C.R. Kelley

COMPLETION DATE: SCHEDULED: ECOS-7/22/91 PCNS-7/24/91 ACTUAL:_____

53. COMMENT: The wrong compressed gas bottle was used as oxygen regeneration gas on 7/18/91.

RESOLUTION: Identify the proper resolution after further investigation. Briefing was held with WHTs emphasizing the need to assure exercising care when selecting the appropriate compressed gas. All affected procedures will be PCN'd requiring signed off verification that the correct compressed gas was used. PCN for the O_2 Getter was completed 7/22/91.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/26/91 ACTUAL: _____

54. COMMENT: Inadvertent dumping of data in the MILRT can occur.

RESOLUTION: Modify the MILRT software to prevent unintentional data dumping.

RESPONSIBILITY: M. King

COMPLETION DATE: SCHEDULED: 8/2/91 ACTUAL: _____

55. COMMENT: The Varian has failed calibration on 7/18/91 and 7/19/91 after transfer from the surface to the underground.

RESOLUTION: Investigate the cause of the Varian failures. Collect any foreign material found in the Varian and submit it to A. Stevens of SNL for analysis. On 7/23/91, it was determined that this issue should be considered closed based upon a commitment for Radioactive Waste Handling Engineering (RWHE) to develop a leak check specification.

RESPONSIBILITY: M. Trefren

COMPLETION DATE: SCHEDULED: 7/23/91 ACTUAL: 7/23/91

56. COMMENT: Step 7.2 of WP 05-WH1810, ROUTINE BIN MONITORING, should be changed to require that management be informed in the event that a flammable gas mixture is identified.

RESOLUTION: Issue a PCN to WH1810 implementing the suggested change.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/24/91 ACTUAL: 7/23/91

57. COMMENT: The right and left RCB configurations in the underground require right and left hand gas purge manifold configurations in order to accommodate upper and lower RCB access for installation and hook-up.

RESOLUTION: Design and fabricate a right hand configuration of the gas purge manifold.

RESPONSIBILITY: J. J. Garcia/C. R. Kelley

COMPLETION DATE: SCHEDULED: 8/1/91 ACTUAL: _____

58. COMMENT: WP 05-WH1803, ARGON PURGE OF BIN, requires revision to address the purging of an anaerobic bin in order to minimize introduction of oxygen during the purging activity and increasing the rotameter setting to 100 with the steel ball.

58. (Continued)

RESOLUTION: Redesign the gas purge manifolds and write and issue a PCN to WH1803 incorporating the appropriate changes to address the comment.

RESPONSIBILITY: A. Stevens/C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/30/91 ACTUAL: _____

59. COMMENT: The compressed gas purge manifolds need to be human factored and reconfigured to improve operability of the system and access to reading the flow meter.

RESOLUTION: Re-configure all the compressed gas manifolds to address the comment.

RESPONSIBILITY: D. Schoen

COMPLETION DATE: SCHEDULED: 8/15/91 ACTUAL: _____

60. COMMENT: The WHT has no consistently available laydown facility to accommodate the staging of bin assembly equipment prior to attaching the equipment to the bin.

RESOLUTION: Provide a table, cart, or other facility to permit laydown of staged equipment.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 9/3/91 ACTUAL: _____

61. COMMENT: Provision should be made to allow the VOC Group Technician to skip step 7.6.12 of WP 12-EM1624, SAMPLE CANISTER HANDLING, if the RAF is determined to be clean. On 7/23/91 it was determined to delete this issue. R. Boyer/D. Kump representing Operational Health Physics stated that swipe surveys should be taken when connections are broken even though the RAF was found clean.

RESOLUTION: The procedure is not appropriate.

RESPONSIBILITY: C. F. Wu/D. Mackney

COMPLETION DATE: SCHEDULED: 7/24/91 ACTUAL: 7/24/91

62. COMMENT: WHO should conduct a exercise to purge a bin to less than 5000 ppm O_2 and then oxygen getter the bin to less than 10 ppm O_2 in accordance with the applicable procedures.

62. (Continued)

RESOLUTION: Implement the comment.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: Initiate by 7/31/91 ACTUAL: _____

63. COMMENT: There is no need to use an Alpha 6 radiation detector during purging of a bin in accordance with step 7.1.73 of WP 05WH1506, BIN SURFACE GAS PURGE.

RESOLUTION: Write and issue PCNs to WP 05-WH1506, BIN SURFACE GAS PURGE and WP 05-WH1507, BIN SURFACE AIR PURGE, removing the requirement to install an Alpha 6 Sampler Head.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 8/15/91 ACTUAL: _____

64. COMMENT: More training for the crane operators is required to assure that they utilize WHTs and HPTs as spotters to enhance operations.

RESOLUTION: WHS brief the WHTs on proper spotting policy. Spotting is not an HPT responsibility.

RESPONSIBILITY: C. R. Kelley/D. Boyer

COMPLETION DATE: SCHEDULED: 7/25/91 ACTUAL: _____

65. COMMENT: A PCN was generated to WP 05-WH1801 to clarify utilization of the foot pedal pressure control.

RESOLUTION: Implement the PCN.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/23/91 ACTUAL: 7/24/91

66. COMMENT: The assembling of sampling manifolds, relief valve assemblies, instrument strings, tracer gas injection manifolds and all other bin assemblies should be conducted with a detailed signed checklist to assure accuracy and accountability.

RESOLUTION: Develop and implement the appropriate checklists.

RESPONSIBILITY: C. R. Kelley/J. J. Garcia/C. F. Wu

COMPLETION DATE: SCHEDULED: 8/15/91 ACTUAL: _____

67. COMMENT: There is no step in WP 05-WH1811, TRACER GAS ADDITION, to verify that TG-1 is shut.

RESOLUTION: Write and implement a PCN to assure TG-1 is shut.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/25/91 ACTUAL: _____

68. COMMENT: SNL's printed form for tracer gas addition provides a blank for specifying the pressure in filling the gas injection syringe.

RESOLUTION: Re-issue the SNL form with the required 5 psig pressure preprinted.

RESPONSIBILITY: D. Brewer

COMPLETION DATE: SCHEDULED: 7/29/91 ACTUAL: _____

69. COMMENT: The HEPA filter used for depressurizing a tracer gas injection manifold is not listed as special equipment in procedure WP 05-WH1811, TRACER GAS INJECTION.

RESOLUTION: Write and implement a PCN to include the HEPA filter in the list of special equipment.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/25/91 ACTUAL: _____

70. COMMENT: It was noted that in verifying a shut valve, the WHT momentarily cracked the valve open and then shut it.

RESOLUTION: Re-address the Conduct of Operations policy regarding verifying valve position.

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 7/24/91 ACTUAL: 7/23/91

71. COMMENT: During the Loss of DAS Power drill, the Central Monitoring Room Operator (CMRO) was prompted by the Chief Test Engineer (CTE). WP 05-WH1810, ROUTINE BIN MONITORING, requires that the CMRO call the WHS and inform him of the power loss. The CMRO does not have access to WH1810 and does not know of this requirement.

RESOLUTION: Provide a copy of WH1810 to the CMR and assure that the CMRO is familiar with its content.

71. (Continued)

RESPONSIBILITY: C. R. Kelley

COMPLETION DATE: SCHEDULED: 8/1/91 ACTUAL: _____

72. COMMENT: Step 7.2 of WP 05-WH1912, BIN EQUIPMENT REMOVAL FOR RETRIEVAL, should be changed to notify the Data Acquisition System (DAS) Shed Operator instead of the DAS operator.

RESOLUTION: Write and implement a PCN to WH1912 to incorporate the comment.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/25/91 ACTUAL: _____

73. COMMENT: Delete the reference to RAFs in Section 4.1 of WP 05-WH1912 and add a step to cap PR-2 after step 7.57.

RESOLUTION: Write and implement a PCN to include the comment.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/25/91 ACTUAL: _____

74. COMMENT: WP 05-WH 1080, TRUPACT-II VERIFICATION LEAD CHECKS, should specifically direct WHTs to proceed if acceptance criteria is met.

RESOLUTION: Write and implement a PCN to incorporate the comment at step 3.8.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/26/91 ACTUAL: _____

75. COMMENT: WP 05-WH1001, TRUPACT-II LOADING, should specifically direct the WHT to clean when necessary.

RESOLUTION: Write and implement a PCN to incorporate the comment as step 5.3.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 7/26/91 ACTUAL: _____

76. COMMENT: Should the TRUPACT-II hold-downs be provided with locking devices to enhance their security?

RESOLUTION: The current design does not require locking devices of the TRUPACT-II hold-downs

RESPONSIBILITY: W. Chiquelin

COMPLETION DATE: SCHEDULED: 7/24/91 ACTUAL: 7/24/91

77. COMMENT: The cause for bending U-bolts on the TRUPACT-II hold downs should be determined.

RESOLUTION: Provide resolution to NCR _____

RESPONSIBILITY: W. Chiquelin

COMPLETION DATE: SCHEDULED: TBD ACTUAL: _____

78. COMMENT: While torquing bolts on the Outer Containment Vessel (OCV) head in WP 05-WH1080, TRUPACT-II VERIFICATION LEAK CHECKS the extension bar can come apart.

RESOLUTION: The WHM will provide the proper lenght extension bar and determine if a PCN to the procedure is appropriate.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 8/1/91 ACTUAL: _____

79. COMMENT: WP 12-EM1603, VOST TUBES AND CARBON BEDS, should identify valves specifically by valve number to assure that the necessary valves are properly positioned.

RESOLUTION: Revise the necessary drawings to put valve numbers on all valves associated with the carbon bed and VOST tubes on the VOC Monitoring System and label the valves. Write and implement a PCN to EM-1603 to incorporate the valve numbers as identification for all valves requiring manipulation.

RESPONSIBILITY: J. Davis/C. Wu

COMPLETION DATE: SCHEDULED: 9/3/91 ACTUAL: _____

80. COMMENT: During the course of conducting the Integrated Systems Checkout, a number of observations regarding the operation of the Varian Leak Detector and its impact on underground operations have been made. A leak detector specification should be developed considering these observations and unique conditions in the underground environment.

RESOLUTION: Develop a leak detector specification for equipment to be used in the underground environment which will provide a high degree of reliability with reduced maintenance requirements of those experienced with the current equipment.

RESPONSIBILITY: J. J. Garcia

COMPLETION DATE: SCHEDULED: 8/15/91 ACTUAL: _____

81. COMMENT: During the exercising of the Carbon Bed and VOST Tube changeout procedure it was found that the observers were provided with Revision 0 of WP 05-WH1603 approved by J. Lee on 5/28/91 and the VOC Technician had Revision 0 of WP 12-WH1603 approved by L. L. Reed on 6/21/91. The two procedures had some differences.

RESOLUTION: Determine why two different versions of the same procedure (VOST TUBES AND CARBON BED) signed by two different managers are being made available as the current copies. On 7/24/91, D. Mackney stated that the procedures provided to the observers were outdated. The VOC Technician had the current procedure to conduct the activity.

RESPONSIBILITY: C. Wu/D. Mackney

COMPLETION DATE: SCHEDULED: 7/26/91 ACTUAL: 7/24/91

82. COMMENT: When disconnecting piping during the conduct of WP 12-EM1603, VOST TUBES AND CARBON BEDS, steps should require that the HPT take swipe samples of the tube ends even though the RAF results indicated no radioactivity.

RESOLUTION: The Operational Health Physics Manager stated on 7/24/91 the taking of swipes down stream of an RAF checked to be clean is an HPT option and no strict guidance should be stated.

RESPONSIBILITY: C. F. Wu/D. MACKNEY

COMPLETION DATE: SCHEDULED: 7/26/91 ACTUAL: 7/24/91

83. COMMENT: When disconnecting piping during the conduct of WP 12-WH1603,VOST TUBES AND CARBON BEDS, there is no requirement to put caps over the piping ends to maintain cleanliness.

RESOLUTION: Write and implement a PCN to WH1603 to incorporate the comment.

RESPONSIBILITY: C. F. Wu/D. Mackney

COMPLETION DATE: SCHEDULED: 8/2/91 ACTUAL: _____

84. COMMENT: Steps 7.4.8 and 7.4.14 of WP 05-WH1603 refer to Velcro Straps. No Velcro Straps exist on the currently installed VOST Tubes.

RESOLUTION: Complete the installation or write and implement a PCN to delete the reference to Velcro Straps.

RESPONSIBILITY: C. F. Wu/D. Mackney

COMPLETION DATE: SCHEDULED: 8/2/91 ACTUAL: _____

85. COMMENT: The shipping of samples from the Analytical Lab and the VOC Group should be conducted through the warehouse and not the mail room.

RESOLUTION: The Dosimetry and Analytical Technology Section should make the appropriate changes to procedures WP 12-EM6010 and WP 12-EM1624 to assure that all sample shipments are made through the warehouse with sample identification numbers indicated on the "L" order and the Federal Express shipping papers.

RESPONSIBILITY: C. F. Wu/L. J. Ortega

COMPLETION DATE: SCHEDULED: 8/2/91 ACTUAL: _____

86. COMMENT: WP 05-WH1806, BIN SAMPLING, should be changed to assure that when collecting the reactive gas sample a minimum of 5.0 liters at <1.0 liter per minute is allowed to pass through the reactive gas sample container. In addition, the recorded time of collecting the reactive gas sample should be recorded to the nearest 0.1 minute.

RESOLUTION: Write and implement a PCN to incorporate the comment.

RESPONSIBILITY: C. R. Kelley/D. Mackney

COMPLETION DATE: SCHEDULED: 8/2/91 ACTUAL: _____

87. COMMENT: Checkout from the Analytical Lab of cleaned, leak checked, certified Sample Manifolds should not exceed 24 hours to assure positive chain of custody control. A secured storage facility should be provided for the Sample Manifolds in the underground.

RESOLUTION: Implement the actions prescribed in the comment through the appropriate procedure changes and/or training and provide secured storage. R. Bisping provide training to the WHTs.

RESPONSIBILITY: C. R. Kelley/R. Bisping

COMPLETION DATE: SCHEDULED: 8/2/91 ACTUAL: _____

DAILY NARRATIVE

WEDNESDAY JULY 10, 1991

SURFACE

Initiated the ISC. RCB TBX-06 was removed from a TRUPACT-II container in accordance with WP 05-WH1011, TRUPACT UNLOADING. The procedure addressed the removal of the TRUPACT from a transportation trailer, emplacement into the West unloading dock, and removal of the SWB containing TBX-06 from the TRUPACT. WHO Technicians then inspected the bin, attached the filters and flexible tubing connections from the bin the RCB lid and installed thermocouples as prescribed by WP-05WH 1901, BIN HANDLING. The converted bin/RCB assembly was then transferred to the MILRT and the bin pressurized in accordance with WP-05WH1807, BIN LEAK RATE TEST. The pressurized bin was secured for the day to allow the pressure and temperature to stabilize over night.

During the removal of the TRUPACT-II from its trailer, a broken U-bolt tie down was identified. QA initiated NCR 91-034 to Transportation Engineering for disposition. No other significant procedure or training discrepancies were noted.

UNDERGROUND

Initiated the ISC. RCB TBX-07 was pre-emplaced in position 57 in Room 1 of Panel 1. WHO installed the bin equipment using procedure WP 05-WH1910, BIN EQUIPMENT CONNECTION FOR EMPLACEMENT. Equipment installation was followed by EO doing the electrical connection and pre-operational checkout in accordance with SNL 346, BIN-SCALE INSTRUMENTATION STRING BOARD, OXYGEN SENSOR AND THERMOCOUPLE (REMOVAL/INSTALLATION/CHECKOUT). The entire activity was completed in approximately 4 hours. No significant procedure or training discrepancies were identified. One procedure typing error was identified and corrected as PCN-3 to WP 05-WH1910.

THURSDAY JULY 11, 1991

SURFACE

Performance of WP 05-WH1807, BIN LEAK RATE TEST, was successfully completed for TBX-06. TBX-06 was then relocated to the loading dock area, prepared for shipment underground, placed on the facility pallet, and transferred to the conveyance loading car in accordance with WP 05-WH1901, BIN HANDLING. WP 05-WH1902, BIN RETRIEVAL, was then initiated to retrieve TBX-06 from the conveyance loading car, transfer the bin into a clean SWB, and certify the bin for transportation as required by WP 05-WH1033, TRUPACT-II PAYLOAD ASSEMBLY TRANSPORTATION CERTIFICATION. No significant deficiencies were identified.

UNDERGROUND

Activity involving RCB TBX-07 continued with exercising WP 05-WH1806, BIN SAMPLING. The Water Vapor Sample Manifold did not pass the leak check and will need to be reassembled and exercised during the next sampling demonstration scheduled for Friday 7/12/91. The Gas Sampling Manifold was successfully exercised as a part of WP 05-WH1806. Upon completion of sampling, the bin was pressurized to 14.35 psia in accordance with WP 05-WH1809, BIN PRESSURIZATION. The procedure was successfully completed in just over one hour.

Some delay was encountered in the morning which impacted the completion of additional planned activities. However, the ISC Management group intends to provide underground operational support an hour prior to normal start time to assure that future delays impacting the ISC schedule are minimized. Initiation of the ENGINEERING INTEGRATED SYSTEMS FUNCTIONAL TEST did not appreciably impact the ISC activities. No significant deficiencies were identified.

FRIDAY JULY 12, 1991

SURFACE

A drill was initiated simulating the identification of a small area of contamination on a bin (300 DPM alpha on approximately 200 cm^2). Decontamination and disposal techniques of the derived waste from cleanup of the contaminated area were exercised. No significant deficiencies were identified.

UNDERGROUND

WHO repressurized TBX-07 in preparation for conducting the Primary Mechanical Relief Path Failure drill. Initiated the drill and observed satisfactory response in the underground. The WHS used WP 05-WH1810, ROUTINE BIN MONITORING Section 7.4, LOSS OF BIN PRESSURE RESPONSE as the guidance for the drill. Krypton gas was injected into TBX-07 in accordance with WP 05-WH1811, TRACER GAS INJECTION. Upon completion of Tracer Gas Injection, WP 05-WH1806, BIN SAMPLING was exercised. Contrary to yesterday's performance, the Water Vapor Manifold was successfully leak tested and the water vapor value determined.

A Contaminated Equipment Module Fitting drill was initiated during the removal of the Gas Sampling Manifold as a part of WP 05-WH1806. The HPT and WHTs addressed the containment of the contamination in accordance with prescribed practices and bagged the contaminated manifold. The WHS made all notifications prescribed in Section 7.11, CONTAMINATED ASSESSMENT FILTER RESPONSE, of WP 05-WH1810.

No significant deficiencies were identified.

TUESDAY JULY 16, 1991

SURFACE

The VOC Monitoring Group demonstrated the packaging of a VOC sample canister for shipment to the contract analytical laboratory. No significant deficiencies were identified.

UNDERGROUND

No ISC related activities occurred.

WEDNESDAY JULY 17, 1991

SURFACE

Bin TBX-05 was received at the WIPP gate in accordance with WP 05-WH1010. The TRUPACT-II shipping papers were verified, radiation surveys were taken and the TRUPACT Trailer was moved into the Radiation Control Area south of the WHB. The TRUPACT-II was unloaded form the trailer and transported into the WHB and placed into a dock. TBX-05 was unloaded in accordance with WP 05-WH1901, TRUPACT UNLOADING and placed on the floor of the CH Bay. The bin/SWB was converted into a bin/RCB configuration as prescribed by WP 05-WH1901, BIN HANDLING.

During the course of converting to an RCB, a high alarm was received on the Alpha-6 monitor attached to the RCB. WHTs and HPTs responded appropriately and determined the alarm to be false. While completing the task of attaching a ground wire between the bin and the RCB, the WHTs could not properly seat a grounding lug bolt. NCR 91-036 was developed and dispositioned to document the event and provide the engineering resolution to assure a proper ground connection.

No other significant issues were identified.

UNDERGROUND

Bin TBX-05 was unload from the Waste Hoist in accordance with WP 05-WH1901, BIN HANDLING. TBX-05 was then transported to Room 1 and emplaced in position 28. The only noted discrepancy was that no Radiation sign was not fafixed to TBX-05 as required by WP 05-WH1901.

After emplacement, WHTs connected the bin assembly equipment in accordance with WP 05-WH1910, BIN EQUIPMENT CONNECTION FOR EMPLACEMENT. The staged Mechanical Relief Assembly was not properly assembled. The Supervisor identified this discrepancy prior to connecting the Assembly to the VOC Manifold Block and stopped the procedure. He directed the WHTs to properly configure the Assembly and the VOC Manifold Block prior to proceeding. Upon completion of WP 05-WH1910, Experimental Operations personnel conducted the pre-operational checkout of TBX-05 instrumentation in accordance with SNL-346, BIN-SCALE INSTRUMENTATION BOARD, OXYGEN SENSOR AND THERMOCOUPLE (REMOVAL/INSTALLATION/CHECKOUT) and SNL-352, CONNECTION AND ACTIVATION OF BIN SCAle GAGES INTO D.A.S.

Oxygen gettering of TBX-05 was conducted in accordance with WP 05-WH 1801, OXYGEN GETTERING OF BIN with the execption that the lead observer directed the WHS to secure the procedure after the WHTs had demonstrated the proper start-up of the Oxygen Getter and oxygen had been reduced by 2000ppm. While shutting down the Oxygen Getter, the WHT shut the bin isolation valves to the Oxygen Getter prior to shutting off the circulator. It was also noted that the procedure did not address depressurizing the compressed gas regulators upon completion of the oxygen gettering task.

No other significant issues were identified.

THURSDAY JULY 18, 1991

SURFACE

WP 05-WH1807, BIN LEAK RATE TEST, was started on TBX-05. During the course of conducting WP 05-WH1807 it was discovered that the computer driven printer was on but not "on-line". This invalidated the procedure to that point and the procedure had to be re-initiated. A PCN was written and processed to require that the WHT verify the printer is "on" and "on-line". The day ended prior to completing the leak rate test.

OXYGEN GETTER REGENERATION, WP-05WH1802, was started for the O_2 Getter used in the underground on 7/17/91. During the implementation of the procedure, it was discovered that the wrong compressed gas bottle was attached to support the regeneration process. The procedure was halted, the proper gas bottle attached, and the regeneration was restarted. Cause of the error was attributed to operator error. However, a more comprehensive corrective action will be to PCN all procedures using compressed gas to require a signed off verification that the proper gas is used.

A site wide drill was initiated which superceded any additional activities pertaining directly to the ISC with exception of initiation of the drill. Initiation of the site wide drill resulted from exercising drill 9.5.13 of WP -5-WH5101, PARTICULATE FILTER AND HOSE FAILURE. Drill 9.5.10, CONTAMINATED PERSONNEL, was also conducted as a prelude to the site wide drill.

No other significant deficiencies were identified.

UNDERGROUND

TBX-05 was pressurized in accordance with WP 05-WH1809, BIN PRESSURIZATION. The WHS initiated PCN 00-04 to identify the procedural it is permissible to complete while waiting for the Bin Pressurization Rig to complete its one hour warmup time. In checking ground connections, the WHS found a loose ground lug nut on the RCB and tighten it. The bin pressurization task was completed satisfactorily.

Base Line Reference Bin TB-001 was identified as not maintaining pressure due to excessive leakage through the rupture discs. An NCR was written and dispositioned to isolate the rupture discs to allow bin pressurization. This bin contains only a polyethylene and fiberboard liner. There is no significant internal gas generating source. Appropriate red tags and yellow caution tags were attached to the rupture discs and isolation valves and TB-001 was repressurized.

THURSDAY JULY 18, 1991
(Continued)

UNDERGROUND

Following completion of pressurizing TB-001, drill 9.5.1 of WP 05-WH5101, FAILURE OF PRIMARY INSTRUMENT STRING PRESSURE SENSOR/TRANSDUCER was initiated. All observed operator action were satisfactorily completed in accordance with requirements of WP 05-WH1810, ROUTINE BIN MONITORING. Upon completion of the drill, the underground ventilation was reduced below the low rate required to conduct bin handling operations. Checkout for the underground was terminated for the day.

No other significant deficiencies were identified

FRIDAY JULY 19, 1991

SURFACE

The BIN LEAK RATE TEST, WP 05-WH1807, was picked up were it had been stopped on 7/18/91. In the course of completing WH1807, it was found the test data could be printed but the graphing of the data by the system could not be accomplished. The cognizant engineer was made available to answer questions and correct the problem.

Upon completion of WH1807, the bin was configured in accordance with WP 05-WH 1901, BIN HANDLING, to prepare it for purging. SURFACE BIN GAS PURGE, WP 05-WH1506, was used to purge the bin with Argon gas. The cognizant engineer for purging was made available to answer questions relative to the purging process.

WP 12-AL6010, ANALYTICAL LAB SAMPLE CANISTER SHIPPING, was exercised to demonstrate the preparation for shipment of a 250 ml SUMMA canister. These canisters will normally be shipped to a off-site contract laboratory for analysis to determine the concentration of a number of gas species.

No other significant deficiencies were identified.

UNDERGROUND

Initiated drill 9.5.3 of WP 05-WH5101, OXYGEN ANALYZER/SENSOR FAILURE on TBX-07. All observed operator actions were satisfactorily completed in accordance with requirements of WP 05-WH1819, ROUTINE BIN MONITORING.

Initiated drill 9.5.12, FLAMMABLE GAS CONCENTRATION HIGH on TBX-05 by notifying the Waste Handling Supervisory the Hydrogen concentration was 2.05%. All observed operator actions were in accordance with WP 05-WH1810. Noted that WH1810 does not explicitly require WID management notification. However, the Waste Handling Manager was notified by the analytical laboratory of the high Hydrogen condition. WHS initiated argon purge. It was identified that the purge manifold requires modification to properly fit onto TBX-05. Separate manifold configurations are required to meet both right and left hand configured bins. It was also noted that the argon purge procedure does not specifically address the unique conditions of a bin containing low oxygen concentrations. That is, no requirements are identified to assure oxygen intrusion into the bin is minimized in setting up the argon purge . The purge rate specified in the procedure was a factor of ten too low.

Assembly of the gas purge manifold for installation onto TBX-05 required approximatley 1½ hours for the WHTs to accomplish. Under ordinary circumstances, this manifold should have been assembled and ready for installation. The manifold had been disassembled to support the Integrated Engineering Test conducted earlier in the week and not reassembled to support the ISC. This raised some concern regarding whether or not this delay exceeded the requirements of the Operational Safety Requirement (OSR) for the flammable gas condition. A check of the FSAR Amendment confirmed that the OSR requires initiation of purging within 24 hours. Therefore the delay in assembling the purge manifold was well within the OSR allowable time frame.

The Leak Test Technician was unable to obtain proper operation of the Varian Leak Detector for the second day in a row. The scheduled Tracer Gas Addition and Bin Gas Sampling activities were rescheduled as a result.

Initiated a VOC CANISTER CHANGEOUT in accordance with WP 05-WH1624. All observed operator actions were satisfactorily completed.

FRIDAY JULY 19, 1991

UNDERGROUND (Continued)

Initiated drill 9.5.6, BIN LOW PRESSURE on TBX-07. This drill was initiated by directing the DAS operator to implement DAS monitoring of TBX-07 which already had a low pressure. Upon notification by the CENTRAL MONITORING ROOM OPERATOR (CMRO), the WHS did not take any action since he was aware that the bin pressure had been low for a couple of days. After prompting that this was a drill, he then proceeded to carry out the proper response in accordance with WP 05-WH1810. The drill was terminated prior to completion due to a requirement to depart Room 1 for ground control maintenance.

Initiated drill 9.5.7, CONTAMINATED ASSESSMENT FILTER on TBX-05. Prestaging for this drill required the installation of a Gas Sampling Manifold. This was installed without leak checking due to unavailability of the Varian Leak Detector. Upon identificatior of radiation, the HPT and WHTs took action in accordance with the Radiation Safety Manual procedures and double bagged the contaminated Gas Sampling Manifold. The HPT took swipe samples of the tools used and the general work area to check for potential spread of contamination. The drill was terminated after notifications were made in accordance with WP 05-WH1810.

No other significant deficiencies were identified

MONDAY JULY 22, 1991

SURFACE

Oxygen gettering of TBX-05 in accordance with WP 05-WH1801, OXYGEN GETTERING OF BIN, was conducted and the bin pressurized for transport to the underground. A PCN to WH1801 was written to clarify utilization of the foot pedal pressure control. Bin pressurization was accomplished using WP 05-WH1506, BIN SURFACE GAS PURGING. Down loading preparations were carried as specified in WP 05-WH1901, BIN HANDLING. The O_2 Getter was regenerated using WP 05-WH1802, OXYGEN GETTER REGENERATION.

MONDAY JULY 22, 1991

SURFACE (Continued)

Following completion of the download preparations, WP 05-WH1902, BIN REIRIEVAL was implemented for receiving TBX-05 from the underground via the Waste Hoist. The RCB lid was removed and the RCB converted back to an SWB. WP 05-WH1032, PAYLOAD TRANSPORTATION CERTIFICATION, and WP 05-WH1033 PAYLOAD ASSEMBLY TRANSPORTATION CERTIFICATION for TBX-05 were also completed by the end of the day.

During the day's activities, it was noted that crane operations could be enhanced by additional training of the crane operators to more effectively use available WHTs and HPTs as spotters.

No other significant deficiencies were identified.

UNDERGROUND

Over the weekend, the Varian Leak Detector had undergone maintenance and was returned to operational status. The equipment was successfully calibrated in accordance with WP 05-WH1051, VARIAN 938-41 PORTA-TEST LEAK DETECTOR, and supported the required activities throughout the day.

The Tracer Gas Injection manifold was provided to the WHTs without installation of the RAFs. The WHTs installed the proper RAFs.Leak testing of the manifold and Xenon and Krypton tracer gases were injection into TBX-05 were successfully conducted using WP 05-WH1811, TRACER GAS INJECTION. TBX-05 was then sampled as required by WP 05-WH1806, BIN SAMPLING. During installation of the Gas Sample Manifold, mislabeled valving was identified. Using an approved drawing, the WHS instructed the WHTs on the correct valve identification and proceeded with the sampling process. During the leak check of the manifold, one connection leaked excessively. A VCR gasket was replaced and the subsequest leak check was satisfactory.

Upon completion of bin sampling, one VOC Canister was changed out by a VOC Technician using WP 12-EM1624, VOC-10 SAMPLE CANISTER HANDLING.

Initiated drill 9.5.11, LOSS OF DAS SHED POWER to bin TBX-07. Call to the WHS from the CMRO was not initiated until the CMRO was prompted by the CTE. The CMRO did not have access the WP 05-WH1810, ROUTINE BIN MONITORING, which prescribes the CMRO to WHS communication.

MONDAY JULY 22, 1991
(Continued)

UNDERGROUND

Continued drill 9.5.6, BIN LOW PRESSURE for TBX-07 which was terminated early on 7/19/91. As part of the recovery from the low pressure condition, TBX-07 was repressurized in accordance with WP 05-WH1809, BIN PRESSURIZATION. With the bin fully repressurized, depressurization was subsequently initiated using WP 05-WH1912, BIN EQUIPMENT REMOVAL FOR RETRIEVAL.

Subsequent to repeating BIN SAMPLING of TBX-05 for the T=Terminiation sample, the bin was disconnected in accordance with WP 05-WH1912. TBX-05 was in a depressurized state at initiation ot WH1912 and therefore the depressurization step was not required. Activity on TBX-07 described above exercised the depressurization requirements.

No other significant deficiencies were identified.

TUESDAY, JULY 23, 1991

SURFACE

TBX-05 was loaded into a TRUPACT using WP 05-WH1001, TRUPACT-II LOADING. Subsequently leak checking of the TRUPACT was conducted in accordance with WP 05-WH1080, TRUPACT-II VERIFICATION LEAK CHECKS. Two procedures changes were identified during the TRUPACT loading and leak checks. Upon completion of TRUPACT loading, the TRUPACT was loaded unto a trailer as prescribed by WP 05-WH 1005, LOADING TRUPACT-II TRAILER. During the trailer loading sequence, it was noted that the locking bolts on the trailer for the TRUPACT were bent. Also one observer raised the issue of providing enhanced security by installation of a locking device for the trailer mounted TRUPACT. This issue was forwarded to management for consideration.

No other significant deficiencies were identified.

UNDERGROUND

TBX-05 was retrieved from Room 1 and transported to the surface using WP 05-WH1902, BIN REITRIEVAL. Following retrieval of TBX-05, the VOC Carbon Bed and VOST Tubes were changed out in accordance with WP 12-EM1603, VOST TUBES AND CARBON BED. It was noted that the procedure used by the VOC Technician was a Revision 0 dated 6/21/91 and the procedure held by the observers was Revision 0 WP 05-EM1603 dated 5/21/91.

No other significant deficiencies were identified.

This concluded the scheduled ISC exercises on the surface and the underground.

ATTACHMENT 9

ISC PROCEDURE COMPLETION VERIFICATION SHEET

The following items are herein attached as the Record Package for WP 05-WH5101 and have been reviewed as per Step 11.0.

	CTE	DATE
Attachment 2, ISC Checkout Tracking Report	LaT	7-25-91
Attachment 3, ISC Pre-Checkout Briefing Sheet	LaT	7-25-91
Attachment 4, ISC Unusual Event/Drill Critique Sheet	LaT	7-25-91
Attachment 5, ISC System/Subsystem Readiness Verification Sheet	LaT	7-25-91
Attachment 6, ISC CTE Log Books	LaT	7-25-91
Attachment 7, ISC Bin Checkout Termination Notification	LaT	7-25-91
Attachment 8, ISC Observer Report	LaT	7-25-91

CTE L.W. TREADWAY LaTreadway 7-26-91

Print Name Signature Date

VALIDATION: Completion of this Step constitutes validation of this procedure.

RWHE John J. Garcia J. J. GARCIA 8/9/91

QA M. J. Trefren M.J. Trefren 8-12-91

Print Name Signature Date

TRUPACT-II Receiving Record

STEP NO	DESCRIPTION	INITIALS
7.10	RWP: SWP:	HPT
7.14	[ ] Radiation Survey Map Attached [ ] Contamination Survey Map Attached	
7.16	TRUPACT-II Serial Numbers: #1 127 #2 126 #3 N/A	
7.19	Uniform Hazardous Waste Manifest Number: 1SCPN Shipping Site: INEL Shipment Number: W1910001 Trailer Number: R.S. Hub-O-Meter reading: 44443(2)	
7.24	TCC notified of shipment receipt	
7.26	TRUPACT-II shipment papers checked for regulatory compliance	
7.28	Transportation Discrepancies/Resolutions: Trupact-II Not Marked for HAZ WASTE Response from INEL - I Have had Problem w Marking They Thought They had Removed them all from Use. INEL Rechecking Stock	
7.29	Tom CAT 7/17/91 1145 Generator Site Contact Date Time	
7.30	WHS Notification Date: 1201 Time 7/17/91	
7.31	Uniform Hazardous Waste Manifest to ES&H for closeout Date: 7/17/91 Time 1201	

Performers initialing this form **SHALL** enter their printed names, initials and date on the next page.

Step 9.1.1

ISC DATA

ATTACHMENT 1

TRUPACT-II Receiving Record (Continued)

Performers initialing this form **SHALL** enter their printed names, initials and date below.

Print Name	Initials	Date
DONALD CASEY CADBURY	DCC	7-17-91
JEFFREY J. WINKEL	JW	7-17-91

REMARKS

8.1 REVIEW This record has been reviewed and is found to be complete.

JEFFREY J. WINKEL / JW / 7/17/91 / 1222
TE (Print Name) Signature Date Time

9.4 VALIDATION Completion of this step constitutes validation of this record.

JEFFREY J WINKEL / JW / 7/17/91 / 12:22
(Print Name) Signature Date Time
Manager Transportation
and Hazardous Materials Handling

Step 9.1.1 ISC DATA

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No 2050-0039 Expires 9-30-9

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. I D [redacted] Manifest Document No. [redacted] F S C P N

2. Page 1 of [redacted] Information in the shaded areas is not required by Federal

GENERATOR

3. Generator's Name and Mailing Address
IDAHO NATIONAL ENGINEERING LABORATORY C/O EG&G IDAHO, INC
FOR U.S. DEPARTMENT OF ENERGY, P.O. BOX 1625
IDAHO FALLS, ID 83415

4. Generator's Phone ((208)) 526-2414

A. State Manifest Document Number [redacted]

B. State Generator's ID [redacted]

5. Transporter 1 Company Name
DAWN ENTERPRISES

6. US EPA ID Number
N M D 9 8 6 6 6 9 6 0 4

C. State Transporter's ID [redacted]

D. Transporter's Phone 800-843-32[redacted]

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
U. S. DEPARTMENT OF ENERGY
P.O. BOX 3090
CARLSBAD, NM 88221-3090

10. US EPA ID Number
N M 4 8 9 0 1 3 9 0 8 8

G. State Facility's ID [redacted]

H. Facility's Phone (505) 887-8579

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No
a.	RQ	WASTE, RADIOACTIVE MATERIAL, FISSILE, N.O.S. RADIOACTIVE MATERIAL, UN2918 SEE ATTACHED FOR ADDITIONAL DESCRIPTION	1	C M	1 4 9 5 6	P	D008
b.		XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX THIS MANIFEST FOR TRAINING ONLY XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX					
c.		THIS SPACE INTENTIONALLY BLANK					
d.		THIS SPACE INTENTIONALLY BLANK					

J. Additional Descriptions for Materials Listed Above

SHIP'T ID WI 91 0001

K. Handling Codes for Wastes Listed A[redacted]

15. Special Handling Instructions and Additional Information
EXCLUSIVE USE VEHICLE

EMERGENCY CONTACT: 208-526-1515

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; **OR**, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month Day Year
TOM CAT	Tom Cat	10/1/91

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year
IRA DRIVER	Ira Driver	10/1/91

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year

FACILITY

19. Discrepancy Indication Space
HAZARDOUS WASTE MARKING MISSING

Stop 9.1.1

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month Day Year

ISC DATA

ID F 5480.1A
(Rev. 07-83)

US DOE OFF-SITE RADIOACTIVE MATERIAL SHIPMENT RECORD

Shipment From: IDAHO NATIONAL ENGINEERING LAB.
EG&G IDAHO, INC. FOR U.S. DEP'T OF ENERGY
CFA 601
SCOVILLE, ID 83415

Log No. WI91000/

References:
DOE 5480.1A Chap III.
49 CFR 100-199

Originator

To WASTE ISOLATION PROCESSING PLANT
WIPP SITE
CARLSBAD, NM 88221
ATTN: JOE WILLIS

Charge No. 123 123 123 6789 Collect ☐ Prepaid ■
Carrier(s) DAWN ENTERPRISES
Sole Use ■ INEL Long Haul ☐ Other ☐

Consignee is Authorized to Receive Shipment ■
Consignee Notified ■ Date 7/14/91
Material(s): (Proper DOT Shipping Name)
WASTE, RADIOACTIVE MATERIAL, FISSILE, N.O.S.
Chemical Form: SOLID OXIDE
Weight 1804 lbs Vol.
Container Used (describe): SWB
DOT Identification No. UN2918
Physical Form: Solid ■ Liquid ☐ Gas ☐

Principal Nuclide(s)	Curies (Ci)
Pu 238	4.973E-2
Pu 239	1.695E0
Pu 240	3.805E-1
Pu 241	1.018E1
Pu 242	2.219E-5

Total Curies 12.31

Type of shipment
Limited Quantity ☐
Rad. Article ☐
A_1 ☐ A_2 ☐
Greater than:
A_1 ☐ A_2 ■
Highway Route Controlled ☐
LSA ☐
Empty ☐

Packaging:
Industrial ☐
DOT Spec. 7A
Type A ☐ B ☐ B(U) ■ B(M) ☐
C of C No. USA/9218/B(U)
Size 94" DIA x 122" TALL
Weight 14956
Transport Index 0.4
Other IP #127

Seal No.(s) WIPP 0081, 0091

FISSILE MATERIALS: Not Applicable ☐ Fissile Shipment ■ Fissile Exempt ☐
Fissile Materials: U N/A gms Pu 239 27.23 gms Other Pu241 .1 gms
Fissile Exempt ☐ Class I ■ Class II ☐ Trans. Index
Class III ☐ Controls: N/A
(No more than N/A packages may be loaded on any vehicle or storage location)
ACCOUNTABLE NUCLEAR MATERIALS: Not Applicable ■ Applicable ☐
DOE/NRC F 741 No. N/A Remarks:

THIS DOCUMENT FOR TRAINING ONLY

Health and Safety

Tie-downs Adequate ■ Remarks: None
Radiation: (surface) 4.1 mrem/hr (3 feet) 0.4 mrem/hr
Contamination: (Averaged over any 300 cm² Package Surface)
Beta-Gamma <2200 dis/min/100 cm²
Alpha <220 dis/min/100 cm²
Additional Surveys: Vehicle ■ Driver ■ Other
Remarks:

LABELS
None Required ☐ White I ☐
Yellow II ■
Yellow III ☐
Pelegro ☐
Empty ☐
Other(s)

Signatures

Loader: Van Hoan Date 7/12/91
Seal Applicator: M. Jordan Date 7/12/91
Safety Insp.: W. Shoemaker Date 7/13/91
Criticality Safety: J. Ethridge Date 7/10/91
Rad. Surveyor: (Package(s)) Tom Jones Date 7/13/91
(Driver and Vehicle) Tom Jones Date 7/13/91
(Fissile and/or Accountable Nuclear Material only)
Safeguards Rep.: N/A Date N/A
Security Rep. Dwight Eisenhower Date 7/13/91

VEHICLE PLACARD(s)
None Required ■
Radioactive ☐
Highway Route Controlled ☐
Other(s)

This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and in proper condition for transportation according to the applicable regulations of the Department of Transportation and DOE ■
Originator: Roger Shepherd Date 7/13/91 Area Supervisor Mark Ramsey Date 7/13/91

Trans

Carrier Rep. Joe Driver Date 7/13/91
Traffic Agent Tom Cat Organization Traffic Date Released 7/13/91

(DIRECTIONS ON REVERSE SIDE)

ISC DATA

WI910001
RADIOACTIVE MATERIAL, FISSILE, N.O.S.
UN2918

ERG90

GUIDE 63

POTENTIAL HAZARDS

HEALTH HAZARDS

External radiation hazard from unshielded radioactive material.
Internal radiation hazard from inhalation, ingestion or breaks in skin.
Radioactive material; degree of hazard will vary greatly, depending on type and quantity of radioactive material and type of packaging.
Materials in Special Form or in Type B packagings are not expected to cause contamination in accidents.
Some radioactive materials cannot be detected by commonly available instruments.
Runoff from fire control or dilution water may cause pollution.

FIRE OR EXPLOSION

Some of these materials may burn, but none of them ignites readily.
Radioactivity does not change flammability or other properties of the materials.

EMERGENCY ACTION

Keep unnecessary people at least 150 feet upwind of spill; greater distances may be necessary for people downwind, or if advised by Radiation Authority.
Isolate hazard area and deny entry.
Response actions may be performed prior to any measurement of radiation; limit entry to shortest possible time.
Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide limited protection.
Notify Radiation Authority of accident conditions.
Detain uninjured persons, isolate equipment with suspected contamination, and delay cleanup until instruction of Radiation Authority.
CALL CHEMTREC AT 1-800-424-9300 FOR EMERGENCY ASSISTANCE.
If water pollution occurs, notify the appropriate authorities.

FIRE

Do not move damaged containers; move undamaged containers out of fire zone.
Small Fires: Dry chemical, CO_2, water spray or regular foam.
Large Fires: Water spray, fog (flooding amounts).
For massive fire in cargo area, use unmanned hose holder or monitor nozzles.

SPILL OR LEAK

Do not touch damaged containers or spilled material.
Damage to outer container may not affect primary inner container.
Small Liquid Spills: Take up with sand, earth or other noncombustible absorbent material.
Large Spills: Dike far ahead to collect runoff water.

FIRST AID

Use first aid treatment according to the nature of the injury.
If not affecting injury, remove and isolate suspected contaminated clothing and shoes; wrap victim in sheet or blanket before transporting.
If there is no injury, remove and isolate suspected contaminated clothing and shoes; assist person to shower with soap and water and notify Radiation Authority of action.
Advise medical personnel that victim may be contaminated with radioactive material.

ISC DATA

ISCPN

SHIPMENT NO: WI91000| DATE: 7/13/95

CARRIER: DAWN ENTERPRISES DRIVERS: I. Driver
C. Chism

SHIPPER:
EG&G IDAHO, INC.
FOR U.S. DEPT. OF ENERGY
RWMC INEL
SCOVILLE, ID 83415
CONTACT AL ANSELMO
208-526-2414

CONSIGNEE:
WASTE ISOLATION PILOT PLANT
CARLSBAD, NM
CONTACT TOM WARD
505-887-8233

ROUTE: ID US-26, ID I-15, UT I-15, UT I-84, UT I-80, WY I-80, WY I-25, CO I-25, NM I-25, NM 285, NM 62/180, WIPP ACCESS RD.

DATE & DEPARTURE TIME: 7/13/91

ETA AT CONSIGNEE: 7/17/0800

PLANNED STOPS: Rocky Flats

EMERGENCY NO. DOE ID WCC 208-526-1515.

SEE ATTACHED FOR TELEPHONE NUMBERS FOR EMERGENCY ASSISTANCE IN EACH STA (IN COMPLIANCE WITH 49 CFR 177.825(C)(2)).

CALL EG&G IDAHO, INC. TRAFFIC DEPT. UPON REACHING FINAL DESTINATION TELEPHONE 208-526-2414.

INSTRUCTION TO CARRIER FOR MAINTENANCE OF EXCLUSIVE USE SHIPMENT

THIS SHIPMENT HAS BEEN ASSIGNED "EXCLUSIVE USE" AND WILL MOVE IN ACCORDANCE WITH THE FOLLOWING GUIDELINES:

- DO NOT TRANSFER SHIPMENT FROM ORIGINATING CARRIER VEHICLE
- DO NOT LOAD OTHER PACKAGES ON ORIGINATING CARRIER VEHICLE
- DELIVER SHIPMENT DIRECTLY TO CONSIGNEE

"CARRIER MUST FOLLOW THE U.S. DOT'S HAZARDOUS MATERIALS REGULATIONS (49 CFR). ADDITIONALLY, ON THIS HRCQ SHIPMENT PART 177.825 ROUTING AND TRAINING REQUIREMENTS FOR RADIOACTIVE MATERIALS MUST BE MET. CARRIER FAILING TO COMPLY WITH THESE REQUIREMENTS MAY BE DISQUALIFIED OR SUSPENI UNDER DOE'S 41 CFR 109-40.103-2 FOR VIOLATIONS FOUND BY U.S. DOT OR RESPONSIBLE STATE ENFORCEMENT AGENCY."

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ISC DATA

ACCIDENT/INCIDENT GUIDE

The following is to be used as a guide during any accident or incident where radioactive materials are being transported:

In the event of an accident or incident, the following information should be obtained prior to calling DOE Warning Communication Center (WCC) - 208-526-1515.

1. Time of accident _____
2. Severity of accident _____
3. Actual location of accident (Pinpoint town, highway, etc.) _____
4. Telephone number where you can be reached for re-contact _____
5. Shipment Number _____
6. Time DOE-ID WCC notified (208) 526-1515 _____
7. Name of person contacted _____
8. Were State Police notified? _____
9. If so, what time and what action was taken by them? _____
10. Was the responsible RAP Region notified? _____
11. Time of contact with the responsible RAP Region _____
12. Name of person in RAP Region contacted _____
13. In case of release of (RQ) Reportable Quantity material, call US Coast Guard 1-800-424-8802.

++

NOTE: Items 1 through 5 should be completed prior to calling DOE-WCC.

The balance of the information can be filled in after your initial contact has been made and prior to completion of the trip.

Be sure to maintain a log of notes pertaining to all contacts that have been made during the accident. Make sure all names and times are accurate.

UNDER NO CIRCUMSTANCES WILL THE EQUIPMENT BE MOVED FROM THE SCENE OF THE ACCIDENT WITHOUT PRIOR APPROVAL FROM DOE ID WCC OR FROM THE RAP GROUP HAVING JURISDICTION OVER THE ACCIDENT. BE SURE YOU OBTAIN THE NAME OF THE PERSON(S) APPROVING THE MOVEMENT OF THE EQUIPMENT AFTER EACH INCIDENT.

REMEMBER: Report all incidents or accidents no matter how minor they seem.

Refer all inquiries from the news media to Mr. Terry Smith 208-526-1320.

NOTE: 2 HOUR CALL-INS REQUIRED

ISC DATA

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SECURITY SHIPMENT INSTRUCTIONS

The following procedure will be in effect when handling classified, radioactive and/or fissile material shipments:

1. The drivers shall refer questions that they are unable to resolve with federal, state, or local authorities to the EG&G Traffic Manager.

2. The drivers with the shipment are responsible for its continued security protection unless it is parked inside a government authorized facility.

3. Shipments shall be under constant surveillance at all times. At all stops, one driver must remain awake and alert with the vehicle where it can be seen and anyone approaching the vehicle can be intercepted. Whether the vehicle is occupied or not, the doors and windows shall be closed and locked to impede unauthorized access.

NOTE: Items 1, 2 and 3 apply only to shipments of classified or group quantities of strategic material.

4. A check will be made of all seals on containers enroute from the INEL at least once every 24 hours. On classified shipments, drivers shall check the trailer seals at each stop and shall immediately notify the EG&G Traffic Manager if evidence of tampering is found. A request to seal all full containers picked up enroute is to be made with the shipper. If they are not sealed at the time of the pickup, the driver is required to seal the container in the presence of the shipper, mark the serial number of the seal on the shipping document and periodically check these seals to determine that they remain intact. If at any time in transit the driver finds the seals are not intact, he is to notify DOE-ID Warning Communication Center (WCC), Phone (208)526-1515, Idaho Falls, Idaho. If there is evidence of forced entry, notify the nearest Field Office of the FBI with a follow-up call to DOE-ID WCC.

5. All shipments shall be made under continuous movement without any intermediate stops except for emergency reasons, meals, refueling, or driver relief. Any deviation from the scheduled routing will be cleared with the EG&G Idaho, Inc., Traffic Agent. In the event the Traffic Agent cannot be reached, contact the DOE-ID WCC, who will notify the EG&G Idaho, Inc., Traffic Agent as soon as possible. In the event approval cannot be obtained prior to the deviation, the driver should make contact and advise the EG&G Idaho, Inc., Traffic Agent as to the reason for change as soon as contact can be made.

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ISC DATA

6. Accident or incident procedures including emergency telephone numbers will be in the possession of the drivers. The driver's point of contact shall be with the EG&G Idaho, Inc., Traffic Agent or his designated alternate and DOE-ID WCC. Details of the accident, such as time of occurrence, location, and severity shall be included in this report. The driver will also furnish the same information to the RESPONSIBLE REGIONAL OFFICE OF THE "RADIOLOGICAL ASSISTANCE PLAN" as determined by geographical location of the accident provided each driver. Under no circumstances will the equipment be moved from the scene of the accident or incident without prior approval from the DOE-ID WCC or from the RAP Group having jurisdiction over the accident.

7. The drivers shall call the EG&G Idaho, Inc., Traffic Agent or his designated alternate every six (6) hours. They shall advise EG&G of the status (all is well, etc.) but shall not reveal their location unless an emergency exists.

8. If for any reason while in transit the driver determines that he will be delayed in an excess of three (3) hours, he is instructed to call the EG&G Idaho, Inc., Traffic Agent. In the event the Traffic Agent cannot be reached contact should be made with the DOE-ID WCC, who will the notify EG&G Idaho, Inc., Traffic Agent as soon as possible. The proper personnel will be contacted upon receipt of either of the above calls and further arrangements will be made at each installation to take care of the delay and clearance of drivers.

9. Drivers shall not remove seals nor shall they permit removal of seals by anyone other than the consignee authorized representative without prior approval from the EG&G Idaho, Inc., Traffic Agent.

10. The drivers are responsible for verifying the identity of the person that accepts and receives the shipment.

11. In the event of any emergency, the driver should feel free to call upon DOE-ID WCC, Military, DOE or local law enforcement officers for assistance.

NOTE: All routine telephone calls made to the EG&G Idaho, Inc., Traffic Agent during normal working hours will be to (208)526-2414.

In the event the EG&G Idaho, Inc., Traffic Agent cannot be contacted, you are instructed to call DOE-ID Warning Communication Center, (208)526-1515, Idaho Falls, Idaho. The details of the call will be passed on to the Traffic Agent when WCC can make contact.

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ISC DATA

INEL

Idaho National Engineering Laboratory

February 15, 1988

Al's Fast Freight Company
1234 Idaho Ave.
Pasadena, ID 83333

Gentlemen:

The following instructions pertain to the shipment of radioactive material leaving this date.

The cask will be sealed by EG&G Idaho, Inc., personnel with serial numbered seals as indicated on the commercial bill of lading. When this unit is loaded your original driver will verify the seal numbers and accept custody of the shipment. Each time there is a change of drivers, the new driver should verify the seals to determine that they are intact. This should be acknowledged by a signature service record, if provided. If, at any time in transit, your drivers find the seals are not intact, or it appears there is any evidence of forced entry, telephone collect, Department of Energy, Idaho Operations Office Warning Communications Center (DOE ID WCC) (208) 526-1515 immediately for further instructions regarding the proper action to be taken.

You are required to furnish this office an estimated time of delivery at the destination. If, for any reason, while in transit, your drivers determine they will be delayed in an excess of 24 hours, you are instructed to call DOE ID WCC and furnish a new ETA.

The driver of any vehicle carrying a DOE shipment of radioactive material involved in any accident or incident is required to immediately report to DOE ID WCC by the fastest means of communication.

If, for any reason, your drivers require additional assistance due to accident or breakdown, they should feel free to call upon DOE ID WCC, the Military, other DOE regional offices, or local law enforcement officers for assistance.

Very truly yours,

A. A. Anselmo,
Traffic Manager

tc

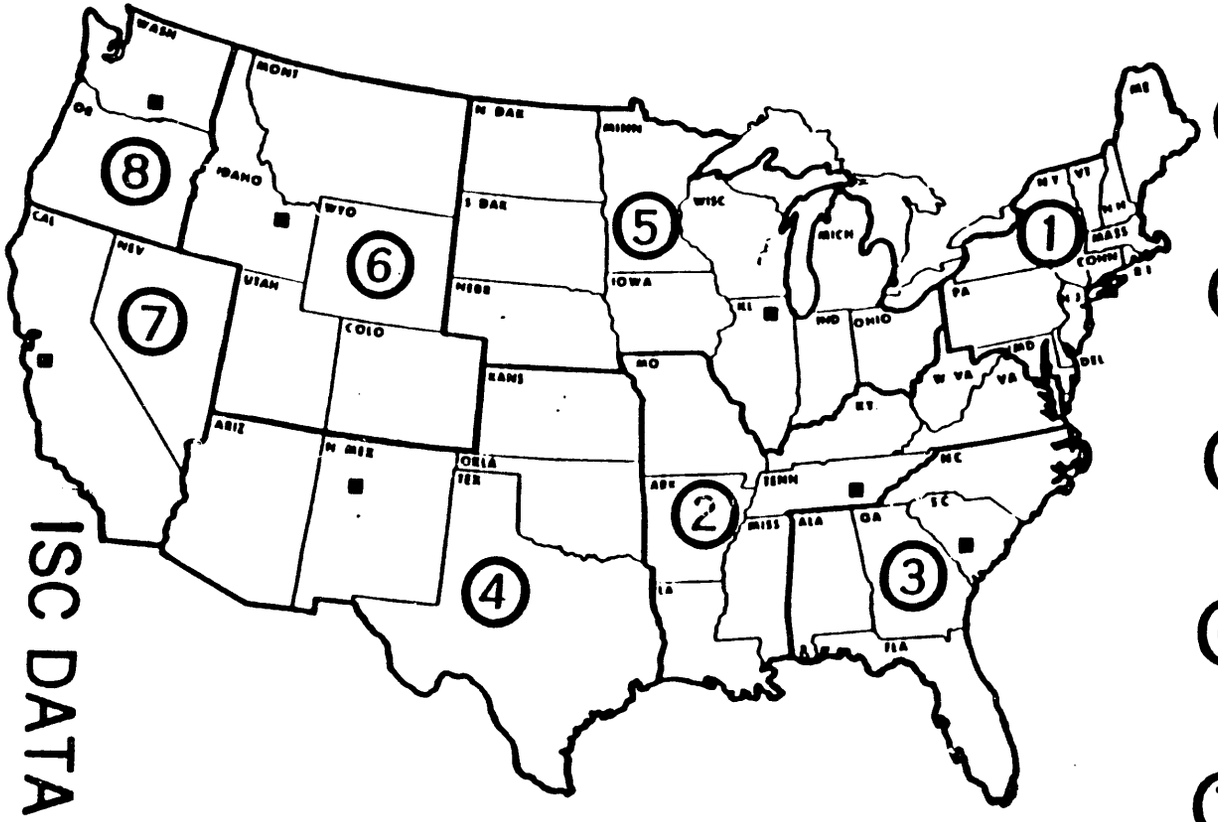
cc: Terminal Manager (3)
A. A. Anselmo

ISC DATA

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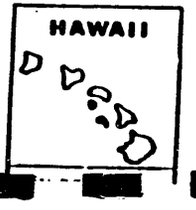
EG&G Idaho, Inc. P.O. Box 1625 Idaho Falls, ID 83415

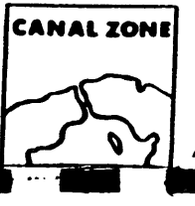
REGIONAL COORDINATING OFFICES
FOR
RADIOLOGICAL ASSISTANCE
AND
GEOGRAPHICAL AREAS
OF RESPONSIBILITY



ISC DATA











	REGIONAL COORDINATING OFFICE	POST OFFICE ADDRESS	TELEPHONE for ASSISTANCE
1	BROOKHAVEN AREA OFFICE	UPTON, L. I. NEW YORK 11973	(516) 282-2200
2	OAK RIDGE OPERATIONS OFFICE	P.O. BOX E OAK RIDGE, TENNESSEE 37830	(615) 576-1005 or (615) 525-7885
3	SAVANNAH RIVER OPERATIONS OFFICE	P.O. BOX A AIKEN, S.C. 29801	(803) 725-3333
4	ALBUQUERQUE OPERATIONS OFFICE	P.O. BOX 5400 ALBUQUERQUE NEW MEXICO 87115	(505) 844-4667
5	CHICAGO OPERATIONS OFFICE	9800 S. CASS AVE. ARGONNE, ILLINOIS 60439	Duty Hrs. (312) 972-4800 Off Hrs. (312) 972-5731
6	IDAHO OPERATIONS OFFICE	785 DOE PLACE IDAHO FALLS, IDAHO 83402	(208) 526-1515
7	SAN FRANCISCO OPERATIONS OFFICE	1333 BROADWAY OAKLAND, CALIFORNIA 94612	(415) 273-4237
8	RICHLAND OPERATIONS OFFICE	P.O. BOX 550 RICHLAND, WASHINGTON 99352	(509) 373-3800

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BILL OF LADING

ORIGINAL—NOT NEGOTIABLE

Shipper No. ISCP - IN

Page 1 of 1

DAWN ENTERPRISES
(Name of carrier) (SCAC)

Carrier No.

Date 07/13/91

Collect on Delivery shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 430, Sec. 1

Consignee WESTINGHOUSE ELECTRIC CORPORATION
FOR U.S. DEPARTMENT OF ENERGY
Street P.O. BOX 2078
WIPP SITE JAL HWY
ATTN: JOE WILLIS
City CARLSBAD, State NM Zip Code 88221

FROM: Shipper EG&G IDAHO, INC.
FOR U. S. DEPT OF ENERGY
Street P.O. BOX 1625
INEL SITE
City SCOVILLE State ID Zip Code 83415

24 hr. Emergency Contact Tel. No. (208) 526-1515

Route

Vehicle Number

No. of Units & Container Type	HM	BASIC DESCRIPTION Proper Shipping Name, Hazard Class Identification Number (UN or NA) per 172.101, 172.202, 172.203	TOTAL QUANTITY (Weight, Volume, Gallons, etc.)	WEIGHT (Subject to Correction)	RATE	CHARGES (For Carrier Use Only)
1 CYL		STEEL CYLINDER, TRUPACT-II SHIPPING	12,476	lbs		
		CASK NEW/UNSED NONHAZARDOUS				
		TRANSPORTATION HEREUNDER IS FOR THE U.S. DEPARTMENT OF ENERGY, AND THE ACTUAL TOTAL TRANSPORTATION CHARGES PAID TO THE CARRIER(S) BY THE CONSIGNOR OR CONSIGNEE ARE ASSIGNABLE TO AND ARE TO BE REIMBURSED BY, THE GOVERNMENT.				
		TRACTOR ID TRAILER ID				
		TP #126	ISC DATA			

PLACARDS TENDERED: YES ☐ NO XXX ☐

REMIT C.O.D. TO: ADDRESS

Note — Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding
$ _____ per _____

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by [redacted] Highway [redacted] (DELETE NON-APPLICABLE MODE OF TRANSPORT) according to applicable international and national governmental regulations.
TOM CAT
Signature

COD Amt: $

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
_____
Signature of Consignor

C.O.D. FEE: PREPAID ☐ COLLECT ☐ $

TOTAL CHARGES: $

FREIGHT CHARGES
FREIGHT PREPAID except when box at right is checked ☐
Check box if charges are to be collect

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.
Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER EG&G IDAHO, INC
TOM CAT

CARRIER DAWN ENTERPRISES
PER IRA DRIVER
DATE

1

Permanent post-office address of shipper:

STYLE F65 LABELMASTER, Div of American Labelmark Co., Chicago, IL 60646 312/478-0900

RACTOR LIC[illegible] #
NM
IR A5283

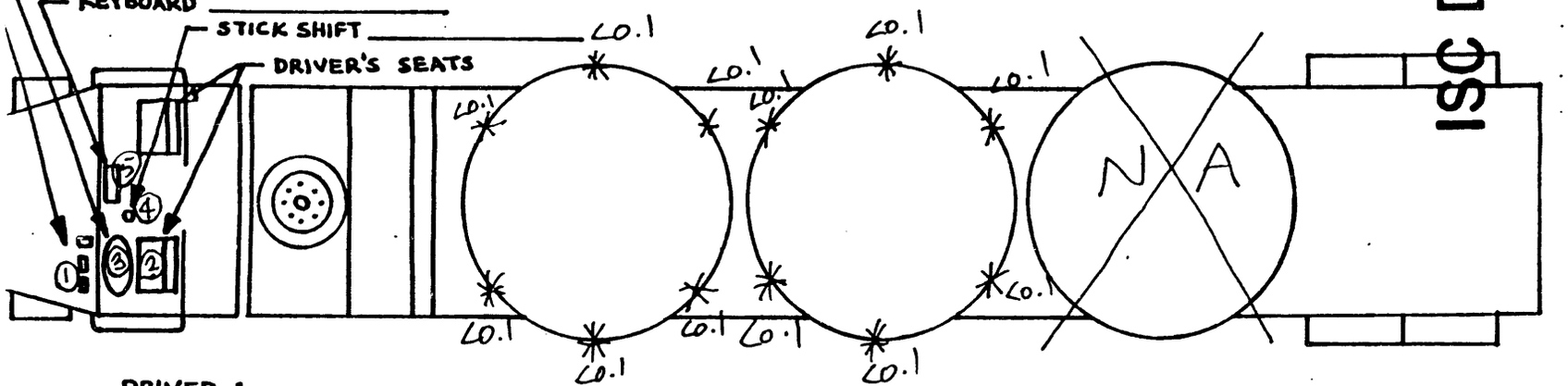
AILER LICENSE #
US
E-22802

WASTE ISOLATION PILOT PLANT

RADIATION & CONTAMINATION SURVEY MAP

LOCATION: TRUPACT RECEIPT (GATE)

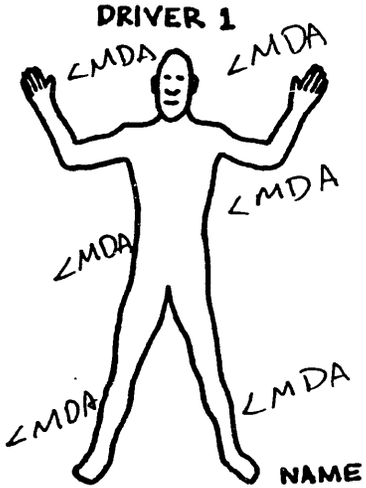
- FOOT PEDALS
- STEERING WHEEL
- KEYBOARD
- STICK SHIFT
- DRIVER'S SEATS



ISC DATA

#	Dpm/100cm2 ALPHA	BETA
01	<20	<200
02	<20	<200
03	<20	<200
04	<20	<200
05	<20	<200
06		
07		
08		
09		
10		
11		
12		
13		
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26		
27		
28		
29		
30		

DRIVER 1



DRIVER 2



NAME JOHN CHISM

SIGNATURES

NAME

DATE: 7-17-91
TIME: 1014
SURVEY TYPE: α β γ

TECH. SIGNATURE:

SUPV. SIGNATURE:

	TYPE	INST #:	CAL DUE:
	R03C	75-HP-054	12-20-91
	SAC-4	75-HP-0594	10-14-91
	BC-4	75-HP-0879	9-15-91

COMMENTS

LEGEND:

○ = Smear Location
✳ = Contact Reading mR/hr
□ = Air Sample location
△ = Neutron Reading

NOTE: All Radiation Readings mR/hr

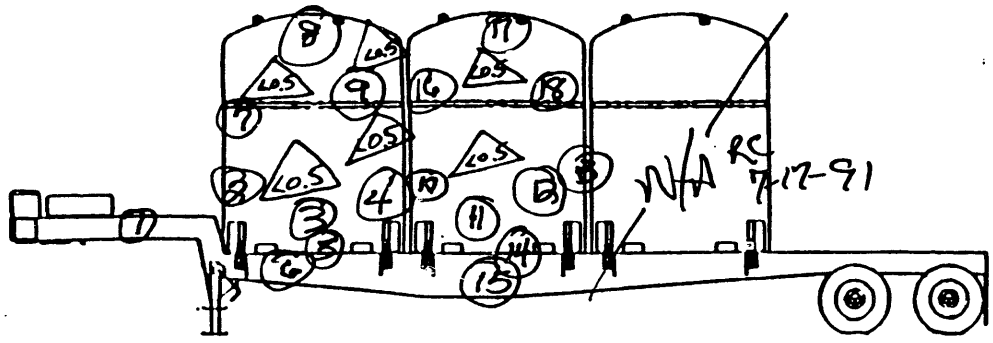
WASTE ISOLATION PILOT PLANT

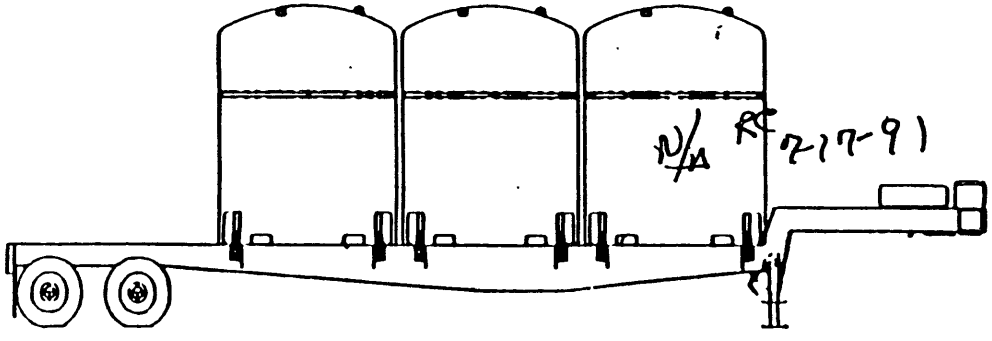
RADIATION & CONTAMINATION SURVEY MAP

ILER LICENSE # NM IR A5283

ICTOR LICENSE # US E-22802

LOCATION: TRUPACT RECEIPT (RMA)





ISC DATA

#	Dpm/100cm2 ALPHA	BETA
01	<20	<200
02	<20	<200
03	<20	<200
04	<20	<200
05	<20	<200
06	<20	<200
07	<20	<200
08	<20	<200
09	<20	<200
10	<20	<200
11	<20	<200
12	<20	<200
13	<20	<200
14	<20	<200
15	<20	<200
16	<20	<200
17	<20	<200
18	<20	<200
19		
20		
21		
22		
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25		
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27		
28		
29		
30		

ATE: 7-17-91
IME: 1054
URVEY TYPE: α/β γ

TYPE: SAC-4 INST #: 75-HP-0594 CAL DUE: 10-14-91
TYPE: Bc-4 INST #: 75-HP-0899 CAL DUE: 9-15-91
TYPE: PNR-4/NP INST #: 75-HP-0467 CAL DUE: 10-11-91
TYPE: INST #: CAL DUE:

ECH. SIGNATURE: 7-17-91
UPV. SIGNATURE:

OMMENTS:

LEGEND:

○ = Smear Location
✳ = Contact Reading
□ = Air Sample location
△ = Neutron Reading

NOTE: All Radiation Readings in mR/hr

TRUPACT-II Unloading

STEP NO.	DESCRIPTION	INITIAL
6.4	RWP: 91-0171 SWP: —	J.W.
6.5	Load Cell: 41-T-151B (Serial Number) 4-24-92 (Cal Due Date)	
6.6	WP Form 2108 Serial No.: W.L # 047	
6.10	CMRO Notification: 0815 (Time) 7-10-91 (Date)	JW
7.2.1	OCV Lid Serial Number: 008 OCV Body Serial Number: 008 Vent Port Access Plug Seal Number: 0039 Locking Ring Bolt Seal Number: 0040	WW
7.3.6	ICV Internal Pressure: 0	
7.3.20	**HOLD POINT** RAF activity < acceptable limit	HPT
7.4.15	**HOLD POINT** SWB #1 ID/WWIS Printout Verification SWB #2 ID/WWIS Printout Verification MAD QA Hold Point Signoff	WW
7.5.11	**HOLD POINT** Package / WWIS Printout Verification N/A QA Hold Point Signoff	WW N/A
7.4.19 OR 7.5.15	CMRO Notification 7/09/91 (Date) 1125 (Time)	J.W.

Performers responsible for step completion **SHALL** enter their printed names, initials on the next page.

$700

ISC DATA 9.1.2

TRUPACT-II Unloading (Continued)

REMARKS: _____

SIGNATURES

NAME	INITIALS	DATE
J.m. Willis	J.m.	71091
Wade Morgan	WM	7-10-91
Mark Davis	MMD	7/10/91
Jack Gilbert	JG	7-10-91
DONALD C. GADBURY	DCG	7-10-91

8.1 **REVIEW:** This record has been reviewed and is found to be complete.

J.m. Willis / J.m. Willis / 71091
WHS (Print Name) Signature Date

9.4 **VALIDATION:** Completion of this step constitutes validation of this record.

CR Kelley / CR Kelley / 7/8/91
J.m. Willis / J.m. Willis / 71091
WHS (Print Name) Signature Date

ISC DATA 9.1.2

SCHEDULE NO. F91PM015

WIPP WASTE INFORMATION S.
SHIPPING SUMMARY FOR SHIPMENT
SHIPMENT DATE 05/01/91

VEHICLE TYPE : T
WASTE TYPE : CH
SHIP CERT DATE: 910401
TRUPACT NUMBER: 006 007 008
PKG ASSEMBLY : ID910011 ID910012 ID910023 ID910002
APC CERTIFYING OFFICIAL: BLUHM

TRU	ASSEMBLY	PACKAGE ID	CONTAINER TYPE	CONTENT CODE
006				
	ID910011			
		WI12345678911	9	300
	ID910023			
		WI23456789101	9	118
007				
	ID910012			
		WI34567891013	9	300
* 008				
	ID910002			
		WI34567891012	9	118

Wade Wagenaar
Mark A. Davis

9.1.2

ISC DATA

ATTACHMENT 1

TRUPACT-II Unloading

STEP NO.	DESCRIPTION	INITIAL
6.4	RWP: 91-0178 SWP: na	J.W.
6.5	Load Cell: 417518 (Serial Number) 4-24-92 (Cal Due Date)	J.W.
6.6	WP Form 2108 Serial No.: WL012	J.W.
6.10	CMRO Notification: 1200 (Time) 71791 (Date)	J.W.
7.2.1	OCV Lid Serial Number: 127 OCV Body Serial Number: 127 Vent Port Access Plug Seal Number: 00381 Locking Ring Bolt Seal Number 0041	RB
7.3.6	ICV Internal Pressure: -0-	RB
7.3.20	**HOLD POINT** RAF activity < acceptable limit	HOLD
7.4.13	**HOLD POINT** SWB #1 ID/WWIS Printout Verification SWB #2 ID/WWIS Printout Verification MAD QA Hold Point Signoff	WW
7.5.11	**HOLD POINT** Package / WWIS Printout Verification N/A QA Hold Point Signoff	WW N/A
7.4.18 OR 7.5.16	CMRO Notification 71791 (Date) 1500 (Time)	J.W.

Performers responsible for step completion **SHALL** enter their printed names, initials on the next page.

PCN00-03

PCN00-02 PCN00-05

DRAFT COPY - FOR REVIEW ONLY

ISC DATA 9.1.2

TRUPACT-II Unloading (Continued)

REMARKS:

T.S. 11 na - waste packages are SWB's

SIGNATURES

NAME	INITIALS	DATE
J.m. Willis	J.W	7/8/91
Randy Bozman	RB	7/17/91
WADE WEXERMAN	WW	7-17-91
Mark Davis	MAD	7/17/91
Russ Gilbreath	RJG	7-17-91

8.1 **REVIEW:** This record has been reviewed and is found to be complete.

J.m. Willis	J.m. Willis	7/8/91
WHS (Print Name)	Signature	Date

9.4 **VALIDATION:** Completion of this step constitutes validation of this record.

J.m. Willis	J.m. Willis	7/8/91
WHS (Print Name)	Signature	Date

ISC DATA

DRAFT COPY FOR REVIEW ONLY

ATTACHMENT 1

Bin Handling

STEP NO.	DESCRIPTION	INITIAL
6.2	Test Bin ID: TBX-05	
6.3	Torque Wrench: 30-150 ft-lbs / WH-0960 / 122492 (Range / ID Number / Cal Due Date) Torque Wrench: 10-80 ft-lbs / WH-0962 / 12-24-91 (Range / ID Number / Cal Due Date)	
6.4	RWP: 91-0178 SWP: N/A	
6.10	CMRO Notified Date: 7-17-91 Time: 1520	
7.1.30	Valve tamper indicating devices intact	
7.1.35	PR-1, INSTR PORT Valve open PR-2, INSTR PORT BACKUP Valve open GR-1, RECIRC OUT Valve open GR-2, RECIRC IN Valve open INDEPENDENT VERIFICATION SPA	
7.1.37	1" hose connected to OG/AP-1 1" hose connected to OG/AP-2 1" hose connected to GRB-1 1" hose connected to GRB-2 INDEPENDENT VERIFICATION	SRA.
7.1.38	OG/AP-1, OXYGEN GETTER/ARGON Valve open OG/AP-2, OXYGEN GETTER/ARGON Valve open GRB-1, OXY GETTER/RECIRC OUT BACKUP Valve open GRB-2, OXY GETTER/RECIRC IN BACKUP Valve open INDEPENDENT VERIFI ATION SPA	
7.1.43	**HOLD POINT** ALL thermocouple checks satisfactory	EOT

PCN 00-01

std 9.1.3

PCN 00-06

ISC DATA

Bin Handling (Continued)

STEP NO.	DESCRIPTION	INITIAL
7.1.52.D)	Static Ground Bolt torqued 25-27 in-lbs **QA HOLD POINT**	SPA
7.1.57	PR-1, INSTR PORT hose connected PR-2, INSTR PORT BACKUP hose connected GR-1, RECIRC OUT hose connected GR-2, RECIRC IN hose connected OG/AP-1, OXY GETT/ARGON hose connected OG/AP-2, OXY GETT/ARGON hose connected GRB-1, OXY GETT/RECIRC OUT BACKUP hose connected GRB-2, OXY GETT/RECIRC IN BACKUP hose connected INDEPENDENT VERIFICATION _____	
7.1.71	All RCB Lid Bolts torqued to 30 ± 5 ft-lbs **QA HOLD POINT**	SPA
7.1.72	All RCB Lid Bolts torqued to 50 ± 5 ft-lbs **QA HOLD POINT**	
7.2.3	No CH Bay CAMs indicate airborne activity No loose surface contamination in CH Bay No loose surface contamination on the RCB RCB properly tagged with radiological information **HPT HOLD POINT** 7-22	
7.3.7	_____ RCB Package ID No. _____ Test Bin ID No. **QA HOLD POINT** _____	
7.3.8.B)	_____ / _____ / _____ / _____ / _____ Date / Time / Panel / Room / Position **QA HOLD POINT** _____	
7.3.9	CMRO Notified Date:_____ Time:_____	

PCN 00-06 Pg 00-01

PCN 00-06

PCN 00-06 Pg 00-02 PCN 00-03

9.1.1

ISC DATA

Bin Handling (Continued)

PCN 00-03

Performers responsible for step completion or data recording **SHALL** enter their printed names, initials and date below:

Print Name	Initial	Date
Steve Lieberwirth	SLL	7-17-91
Jeff Knox	JWK	7-17-91
STEVE AZZILIARO	SPA	7-18-91
Jack Gilbert	JG.	7-18-91
[signature]	[signature]	7/19/91
Russ Calhoon	RJC	7-22-91

REMARKS: Ground check acceptable JWK

8.2 REVIEW This record has been reviewed and is found to be complete.

WHS (Print Name)	(Signature)	Date	Time
J.M. Willis	J.M. Willis	72291	1210

9.4 VALIDATION Completion of this step constitutes validation of this record.

Manager (Print Name) Waste Handling Operations	(Signature)	Date	Time
C.R. Kelley J.M. Willis	C.R. Kelley J.M. Willis	7/29/91 72291	1856 1210

ISC DATA 9.1.3

Bin Handling

STEP NO.	DESCRIPTION	INITIAL
6.2	Test Bin ID: TBX06	Q.W.
6.3	Torque Wrench: 5-80 FT-LB / WH-0962 / 12-24-91 (Range / ID Number / Cal Due Date) Torque Wrench: 25-150 FT-LB / WH-0960 / 12-24-91 (Range / ID Number / Cal Due Date)	SPA
6.4	RWP: 91-0171 SWP: NA	Q.W.
6.10	CMRO Notified Date: 7/09/1 Time: 1220	Q.W.
7.1.29	Valve tamper indicating devices intact	ZB
7.1.34	PR-1, INSTR PORT Valve open PR-2, INSTR PORT BACKUP Valve open GR-1, RECIRC OUT Valve open GR-2, RECIRC IN Valve open INDEPENDENT VERIFICATION LB	SPA
7.1.36	1" hose connected to OG/AP-1 1" hose connected to OG/AP-2 1" hose connected to GRB-1 1" hose connected to GRB-2 INDEPENDENT VERIFICATION LB	SPA
7.1.37	OG/AP-1, OXYGEN GETTER/ARGON Valve open OG/AP-2, OXYGEN GETTER/ARGON Valve open GRB-1, OXY GETTER/RECIRC OUT BACKUP Valve open GRB-2, OXY GETTER/RECIRC IN BACKUP Valve open INDEPENDENT VERIFICATION LB	SPA
7.1.42	**HOLD POINT** ALL thermocouple checks satisfactory	EOT

PCN00-01

PCN00-02

ISC DATA

Bin Handling (Continued)

STEP NO.	DESCRIPTION	INITIAL
7.1.51.D)	Static Ground Bolt torqued 25-27 in-lbs **QA HOLD POINT** NA	RB
7.1.56	PR-1, INSTR PORT hose connected PR-2, INSTR PORT BACKUP hose connected GR-1, RECIRC OUT hose connected GR-2, RECIRC IN hose connected OG/AP-1, OXY GETT/ARGON hose connected OG/AP-2, OXY GETT/ARGON hose connected GRB-1, OXY GETT/RECIRC OUT BACKUP hose connected GRB-2, OXY GETT/RECIRC IN BACKUP hose connected INDEPENDENT VERIFICATION CB	SPA
7.1.69	All RCB Lid Bolts torqued to 30 ± 5 ft-lbs **QA HOLD POINT** NA	RB
7.1.70	All RCB Lid Bolts torqued to 50 ± 5 ft-lbs **QA HOLD POINT** NA	RB
7.2.3	No CH Bay CAMs indicate airborne activity No loose surface contamination in CH Bay No loose surface contamination on the RCB RCB properly tagged with radiological information **HPT HOLD POINT** RC	RB
7.3.7	_____ RCB Package ID No. _____ Test Bin ID No. **QA HOLD POINT** _____	
7.3.8.B)	_____ / _____ / _____ / _____ / _____ Date / Time / Panel / Room / Position **QA HOLD POINT** _____	
7.3.9	CMRO Notified Date:_____ Time:_____	

PCN 00-02 PCN 00-01

PCN 00-01 PCN 00-03

PCN 00-03

9.1.3

ISC DATA

Bin Handling (Continued)

PCN 00-07

Performers responsible for step completion or data recording **SHALL** enter their printed names, initials and date below:

Print Name	Initial	Date
J.M. Willis	JW.	71091
STEVE AZZINARO	SPA	7.10.91
MANUEL A. FIERRO	MAF	7-10-91
RANDY BRITAIN	RB	7-11-91
RUSS GILMORE	RG	7-11-91
MARK DAVIS	MD	7/11/91

REMARKS: steps 7.3.7 - 7.3.9 not required IAW 5101

8.2 REVIEW This record has been reviewed and is found to be complete.

WHS (Print Name)	(Signature)	Date	Time
J.m. Willis	J.m. Willis	71191	1200

9.4 VALIDATION Completion of this step constitutes validation of this record.

Manager (Print Name) Waste Handling Operations	(Signature)	Date	Time
O.K. Kelley	O.K. Kelley	7/14/91	1287 1000
J.m. Willis	J.m. Willis	71191	1200

ISC DATA 9.1

PACKAGE ID	NUCLIDE SYMBOL	NUCLIDE QUANTITY	NUCLIDE UNIT	CALCULATED NUCLIDE SYMBOL	CALCULATED NUCLIDE MASS	CALCULATED NUCLIDE ACTIVITY	HAZARDOUS CODE	HAZARDOU- QTY
WI12345678911	PU-52	1.000E+01	G	PU-238	1.000E-03	1.715E-02	D008	1.000E+01
				PU-239	9.389E+00	5.846E-01		
				PU-240	5.750E-01	1.312E-01		
				PU-241	3.400E-02	3.509E+00		
				PU-242	2.000E-03	7.648E-06		
WI2345678910101	PU-52	2.900E+00	G	PU-238	2.900E-04	4.973E-03	D008	1.000E+01
				PU-239	2.723E+00	1.695E-01		
				PU-240	1.667E-01	3.805E-02		
				PU-241	9.860E-03	1.018E+00		
				PU-242	5.800E-04	2.218E-06		
WI345678910112	PU-52	2.900E+01	G	PU-238	2.900E-03	4.973E-02	D008	1.000E+01
				PU-239	2.723E+01	1.695E+00		
				PU-240	1.668E+00	3.805E-01		
				PU-241	9.860E-02	1.018E+01		
				PU-242	5.800E-03	2.218E-05		
WI345678910113	PU-52	2.000E+01	G	PU-238	2.000E-03	3.430E-02	D008	1.000E+01
				PU-239	1.878E+01	1.169E+00		
				PU-240	1.150E+00	2.624E-01		
				PU-241	6.800E-02	7.018E+00		
				PU-242	4.000E-03	1.530E-05		
WI45678910124	PU-52	1.500E+01	G	PU-238	1.500E-03	2.572E-02	D008	1.000E+01
				PU-239	1.408E+01	8.768E-01		
				PU-240	8.625E-01	1.968E-01		
				PU-241	5.100E-02	5.263E+00		
				PU-242	3.000E-03	1.147E-05		



ATTACHMENT 1

Page 1 of 1

Bin Leak Rate Test

Test BIN/RCB ID. No: TBX-05 Test Date 7-18-91

MILRT ID No. ~~WR~~ #11548 Cal. due Date 9-20-91

STEP NO.	DESCRIPTION	INITIALS	VERIF.
7.2.13	Open Block Valve	JG. JG.	SPA SPA
7.4.9	Open Block Valve	JG.	SPA
7.5.25	~~Meets~~ Acceptance Criteria Yes / No (circle one)	MK 7/19/91	N/A
7.6.6.B)	RAF radiation below limits ~~RC~~		N/A
7.6.6.F)	RAF radiation below limits		N/A

Stabilization Period: 1102 / 7-18-91 (Start Time / Date) 0825 / 7-19-91 (End Time / Date)

Test Start: 0826 / 7-19-91 (Time / Date) Test End: 0926 / 7-19-91 (Time / Date)

Test Completed By: Jack Gilbert Date: 7-19-91

Performers responsible for data entry or step completion **SHALL** enter their printed names, signatures, initials, and date below.

NAME (print)	SIGNATURE / INIT	DATE
Jack Gilbert	Jack Gilbert JG.	7-18-91
STEVE AZZINARO	Steve Azzinaro SPA	7-18-91
Merle King D. CASEY GADBURY	[illegible] MK DCG	7-19-91 7-19-91

Remarks: RWP no. 91-0181 SWP no. N/A 7-19-91

8.1 Review

This record has been reviewed and is found to be complete.

Name (print)	Signature	Date
J.M. Willis	J.M. Willis	7/19/91

9.2 Validation

Completion of this step constitutes validation of the record.

ISC DATA

Name (print)	Signature	Date
J.M. Willis CR Kelley	J.M. Willis CR Kelley	7/19/91 7/19/91

Mini Integrated Leakage Rate Tester

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD MILRT DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD

Bin# : TBX-05

	Current	Maximum	Time	
Flow : (SL/min)	0.000	3.836	Elapsed:	00:24:42
Pressure : (psig)	0.489	0.501	Stabilize:	00:15:00
Total Mass : (Lb)	0.078		Cycle #:	1
Total Volume : (cubic inches)	57381.302			

Pressure Trend: INCREASING

Valve Status: CLOSED

Operation Mode: AUTO

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD DDDDDDDDDDDDDDDDDDDD

29	4.83	0.53287	79.00553	-0.05196
30	5.00	0.53292	79.00579	-0.05049
31	5.17	0.53297	79.00625	-0.04906
32	5.33	0.53291	79.00610	-0.04722
33	5.50	0.53291	79.00605	-0.04580
34	5.67	0.53291	79.00631	-0.04441
35	5.83	0.53289	79.00641	-0.04304
36	6.00	0.53291	79.00678	-0.04187
37	6.17	0.53293	79.00704	-0.04078
38	6.33	0.53292	79.00714	-0.03965
39	6.50	0.53292	79.00740	-0.03864
40	6.67	0.53292	79.00777	-0.03760
41	6.83	0.53291	79.00787	-0.03665
42	7.00	0.53291	79.00824	-0.03574
43	7.17	0.53294	79.00834	-0.03500
44	7.33	0.53291	79.00865	-0.03406
45	7.50	0.53297	79.00829	-0.03352
46	7.67	0.53288	79.00855	-0.03252
47	7.83	0.53290	79.00881	-0.03185
48	8.00	0.53289	79.00891	-0.03116
49	8.17	0.53290	79.00923	-0.03053
50	8.33	0.53294	79.00933	-0.03001
51	8.50	0.53299	79.00996	-0.02950
52	8.67	0.53290	79.00954	-0.02875
53	8.83	0.53290	79.01022	-0.02815
54	9.00	0.53292	79.01001	-0.02769
55	9.17	0.53291	79.01022	-0.02717
56	9.33	0.53292	79.01042	-0.02668
57	9.50	0.53297	79.01027	-0.02632
58	9.67	0.53296	79.01074	-0.02581
59	9.83	0.53296	79.01089	-0.02538
60	10.00	0.53301	79.01121	-0.02502
1	10.17	0.53299	79.01126	-0.02457
62	10.33	0.53298	79.01147	-0.02415
63	10.50	0.53301	79.01157	-0.02382
64	10.67	0.53301	79.01147	-0.02345
65	10.83	0.53303	79.01168	-0.02310
66	11.00	0.53302	79.01194	-0.02272
67	11.17	0.53299	79.01194	-0.02235
68	11.33	0.53301	79.01225	-0.02203
69	11.50	0.53297	79.01199	-0.02167
70	11.67	0.53305	79.01235	-0.02144
71	11.83	0.53297	79.01272	-0.02104
72	12.00	0.53297	79.01256	-0.02075
73	12.17	0.53303	79.01287	-0.02053
74	12.33	0.53311	79.01272	-0.02034
75	12.50	0.53308	79.01298	-0.02003
76	12.67	0.53310	79.01308	-0.01978
77	12.83	0.53307	79.01355	-0.01948
78	13.00	0.53308	79.01371	-0.01924
79	13.17	0.53309	79.01308	-0.01903
80	13.33	0.53310	79.01402	-0.01877
81	13.50	0.53316	79.01392	-0.01859
82	13.67	0.53309	79.01413	-0.01829
83	13.83	0.53317	79.01413	-0.01814
84	14.00	0.53320	79.01433	-0.01796
85	14.17	0.53319	79.01459	-0.01773
86	14.33	0.53318	79.01470	-0.01751
87	14.50	0.53318	79.01465	-0.01731
88	14.67	0.53317	79.01512	-0.01709
89	14.83	0.53321	79.01527	-0.01693
90	15.00	0.53317	79.01517	-0.01672
91	15.17	0.53320	79.01538	-0.01655
92	15.33	0.53320	79.01564	-0.01636
93	15.50	0.53315	79.01595	-0.01615

ISC DATA

95	15.83	0.53325	79.01611	-0.01587
96	16.00	0.53328	79.01637	-0.01572
97	16.17	0.53327	79.01673	-0.01554
98	16.33	0.53331	79.01694	-0.01541
99	16.50	0.53328	79.01673	-0.01524
100	16.67	0.53330	79.01684	-0.01510
101	16.83	0.53327	79.01715	-0.01492
102	17.00	0.53336	79.01725	-0.01482
103	17.17	0.53337	79.01741	-0.01469
104	17.33	0.53338	79.01751	-0.01455
105	17.50	0.53339	79.01710	-0.01442
106	17.67	0.53339	79.01767	-0.01428
107	17.83	0.53338	79.01783	-0.01414
108	18.00	0.53343	79.01777	-0.01403
109	18.17	0.53344	79.01861	-0.01390
110	18.33	0.53340	79.01798	-0.01376
111	18.50	0.53342	79.01830	-0.01364
112	18.67	0.53342	79.01830	-0.01352
113	18.83	0.53341	79.01866	-0.01339
114	19.00	0.53344	79.01908	-0.01328
115	19.17	0.53344	79.01882	-0.01317
116	19.33	0.53345	79.01939	-0.01305
117	19.50	0.53346	79.01944	-0.01295
118	19.67	0.53344	79.01970	-0.01282
119	19.83	0.53345	79.01970	-0.01272
120	20.00	0.53346	79.01996	-0.01261
121	20.17	0.53345	79.01929	-0.01251
122	20.33	0.53347	79.01975	-0.01241
123	20.50	0.53345	79.02017	-0.01230
124	20.67	0.53348	79.02043	-0.01221
125	20.83	0.53350	79.02043	-0.01212
126	21.00	0.53356	79.02048	-0.01204
127	21.17	0.53351	79.02085	-0.01193
128	21.33	0.53345	79.02116	-0.01181
129	21.50	0.53347	79.02116	-0.01173
130	21.67	0.53349	79.02132	-0.01164
131	21.83	0.53346	79.02142	-0.01154
132	22.00	0.53343	79.02168	-0.01144
133	22.17	0.53347	79.02158	-0.01137
134	22.33	0.53348	79.02174	-0.01128
135	22.50	0.53349	79.02210	-0.01120
136	22.67	0.53352	79.02220	-0.01113
137	22.83	0.53355	79.02252	-0.01105
138	23.00	0.53352	79.02262	-0.01096
139	23.17	0.53352	79.02262	-0.01088
140	23.33	0.53350	79.02273	-0.01080
141	23.50	0.53350	79.02299	-0.01072
142	23.67	0.53349	79.02314	-0.01064
143	23.83	0.53348	79.02330	-0.01056
144	24.00	0.53349	79.02387	-0.01048
145	24.17	0.53353	79.02361	-0.01043
146	24.33	0.53350	79.02392	-0.01034
147	24.50	0.53349	79.02413	-0.01027
148	24.67	0.53353	79.02434	-0.01021
149	24.83	0.53348	79.02434	-0.01013
150	25.00	0.53350	79.02492	-0.01006
151	25.17	0.53351	79.02471	-0.01000
152	25.33	0.53351	79.02460	-0.00993
153	25.50	0.53347	79.02439	-0.00986
154	25.67	0.53356	79.02523	-0.00981
155	25.83	0.53351	79.02512	-0.00974
156	26.00	0.53350	79.02554	-0.00967
157	26.17	0.53349	79.02544	-0.00961
158	26.33	0.53351	79.02580	-0.00955
159	26.50	0.53352	79.02575	-0.00949
160	26.67	0.53351	79.02584	-0.00943

ISC DATA

162	27.00	0.53354	79.02585	-0.00932
163	27.17	0.53354	79.02627	-0.00926
164	27.33	0.53354	79.02622	-0.00920
165	27.50	0.53357	79.02637	-0.00915
166	27.67	0.53353	79.02664	-0.00908
167	27.83	0.53355	79.02658	-0.00904
68	28.00	0.53353	79.02674	-0.00898
169	28.17	0.53356	79.02737	-0.00893
170	28.33	0.53354	79.02726	-0.00887
171	28.50	0.53354	79.02747	-0.00882
172	28.67	0.53356	79.02778	-0.00877
173	28.83	0.53349	79.02799	-0.00870
174	29.00	0.53354	79.02789	-0.00866
175	29.17	0.53355	79.02825	-0.00861
176	29.33	0.53355	79.02809	-0.00856
177	29.50	0.53355	79.02820	-0.00852
178	29.67	0.53355	79.02867	-0.00846
179	29.83	0.53355	79.02862	-0.00842
180	30.00	0.53354	79.02898	-0.00837
181	30.17	0.53354	79.02919	-0.00832
182	30.33	0.53353	79.02903	-0.00827
183	30.50	0.53353	79.02919	-0.00823
184	30.67	0.53353	79.02919	-0.00818
185	30.83	0.53351	79.02940	-0.00813
186	31.00	0.53349	79.02966	-0.00809
187	31.17	0.53351	79.02976	-0.00804
188	31.33	0.53350	79.02992	-0.00800
189	31.50	0.53347	79.02987	-0.00795
190	31.67	0.53349	79.02997	-0.00791
191	31.83	0.53351	79.03028	-0.00787
192	32.00	0.53349	79.03034	-0.00783
93	32.17	0.53348	79.03049	-0.00779
94	32.33	0.53346	79.03081	-0.00774
195	32.50	0.53347	79.03107	-0.00770
196	32.67	0.53347	79.03101	-0.00766
197	32.83	0.53344	79.03117	-0.00762
198	33.00	0.53344	79.03133	-0.00758
199	33.17	0.53347	79.03148	-0.00754
200	33.33	0.53348	79.03174	-0.00751
201	33.50	0.53345	79.03200	-0.00746
202	33.67	0.53345	79.03190	-0.00743
203	33.83	0.53348	79.03221	-0.00739
204	34.00	0.53346	79.03268	-0.00735
205	34.17	0.53334	79.03268	-0.00730
206	34.33	0.53347	79.03258	-0.00728
207	34.50	0.53345	79.03258	-0.00725
208	34.67	0.53350	79.03263	-0.00722
209	34.83	0.53351	79.03253	-0.00718
210	35.00	0.53348	79.03336	-0.00714
211	35.17	0.53348	79.03357	-0.00711
212	35.33	0.53349	79.03326	-0.00708
213	35.50	0.53348	79.03367	-0.00704
214	35.67	0.53346	79.03388	-0.00701
215	35.83	0.53344	79.03430	-0.00697
216	36.00	0.53344	79.03430	-0.00694
217	36.17	0.53339	79.03430	-0.00690
218	36.33	0.53339	79.03466	-0.00686
19	36.50	0.53339	79.03451	-0.00683
220	36.67	0.53339	79.03508	-0.00680
221	36.83	0.53338	79.03487	-0.00677
222	37.00	0.53338	79.03524	-0.00674
223	37.17	0.53337	79.03529	-0.00671
224	37.33	0.53339	79.03539	-0.00668
225	37.50	0.53336	79.03550	-0.00664
226	37.67	0.53334	79.03574	-0.00661

DATA

227	37.83	0.53334	79.03647	-0.00658
228	38.00	0.53335	79.03633	-0.00655
229	38.17	0.53339	79.03617	-0.00653
230	38.33	0.53335	79.03628	-0.00650
231	38.50	0.53337	79.03675	-0.00647
232	38.67	0.53338	79.03670	-0.00644
233	38.83	0.53340	79.03685	-0.00642
234	39.00	0.53338	79.03690	-0.00639
235	39.17	0.53338	79.03685	-0.00636
236	39.33	0.53340	79.03737	-0.00633
237	39.50	0.53341	79.03743	-0.00631
238	39.67	0.53341	79.03727	-0.00628
239	39.83	0.53340	79.03774	-0.00625
240	40.00	0.53335	79.03748	-0.00622
241	40.17	0.53328	79.03784	-0.00619
242	40.33	0.53330	79.03800	-0.00616
243	40.50	0.53329	79.03810	-0.00614
244	40.67	0.53330	79.03821	-0.00611
245	40.83	0.53330	79.03826	-0.00609
246	41.00	0.53327	79.03842	-0.00606
247	41.17	0.53323	79.03857	-0.00603
248	41.33	0.53328	79.03842	-0.00601
249	41.50	0.53324	79.03878	-0.00598
250	41.67	0.53325	79.03894	-0.00596
251	41.83	0.53327	79.03904	-0.00594
252	42.00	0.53329	79.03920	-0.00591
253	42.17	0.53331	79.03925	-0.00589
254	42.33	0.53330	79.03956	-0.00587
255	42.50	0.53333	79.03967	-0.00585
256	42.67	0.53333	79.04019	-0.00582
257	42.83	0.53335	79.04024	-0.00580
258	43.00	0.53333	79.03982	-0.00578
259	43.17	0.53330	79.04050	-0.00575
260	43.33	0.53328	79.04081	-0.00573
261	43.50	0.53331	79.04060	-0.00571
262	43.67	0.53325	79.04097	-0.00568
263	43.83	0.53324	79.04123	-0.00566
264	44.00	0.53322	79.04149	-0.00563
265	44.17	0.53320	79.04128	-0.00561
266	44.33	0.53321	79.04165	-0.00559
267	44.50	0.53320	79.04149	-0.00557
268	44.67	0.53319	79.04191	-0.00555
269	44.83	0.53322	79.04201	-0.00553
270	45.00	0.53320	79.04243	-0.00550
271	45.17	0.53322	79.04264	-0.00548
272	45.33	0.53321	79.04253	-0.00546
273	45.50	0.53320	79.04259	-0.00544
274	45.67	0.53322	79.04285	-0.00542
275	45.83	0.53322	79.04279	-0.00540
276	46.00	0.53321	79.04326	-0.00538
277	46.17	0.53322	79.04316	-0.00536
278	46.33	0.53319	79.04337	-0.00534
279	46.50	0.53320	79.04342	-0.00532
280	46.67	0.53318	79.04352	-0.00530
281	46.83	0.53318	79.04373	-0.00528
282	47.00	0.53322	79.04352	-0.00527
283	47.17	0.53318	79.04384	-0.00525
284	47.33	0.53317	79.04410	-0.00523
285	47.50	0.53318	79.04420	-0.00521
286	47.67	0.53315	79.04451	-0.00519
287	47.83	0.53315	79.04451	-0.00517
288	48.00	0.53319	79.04477	-0.00515
289	48.17	0.53321	79.04530	-0.00514
290	48.33	0.53323	79.04493	-0.00512
291	48.50	0.53323	79.04493	-0.00510
292	48.67	0.53327	79.04550	-0.00509

C DATA

294	49.00	0.53319	79.04571	-0.00505
295	49.17	0.53316	79.04566	-0.00503
296	49.33	0.53313	79.04561	-0.00501
297	49.50	0.53315	79.04587	-0.00499
298	49.67	0.53315	79.04603	-0.00497
299	49.83	0.53314	79.04613	-0.00496
00	50.00	0.53313	79.04629	-0.00494
301	50.17	0.53309	79.04644	-0.00492
302	50.33	0.53307	79.04676	-0.00490
303	50.50	0.53307	79.04634	-0.00489
304	50.67	0.53311	79.04686	-0.00487
305	50.83	0.53311	79.04691	-0.00486
306	51.00	0.53317	79.04728	-0.00484
307	51.17	0.53320	79.04738	-0.00483
308	51.33	0.53324	79.04754	-0.00482
309	51.50	0.53323	79.04764	-0.00480
310	51.67	0.53320	79.04801	-0.00478
311	51.83	0.53320	79.04801	-0.00477
312	52.00	0.53315	79.04827	-0.00475
313	52.17	0.53318	79.04816	-0.00473
314	52.33	0.53321	79.04842	-0.00472
315	52.50	0.53317	79.04858	-0.00470
316	52.67	0.53321	79.04879	-0.00469
317	52.83	0.53317	79.04853	-0.00467
318	53.00	0.53315	79.04900	-0.00466
319	53.17	0.53314	79.04894	-0.00464
320	53.33	0.53314	79.04936	-0.00463
321	53.50	0.53313	79.04931	-0.00461
322	53.67	0.53312	79.04962	-0.00460
323	53.83	0.53310	79.04941	-0.00458
324	54.00	0.53313	79.04999	-0.00457
325	54.17	0.53312	79.04973	-0.00455
326	54.33	0.53309	79.04983	-0.00454
327	54.50	0.53309	79.04993	-0.00452
328	54.67	0.53310	79.04999	-0.00451
329	54.83	0.53305	79.05004	-0.00449
330	55.00	0.53306	79.05046	-0.00448
331	55.17	0.53307	79.05025	-0.00447
332	55.33	0.53307	79.05040	-0.00445
333	55.50	0.53304	79.05098	-0.00444
334	55.67	0.53303	79.05108	-0.00442
335	55.83	0.53303	79.05139	-0.00441
336	56.00	0.53306	79.05113	-0.00440
337	56.17	0.53305	79.05160	-0.00438
338	56.33	0.53306	79.05145	-0.00437
339	56.50	0.53307	79.05165	-0.00436
340	56.67	0.53308	79.05223	-0.00435
341	56.83	0.53306	79.05192	-0.00433
342	57.00	0.53306	79.05212	-0.00432
343	57.17	0.53311	79.05202	-0.00431
344	57.33	0.53308	79.05259	-0.00430
345	57.50	0.53308	79.05275	-0.00428
346	57.67	0.53309	79.05249	-0.00427
347	57.83	0.53305	79.05244	-0.00426
348	58.00	0.53313	79.05296	-0.00425
349	58.17	0.53306	79.05301	-0.00423
350	58.33	0.53307	79.05301	-0.00422
51	58.50	0.53308	79.05332	-0.00421
352	58.67	0.53311	79.05348	-0.00420
353	58.83	0.53307	79.05390	-0.00418
354	59.00	0.53308	79.05369	-0.00417
355	59.17	0.53307	79.05410	-0.00416
356	59.33	0.53307	79.05426	-0.00415
357	59.50	0.53308	79.05452	-0.00414

ISC DATA

359	59.83	0.53308	79.05437	-0.00411
360	60.00	0.53311	79.05442	-0.00410

ISC DATA

ATTACHMENT 1 Page 1 of 1

Bin Leak Rate Test

Test BIN/RCB ID. No: TBX06 Test Date 7-10-91

MILRT ID No. _____ Cal. due Date _____

STEP NO.	DESCRIPTION	INITIALS	VERIF.
7.2.13	Open Block Valve	WW	RB
7.4.9	Open Block Valve	WW	J.W.
7.5.25	~~Meets~~ Acceptance Criteria (Yes) / No (circle one)	MK 7/11/91	N/A
7.6.6.B)	RAF radiation below limits	TC 7-11-91	N/A
7.6.6.F)	RAF radiation below limits	TC 7-11-91	N/A

Stabilization Period: 1802 / 7-10-91 (Start Time / Date) 0830 / 7/11/91 (End Time / Date)

Test Start: 0851 / 7-11-91 (Time / Date) Test End: 0951 / 7-11-91 (Time / Date)

Test Completed By: Wade Weyerman Date: 7-11-91

Performers responsible for data entry or step completion **SHALL** enter their printed names, signatures, initials, and date below.

NAME (print)	SIGNATURE	INIT	DATE
J.M. Willis	J.M. Willis	J.W.	7/11/91
Randy Britain	Randy Britain	RB	7-10-91
WADE WEYERMAN	Wade Weyerman	WW	7-10-91
~~Russ Calhoun~~	~~Russ Calhoun~~	~~TC~~	7-11-91
Merle King	Merle King	MK	7-11-91

Remarks: RWP no. 91-0172 SWP no. N/A

MILRT Has No I.D. on Cal Sticker

8.1 Review

This record has been reviewed and is found to be complete.

Name (print)	Signature	Date
J.M. Willis	J.M. Willis	7/11/91

9.2 Validation

ISC DATA

Completion of this step constitutes validation of this record.

Name (print)	Signature	Date
J.M. Willis	J.M. Willis	7/11/91
C.R. Kelley	C.R. Kelley	7/09/91

Mini Integrated Leakage Rate Tester

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD MILRT DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD

Bin# : TBX-06

	Current	Maximum	Time
Flow : (SL/min)	0.000	3.851	Elapsed: 00:32:52
Pressure : (psig)	0.494	0.501	Stabilize: 00:15:00
Total Mass : (Lb)	0.052		Cycle #: 2
Total Volume : (cubic inches)	45872.928		

Pressure Trend: INCREASING

Valve Status: CLOSED

Operation Mode: AUTO

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD

Fill Cycle M = mode togg

ISC DATA

File: 1.dat 25697 7/11/91

#	ELAPSED TIME minutes	TRANSDUCER PRESSURE psig	AVERAGE TEMPERATURE deg F	LEAKAGE RATE cc/sec
1	0.17	0.41602	80.00026	-0.01949
2	0.33	0.41601	80.00026	0.00027
3	0.50	0.41600	80.00021	0.00710
4	0.67	0.41602	80.00016	-0.00258
5	0.83	0.41604	79.99990	-0.00842
6	1.00	0.41602	79.99979	-0.00584
7	1.17	0.41602	79.99964	-0.00450
8	1.33	0.41602	79.99984	-0.00357
9	1.50	0.41606	79.99943	-0.00683
10	1.67	0.41607	79.99958	-0.00655
11	1.83	0.41605	79.99937	-0.00550
12	2.00	0.41605	79.99932	-0.00513
13	2.17	0.41606	79.99974	-0.00462
14	2.33	0.41606	79.99964	-0.00420
15	2.50	0.41610	79.99979	-0.00479
16	2.67	0.41608	79.99927	-0.00457
17	2.83	0.41608	79.99922	-0.00426
18	3.00	0.41610	79.99927	-0.00427
19	3.17	0.41611	79.99922	-0.00428
20	3.33	0.41615	79.99901	-0.00465
21	3.50	0.41610	79.99875	-0.00400
22	3.67	0.41611	79.99896	-0.00388
23	3.83	0.41610	79.99911	-0.00354
24	4.00	0.41612	79.99885	-0.00362
25	4.17	0.41616	79.99864	-0.00387
26	4.33	0.41612	79.99896	-0.00334
27	4.50	0.41615	79.99875	-0.00345
28	4.67	0.41615	79.99859	-0.00338
29	4.83	0.41614	79.99854	-0.00322
30	5.00	0.41618	79.99844	-0.00337
31	5.17	0.41619	79.99854	-0.00329
32	5.33	0.41618	79.99828	-0.00320
33	5.50	0.41617	79.99864	-0.00298
34	5.67	0.41621	79.99838	-0.00312
35	5.83	0.41617	79.99833	-0.00289
36	6.00	0.41617	79.99849	-0.00276
37	6.17	0.41615	79.99807	-0.00268
38	6.33	0.41620	79.99818	-0.00276
39	6.50	0.41615	79.99818	-0.00253
40	6.67	0.41616	79.99807	-0.00250
41	6.83	0.41616	79.99802	-0.00244
42	7.00	0.41623	79.99807	-0.00261
43	7.17	0.41617	79.99807	-0.00238
44	7.33	0.41612	79.99812	-0.00215
45	7.50	0.41612	79.99771	-0.00213
46	7.67	0.41616	79.99776	-0.00219
47	7.83	0.41613	79.99802	-0.00205
48	8.00	0.41615	79.99781	-0.00208
49	8.17	0.41608	79.99760	-0.00190
50	8.33	0.41612	79.99750	-0.00193
51	8.50	0.41609	79.99724	-0.00186
52	8.67	0.41613	79.99765	-0.00187
53	8.83	0.41611	79.99739	-0.00181
54	9.00	0.41609	79.99734	-0.00175
55	9.17	0.41608	79.99729	-0.00170

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56	[illegible]	[illegible]	[illegible]	[illegible]
57	9.50	0.41607	79.99734	-0.00163
58	9.67	0.41606	79.99739	-0.00158
59	9.83	0.41607	79.99719	-0.00157
60	10.00	0.41610	79.99734	-0.00159
61	10.17	0.41608	79.99724	-0.00153
62	10.33	0.41608	79.99719	-0.00151
3	10.50	0.41607	79.99682	-0.00149
64	10.67	0.41607	79.99703	-0.00145
65	10.83	0.41608	79.99713	-0.00144
66	11.00	0.41608	79.99708	-0.00143
67	11.17	0.41610	79.99682	-0.00143
68	11.33	0.41617	79.99692	-0.00150
69	11.50	0.41618	79.99703	-0.00148
70	11.67	0.41614	79.99677	-0.00142
71	11.83	0.41616	79.99682	-0.00143
72	12.00	0.41618	79.99661	-0.00143
73	12.17	0.41618	79.99666	-0.00141
74	12.33	0.41627	79.99640	-0.00148
75	12.50	0.41613	79.99635	-0.00133
76	12.67	0.41609	79.99630	-0.00128
77	12.83	0.41613	79.99646	-0.00129
78	13.00	0.41606	79.99666	-0.00121
79	13.17	0.41606	79.99640	-0.00120
80	13.33	0.41603	79.99609	-0.00117
81	13.50	0.41604	79.99661	-0.00115
82	13.67	0.41606	79.99666	-0.00115
83	13.83	0.41601	79.99646	-0.00110
84	14.00	0.41604	79.99593	-0.00112
85	14.17	0.41603	79.99625	-0.00110
86	14.33	0.41607	79.99619	-0.00111
87	14.50	0.41603	79.99593	-0.00108
88	14.67	0.41602	79.99609	-0.00106
9	14.83	0.41603	79.99567	-0.00106
90	15.00	0.41603	79.99614	-0.00104
91	15.17	0.41600	79.99562	-0.00102
92	15.33	0.41597	79.99593	-0.00098
93	15.50	0.41602	79.99557	-0.00101
94	15.67	0.41601	79.99573	-0.00099
95	15.83	0.41602	79.99588	-0.00098
96	16.00	0.41603	79.99583	-0.00098
97	16.17	0.41603	79.99583	-0.00097
98	16.33	0.41606	79.99567	-0.00097
99	16.50	0.41605	79.99531	-0.00097
100	16.67	0.41608	79.99536	-0.00097
101	16.83	0.41609	79.99552	-0.00097
102	17.00	0.41612	79.99547	-0.00097
103	17.17	0.41610	79.99562	-0.00095
104	17.33	0.41606	79.99500	-0.00093
105	17.50	0.41607	79.99541	-0.00092
106	17.67	0.41606	79.99526	-0.00091
107	17.83	0.41607	79.99515	-0.00091
108	18.00	0.41604	79.99536	-0.00088
109	18.17	0.41602	79.99479	-0.00087
110	18.33	0.41604	79.99510	-0.00087
111	18.50	0.41599	79.99500	-0.00084
112	18.67	0.41600	79.99494	-0.00084
113	18.83	0.41600	79.99510	-0.00083
14	19.00	0.41596	79.99494	-0.00081
115	19.17	0.41596	79.99453	-0.00080
116	19.33	0.41599	79.99474	-0.00081
117	19.50	0.41597	79.99447	-0.00080
118	19.67	0.41596	79.99484	-0.00078
119	19.83	0.41594	79.99463	-0.00077
120	20.00	0.41597	79.99453	-0.00078
121	20.17	0.41597	79.99401	-0.00077

ISC DATA

123	20.50	0.41595	79.99437	-0.00075
124	20.67	0.41600	79.99447	-0.00076
125	20.83	0.41597	79.99427	-0.00075
126	21.00	0.41596	79.99416	-0.00074
127	21.17	0.41596	79.99427	-0.00073
128	21.33	0.41597	79.99401	-0.00073
29	21.50	0.41593	79.99416	-0.00071
130	21.67	0.41596	79.99411	-0.00071
131	21.83	0.41599	79.99369	-0.00072
132	22.00	0.41597	79.99385	-0.00071
133	22.17	0.41595	79.99401	-0.00070
134	22.33	0.41596	79.99395	-0.00070
135	22.50	0.41595	79.99369	-0.00069
136	22.67	0.41602	79.99375	-0.00070
137	22.83	0.41594	79.99375	-0.00068
138	23.00	0.41593	79.99354	-0.00067
139	23.17	0.41595	79.99343	-0.00067
140	23.33	0.41596	79.99354	-0.00067
141	23.50	0.41597	79.99333	-0.00067
142	23.67	0.41594	79.99364	-0.00065
143	23.83	0.41592	79.99348	-0.00064
144	24.00	0.41594	79.99338	-0.00065
145	24.17	0.41602	79.99333	-0.00066
146	24.33	0.41597	79.99333	-0.00064
147	24.50	0.41594	79.99338	-0.00063
148	24.67	0.41598	79.99328	-0.00064
149	24.83	0.41598	79.99302	-0.00064
150	25.00	0.41597	79.99328	-0.00063
151	25.17	0.41598	79.99312	-0.00063
152	25.33	0.41599	79.99302	-0.00063
153	25.50	0.41597	79.99322	-0.00062
154	25.67	0.41598	79.99296	-0.00062
55	25.83	0.41595	79.99302	-0.00060
156	26.00	0.41598	79.99302	-0.00061
157	26.17	0.41598	79.99286	-0.00060
158	26.33	0.41596	79.99291	-0.00060
159	26.50	0.41594	79.99265	-0.00059
160	26.67	0.41596	79.99265	-0.00059
161	26.83	0.41596	79.99260	-0.00059
162	27.00	0.41596	79.99249	-0.00058
163	27.17	0.41593	79.99260	-0.00057
164	27.33	0.41594	79.99260	-0.00057
165	27.50	0.41593	79.99260	-0.00057
166	27.67	0.41593	79.99239	-0.00056
167	27.83	0.41592	79.99244	-0.00056
168	28.00	0.41594	79.99234	-0.00056
169	28.17	0.41600	79.99249	-0.00057
170	28.33	0.41597	79.99249	-0.00056
171	28.50	0.41595	79.99239	-0.00055
172	28.67	0.41593	79.99239	-0.00054
173	28.83	0.41595	79.99208	-0.00055
174	29.00	0.41594	79.99213	-0.00054
175	29.17	0.41591	79.99197	-0.00053
176	29.33	0.41596	79.99208	-0.00054
177	29.50	0.41593	79.99176	-0.00053
178	29.67	0.41593	79.99182	-0.00053
179	29.83	0.41594	79.99187	-0.00053
80	30.00	0.41594	79.99192	-0.00052
181	30.17	0.41593	79.99208	-0.00052
182	30.33	0.41595	79.99145	-0.00052
183	30.50	0.41598	79.99171	-0.00052
184	30.67	0.41592	79.99171	-0.00051
185	30.83	0.41594	79.99150	-0.00051
186	31.00	0.41593	79.99145	-0.00051
187	31.17	0.41593	79.99161	-0.00051

ISC DATA

189	31.50	0.41597	79.99150	-0.00051
190	31.67	0.41594	79.99140	-0.00050
191	31.83	0.41594	79.99145	-0.00050
192	32.00	0.41595	79.99135	-0.00050
193	32.17	0.41596	79.99135	-0.00049
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95	32.50	0.41595	79.99130	-0.00049
196	32.67	0.41597	79.99156	-0.00049
197	32.83	0.41597	79.99109	-0.00049
198	33.00	0.41597	79.99109	-0.00048
199	33.17	0.41594	79.99103	-0.00048
200	33.33	0.41597	79.99093	-0.00048
201	33.50	0.41601	79.99077	-0.00048
202	33.67	0.41597	79.99103	-0.00048
203	33.83	0.41594	79.99067	-0.00047
204	34.00	0.41597	79.99077	-0.00047
205	34.17	0.41595	79.99088	-0.00047
206	34.33	0.41594	79.99119	-0.00046
207	34.50	0.41597	79.99083	-0.00046
208	34.67	0.41594	79.99057	-0.00046
209	34.83	0.41592	79.99062	-0.00045
210	35.00	0.41591	79.99077	-0.00045
211	35.17	0.41591	79.99093	-0.00045
212	35.33	0.41593	79.99046	-0.00045
213	35.50	0.41589	79.99067	-0.00044
214	35.67	0.41591	79.99051	-0.00044
215	35.83	0.41590	79.99041	-0.00044
216	36.00	0.41592	79.99025	-0.00044
217	36.17	0.41591	79.99015	-0.00044
218	36.33	0.41593	79.99025	-0.00044
219	36.50	0.41591	79.98999	-0.00043
220	36.67	0.41594	79.99015	-0.00043
21	36.83	0.41594	79.99015	-0.00043
222	37.00	0.41592	79.99010	-0.00043
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224	37.33	0.41594	79.99020	-0.00043
225	37.50	0.41595	79.98958	-0.00043
226	37.67	0.41594	79.99015	-0.00042
227	37.83	0.41593	79.98999	-0.00042
228	38.00	0.41592	79.98968	-0.00042
229	38.17	0.41594	79.98989	-0.00042
230	38.33	0.41592	79.98994	-0.00041
231	38.50	0.41596	79.98984	-0.00042
232	38.67	0.41594	79.98989	-0.00041
233	38.83	0.41594	79.98947	-0.00041
234	39.00	0.41596	79.98989	-0.00041
235	39.17	0.41602	79.98973	-0.00042
236	39.33	0.41598	79.98963	-0.00041
237	39.50	0.41605	79.98989	-0.00042
238	39.67	0.41603	79.98958	-0.00041
239	39.83	0.41586	79.98931	-0.00040
240	40.00	0.41595	79.98942	-0.00040
241	40.17	0.41601	79.98973	-0.00040
242	40.33	0.41599	79.98947	-0.00040
243	40.50	0.41598	79.98895	-0.00040
244	40.67	0.41596	79.98895	-0.00040
245	40.83	0.41595	79.98937	-0.00039
46	41.00	0.41599	79.98926	-0.00040
247	41.17	0.41597	79.98931	-0.00039
248	41.33	0.41594	79.98911	-0.00039
249	41.50	0.41592	79.98916	-0.00039
250	41.67	0.41593	79.98921	-0.00038
251	41.83	0.41598	79.98890	-0.00039
252	42.00	0.41593	79.98885	-0.00038
253	42.17	0.41594	79.98874	-0.00038

ISC DATA

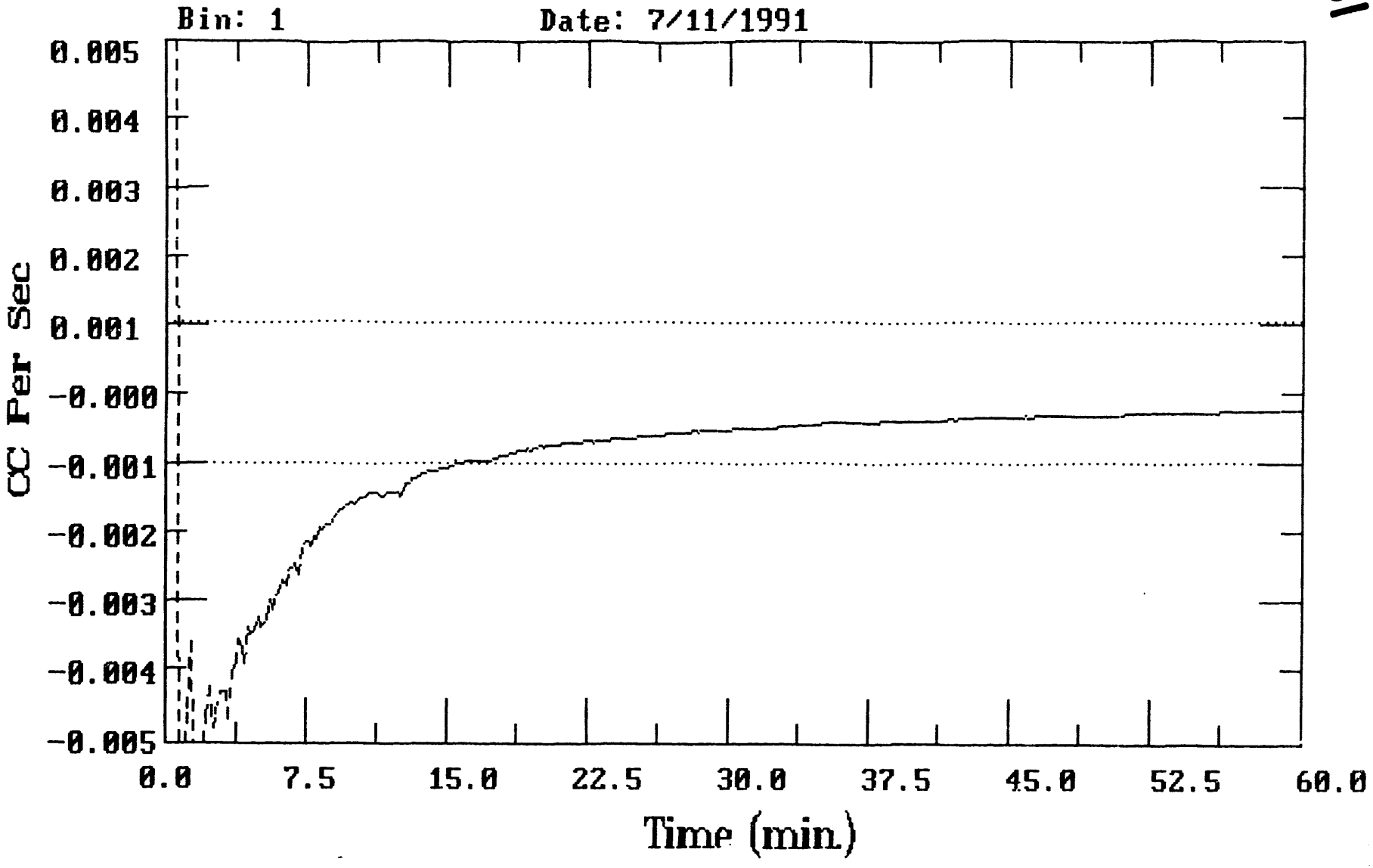
255	42.50	0.41594	79.98879	-0.00038
256	42.67	0.41592	79.98885	-0.00038
257	42.83	0.41591	79.98874	-0.00037
258	43.00	0.41591	79.98838	-0.00037
259	43.17	0.41591	79.98864	-0.00037
260	43.33	0.41591	79.98869	-0.00037
61	43.50	0.41592	79.98843	-0.00037
262	43.67	0.41588	79.98864	-0.00036
263	43.83	0.41597	79.98853	-0.00037
264	44.00	0.41595	79.98822	-0.00037
265	44.17	0.41589	79.98838	-0.00036
266	44.33	0.41590	79.98858	-0.00036
267	44.50	0.41589	79.98827	-0.00036
268	44.67	0.41587	79.98822	-0.00036
269	44.83	0.41593	79.98838	-0.00036
270	45.00	0.41596	79.98817	-0.00036
271	45.17	0.41587	79.98832	-0.00035
272	45.33	0.41587	79.98796	-0.00035
273	45.50	0.41587	79.98832	-0.00035
274	45.67	0.41589	79.98775	-0.00035
275	45.83	0.41592	79.98801	-0.00035
276	46.00	0.41587	79.98796	-0.00035
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278	46.33	0.41588	79.98801	-0.00034
279	46.50	0.41587	79.98817	-0.00034
280	46.67	0.41589	79.98786	-0.00034
281	46.83	0.41587	79.98806	-0.00034
282	47.00	0.41590	79.98786	-0.00034
283	47.17	0.41592	79.98754	-0.00034
284	47.33	0.41590	79.98765	-0.00034
285	47.50	0.41592	79.98775	-0.00034
286	47.67	0.41593	79.98775	-0.00034
87	47.83	0.41592	79.98770	-0.00034
288	48.00	0.41595	79.98786	-0.00034
289	48.17	0.41597	79.98744	-0.00034
290	48.33	0.41596	79.98744	-0.00034
291	48.50	0.41592	79.98749	-0.00033
292	48.67	0.41594	79.98765	-0.00033
293	48.83	0.41593	79.98728	-0.00033
294	49.00	0.41598	79.98728	-0.00033
295	49.17	0.41596	79.98713	-0.00033
296	49.33	0.41592	79.98744	-0.00033
297	49.50	0.41588	79.98728	-0.00032
298	49.67	0.41587	79.98702	-0.00032
299	49.83	0.41588	79.98707	-0.00032
300	50.00	0.41584	79.98681	-0.00032
301	50.17	0.41587	79.98707	-0.00032
302	50.33	0.41590	79.98692	-0.00032
303	50.50	0.41585	79.98713	-0.00032
304	50.67	0.41583	79.98655	-0.00031
305	50.83	0.41585	79.98692	-0.00031
306	51.00	0.41588	79.98686	-0.00031
307	51.17	0.41584	79.98660	-0.00031
308	51.33	0.41584	79.98640	-0.00031
309	51.50	0.41588	79.98660	-0.00031
310	51.67	0.41589	79.98666	-0.00031
311	51.83	0.41584	79.98660	-0.00031
12	52.00	0.41583	79.98660	-0.00031
313	52.17	0.41583	79.98676	-0.00031
314	52.33	0.41585	79.98666	-0.00031
315	52.50	0.41584	79.98655	-0.00030
316	52.67	0.41581	79.98619	-0.00030
317	52.83	0.41584	79.98624	-0.00030
318	53.00	0.41581	79.98640	-0.00030
319	53.17	0.41581	79.98624	-0.00030

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322	53.67	0.41588	79.98619	-0.00030
323	53.83	0.41590	79.98629	-0.00030
324	54.00	0.41594	79.98603	-0.00030
325	54.17	0.41594	79.98619	-0.00030
326	54.33	0.41595	79.98619	-0.00030
27	54.50	0.41591	79.98603	-0.00030
328	54.67	0.41588	79.99130	-0.00029
329	54.83	0.41589	79.99093	-0.00029
330	55.00	0.41590	79.99124	-0.00029
331	55.17	0.41589	79.99114	-0.00029
332	55.33	0.41585	79.99130	-0.00028
333	55.50	0.41583	79.99098	-0.00028
334	55.67	0.41583	79.99093	-0.00028
335	55.83	0.41579	79.99088	-0.00028
336	56.00	0.41579	79.99109	-0.00028
337	56.17	0.41580	79.99103	-0.00028
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339	56.50	0.41581	79.99057	-0.00028
340	56.67	0.41583	79.99083	-0.00028
341	56.83	0.41579	79.99067	-0.00027
342	57.00	0.41577	79.99067	-0.00027
343	57.17	0.41580	79.99077	-0.00027
344	57.33	0.41587	79.99088	-0.00027
345	57.50	0.41579	79.99062	-0.00027
346	57.67	0.41578	79.99046	-0.00027
347	57.83	0.41578	79.99067	-0.00027
348	58.00	0.41579	79.99041	-0.00027
349	58.17	0.41578	79.99057	-0.00027
350	58.33	0.41579	79.99093	-0.00027
351	58.50	0.41578	79.99010	-0.00027
352	58.67	0.41580	79.98989	-0.00027
53	58.83	0.41578	79.99041	-0.00026
354	59.00	0.41579	79.99030	-0.00026
355	59.17	0.41583	79.99015	-0.00027
356	59.33	0.41581	79.99004	-0.00026
357	59.50	0.41590	79.99015	-0.00027
358	59.67	0.41587	79.98958	-0.00026
359	59.83	0.41587	79.99025	-0.00026
360	60.00	0.41586	79.98999	-0.00026

ISC DATA

ISC DATA


Bin: 1
Date: 7/11/1991
0.005
0.004
0.003
0.002
0.001
-0.000
-0.001
-0.002
-0.003
-0.004
-0.005
CC Per Sec
0.0
7.5
15.0
22.5
30.0
37.5
45.0
52.5
60.0
Time (min.)

ATTACHMENT 1

Page 1 of 3

Bin Surface Gas Purge Record

STEP NO.	DESCRIPTION	INITIALS
6.2	Pre-Purge Sample Required [ ] YES [ ] NO Post-purge Sample Required [✓] YES [ ] NO J.M. Willis J.M. Willis WHM (Print Name) (Signature)	N/A
7.1	TBX05 / 91-0184 / m Test Bin ID / RWP Number / SWP Number Purge Gas (✓): [✓] Argon [ ] Nitrogen	J.W.
7.2	087959 / 07/16/91 Oxygen Sensor Equip ID / Cal Due Date OB 7959 / 7/16/91 Oxygen Analyzer Equip ID / Cal Due Date BA 410115 / 1/1/92 Flow Indicator Equip ID / Cal Due Date Model 8141 / 1/1/92 Flow Transducer Equip ID / Cal Due Date 7640T-603 / Indication only Rotameter Equip ID / Cal Due Date	LB

PURGE DATA FOR STEP 7.39

PURGE	DATE	TIME	OXYGEN CONCENTRATION	INITIALS
1	7/19/91	14:17	15.29%	LB
2				
3				
4				
5				
6				
7				
8				

Stable 9.1.5

ISC DATA

Bin Surface Gas Purge Record (Continued)

PURGE DATA FOR STEP 7.47				
PURGE	DATE	TIME	OXYGEN CONCENTRATION	INITIALS
1	7/19/91	1427	15.26 %	LB
2				
3				
4				
5				
6				
7				
8				

STEP NO.	DESCRIPTION	INITIALS
7.53	**HOLD POINT** RAF Activity < acceptable limit	HPT (Purge)
7.64	**HOLD POINT** RAF Activity < acceptable limit	HPT
7.68	**HOLD POINT** RAF Activity < acceptable limit	HPT
7.70.11	**HOLD POINT** RAF Activity < acceptable limit	HPT
7.72	OG/AP-1 OXY GETT/ARGON closed and capped	LB
	OG/AP-2 OXY GETT/ARGON closed and capped	LB
	PR-1 INSTR PORT closed and capped	LB
	GR-1 RECIRC OUT closed and capped	LB
	GR-2 RECIRC IN closed and capped	LB
	PR-2 INSTR PORT BACKUP closed and capped	LB
	GRB-1 OXY GETT/RECIRC OUT BACKUP closed and capped	LB
	GRB-2 OXY GETT/RECIRC IN BACKUP closed and capped	LB

PCN 00-01 RWO-03

ISC DATA

Bin Surface Gas Purge Record (Continued)

Persons initialing this form or recording data **SHALL** enter their printed names, initials, and date below.

Name (Print)	Initials	Date
J.M. Willis	J.W.	71991
[illegible]	[illegible]	7-22-91
DONALD CASEY GADBURY	DCG	7-22-91
Randy Brown	RB	7-22-91
WADE WEYERMAN	WW	7-22-91
	/	

REMARKS _____

8.2 **REVIEW:** This record has been reviewed and is found to be complete.

WHS Name (Print)	Signature	Date
J.M. Willis	J.M. Willis	72291

9.4 **VALIDATION:** Completion of this step constitutes validation of this Record.

QA Chief, SNL (Print)	Signature	Date
SUSAN Y. PICKERING	Susan Y. Pickering	7-29-91

ISC DATA 9-15

WASTE ISOLATION PILOT PLANT
WASTE HANDLING OPERATIONS
NON-OSR/SAIL 3
TITLE: OXYGEN GETTER REGENERATION

ATTACHMENT 1

Oxygen Getter Regeneration Record

Date: 7/18/91

STEP NO.	DESCRIPTION	INITIAL	VERIF
	First Purifier Bed Regeneration		
7.6.3	[ ] CIRCULATE A REGENERATE B [X] CIRCULATE B REGENERATE A	LB	N/A
7.32	First Bed Regeneration Complete	LB	N/A
	Second Purifier Bed Regeneration		N/A
7.34.1.C)	[ ] CIRCULATE A REGENERATE B [ ] CIRCULATE B REGENERATE A	N/A	N/A
7.34.5	Second Bed Regeneration Complete	N/A	N/A
Performers responsible for step completion **SHALL** enter their printed names, initials, and date below.			

PCN 00-02

PRINT NAME	/ INITIAL / DATE
Randy Britain	/ LB / 7/19/91
	/ /
	/ /
	/ /
	/ /

REMARKS: _____

8.2 **REVIEW:** This record has been reviewed and is complete.

J.M. Willi / J.M. Willi / 7/19/91
WHS (Print Name) (Signature) Date

9.2 **VALIDATION:** Completion of this step validates this record.

SUSAN Y. PICKERING / Susan Pickering / 7/19/91
QA Chief, SNL (Print Name) (Signature) Date

ISG DATA
ST 2!
9-

PCN 00-02

BIN RETRIEVAL

STEP NO.	DESCRIPTION	INITIAL
	UNDERGROUND	
6.1.2	TBX05 / 91-0186 / na Bin ID RWP No SWP No.	J.W.
6.1.5	CMRO Notified of Procedure Performance Underground	
	SURFACE	
6.2.4	91-0186 / na RWP No SWP No	J.W.
6.2.5	WH-0960 / 30-150 / 12-29-91 Torque Wrench ID/ Range /Cal Due Date 41-T-151B / 6B / 4-24-92 Load Cell ID/ Weight Error /Cal Due Date	
6.2.8	CMRO Notified of Procedure Performance on Surface	
7.3.1	Tamper Indicating Device Intact	
7.3.54	PR-1 Valve Closed INDEPENDENT VERIF SPA PR-2 Valve Closed INDEPENDENT VERIF SPA GR-1 Valve Closed INDEPENDENT VERIF SPA GR-2 Valve Closed INDEPENDENT VERIF SPA GRB-1 Valve Closed INDEPENDENT VERIF SPA GRB-2 Valve Closed INDEPENDENT VERIF SPA OG/AP-1 Valve Closed INDEPENDENT VERIF SPA OG/AP-2 Valve Closed INDEPENDENT VERIF SPA	
7.4.12	**QA HOLD POINT** NMD All Lid Bolts torqued to 30 ± 5 ft-lbs	
7.4.13	**QA HOLD POINT** NMD All Lid Bolts torqued to 50 ± 5 ft-lbs	SPA
7.4.15	Tamper Indicating Device Installed	
7.4.19	Filter Model Number EGG-231 EGG-232	
7.4.20	ALL Unused Filter Ports are Plugged	
7.4.24	CMRO Notified of Procedure Completion	

Performers responsible for recording data or step completion **SHALL** enter their printed names and initials on the next page.

ISO DATA
ISC DATA 9.6.4

BIN RETRIEVAL (Continued)

NAME	INITIALS	DATE
J.m. Willis		72291
J. Gilbert, Jr		7-22-91
Steve Arzenard	SPA	7.22.91
Mark A. Dawd	MAD	7/22/91

REMARKS: _____

8.1 **REVIEW:** This record has been reviewed and is complete.

WHS (Print Name)	Signature	Date
J.m. Willis	J.m. Willis	72291

9.4 **VALIDATION:** Completion of this step validates this record.

WHM (Print Name)	Signature	Date
C.R. Kelley	C.R. Kelley	7/29/91

ISC DATA

9.4

ATTACHMENT 2

Page 1 of 1

SWB Shipment Data Worksheet

STEP NO.	DESCRIPTION			INITIAL
7.2.6	SWB Package ID Number:	WI 123456789 10		[illegible]
7.4.17	Highest Contact Gamma Reading:	< 0.1	mrem/hr	Def
7.4.17	Highest Contact Neutron Reading:	< 0.1	mrem/hr	Def
7.4.21	SWB Weight:	1830	lbs	SPA
7.4.22	SWB Weight Error	± 110 lbs	lbs	[illegible]

Performers responsible for recording data **SHALL** enter their printed names and initials below.

NAME	INITIALS	DATE
DONALD CASEY GADBURY	Def	7-22-91
Jack Gilbert	J.G.	7-22-91
STEVE AZZINARO	SPA	7.22.91

REMARKS:

8.1 **REVIEW:** This record has been reviewed and is complete.

WHS (Print Name)	Signature	Date
J. M. Willis	J. M. Willis	72291

9.4 **VALIDATION:** Completion of this step validates this record.

WHM (Print Name)	Signature	Date
J. M. Willis	J. M. Willis	72291
CR Kelley	CR Kelley	7/29/91

9.4

ISC DATA

PCN 00-01

BIN RETRIEVAL

STEP NO.	DESCRIPTION	INITIAL
	UNDERGROUND	
6.1.2	TB106 / / Bin ID RWP No SWP No.	WW
6.1.5	CMRO Notified of Procedure Performance Underground	
	SURFACE	
6.2.4	91-0174 / na RWP No SWP No	A.W.
6.2.5	WH-0962 / 10-80 / 12-24-91 Torque Wrench ID/ Range /Cal Due Date 41715A / / 42492 Load Cell ID/ Weight Error /Cal Due Date	WW
6.2.8	CMRO Notified of Procedure Performance on Surface	A.W.
7.3.1	Tamper Indicating Device Intact	WW
7.3.54	PR-1 Valve Closed INDEPENDENT VERIF RB WW PR-2 Valve Closed INDEPENDENT VERIF RB WW GR-1 Valve Closed INDEPENDENT VERIF RB WW GR-2 Valve Closed INDEPENDENT VERIF RB WW GRB-1 Valve Closed INDEPENDENT VERIF RB WW GRB-2 Valve Closed INDEPENDENT VERIF RB WW OG/AP-1 Valve Closed INDEPENDENT VERIF RB WW OG/AP-2 Valve Closed INDEPENDENT VERIF RB WW	
7.4.12	**QA HOLD POINT** JA All Lid Bolts torqued to 30 ± 5 ft-lbs	RB
7.4.13	**QA HOLD POINT** JA All Lid Bolts torqued to 50 ± 5 ft-lbs	WW
7.4.15	Tamper Indicating Device Installed	RB
7.4.19	Filter Model Number R-2131 R-2128	WW
7.4.20	ALL Unused Filter Ports are Plugged	WW
7.4.24	CMRO Notified of Procedure Completion	AW

Performers responsible for recording data or step completion **SHALL** enter their printed names and initials on the next page.

9.6

ISC DATA

BIN RETRIEVAL (Continued)

NAME	INITIALS	DATE
J.m. Willis	J.W.	7/1/91
WADE WEYERMAN	WW	7/n/91
Randy Bellain	RB	7/11/91
Jamesha Lewis	JHL	7/11/91

REMARKS: _____

8.1 **REVIEW:** This record has been reviewed and is complete.

WHS (Print Name)	Signature	Date
J.m. Willis	J.m. Willis	71191

9.4 **VALIDATION:** Completion of this step validates this record.

WHM (Print Name)	Signature	Date
S.R Kelley J.m. Willis	S.R Kelley J.m. Willis	7/30/91 7/1/91

9.6.4

ISC DATA

ATTACHMENT 2

SWB Shipment Data Worksheet

STEP NO.	DESCRIPTION				INITIAL
7.2.6	SWB Package ID Number:	WI 34567891012			WW
7.4.17	Highest Contact Gamma Reading:	10	mrem/hr		RC
7.4.17	Highest Contact Neutron Reading:	<0.1	mrem/hr		RC
7.4.21	SWB Weight:	1950	lbs		WW
7.4.22	SWB Weight Error	6%	117	lbs	J.W.

Performers responsible for recording data **SHALL** enter their printed names and initials below.

NAME	INITIALS	DATE
Ross Calhoun	RC	7-11-91
WADE WEYERMAN	WW	7-11-91
Randy Bezdin	RB	7-11-91
J.W. Willis	J.W.	7/11/91

REMARKS: _____

8.1 **REVIEW:** This record has been reviewed and is complete.

WHS (Print Name)	Signature	Date
J.W. Willis	J.W. Willis	7/11/91

9.4 **VALIDATION:** Completion of this step validates this record.

WHM (Print Name)	Signature	Date
J.W. Willis	J.W. Willis	7/11/91
CR Kelley	CR Kelley	7/29/91

USC DATA

ATTACHMENT 1

Payload Transport Certification

Certification Site : Waste Isolation Pilot Plant

SHIPMENT INFORMATION	Container ID : WI345678910I2				
Container Type	☑ SWB	☐ TDOP	☐ DRUM		
Content Code : HP118A		Shipping Category	TC.107		
Shipping Category (General)	☑ ANALYTICAL	☐ TEST			
Liner Status	☑ PUNCTURED	☐ FILTER			
Filter Model : R431, R-2129	Number Of Filters	☐ 1	☑ 2	☑ Installed	
	VALUE	ERROR	TOTAL	LIMIT	INITIALS
Fissile Mass	32 g. +	6.4 g.	= 38.4 g.	325 gms	Q.W
Decay Heat	0.3 w +	0.03	= 0.33 w	0.4271	Q.W.
Weight	950 + 6% (117)		= 2067 lbs.	4000	Q.W.
	GAMMA	NEUTRON	TOTAL		
Contact Rad Levels	10 mr +	< 0.1 mr	= 10 mr/hr	200 mr/hr	Q.W.

RETRIEVABLE STORED WASTE	(☑ N/A if container stored vented)			
Aspiration Method (Check One)	☐ Option 1	☐ Option 2	☐ Option 3	
(Option 1) - Period of time container closed prior to venting Date __/__/__ - __/__/__				yrs/mnts
(Option 2 or 3) - H_2 concentration in Headspace				mol %
Table Used : _____ Period Of Aspiration				days
Payload container has been vented the indicated period of time				Initial :

TEST CATEGORY DATA	(☑ N/A if Analytical Shipping Category)		
Variable	Value	Limit	Initial
Total Gas Generation Rate			
H_2 Gas Generation Rate			
VOC's Concentration		500 ppm	

APPROVAL FOR SHIPMENT ☑ APPROVED ☐ REJECTED

Comments _____

I certify that this payload assembly meets the requirements of shipment in TRUPACT-II.

CERTIFICATION OFFICER : J.M. Willis / J.M. Willis / 7/19/91
Signature / Print Name / Date

QUALITY ASSURANCE: Mark Davis / Mark Davis / 7/19/91
Signature / Print Name / Date

VALIDATION completion of this step validates this record :

: J.M. Willis / J.M. Willis / 7/19/91
Signature / Print Name / Date

std 9.6.5

PACKAGE ID	NUCLIDE SYMBOL	NUCLIDE QUANTITY	NUCLIDE UNIT	CALCULATED NUCLIDE SYMBOL	CALCULATED NUCLID- MASS	CALCULATED NUCLIDE ACTIVITY	HAZARDOUS CODE	HAZARDOUS QTY	HAZARDOUS UNIT
WI12345678911	PU-52	1.000E+01	G	PU-238	1.000E-03	1.715E-02	D008	1.000E+01	G
				PU-239	9.389E-00	5.844E-01			
				PU-240	5.750E-01	1.312E-01			
				PU-241	3.400E-02	3.509E+00			
				PU-242	2.000E-03	7.648E-06			
WI2345678910 1	PU-52	2.900E+00	G	PU-238	2.900E-04	4.973E-03	D008	1.000E+01	G
				PU-239	2.723E-00	1.695E-01			
				PU-240	1.667E-01	3.805E-02			
				PU-241	9.860E-03	1.018E+00			
				PU-242	5.800E-04	2.218E-06			
WI3456789101 2	PU-52	2.900E+01	G	PU-238	2.900E-03	4.973E-02	D008	1.000E+01	G
				PU-239	2.723E-01	1.695E+00			
				PU-240	1.668E-00	3.805E-01			
				PU-241	9.860E-02	1.018E+01			
				PU-242	5.800E-03	2.218E-05			
WI3456789101 3	PU-52	2.000E+01	G	PU-238	2.000E-03	3.430E-02	D008	1.000E+01	G
				PU-239	1.878E+01	1.169E+00			
				PU-240	1.150E-00	2.624E-01			
				PU-241	6.800E-02	7.018E+00			
				PU-242	4.000E-03	1.530E-05			
WI45678910124	PU-52	1.500E+01	G	PU-238	1.500E-03	2.572E-02	D008	1.000E+01	G
				PU-239	1.408E+01	8.768E-01			
				PU-240	8.625E-01	1.968E-01			
				PU-241	5.100E-02	5.263E+00			
				PU-242	3.000E-03	1.147E-05			

ISC DATA

PACKAGE ID	EMPLACE DATE	EMPLACE ROOM	EMPLACE LOCATION	PKG RECEIVED DATE	MISCELLANEOUS	OVERPACK ID NUMBER	PKG RETRIEVAL DATE
WI123456789111	N/A	N/A	N/A	N/A	TRUCON CODE 118B	N/A	N/A
WI23456789101	N/A	N/A	N/A	N/A	TRUCON CODE 118B	N/A	N/A
WI34567891012	N/A	N/A	N/A	N/A	TRUCON CODE 118B	N/A	N/A
WI34567891013	N/A	N/A	N/A	N/A	TRUCON118B	N/A	N/A
WI45678910124	N/A	N/A	N/A	N/A	TRUCON CODE 118B	N/A	N/A

ISC DATA 9.6

ATTACHMENT 1

PAYLOAD ASSEMBLY CERTIFICATION SIGNOFFS

STEP NO.	DESCRIPTION	DATA	INIT	VERIF
6.6	RWP Number: SWP Number:	91-0186 na		N/A
7.2.1	Notify CMRO starting procedure	N/A		N/A
7.2.5	Notify the CMRO procedure completed.	N/A		N/A

7.3 Performers responsible for step completion **SHALL** enter their printed names, initials and date below.

NAME	INITIALS	DATE
Jack Gilbert		1-22-91

8.1 **REVIEW**

This record has been reviewed and is found to be complete.

NAME (Print)	SIGNATURE	DATE
J.M. Willis	J.M. Willis	72291

9.4 **VALIDATION**

Completion of this step constitutes validation of this record.

ISO DATA

NAME (Print)	SIGNATURE	DATE
CR Kelley J.M. Willis	CR Kelley J.M. Willis	7/29/91 72291

9.6.4

9.6.9

ATTACHMENT 1

Page 1 of 4

Loaded TRUPACT-II Data Sheet

STEP NO.	DESCRIPTION	INITIALS	VERIF.
6.4	RWP # 91-0189 SWP # N/A	RB	N/A N/A
6.7	Torque wrench 10 to 80 foot pounds: Identification Number WH-0964 Calibration due date 12-24-91 Torque wrench 10 to 200 inch pounds: Identification Number WH-0967 Calibration due date 12-25-91	RB	N/A N/A
6.11	CMR Operator notified: Date 1-23-91 Time 0810	RB	N/A
7.1.19	Contamination survey of the OCV Lid interior and ICV Lid exterior: OCV Lid <20 dpm/100 cm² alpha <200 dpm/100 cm² beta-gamma ICV Lid <20 dpm/100 cm² alpha <200 dpm/100 cm² beta-gamma	DB	HPT

ISC DATA 9.6.7

ATTACHMENT 1 Page 2 of 4

Loaded TRUPACT-II Data Sheet (continued)

STEP NO.	DESCRIPTION	INITIALS	VERIF.
7.2.19	Contamination survey of ICV lid interior and payload area: <20dpm/100cm² alpha <200dpm/100cm² beta-gamma	RB	HPT
7.6.11	TRUPACT-II ICV contains NO standing water	LB	N/A
7.7.1	Payload identification numbers: WT 12345678910 1830 WT 34567891012 1950 Payload weight: 2780 Lbs TRUPACT-II name plate weight: 12500 Lbs TRUPACT-II total weight: 15280 Lbs	LB LB LB	N/A N/A N/A N/A
7.7.2	Contamination survey of TRUPACT-II payload: <20dpm/100cm² alpha <200dpm/100cm² beta-gamma	LB	HPT
7.7.3	Radiation survey of TRUPACT-II payload: <0.1mR/hr beta-gamma	LB	HPT
7.8.4	**HOLD POINT** ICV Lid and Body serial numbers: Lid Serial No. 127 Body Serial No. 127	LB	QA

ISC DATA

ATTACHMENT 1 Page 3 of 4

Loaded TRUPACT-II Data Sheet (continued)

STEP NO.	DESCRIPTION	INITIALS	VERIF.
7.8.21	**HOLD POINT** Torquing of ICV Lock Ring bolts	WW	**QA** MAD
7.8.24	**HOLD POINT** Torquing of ICV Vent Port Inner Plug	WW	**QA** MAD
7.9.4	**HOLD POINT** OCA Lid and Body serial numbers: Lid Serial No. 127 Body Serial No. 127	RB	**QA** MAD
7.9.22	**HOLD POINT** Torquing of OCA Lock Ring bolts	WW	**QA** MAD
7.9.28	**HOLD POINT** Security Seal numbers: 0050 0045	RB	**QA** MAD

ISC DATA 9.67

ATTACHMENT 1 Page 4 of 4

Loaded TRUPACT-II Data Sheet (continued)

STEP NO.	DESCRIPTION	INITIALS	VERIF.
7.9.31	Contamination survey of the TRUPACT-II exterior: < 20 dpm/100 cm² alpha < 200 dpm/100 cm² beta-gamma	RB	HPT Def
7.9.32	Radiation survey of the TRUPACT-II exterior: < 0.1 mR/hr beta-gamma	RB	HPT Def
7.9.33	Radiation survey of the TRUPACT-II exterior at 1 meter: < 0.1 mR/hr beta-gamma	RB	HPT Def
Remarks:			

Performers responsible for step completion **SHALL** enter their printed names, initials and date below.

NAME	INITIALS	DATE
Randy Beiman	RB	7/23/91
WADE WEYERMAN	WW	7/23/91
Mark Davis	MD	7/23/91
DONALD C. GADBURY	Def	7/23/91

8.2 This record has been reviewed and is found to be complete.

NAME (PRINT)	SIGNATURE	DATE
J. M. Willis	J. M. Willis	72391
C R Kelley	C R Kelley	7/29/91

ISC DATA

Decay Heat

WI 3 4 5 6 7 8 9 10 12

	Mass		w/g		
Pu^{238}	.0029	×	.573	=	.00166
Pu^{239}	27.23	×	.00195	=	.0531
Pu^{240}	1.668	×	.00716	=	.0119
Pu^{241}	.0968	×	.00331	=	.0003
Pu^{242}	5.8E-3	×	.000117	=	—

.06696 Watts

J Wilf
7/22/91

Decay Heat

WI 1 2 3 4 5 6 7 8 9 10

Pu^{238}	.0029	×	.573	.00166
Pu^{239}	27.23	×	.00195	.0531
Pu^{240}	1.668	×	.00716	.0119
Pu^{241}	.0968	×	.00331	.0003
Pu^{242}	5.8E-3	×	.000117	—

.06696

7/23/91
J Wilf

9.6.7

ISC DATA

Reportable Quantity
Calculation
WI 345678910 12

Pu^{238}	Pu^{239}	Pu^{240}	Pu^{241}	Pu^{242}	
$\frac{.05}{.01}$	$\frac{1.7}{.01}$	$\frac{.38}{.01}$	$\frac{10.18}{1}$	$\frac{.00002}{.01}$	> 1

if Unity Calculation is > 1 then
it is A Reportable Quantity

JWild
7/22/91

Same Calculation / Same Data for WI 12345678910
it is also RQ

JWild 7/23/91

9.6.7

ISC DATA

ICV Verification Leak Test Setup

TEST PERFORMANCE RECORD COVER SHEET

Indicate (✓) the test being performed. The Record Package for the Test **SHALL** include the indicated WP Forms.

[✓] ICV Assembly Verification Leak Test:

- WP Form 2074: ICV Verification Leak Test Setup
- WP Form 2075: ICV Upper Main O-Ring Verification Leak Test
- WP Form 2076: ICV Outer Vent Port Seal Verification Leak Test

[ ] ICV Upper Main O-Ring Seal Maintenance Verification Leak Test:

- WP Form 2074: ICV Verification Leak Test Setup
- WP Form 2075: ICV Upper Main O-Ring Verification Leak Test

[ ] ICV Outer Vent Port Seal Maintenance Verification Leak Test:

- WP Form 2074: ICV Verification Leak Test Setup
- WP Form 2076: ICV Outer Vent Port Seal Verification Leak Test

[ ] ICV Upper Main O-Ring Seal and Outer Vent Port Seal Maintenance Verification Leak Test:

- WP Form 2074: ICV Verification Leak Test Setup
- WP Form 2075: ICV Upper Main O-Ring Verification Leak Test
- WP Form 2076: ICV Outer Vent Port Seal Verification Leak Test

ICV Lid No.: 127 ICV Body No.: 127

Date: 7/23/91 Time: 10:14 Initial: LB

ISC DATA
Std 9.6.8

ICV Verification Leak Test Setup (Continued)

1.0 PREREQUISITES

[✓] 1.1 WHO - Inform the QA Department of performance at least 2 hours prior to beginning the Leak Test:

7/23/91 (Date) 0930 (Time) Mark Davis (QA Person Informed)

RB **SIGNOFF REQUIRED**

[✓] 1.2 WHO - Record the RWP No.: 91-0189 (N/A if not required)

BB **SIGNOFF REQUIRED**

[✓] 1.3 WHO - Record the SWP No.: N/A (N/A if not required)

RB **SIGNOFF REQUIRED**

[✓] 1.4 WHO - Record the TRUPACT-II ICV Serial Numbers.

ICV Lid Serial No.: 127

ICV Body Serial No.: 127

RB **SIGNOFF REQUIRED**

[✓] 1.5 LTT - Verify the Helium Leak Detector is calibrated for the current shift and ready for use per WP 05-WH1051, Varian 938-41 Porta-Test Leak Detector.

RB **SIGNOFF REQUIRED**

2.0 EQUIPMENT LIST

2.1 Waste Handling Operator Equipment:

[✓] 2.1.1 Torque Wrench (Range 60-190 in-lbs).

ID: WH-0967 Range: 60-200 "Lbs

Cal Due Date: 12-25-91

WW **SIGNOFF REQUIRED**

ISC DATA

ICV Verification Leak Test Setup (Continued)

M 2.1.2 Torque Wrench (Range 30-50 ft-lbs).

ID: 75-WH-0964 Range: 10 - 80 In Lbs

Cal Due Date: 12-24-91

WW **SIGNOFF REQUIRED**

M 2.1.3 ICV Vent Removal/Pressure Relief Tool.

M 2.1.4 ICV/OCV Outer Vent Port Removal and Installation Tool.

M 2.1.5 ICV Seal Leak Check Tool.

M 2.1.6 ICV Seal Check Port Plug Installation and Removal Tool.

M 2.1.7 ICV Leak Detection Tool.

2.2 Leak Test Technician Equipment:

M 2.2.1 Varian 938-41 Helium Leak Detector with 7 CFM (minimum) Mechanical Vacuum Pump.

Equipment ID: ~~DBAF1001~~ DBAF1001 WW 7-23-91

WW **SIGNOFF REQUIRED**

[] 2.2.2 Helium Leak Test Assembly Pressure/Vacuum Gage, 30" Hg to 30 psig:

Equipment ID: 75-QA-0029 Cal Due Date: 10-11-91

WW **SIGNOFF REQUIRED**

M 2.3 Leak Detector Hose Assembly per 41-L-001-W.

M 2.4 Vacuum/Helium Assembly per 41-L-001-W.

M 2.5 Welding Grade Helium, > 100 psig.

M 2.6 Watch or stopwatch, digital or sweep second hand (No calibration required).

ISC DATA 9-6-3

ICV Verification Leak Test Setup (Continued)

3.0 SET UP PROCEDURE

[ ] 3.1 LTT - **IF** NOT connected,
THEN connect Leak Detector as follows:

[ ] 3.1.1 LTT - Verify the Leak Detector Valve is open.

[ ] 3.1.2 LTT - Remove the plug from the Test Port on top of the Leak Detector.

[ ] 3.1.3 LTT - Insert the Leak Detector Hose Assembly into the Test Port and tighten hand tight.

[ ] 3.1.4 LTT - Verify the Operating Handle on the Leak Detector is in VENT.

[ ] 3.1.5 LTT - Verify RANGE is selected to the (x 10^{-8}) scale on the Leak Detector.

[ ] 3.2 WHO - Install ICV Vent Port Removal/Pressure Relief Tool, at the Vent Port.

[ ] 3.3 WHO/LTT - Connect the Vacuum/Helium Assembly to ICV Vent Port Removal/Pressure Relief Tool.

[ ] 3.4 LTT - Align the Vacuum/Helium Assembly as follows:

[ ] 3.4.1 Open the 3-Way Valve.

[ ] 3.4.2 Close the Helium Valve.

[ ] 3.4.3 Close the Vacuum Valve.

[ ] 3.5 LTT - Test Vacuum/Helium Assembly integrity and establish the minimum vacuum requirements for Helium backfill as follows:

[ ] 3.5.1 LTT - Start the Vacuum Pump.

[ ] 3.5.2 LTT - Open the Vacuum Valve.

[ ] 3.5.3 LTT - Monitor the Pressure/Vacuum Gage.

[ ] 3.5.4 LTT - Evacuate for a minimum of 1 minute.

ISC DATA

ICV Verification Leak Test Setup (Continued)

[✓] 3.5.5 LTT - Record indicated Vacuum: 26 " Hg

WW **SIGNOFF REQUIRED**

[✓] 3.5.6 LTT - Close the Vacuum Valve.

[ ] 3.6 LTT - **IF** the recorded vacuum is ≥ 25" Hg, **THEN** N/A Step 3.7.7 Signoff **AND GO TO** Step 3.8.

[ ] 3.7 LTT - **IF** the recorded vacuum is < 25" Hg, **THEN** perform the following:

[ ] 3.7.1 LTT - Stop the Vacuum Pump.

[ ] 3.7.2 LTT - Tighten all connections/fittings on the Vacuum/Helium Assembly.

[ ] 3.7.3 LTT - Start the Vacuum Pump.

[ ] 3.7.4 LTT - Open the Vacuum Valve.

[ ] 3.7.5 LTT - Monitor the Pressure/Vacuum Gage.

[ ] 3.7.6 LTT - Evacuate for a minimum of 1 minute.

[ ] 3.7.7 LTT - Record indicated Vacuum: N/A " Hg

WW **SIGNOFF REQUIRED**

[✓] 3.7.8 LTT - Close the Vacuum Valve.

[ ] 3.7.9 **IF** vacuum is < 25", **THEN** contact the LTS for direction.

[✓] 3.8 LTT - Pressurize the Helium Source.

[✓] 3.9 LTT - Adjust the Helium Regulator to 2-4 psig.

[✓] 3.10 WHO - Unscrew the Outer Vent Port Plug and pull into ICV Vent Port Removal/Pressure Relief Tool.

[✓] 3.11 LTT - Evacuate the ICV Vent Port as follows:

[✓] 3.11.1 LTT - Open the Vacuum Valve.

[✓] 3.11.2 LTT - Allow pressure to decrease (vacuum to increase) until a maximum value is achieved.

ISC DATA 9-6-98

ICV Verification Leak Test Setup (Continued)

[✓] 3.12 LTT - Record indicated Vacuum: 21 "Hg

WW **SIGNOFF REQUIRED**

[✓] 3.13 LTT - Close the Three Way Valve.

3.14 **ACCEPTANCE CRITERIA:** Vacuum recorded in Step 3.12 is within 2" of the vacuum recorded in Step 3.7.7 (if 3.7.7 **IS NOT** N/A) or 3.5.5 (if 3.7.7 **IS** N/A).

ACCEPTANCE CRITERIA SATISFIED: (YES) / NO
(circle one)

WW **SIGNOFF REQUIRED**

[✓] 3.15 Perform the applicable WP Form(s) to complete the Leak Test(s) as directed by Section 7.0 of the Procedure.

[✓] 3.16 Performers responsible for data entry or Step completion in WP Forms 2074, 2075 and/or 2076 **SHALL** enter their printed names, initials, and date below.

PRINT NAME	/ INITIAL/DATE
WADE WEYERMAN	/ WW / 7-23-91
Randy Brown	/ RB / 7-23-91
Mark Davis	/ MD / 7/23/91
	/ /
	/ /
	/ /
	/ /
	/ /
	/ /
	/ /
	/ /
	/ /

ISC DATA 9-6-91

ICV Verification Leak Test Setup (Continued)

REMARKS: "WP Form 2015 STEPS 3.19 through 3.30.2 are N/A due to leak test continuation in WP Form 2026.

REVIEW: This Record has been reviewed and is found to be complete.

Mark Davis	Mark Davis	7/23/91
LTS (Print Name)	(Signature)	Level Date
J.M. Willis	J.M. Willis	72391
WHS (Print Name)	(Signature)	Date

VALIDATION: Completion of the following step constitutes validation of this Record.

J.M. Willis	J.M. Willis	72391
WHM (Print Name)	(Signature)	Date
CR Kelley	CR Kelley	7/29/91

ISC DATA 9.6.8

ICV Upper Main O-Ring Verification Leak Test

1.0 PREREQUISITES

N 1.1 WP Form 2074: ICV Verification Leak Test Setup, has been satisfactorily completed.

WW **SIGNOFF REQUIRED**

N 1.2 WHO - Record the TRUPACT-II ICV Serial Numbers.

ICV Lid Serial No.: 127

ICV Body Serial No.: 127

WW **SIGNOFF REQUIRED**

M 1.3 Performers responsible for step completion or data recording in this WP Form **SHALL** enter their printed names, initials, and date on WP Form 2074.

2.0 EQUIPMENT LIST

Equipment utilized is addressed in WP Form 2074.

3.0 ICV UPPER MAIN O-RING SEAL LEAK TEST PROCEDURE

N 3.1 Remove the ICV Test Port Plug, if installed.

N 3.2 Install ICV Seal Leak Check Tool, in the ICV Seal Test Port.

N 3.3 WHO/LTT - Connect the Leak Detector Hose Assembly to ICV Seal Leak Check Tool.

> **CAUTION**
>
> THE OPERATING HANDLE **SHALL NOT** BE LEFT IN START MORE THAN FIVE (5) MINUTES WITH THE MAIN POWER ON.
>
> This CAUTION applies to Step 3.4.

N 3.4 LTT - Turn the Operating Handle on the Leak Detector clockwise to START.

M 3.5 LTT - Monitor Test Port PRESSURE.

ISC DATA 6-8

ICV Upper Main O-Ring Verification Leak Test (Continued)

[ ] 3.6 LTT - Perform the following, as applicable:

[ ] 3.6.1 **IF** Test Port PRESSURE does NOT reach ≤ 100 milliTorr within 5 minutes,
THEN perform the following:

[ ] A) LTT - Close the Leak Detector Valve.

[ ] B) LTT - Allow Test Port PRESSURE to decrease to ≤ 100 milliTorr.

[ ] C) LTT - Rotate the Operating Handle clockwise to VENT.

[ ] D) LTT - Open the Leak Detector Valve.

[ ] E) LTT - Contact the LTS for direction.

[ ] 3.6.2 **WHEN** Test Port PRESSURE is ≤ 100 milliTorr (in the green band),
THEN turn the Operating Handle to TEST.

[ ] 3.7 LTT - Monitor the Bar Graph.

[ ] 3.8 LTT - **IF**, after 15 minutes, the Bar Graph indicates > 9.8×10^{-8},
THEN contact the LTS for direction.

[ ] 3.9 LTT - Purge the Helium Supply Line of air as follows:

[ ] 3.9.1 LTT - Open Helium Valve for 3 - 5 seconds.

[ ] 3.9.2 LTT - Close the Helium Valve.

ISC DATA 9.6.8

ICV Upper Main O-Ring Verification Leak Test (Continued)

CAUTION

AFTER EXPOSING THE O-RINGS TO HELIUM, THE REMAINDER OF THIS WP FORM AND ANY ADDITIONAL LEAK TESTING SHOULD BE COMPLETED WITHIN 15 MINUTES OR LESS. FAILURE TO COMPLETE THE TEST(S) WITHIN THE TIME LIMIT MAY CAUSE THE TRUPACT TO FAIL THE HELIUM LEAK RATE TEST(S).

This CAUTION applies to the remainder of WP Form 2075 and WP Form 2076, if applicable.

[ ] 3.10 Backfill the Vent Port with Helium as follows:

[ ] 3.10.1 LTT - Close the Vacuum Valve.

[ ] 3.10.2 LTT - Open the 3-Way Valve.

[ ] 3.10.3 LTT - Crack open the Helium Valve.

[ ] 3.10.4 Fill the ICV Vent Port to one atmosphere (0 - 3" Hg vacuum) as indicated on the Pressure/Vacuum Gage.

[ ] 3.10.5 LTT - Close the Helium Valve.

[ ] 3.10.6 LTT - Record Indicated Pressure: 0

JRW **SIGNOFF REQUIRED**

NOTE: This Note applies to Step 3.11. When Helium is introduced, the Bar Graph may indicate > 9.8×10^{-8} due to seating the O-Ring. This does NOT necessarily indicate excessive leakage.

[ ] 3.11 LTT - Monitor the Bar Graph.

[ ] 3.12 LTT - **IF** > 9.8×10^{-8} is indicated, **THEN** perform the following:

[ ] 3.12.1 Continue monitoring to verify the indication was due to O-Ring seating. The leak rate should decrease.

[ ] 3.12.2 **IF** leakage does NOT decrease to ≤ 9.8×10^{-8} within 5 minutes, **THEN** proceed to Step 3.14.

ISC DATA 9.6.99

PCN 00.01

ICV Upper Main O-Ring Verification Leak Test (Continued)

[✓] 3.13 LTT - **WHEN** ≤ 9.8×10^{-8} is indicated, **THEN** perform the following:

NOTE: Steps 3.13.1 through 3.13.4 should be performed concurrently, as applicable.

[✓] 3.13.1 Monitor the Leak Detector three (3) minutes.

[✓] 3.13.2 Observe the leak rate does NOT increase to > 9.8×10^{-8} during the three minutes.

[ ] 3.13.3 **IF** leakage momentarily increases to > 9.8×10^{-8}, **THEN** restart the 3 minute monitoring period.

[N/A] 3.13.4 **IF** leakage increases to > 9.8×10^{-8} and does NOT decrease to ≤ 9.8×10^{-8} within 5 minutes, **THEN** proceed to Step 3.14.

[✓] 3.14 LTT - Record the Bar Graph indication: 3.4×10^{-8}

RB **SIGNOFF REQUIRED**

[✓] 3.15 LTT - Rotate the Operating Handle on the Leak Detector clockwise to VENT.

HOLD POINT

MB 3.16 **ACCEPTANCE CRITERIA:** The Leak rate recorded in Step 3.14 is < 1×10^{-7} std cc/sec. QA to verify the Acceptance Criteria is satisfied.

ACCEPTANCE CRITERIA SATISFIED: (YES) / NO
(circle one)

N/A **SIGNOFF REQUIRED (QA)**

[✓] 3.17 WHO/LTT - Disconnect the Leak Detector Hose Assembly from ICV Seal Leak Check Tool.

ISC DATA 9.6.8

ICV Upper Main O-Ring Verification Leak Test (Continued)

3.18 **IF** the ICV Outer Vent Port Seal is to be Leak Tested, **THEN** perform the following:

[✓] 3.18.1 Record in the Remarks section of WP Form 2074 "WP Form 2075 Steps 3.19 through 3.30.3 are N/A due to Leak Test continuation in WP Form 2076."

[] 3.18.2 **GO TO** WP Form 2076: ICV Outer Vent Port Seal Verification Leak Test.

[] 3.19 LTT - Turn the 3-Way Valve to the vent position.

[] 3.20 LTT - Secure the Helium supply.

[] 3.21 LTT - Evacuate residual helium as follows:

[] 3.21.1 LTT - Open the Three Way Valve.

[] 3.21.2 LTT - Open the Vacuum Valve.

[] 3.21.3 LTT - Evacuate for 15 minutes.

[] 3.21.4 LTT - Close the Vacuum Valve.

[] 3.21.5 LTT - Turn off the Vacuum Pump.

[] 3.21.6 LTT - Turn the Three Way Valve to the Vent Position.

[] 3.22 WHO/LTT - Disconnect the Vacuum/Helium Source Assembly from ICV Vent Port Removal/Pressure Relief Tool.

[] 3.23 WHO - Reinsert the Outer Vent Port Plug using ICV Vent Port Removal/Pressure Relief Tool.

[] 3.24 WHO - Remove ICV Vent Port Removal/Pressure Relief Tool, from the Vent Port.

HOLD POINT

_____ 3.25 WHO - Torque the Outer Vent Port Plug to 10-13 ft-lbs (120-156 in-lbs). QA to witness the Outer Vent Port Plug torqued to the allowed range.

_____ **SIGNOFF REQUIRED (QA)**

PCN 00.01

ISC DATA G.

PCN 00.01

ICV Upper Main O-Ring Verification Leak Test (Continued)

HOLD POINT

_____ 3.26 WHO - Install the ICV Vent Port Cover. Torque to 13-16 ft-lbs (156-192 in-lbs). QA to witness the Vent Port Cover torqued to the allowed range.

_____ **SIGNOFF REQUIRED (QA)**

[] 3.27 WHO - Remove ICV Seal Leak Check Tool.

[] 3.28 WHO - Install the ICV Test Port Plug using ICV Seal Check Port Plug Installation and Removal Tool.

HOLD POINT

_____ 3.29 WHO - Torque the ICV Test Port Plug to 6-8 ft-lbs (72-96 in-lbs). QA to witness the ICV Seal Check Port Plug torqued to the allowed range.

_____ **SIGNOFF REQUIRED (QA)**

[] 3.30 LTT - Set up the Leak Detector as follows:

[] 3.30.1 LTT - Remove the Leak Detector Hose Assembly from the Test Port on top of the Leak Detector.

[] 3.30.2 LTT - Insert the plug in the Test Port on top of the Leak Detector and tighten hand tight.

[] 3.30.3 LTT - Verify the Operating Handle on the Leak Detector is in VENT.

REVIEW: This Record has been reviewed and is found to be complete.

Mark Davis / Mark Davis / H, 7/23/91
LTS (Print Name) (Signature) Level Date

J.M. Willis / J.M. Willis / 72391
WHS (Print Name) (Signature) Date

VALIDATION: Completion of the following constitutes validation of this Record.

J.M. Willis / J.M. Willis / 72391
WHM (Print Name) (Signature) Date

ISC DATA 9.6.8

CR Kelley CR Kelley 7/24/91

ICV Outer Vent Port Seal Verification Leak Test

1.0 PREREQUISITES

1.1 WP Form 2074: ICV Verification Leak Test Setup, has been satisfactorily completed.

WW **SIGNOFF REQUIRED**

[ ] 1.2 WHO - Record the TRUPACT-II ICV Serial Numbers.

ICV Lid Serial No.: 127

ICV Body Serial No.: 127

WW **SIGNOFF REQUIRED**

2.0 EQUIPMENT LIST

Equipment utilized is addressed in WP Form 2074.

3.0 ICV OUTER VENT PORT SEAL LEAK TEST PROCEDURE

[ ] 3.1 **IF** the performance of the ICV Outer Vent Port Seal Leak Test is a continuation of the WP Form 2075: ICV Upper Main O-Ring Verification Leak Test (i.e., the Vent Port is already backfilled with Helium), **THEN** N/A Step 3.3.6 signoff and proceed to Step 3.4.

[ ] 3.2 LTT - Purge the Helium Supply Line of air as follows:

[ ] 3.2.1 LTT - Open the Helium Valve for 3-5 seconds.

[ ] 3.2.2 LTT - Close the Helium Valve.

CAUTION

AFTER EXPOSING THE O-RINGS TO HELIUM, THE REMAINDER OF THIS WP FORM AND ANY ADDITIONAL LEAK TESTING SHOULD BE COMPLETED WITHIN 15 MINUTES OR LESS. FAILURE TO COMPLETE THE TEST(S) WITHIN THE TIME LIMIT MAY CAUSE THE TRUPACT TO FAIL THE HELIUM LEAK RATE TEST(S).

This CAUTION applies to Step 3.3.

[ ] 3.3 Backfill the Vent Port with Helium as follows:

[ ] 3.3.1 LTT - Close the Vacuum Valve.

ISC DATA 9

ICV Outer Vent Port Seal Verification Leak Test (Continued)

[] 3.3.2 LTT - Open the 3-Way Valve.

[] 3.3.3 LTT - Crack open the Helium Valve.

[] 3.3.4 Fill the ICV Vent Port to one atmosphere (0 - 3" Hg vacuum) as indicated on the Pressure/Vacuum Gage.

[] 3.3.5 LTT - Close the Helium Valve.

[] 3.3.6 LTT - Record Indicated Pressure: N/A

WW **SIGNOFF REQUIRED**

M 3.4 WHO - Reinsert the Outer Vent Port Plug using ICV Vent Port Removal/Pressure Relief Tool.

M 3.5 LTT - Turn the 3-Way Valve to the vent position.

M 3.6 WHO/LTT - Disconnect the Vacuum/Helium Source Assembly from ICV Vent Port Removal/Pressure Relief Tool.

M 3.7 WHO - Remove ICV Vent Port Removal/Pressure Relief Tool, from the Vent Port.

HOLD POINT

WW 3.8 WHO - Torque the Outer Vent Port Plug to 10-13 ft-lbs (120-156 in-lbs). QA to witness the Outer Vent Port Plug torqued to the allowed range.

~~WW~~ ~~**SIGNOFF**~~ **REQUIRED (QA)**

M 3.9 WHO - Install a clean ICV Leak Detection Tool, in the Vent Port.

M 3.10 WHO/LTT - Connect the Leak Detector Hose to ICV Leak Detection Tool.

ISC DATA 9.6.8

ICV Outer Vent Port Seal Verification Leak Test (Continued)

> **CAUTION**
>
> THE OPERATING HANDLE **SHALL NOT** BE LEFT IN START MORE THAN FIVE (5) MINUTES WITH THE MAIN POWER ON.
>
> This CAUTION applies to Step 3.11.

[✓] 3.11 LTT - Turn the Operating Handle clockwise to START.

[ ] 3.12 LTT - Monitor Test Port PRESSURE.

[ ] 3.13 LTT - **WHEN** Test Port PRESSURE is ≤ 100 milliTorr (in the green band),
THEN turn the Operating Handle clockwise to TEST
AND GO TO Step 3.15.

[ ] 3.14 **IF** Test Port PRESSURE does NOT reach ≤ 100 milliTorr within 5 minutes,
THEN perform the following:

[ ] 3.14.1 LTT - Close the Leak Detector Valve.

[ ] 3.14.2 LTT - Allow Test Port PRESSURE to decrease to ≤ 100 milliTorr.

[ ] 3.14.3 LTT - Rotate the Operating Handle clockwise to VENT.

[ ] 3.14.4 LTT - Open the Leak Detector Valve.

[ ] 3.14.5 LTT - Contact the LTS for direction.

NOTE: This Note applies to Step 3.15. When the Operating Handle is first placed in TEST, the Bar Graph may indicate > 9.8×10^{-8} due to residual Helium and DOES NOT necessarily indicate leakage.

[ ] 3.15 LTT - Monitor the Bar Graph.

ISC DATA 9-6-94

ICV Outer Vent Port Seal Verification Leak Test (Continued)

[ ] 3.16 LTT - **IF** > 9.8×10^{-8} is indicated, **THEN** perform following:

[ ] 3.16.1 LTT - Monitor the detector for five (5) minutes **OR** until indication is ≤ 9.8×10^{-8} to verify the excessive leakage indication was due to residual Helium. Leak rate should decrease.

[ ] 3.16.2 LTT - **IF** the leak rate does NOT decrease to ≤ 9.8×10^{-8}, **THEN GO TO** Step 3.18.

[ ] 3.17 LTT - **WHEN** ≤ 9.8×10^{-8} is indicated, **THEN** perform the following:

NOTE: Steps 3.17.1 through 3.17.4 should be performed concurrently, as applicable.

[ ] 3.17.1 Monitor the Leak Detector for one 1 minute.

[ ] 3.17.2 Observe the leak rate does NOT increase to > 9.8×10^{-8} during the one minute.

[ ] 3.17.3 **IF** leakage momentarily increases to > 9.8×10^{-8}, **THEN** restart the 1 minute monitoring period.

[ ] 3.17.4 **IF** leakage increases to > 9.8×10^{-8} and does NOT decrease to ≤ 9.8×10^{-8} within 5 minutes, **THEN** proceed to Step 3.18.

[ ] 3.18 LTT - Record the Bar Graph indication: 4.0×10^{-8}

WW **SIGNOFF REQUIRED**

[✓] 3.19 LTT - Rotate the Operating Handle on the Leak Detector clockwise to VENT.

ISC DATA 9.6.8

ICV Outer Vent Port Seal Verification Leak Test (Continued)

HOLD POINT

WW 3.20 **ACCEPTANCE CRITERIA:** Leak rate recorded in Step 3.18 is < 1 x 10^{-7} std cc/sec. QA to verify the Acceptance Criteria is satisfied.

ACCEPTANCE CRITERIA SATISFIED: YES / NO (circle one)

SIGNOFF REQUIRED (QA)

[ ] 3.21 WHO/LTT - Disconnect the Leak Detector Hose Assembly from ICV Leak Detection Tool.

[ ] 3.22 WHO - Remove ICV Leak Detection Tool, from the Vent Port.

[ ] 3.23 LTT - Secure the Helium supply.

HOLD POINT

WW 3.24 WHO - Install the ICV Vent Port Cover. Torque to 13-16 ft-lbs (156-192 in-lbs). QA to witness the Vent Port Cover torqued to the allowed range.

SIGNOFF REQUIRED (QA)

[ ] 3.25 WHO - Remove ICV Seal Leak Check Tool, (if installed).

[ ] 3.26 WHO - Install the ICV Test Port Plug using ICV Seal Check Port Plug Installation and Removal Tool.

HOLD POINT

WW 3.27 WHO - Torque the ICV Test Port Plug to 6-8 ft-lbs (72-96 in-lbs). QA to witness the ICV Test Port Plug torqued to the allowed range.

SIGNOFF REQUIRED (QA)

ISC DATA 9.6.8

ICV Outer Vent Port Seal Verification Leak Test (Continued)

[] 3.28 LTT - **IF** OCV is NOT to be Leak Checked next, **THEN** Set up the Leak Detector as follows:

[] 3.28.1 LTT - Remove the Leak Detector Hose Assembly from the Test Port on top of the Leak Detector.

[] 3.28.2 LTT - Insert the plug in the Test Port on top of the Leak Detector and tighten hand tight.

[] 3.28.3 LTT - Verify the Operating Handle on the Leak Detector is in VENT.

[✓] 3.29 Performers responsible for step completion or data recording in this WP Form **SHALL** enter their printed names, initials, and date on WP Form 2074.

REVIEW: This Record has been reviewed and is found to be complete.

Mark Davis	Mark Davis	II, 7/23/91
LTS (Print Name)	(Signature)	Level Date
J.m. Willis	J.m. Willis	72391
WHS (Print Name)	(Signature)	Date

VALIDATION: Completion of the following constitutes validation of this Record.

J.m. Willis	J.m. Willis	72391
WHM (Print Name)	(Signature)	Date
CR Kelley	CR Kelley	7/24/91

ISC DATA 9.6.8

OCV Verification Leak Test Setup

TEST PERFORMANCE RECORD COVER SHEET

Indicate (✓) the test being performed. The Record Package for the Test **SHALL** include the indicated Forms:

[✓] OCV Assembly Verification Leak Test:

- WP Form 2077: OCV Verification Leak Test Setup
- WP Form 2078: OCV Upper Main O-Ring Verification Leak Test
- WP Form 2079: OCV Vent Port Seal Verification Leak Test

[✓] OCV Upper Main O-Ring Seal Maintenance Verification Leak Test:

- WP Form 2077: OCV Verification Leak Test Setup
- WP Form 2078: OCV Upper Main O-Ring Verification Leak Test

[✓] OCV Outer Vent Port Seal Maintenance Verification Leak Test:

- WP Form 2077: OCV Verification Leak Test Setup
- WP Form 2079: OCV Vent Port Seal Verification Leak Test

[ ] OCV Upper Main O-Ring Seal and Outer Vent Port Seal Maintenance Verification Leak Test:

- WP Form 2077: OCV Verification Leak Test Setup
- WP Form 2078: OCV Upper Main O-Ring Verification Leak Test
- WP Form 2079: OCV Vent Port Seal Verification Leak Test

OCV Lid No.: 127 OCV Body No.: 127

Date: 7/23/91 Time: 1139 Initial: ASC DATA 9.6.8

OCV Verification Leak Test Setup (Continued)

1.0 PREREQUISITES

[✓] 1.1 WHO - Inform the QA Department of performance at least 2 hours prior to beginning the Leak Test:

7/23/91 (Date) 7:30 (Time) Mack Davis (QA Person Informed)

RB **SIGNOFF REQUIRED**

[✓] 1.2 WHO - Record the RWP No.: 91-0189 (N/A if not required)

RB **SIGNOFF REQUIRED**

[✓] 1.3 WHO - Record the SWP No.: N/A (N/A if not required)

RB **SIGNOFF REQUIRED**

[✓] 1.4 WHO - Record the TRUPACT-II OCV Serial Numbers.

OCV Lid Serial No.: 127

OCV Body Serial No.: 127

RB **SIGNOFF REQUIRED**

[✓] 1.5 LTT - Verify the Helium Leak Detector is calibrated for the current shift and ready for use per WP 05-WH1051, Varian 938-41 Porta-Test Leak Detector.

RB **SIGNOFF REQUIRED**

2.0 EQUIPMENT LIST

2.1 Waste Handling Operator Equipment:

[✓] 2.1.1 Torque Wrench (Range 60-190 in-lbs).

ID: WH-0967 Range: 60-190

Cal Due Date: 12/25/91

RB **SIGNOFF REQUIRED**

ISC DATA 9.6.8

OCV Verification Leak Test Setup (Continued)

[] 2.1.2 Torque Wrench (Range 30-50 ft-lbs).

ID: WH-0969 Range: 10-80

Cal Due Date: 12-24-91

SIGNOFF REQUIRED

[] 2.1.3 OCV Vent Removal/Pressure Relief Tool.

[] 2.1.4 ICV/OCV Outer Vent Port Removal and Installation Tool.

[] 2.1.5 Seal Leak Check Tool.

[] 2.1.6 OCV Seal Check Port Plug Installation and Removal Tool.

[] 2.1.7 OCV Leak Detection Tool.

2.2 Leak Test Technician Equipment:

[] 2.2.1 Varian 938-41 Helium Leak Detector with 7 CFM (minimum) Mechanical Vacuum Pump.

Equipment ID: DBAF1001

SIGNOFF REQUIRED

[] 2.2.2 Helium Leak Test Assembly Pressure/Vacuum Gage, 30" Hg to 30 psig.

Equipment ID: QA-0029 Cal Due Date: 10/11/91

SIGNOFF REQUIRED

[] 2.3 Leak Detector Hose Assembly per 41-L-001-W.

[] 2.4 Vacuum/Helium Assembly per 41-L-001-W.

[] 2.5 Welding Grade Helium, > 100 psig.

[] 2.6 Watch or stopwatch, digital or sweep second hand (No calibration required).

ISC DATA 9.6.4

PCN00.01

ATTACHMENT 4 Page 4 of 7

OCV Verification Leak Test Setup (Continued)

3.0 SET UP PROCEDURE

[ ] 3.1 LTT - **IF** NOT connected,
THEN connect Leak Detector as follows:

[✓] 3.1.1 LTT - Verify the Leak Detector Valve is open.

[✓] 3.1.2 LTT - Remove the plug from the Test Port on top of the Leak Detector.

[✓] 3.1.3 LTT - Insert the Leak Detector Hose Assembly into the Test Port and tighten hand tight.

[✓] 3.1.4 LTT - Verify the Operating Handle is in VENT.

[✓] 3.1.5 LTT - Verify RANGE is selected to the (x 10^{-8}) scale on the Leak Detector.

[✓] 3.2 WHO - Verify the OCV Vent Port Removal/Pressure Relief Tool is installed, at the Vent Port.

PCN 00.01

[✓] 3.3 WHO/LTT - Connect the Vacuum/Helium Assembly to OCV Vent Port Removal/Pressure Relief Tool.

[✓] 3.4 LTT - Align the Vacuum/Helium Assembly as follows:

[✓] 3.4.1 Open the 3-Way Valve.

[✓] 3.4.2 Close the Helium Valve.

[✓] 3.4.3 Close the Vacuum Valve.

[ ] 3.5 LTT - Test Vacuum/Helium Assembly integrity and establish the minimum vacuum requirements for Helium backfill as follows:

[✓] 3.5.1 LTT - Start the Vacuum Pump.

[✓] 3.5.2 LTT - Open the Vacuum Valve.

[✓] 3.5.3 LTT - Monitor the Pressure/Vacuum Gage.

[✓] 3.5.4 LTT - Evacuate for a minimum of 1 minute.

[ ] 3.5.5 LTT - Record indicated Vacuum: 26 mm Hg.
ISC DATA 9.6.8

WW **SIGNOFF REQUIRED**

PCN 00.01

OCV Verification Leak Test Setup (Continued)

[V] 3.5.6 LTT - Close the Vacuum Valve.

[N] 3.6 LTT - **IF** the recorded vacuum is ≥ 25" Hg, **THEN** N/A Step 3.7.7 Signoff **AND GO TO** Step 3.8.

[ ] 3.7 LTT - **IF** the recorded vacuum is < 25" Hg, **THEN** perform the following:

[ ] 3.7.1 LTT - Stop the Vacuum Pump.

[ ] 3.7.2 LTT - Tighten all connections/fittings on the Vacuum/Helium Assembly.

[ ] 3.7.3 LTT - Start the Vacuum Pump.

[ ] 3.7.4 LTT - Open the Vacuum Valve.

[ ] 3.7.5 LTT - Monitor the Pressure/Vacuum Gage.

[ ] 3.7.6 LTT - Evacuate for a minimum of 1 minute.

[ ] 3.7.7 LTT - Record indicated Vacuum: N/A " Hg

NN **SIGNOFF REQUIRED**

[ ] 3.7.8 LTT - Close the Vacuum Valve.

[ ] 3.7.9 **IF** vacuum is < 25", **THEN** contact the LTS for direction.

[V] 3.8 LTT - Pressurize the Helium Source.

[V] 3.9 LTT - Adjust the Helium Regulator to 2 psig.

[V] 3.10 WHO - Unscrew the Vent Port Plug and pull into OCV Vent Port Removal/Pressure Relief Tool.

[ ] 3.11 LTT - Evacuate the OCV Vent Port as follows:

[V] 3.11.1 LTT - Open the Vacuum Valve.

[V] 3.11.2 LTT - Allow pressure to decrease (vacuum to increase) until a maximum value is achieved **OR** until vacuum is within 2" of the vacuum recorded in Step 3.7.7 (if 3.7.7 is NOT N/A) or Step 3.5.5 (if 3.7.7 is N/A).

ISC DATA G.6

PCN00.01

OCV Verification Leak Test Setup (Continued)

☑ 3.12 LTT - Record indicated Vacuum: 25 "Hg

WW **SIGNOFF REQUIRED**

☑ 3.13 LTT - Close the Three Way Valve.

☑ 3.14 **ACCEPTANCE CRITERIA:** Vacuum recorded in Step 3.12 is within 2" of the vacuum recorded in Step 3.7.7 (if 3.7.7 is NOT N/A) or Step 3.5.5 (if 3.7.7 is N/A).

ACCEPTANCE CRITERIA SATISFIED: (YES) / NO (circle one)

WW **SIGNOFF REQUIRED**

[] 3.15 Perform the applicable Form(s) to complete the Leak Test(s) as directed by Section 7.0 of the Procedure.

[] 3.16 Performers responsible for data entry or Step completion in WP Forms 2077, 2078 and/or 2079 **SHALL** enter their printed names, initials, and date below.

PRINT NAME	/INITIAL/DATE
WADE WEYERMAN	/ WW / 7-23-91
Mark Davis	/ MMD / 7/23/91
Randy Brown	/ RB / 7/23/91
	/ /
	/ /
	/ /
	/ /
	/ /
	/ /
	/ /
	/ /
	/ /

ISC DATA 9.6.8

OCV Verification Leak Test Setup (Continued)

REMARKS: Steps 3.18 through 3.30.3 are N/A due to Leak Test continuation in WP Form 2079.

REVIEW: This Record has been reviewed and is found to be complete.

Mark Davis	Mark Davis	II, 7/23/91
LTS (Print Name)	(Signature)	Level Date
J.m. Willis	J.m. Willis	7/23/91
WHS (Print Name)	(Signature)	Date

VALIDATION: Completion of the following step constitutes validation of this Record.

J.m Willis	J.m Willis	7/23/91
WHM (Print Name)	(Signature)	Date
CR Kelley	CR Kelley	7/23/91

ISC DATA

9.6

PCN00.01

OCV Upper Main O-Ring Verification Leak Test

1.0 PREREQUISITES

1.1 WP Form 2077: OCV Verification Leak Test Setup, has been satisfactorily completed.

WW **SIGNOFF REQUIRED**

[✓] 1.2 WHO - Record the TRUPACT-II OCV Serial Numbers.

OCV Lid Serial No.: 127

OCV Body Serial No.: 127

WW **SIGNOFF REQUIRED**

[✓] 1.3 Performers responsible for step completion or data recording in this WP Form **SHALL** enter their printed names, initials, and date on WP Form 2077.

2.0 EQUIPMENT LIST

Equipment utilized is addressed in WP Form 2077.

3.0 OCV UPPER MAIN O-RING SEAL LEAK TEST PROCEDURE

[✓] 3.1 Remove the OCV Test Port Plug, if installed.

[✓] 3.2 Install OCV Seal Leak Check Tool, in the OCV Seal Test Port.

[✓] 3.3 WHO/LTT - Connect the Leak Detector Hose Assembly to OCV Seal Leak Check Tool.

> **CAUTION**
>
> THE OPERATING HANDLE **SHALL NOT** BE LEFT IN START MORE THAN FIVE (5) MINUTES WITH THE MAIN POWER ON.
>
> This CAUTION applies to Step 3.4.

[✓] 3.4 LTT - Turn the Operating Handle on the Leak Detector clockwise to START.

[✓] 3.5 LTT - Monitor Test Port PRESSURE.

ISC DATA 9.6.8

OCV Upper Main O-Ring Verification Leak Test (Continued)

[] 3.6 LTT - Perform the following, as applicable:

[] 3.6.1 **IF** Test Port PRESSURE does NOT reach ≤ 100 milliTorr within 5 minutes, **THEN** perform the following:

[] A) LTT - Close the Leak Detector Valve.

[] B) LTT - Allow Test Port PRESSURE to decrease to ≤ 100 milliTorr.

[] C) LTT - Rotate Operating Handle to VENT.

[] D) LTT - Open the Leak Detector Valve.

[] E) LTT - Contact the LTS for direction.

[] 3.6.2 **WHEN** Test Port PRESSURE is ≤ 100 milliTorr (in the green band), **THEN** turn the Operating Handle to TEST.

[] 3.7 LTT - Monitor the Bar Graph.

[] 3.8 LTT - **IF**, after 15 minutes, the Bar Graph indicates > 9.8×10^{-4}, **THEN** contact the LTS for direction.

[] 3.9 LTT - Purge the Helium Supply Line of air as follows:

[] 3.9.1 LTT - Open the Helium Valve 3 - 5 seconds.

[] 3.9.2 LTT - Close the Helium Valve.

CAUTION

AFTER EXPOSING THE O-RINGS TO HELIUM, THE REMAINDER OF THIS WP FORM AND ANY ADDITIONAL LEAK TESTING SHOULD BE COMPLETED WITHIN 15 MINUTES OR LESS. FAILURE TO COMPLETE THE TEST(S) WITHIN THE TIME LIMIT MAY CAUSE THE TRUPACT TO FAIL THE HELIUM LEAK RATE TEST(S).

This CAUTION applies to the remainder of WP Form 2078 and WP Form 2079, if applicable.

[] 3.10 Backfill the Vent Port with Helium as follows:

[] 3.10.1 LTT - Close the Vacuum Valve.

ISO DATA

OCV Upper Main O-Ring Verification Leak Test (Continued)

[✓] 3.10.2 LTT - Open the 3-Way Valve.

[✓] 3.10.3 LTT - Crack open the Helium Valve.

[ ] 3.10.4 Fill the OCV Vent Port to one atmosphere (0 - 3" Hg vacuum) as indicated on the Pressure/Vacuum Gage.

[✓] 3.10.5 LTT - Close the Helium Valve.

[✓] 3.10.6 LTT - Record Indicated Pressure: 2" Hg

[N/A] **SIGNOFF REQUIRED**

NOTE: When Helium is introduced, the Bar Graph may indicate > 9.8×10^{-8} due to seating the O-Ring. This DOES NOT necessarily indicate excessive leakage.

[ ] 3.11 LTT - **IF** > 9.8×10^{-8} is indicated, **THEN** perform the following:

3.11.1 Monitor to verify the indication was due to O-Ring seating. Leak rate should decrease.

[ ] 3.11.2 **IF** leakage does NOT decrease to ≤ 9.8×10^{-8} within 5 minutes, **THEN** proceed to Step 3.13.

[ ] 3.12 LTT - **WHEN** ≤ 9.8×10^{-8} is indicated, **THEN** perform the following:

NOTE: Steps 3.12.1 through 3.12.4 should be performed concurrently, as applicable.

[ ] 3.12.1 Monitor the Leak Detector three (3) minutes.

[ ] 3.12.2 Observe the leak rate does NOT increase to > 9.8×10^{-8} during the three minutes.

[ ] 3.12.3 **IF** leakage momentarily increases to > 9.8×10^{-8}, **THEN** restart the 3 minute monitoring period.

[ ] 3.12.4 **IF** leakage increases to > 9.8×10^{-8} and does NOT decrease to ≤ 9.8×10^{-8} within 5 minutes, **THEN** proceed to Step 3.13.

ISC DATA 9.6.5

PCN 00.01

OCV Upper Main O-Ring Verification Leak Test (Continued)

[✓] 3.13 LTT - Record the Bar Graph indication: 3.0×10^{-8}

WW **SIGNOFF REQUIRED**

[✓] 3.14 LTT - Rotate the Operating Handle clockwise to VENT.

HOLD POINT

WW 3.15 **ACCEPTANCE CRITERIA:** The Leak rate recorded in Step 3.13 is < 1×10^{-7} std cc/sec. QA to verify the Acceptance Criteria is satisfied.

ACCEPTANCE CRITERIA SATISFIED: YES / NO
(circle one)

MNA **SIGNOFF REQUIRED (QA)**

[✓] 3.16 WHO/LTT - Disconnect the Leak Detector Hose Assembly from OCV Seal Leak Check Tool.

3.17 **IF** the OCV Vent Port Seal is to be Leak Tested, **THEN** perform the following:

[] 3.17.1 Record in the REMARKS section of WP Form 2077 "WP Form 2078 Steps 3.18 through 3.30.3 are N/A due to Leak Test continuation in WP Form 2079." (completed on 2079)

PCN 00.01

[] 3.17.2 **GO TO** WP Form 2079.

[] 3.18 LTT - Turn the 3-Way Valve to the vent position.

[] 3.19 LTT - Secure the Helium supply.

[] 3.20 LTT - Evacuate residual helium as follows:

[] 3.20.1 LTT - Open the Three Way Valve.

[] 3.20.2 LTT - Open the Vacuum Valve.

[] 3.20.3 LTT - Turn on the Vacuum Pump.

[] 3.20.4 LTT - Evacuate for 5 minutes.

[] 3.20.5 LTT - Close the Vacuum Valve.

[] 3.20.6 LTT - Turn off the Vacuum Pump.

[] 3.20.7 LTT - Turn the Three Way Valve to Vent.

ISC DATA 6.6.8

PCN 00.01

OCV Upper Main O-Ring Verification Leak Test (Continued)

[] 3.21 WHO/LTT - Disconnect the Vacuum/Helium Source Assembly from OCV Vent Port Removal/Pressure Relief Tool.

[] 3.22 WHO - Reinsert the Vent Port Plug using OCV Vent Port Removal/Pressure Relief Tool.

[] 3.23 WHO - Remove OCV Vent Port Removal/Pressure Relief Tool, from the Vent Port.

HOLD POINT

_____ 3.24 WHO - Torque the OCV Vent Port Plug to 8-10 ft-lbs (96-120 in-lbs). QA to witness the Vent Port Plug torqued to the allowed range.

_____ **SIGNOFF REQUIRED (QA)**

HOLD POINT

_____ 3.25 WHO - Install the OCV Vent Port Cover. Torque to 13-16 ft-lbs (156-192 in-lbs). QA to witness the Vent Port Cover torqued to the allowed range.

_____ **SIGNOFF REQUIRED (QA)**

HOLD POINT

_____ 3.26 WHO - Install the OCV Vent Port Access Cover/Thermal Plug. Torque to 35-45 ft-lbs. QA to witness the Access Cover torqued to the allowed range.

_____ **SIGNOFF REQUIRED (QA)**

[] 3.27 WHO - Install the OCV Test Port Plug using OCV Seal Check Port Plug Installation and Removal Tool.

NSC DATA 9.6.8

PCN00.01

OCV Upper Main O-Ring Verification Leak Test (Continued)

HOLD POINT

_____ 3.28 WHO - Torque the OCV Test Port Plug to 6-8 ft-lbs (72-96 in-lbs). QA to witness the OCV Seal Check Port Plug torqued to the allowed range.

_____ **SIGNOFF REQUIRED (QA)**

HOLD POINT

_____ 3.29 WHO - Install the OCV Test Port Access Cover/Thermal Plug. Torque to 35-45 ft-lbs. QA to witness the Access Cover torqued to the allowed range.

_____ **SIGNOFF REQUIRED (QA)**

[] 3.30 LTT - Set up the Leak Detector as follows:

[] 3.30.1 LTT - Remove the Leak Detector Hose Assembly from the Test Port on top of the Leak Detector.

[] 3.30.2 LTT - Insert the plug in the Test Port on top of the Leak Detector and tighten hand tight.

[] 3.30.3 LTT - Verify the Operating Handle on the Leak Detector is in VENT.

REVIEW: This Record has been reviewed and is found to be complete.

_____ / _____ / ___/___/___

LTS (Print Name) (Signature) Level Date

_____ / _____ / _____

WHS (Print Name) (Signature) Date

VALIDATION: Completion of the following constitutes validation of this Record.

_____ / _____ / _____

WHM (Print Name) (Signature) Date

ISC DATA 9.6.8

OCV Vent Port Seal Verification Leak Test

1.0 PREREQUISITES

1.1 WP Form 2077: OCV Verification Leak Test Setup, has been satisfactorily completed.

WW **SIGNOFF REQUIRED**

[✓] 1.2 WHO - Record the TRUPACT-II OCV Serial Numbers.

OCV Lid Serial No.: 127

OCV Body Serial No.: 127

WW **SIGNOFF REQUIRED**

2.0 EQUIPMENT LIST

Equipment utilized is addressed in WP Form 2077.

3.0 OCV VENT PORT SEAL LEAK TEST PROCEDURE

[ ] 3.1 **IF** the performance of the OCV Vent Port Seal Leak Test is a continuation of the OCV Upper Main O-Ring Test (i.e., the vent port is already backfilled with Helium),
THEN N/A Step 3.3.6 signoff **AND GO TO** Step 3.4.

[✓] 3.2 LTT - Purge the Helium Supply Line of air as follows:

[✓] 3.2.1 LTT - Open Helium Valve for 3 - 5 seconds.

[✓] 3.2.2 LTT - Close the Helium Valve.

CAUTION

AFTER EXPOSING THE O-RINGS TO HELIUM, THE REMAINDER OF THIS WP FORM AND ANY ADDITIONAL LEAK TESTING SHOULD BE COMPLETED WITHIN 15 MINUTES OR LESS. FAILURE TO COMPLETE THE TEST(S) WITHIN THE TIME LIMIT MAY CAUSE THE TRUPACT TO FAIL THE HELIUM LEAK RATE TEST(S).

This CAUTION applies to Step 3.3.

[✓] 3.3 Backfill the Vent Port with Helium as follows:

[✓] 3.3.1 LTT - Close the Vacuum Valve.

ISC DATA 9-6-9

OCV Vent Port Seal Verification Leak Test (Continued)

3.3.2 LTT - Open the 3-Way Valve.

3.3.3 LTT - Crack open the Helium Valve.

3.3.4 Fill the OCV Vent Port to one atmosphere (0 - 3" Hg vacuum) as indicated on the Pressure/Vacuum Gage.

3.3.5 LTT - Close the Helium Valve.

3.3.6 LTT - Record Indicated Pressure: _____

SIGNOFF REQUIRED

3.4 WHO - Reinsert the Vent Port Plug using OCV Vent Port Removal/Pressure Relief Tool.

3.5 LTT - Turn the 3-Way Valve to the vent position.

3.6 WHO/LTT - Disconnect the Vacuum/Helium Source Assembly from OCV Vent Port Removal/Pressure Relief Tool.

3.7 WHO - Remove OCV Vent Port Removal/Pressure Relief Tool, from the Vent Port.

HOLD POINT

3.8 WHO - Torque the OCV Vent Port Plug to 8-10 ft-lbs (96-120 in-lbs). QA to witness the Vent Port Plug torqued to the allowed range.

SIGNOFF REQUIRED (QA)

3.9 WHO - Install a clean OCV Leak Detection Tool, in the Vent Port.

3.10 WHO/LTT - Connect the Leak Detector Hose to OCV Leak Detection Tool.

ISC DATA

OCV Vent Port Seal Verification Leak Test (Continued)

> **CAUTION**
>
> THE OPERATING HANDLE **SHALL NOT** BE LEFT IN START MORE THAN FIVE (5) MINUTES WITH THE MAIN POWER ON.
>
> This CAUTION applies to Step 3.11.

[✓] 3.11 LTT - Turn the Operating Handle clockwise to START.

[✓] 3.12 LTT - Monitor Test Port PRESSURE.

[ ] 3.13 LTT - **WHEN** Test Port PRESSURE is ≤ 100 milliTorr (in the green band),
THEN turn the Operating Handle clockwise to TEST
AND GO TO Step 3.15.

[ ] 3.14 **IF** Test Port PRESSURE does NOT reach ≤ 100 milliTorr within 5 minutes,
THEN perform the following:

[ ] 3.14.1 LTT - Close the Leak Detector Valve.

[ ] 3.14.2 LTT - Allow Test Port PRESSURE to decrease to ≤ 100 milliTorr.

[ ] 3.14.3 LTT - Rotate the Operating Handle clockwise to VENT.

[ ] 3.14.4 LTT - Open the Leak Detector Valve.

[ ] 3.14.5 LTT - Contact the LTS for direction.

NOTE: This Note applies to Step 3.15. When the Operating Handle is first placed in TEST, the Bar Graph may indicate > 9.8×10^{-8} due to residual Helium and does NOT necessarily indicate leakage.

[✓] 3.15 LTT - Monitor the Bar Graph.

ISC DATA 9.6.98

OCV Vent Port Seal Verification Leak Test (Continued)

[] 3.16 LTT - **IF** > 9.8×10^{-8} is indicated, **THEN** perform following:

[] 3.16.1 LTT - Monitor the detector for five (5) minutes **OR** until indication is ≤ 9.8×10^{-8} to verify the excessive leakage indication was due to residual Helium. Leak rate should decrease.

[] 3.16.2 LTT - **IF** the leak rate does NOT decrease to ≤ 9.8×10^{-8}, **THEN GO TO** Step 3.18.

[] 3.17 LTT - **WHEN** ≤ 9.8×10^{-8} is indicated, **THEN** perform the following:

NOTE: Steps 3.17.1 through 3.17.4 should be performed concurrently, as applicable.

[] 3.17.1 Monitor the Leak Detector for one 1 minute.

[] 3.17.2 Observe the leak rate does NOT increase to > 9.8×10^{-8} during the one minute.

[] 3.17.3 **IF** leakage momentarily increases to > 9.8×10^{-8}, **THEN** restart the 1 minute monitoring period.

[] 3.17.4 **IF** leakage increases to > 9.8×10^{-8} and does NOT decrease to ≤ 9.8×10^{-8} within 5 minutes, **THEN** proceed to Step 3.18.

[] 3.18 LTT - Record the Bar Graph indication: 9.8×10^{-8}

SIGNOFF REQUIRED

3.19 LTT - Rotate the Operating Handle on the Leak Detector clockwise to VENT.

ISC DATA

OCV Vent Port Seal Verification Leak Test (Continued)

HOLD POINT

WW 3.20 **ACCEPTANCE CRITERIA:** Leak rate recorded in Step 3.18 is < 1 x 10^{-7} std cc/sec. QA to verify the Acceptance Criteria is satisfied.

ACCEPTANCE CRITERIA SATISFIED: (YES) / NO
(circle one)

WW **SIGNOFF REQUIRED (QA)**

[ ] 3.21 WHO/LTT - Disconnect the Leak Detector Hose Assembly from OCV Leak Detection Tool.

[ ] 3.22 WHO - Remove OCV Leak Detection Tool, from the Vent Port.

[ ] 3.23 WHO - Remove OCV Seal Leak Check Tool, (if installed).

[ ] 3.24 LTT - Secure the Helium supply.

HOLD POINT

WW 3.25 WHO - Install the OCV Vent Port Cover. Torque to 13-16 ft-lbs (156-192 in-lbs). QA to witness the Vent Port Cover torqued to the allowed range.

WW **SIGNOFF REQUIRED (QA)**

HOLD POINT

WW 3.26 WHO - Install the OCV Vent Port Access Cover/Thermal Plug. Torque to 35-45 ft-lbs. QA to witness the Access Cover torqued to the allowed range.

WW **SIGNOFF REQUIRED (QA)**

[ ] 3.27 WHO - Install the OCV Test Port Plug using OCV Seal Check Port Plug Installation and Removal Tool.

ISC DATA 9.6.8

OCV Vent Port Seal Verification Leak Test (Continued)

HOLD POINT

WN 3.28 WHO - Torque the OCV Test Port Plug to 6-8 ft-lbs (72-96 in-lbs). QA to witness the OCV Test Port Plug torqued to the allowed range.

WN **SIGNOFF REQUIRED (QA)**

HOLD POINT

WN 3.29 WHO - Install the OCV Test Port Access Cover/Thermal Plug. Torque to 35-45 ft-lbs. QA to witness the Access Cover torqued to the allowed range.

WN **SIGNOFF REQUIRED (QA)**

[✓] 3.30 LTT - Set up the Leak Detector as follows:

[✓] 3.30.1 LTT - Remove the Leak Detector Hose Assembly from the Test Port on top of the Leak Detector.

[✓] 3.30.2 LTT - Insert the plug in the Test Port on top of the Leak Detector and tighten hand tight.

[✓] 3.30.3 LTT - Verify the Operating Handle on the Leak Detector is in VENT.

[ ] 3.31 Performers responsible for step completion or data recording in this WP Form **SHALL** enter their printed names, initials, and date on WP Form 2077.

REVIEW: This Record has been reviewed and is found to be complete.

Mark Davis / Mark Davis / II / 7/23/91
LTS (Print Name) (Signature) Level / Date

J.M. Willis / J.M. Willis / 7/23/91
WHS (Print Name) (Signature) Date

VALIDATION: Completion of the following constitutes validation of this Record.

J.M. Willis / J.M. Willis / 7/23/91
WHM (Print Name) (Signature) Date

C.R. Kelley C.R. Kelley 7/23/91

QC DATA 9-9

CONTROLLED

WORKING COPY
[ ] Revision Checked
Page Checked
NAME W.D. McMillan
SIGN
DATE 7/12/91

ATTACHMENT 1 Page 1 of 2

Varian 938-41 Porta-Test Leak Detector Calibration Record

Date: 7-12-91 Time: 09:53

STEP NO.	DESCRIPTION	INITIAL
7.3.1	Varian 938-41 ID: 41-R-013B	MR
	Helium Calibration Leak, ≤ 5 X 10^{-7} cc/sec 1.3×10^{-7} (Cal Value) 75-98-0028 (Equip ID) 2-93 (Cal Due Date)	MR
	Temperature device ± 2°F (1°C) accuracy 75-GM-0352 (Equip ID) 3-8-92 (Cal Due Date)	MR
7.3.6	Calibrated Leak Temp: 30.4°C	MR
7.3.8	Corrected Leak Value: 1.6×10^{-8}	MR
7.3.21	Bar Graph Indication: 0×10^{-8}	MR
7.3.24	Bar Graph Indication: 1.6×10^{-7}	MR
7.3.25	ACCEPTANCE CRITERIA SATISFIED: (✓) [✓] YES [ ] NO James L Allen (ID) 7/12/91 10:08 Mike Rogers (Leak Test Technician) TRAINER (Level) 7-12-91 (Date) 10:08 (Time)	

Performers responsible for step completion SHALL enter their printed names, initials, and date below.

PRINT NAME	/INITIAL/DATE	
Mike Rogers	/MR/7-12-91/	Mike Rogers (LTT Signature)
J.E Allen	/JEA/7/12/91	James L Allen

REMARKS: Supervised Mike Rogers JEA

ISC DATA

REVIEW

J.E Allen	James L Allen	III	7/12/91	1010
LTS (Print Name)	(Signature)	Level	Date	Time
W.D. McMillan	W.D. McMillan		7/12/91	1020
WHS (Print Name)	(Signature)		Date	Time

ATTACHMENT 1

Varian 938-41 Porta-Test Leak Detector Calibration Record

Date: 7/19/91 Time: 0834

STEP NO.	DESCRIPTION	INITIAL
	Varian 938-41 ID: BBAS 1001	LB
7.3.1	Helium Calibration Leak, ≤ 5 X 10^{-7} cc/sec 5.5 X 10^{-8} (Cal Value) QA-0032 (Equip ID) 06/93 (Cal Due Date)	LB
	Temperature device ± 2°F (1°C) accuracy QA-013 (Equip ID) 6/17/92 (Cal Due Date)	LB
7.3.6	Calibrated Leak Temp: 70° F	RB
7.3.8	Corrected Leak Value: 6.7 x 10^{-8}	LB
7.3.21	Bar Graph Indication: -•-	LB
7.3.24	Bar Graph Indication: 6.7 x 10^{-8}	LB
7.3.25	ACCEPTANCE CRITERIA SATISFIED: (✓) [✓] YES [ ] NO L. Britain (Leak Test Technician) I (Level) 7/19/91 (Date) 1720 (Time)	
	Performers responsible for step completion SHALL enter their printed names, initials, and date below.	

PRINT NAME	/INITIAL/DATE	
Randy Britain	/ LB / 7/19/91	Randy Britain (LTT Signature)
	/ /	

REMARKS: _____

ISC DATA

REVIEW

Mark A. Davis (LTS (Print Name))	Mark A. Davis (Signature)	II (Level)	7/22/91 (Date)	7:00 AM (Time)
C.R. Kelley (WHS (Print Name))	C.R. Kelley (Signature)	7/22/91 (Date)	1031 (Time)	

CONTROLLED COPY

ATTACHMENT 1

Varian 938-41 Porta-Test Leak Detector Calibration Record

Date: 7/23/91 Time: 1015

STEP NO.	DESCRIPTION	INITIAL
7.3.1	Varian 938-41 ID: ~~BBAF 1001~~ BBAF 1001	LB
	Helium Calibration Leak, ≤ 5 X 10^{-7} cc/sec 5.5x10-8 (Cal Value) QA-0032 (Equip ID) 6-93 (Cal Due Date)	LB
	Temperature device ± 2°F (1°C) accuracy QA-0013 (Equip ID) 06/12/92 (Cal Due Date)	LB
7.3.6	Calibrated Leak Temp: 26 C°	LB
7.3.8	Corrected Leak Value: 6.2×10^{-8}	LB
7.3.21	Bar Graph Indication: -0-	LB
7.3.24	Bar Graph Indication: 6.2×10^{-8}	LB
7.3.25	ACCEPTANCE CRITERIA SATISFIED: (✓) [X] YES [ ] NO Randy Brown (Leak Test Technician) I (Level) 7/23/91 (Date) 1020 (Time)	
Performers responsible for step completion SHALL enter their printed names, initials, and date below.		

PRINT NAME	/INITIAL/DATE	
Randy Brown	/ LB / 7/23/91	Randy Brown (LTT Signature)
	/ /	

REMARKS: _____

ISC DATA

REVIEW

Mark Davis	Mark Davis	II / 7/23/91	1027
LTS (Print Name)	(Signature)	Level / Date	Time
J.M. Willis	J.M. Willis	7/23/91	1255
WHS (Print Name)	(Signature)	Date	Time

ATTACHMENT 1

Loading TRUPACT-II Trailer Data Sheet

STEP NO.	DESCRIPTION	INITIALS	VERIF.
6.4	RWP # 91-0189 SWP # N/A		N/A
6.7	CMR Operator notified: Date 7-23-91 Time 1213		N/A
7.1.1	Trailer Serial Number: 001		N/A
7.1.2	TRUPACT-II OCA body Serial Numbers and Total Weights: Serial Numbers - Total Weights 127 — 15,280 126 — 12,476 lbs		N/A
7.1.3	TRUPACT-II total weight is ≤ 19,250 pounds		N/A
7.1.4	TRUPACT-II Trailer Position #1: Serial Number 127		N/A
7.1.5	TRUPACT-II Trailer Position #2: Serial Number 126		N/A
7.1.6	TRUPACT-II Trailer Position #3: Serial Number N/A		N/A
7.1.7	Net Payload Weight: 27,756 LBS		N/A
7.1.8	Net Payload Weight is ≤52,000 pounds		N/A

ISC DATA 9.6.9

ATTACHMENT 1

Loading TRUPACT-II Trailer Data Sheet

7.5 Performers responsible for step completion **SHALL** enter their printed names, initials and date below.

NAME	INITIALS	DATE
Jack Gilbert Jr	JG	12-23-91

8.1 **REVIEW**

This record has been reviewed and is found to be complete.

NAME (PRINT)	SIGNATURE	DATE
J.M. Willis	J.M. Willis	72391

9.5 **VALIDATION**

Completion of this step constitutes validation of this record.

NAME (PRINT)	SIGNATURE	DATE
J.M. Willis	J.M. Willis	72391
C.R. Kelley	C.R. Kelley	7/09/91

ISC DATA 9.6.9

ATTACHMENT 2

Page 1 of 1

PAYLOAD ASSEMBLY TRANSPORT CERTIFICATION

Container Type (Check One) ☑ SWB ☐ TDOP ☐ DRUMS			
Shipping Category: II.1D2		☐ TEST ☑ ANALYTICAL	
ICV Closure Date: / /		☑ Bottom Payload Weight ≥ Top Payload Weight	
Container ID	**Weight Values** (Note 1)	**FGE Values**	**Decay Heat Values**
1) Wi345678910I2	1950	32	0.3
2)			
3)			
4)			
5)			
6)			
7)			
Lower Payload Subtotal	na	na	na
1) Wi123456789 10	1830	32	0.3
2)			
3)			
4)			
5)			
6)			
7)			
Upper Payload Subtotal	na	na	na
Upper + Lower			
Error Calculation	227	9.05	0.042
Assembly Total	4007 lbs.	73.05	0.642
Assembly Limits	≤ 7265 Lbs	≤ 325 Gms Pu^{239} FGE	0.8542

Step 9.6.k

Note 1: Error on total weight can be determined by weighing the entire payload assembly. When this method is used, enter "N/A" in the Weight Values block for the individual payload containers.

I certify that this payload assembly meets the requirements for shipment in TRUPACT-II.

	Signature	Print Name	Date
Certification Official	J.m. Willis	J.m. Willis	7/22/91
Quality Assurance	M.K. Davis	M.K. Davis	7/22/91

VALIDATION: This step constitutes validation of this record.

	Signature	Print Name	Date
	J.m. Willis	J.m. Willis	7/22/91
	M.K. Kelly	M.K. Kelly	7/22/91

ISC DAT

ATTACHMENT 1

Payload Transport Certification

Certification Site : Waste Isolation Pilot Plant

SHIPMENT INFORMATION	Container ID : Wi 12345678910				
Container Type	☑ SWB	☐ TDOP	☐ DRUM		
Content Code: WP 118A		Shipping Category	TC.102		
Shipping Category (General)	☑ ANALYTICAL	☐ TEST			
Liner Status	☑ PUNCTURED	☐ FILTER			
Filter Model : EGG 211272	Number Of Filters	☐ 1	☒ 2	☒ Installed	
	VALUE	ERROR	TOTAL	LIMIT	INITIALS
Fissile Mass	32g. +	6.4 g. =	38.4 g.	325 gms	lw.
Decay Heat	0.3 w. +	0.03 w =	0.33 w.	04271 w.	lw.
Weight	1830 +	110 =	1940	4000 lbs	lw.
	GAMMA	NEUTRON	TOTAL		
Contact Rad Levels	<0.1 +	<0.1 =	<0.1	200 mr/hr	☐ lw.

RETRIEVABLE STORED WASTE	(☑ N/A if container stored vented)	
Aspiration Method (Check One)	☐ Option 1 ☐ Option 2 ☐ Option 3	
(Option 1) - Period of time container closed prior to venting Date __/__/__ - __/__/__		yrs/mnts
(Option 2 or 3) - H_2 concentration in Headspace		mol %
Table Used : _____ Period Of Aspiration		days
Payload container has been vented the indicated period of time		Initial :

TEST CATEGORY DATA (☑ N/A if Analytical Shipping Category)			
Variable	Value	Limit	Initial
Total Gas Generation Rate			
H_2 Gas Generation Rate			
VOC's Concentration		500 ppm	

APPROVAL FOR SHIPMENT ☒ APPROVED ☐ REJECTED

Comments _____

I certify that this payload assembly meets the requirements of shipment in TRUPACT-II.

CERTIFICATION OFFICER : J.m. Wilks / J.m. Wilks / 7/22/91
Signature / Print Name / Date

QUALITY ASSURANCE: M.T. Davis / M.T. Davis / 7/22/91
Signature / Print Name / Date

VALIDATION completion of this step validates this record :

J.m. Wilks / J.m. Wilks / 7/22/91
Signature / Print Name / Date

ISG DATA a.6.5

SCHEDULE ID. P91PM01C

WIPP WASTE INFORMATION SYSTEM
PACKAGE INFORMATION BY SHIPMENT NUMBER

PAGE NO. 1

PACKAGE ID	CONTAIN CODE	SHIPMENT NUMBER	CLOSE DATE	TRUPACT CASK	WASTE TYPE	PACKAGE ASSEMBLY	CERTIFYING DATE	CERIFYING OFFICIAL	INT. RH	PACKAGE WEIGHT	SURFACE DOSE
WI12345678910	9	WI910001	910401	127	CH	ID91[illegible]	910401	BLUHM	0	8.2E+02	1.5E+01

10 sheets
20 → 36 ←
fixed all conditions found
confirmed
790

ISC DATA
9-6-5

PACKAGE ID	NEUTRON LEVEL	THERMAL POWER	PU239 FISSILE	GAS GENERATION RATE	TOTAL ALPHA	CONTENT CODE	CERT SITE	PE-CI	WAC EXCEPTION	ORGANICS WEIGHT	ORGANIC VOL. %
WI1234567890	1.5E-02	3.0E-01	5.200E+01	0.0E+00	2.8E-01	118	ID	3.0E-01	N/A	1.5E+02	20

ISC DATA 9.6.5

PACKAGE ID	EMPLACE DATE	EMPLACE ROOM	EMPLACE LOCATION	PKG RECEIVED DATE	MISCELLANEOUS	OVERPACK ID NUMBER	PKG RETRIEVAL DATE
WI12345678910	N/A	N/A	N/A	N/A	TRUCON CODE 113B	N/A	N/A

ISC DATA
9-6-5

PACKAGE ID	NUCLIDE SYMBOL	NUCLIDE QUANTITY	NUCLIDE UNIT	CALCULATED NUCLIDE SYMBOL	CALCUL..ED NUCLIDE MASS	CALCULATED NUCLIDE ACTIVITY	HAZARDOUS CODE	HAZARDOUS QTY	HAZARDOUS UNIT
WI12345678910	PU-52	2.900E+01	G	PU-238	2.900E-03	4.973E-02	D008	1.000E+01	G
				PU-239	2.723E+01	1.695E+00			
				PU-240	1.668E+00	3.805E-01			
				PU-241	9.860E-02	1.018E+01			
				PU-242	5.800E-03	2.218E-05			

7-2388

887-2388

NOV - RCRA (Hazardous)



SHIPPING REQUEST

To: Transportation Operations

Consignee: EG&G IDAHO

ATTN: _____

PHONE: _____

Description of item(s) to be shipped: TEST BINS WITHIN SWB's, PACKAGE ID's # WI 12345678910 & # WI 34567891012 INSIDE TRUPACT 127. TRUPACT 126 - EMPTY SEE WILLIS REPORT

Purchase Order # for "L" Order: _____

Dimensions: _____ l, _____ dia./w, _____ h.

Weight: _____ lbs g. Liquid content: _____ oz. ml. l.

Chemical Name: _____

Trade Name: _____

Threshold Limit Value (TLV): _____ Flash Point: _____ pH: _____

Known acid, bases, or hazardous materials: _____

The material in this shipment is being transported for R/D, Analysis, Recycle, Disposal, (Return) (circle or explain):

Is MSDS sheet available? Y (attached) N

Approximately 2 weeks should be allowed for common carrier.
If delivery is required in a shorter time frame, request: next day air/UPS; 2nd day air/UPS; exclusive use.

Desired shipping date is: 7 2391

Charge Code for Labor and Transportation Expenditures: _____

To the best of my knowledge, the information contained herein is representative of the material to be shipped.

WID Contact: J. M. Willis, ext: 8738

Staff Manager: K. Kuenstler, ext: 8226

Free Release: N/A (Health Physics)

ISC DATA

A-6

1189L:3068

Please print or type

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. N M 4 8 9 0 1 8 9 0 8 8 E S C P D — Manifest Document No.

2. Page 1 of 2 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
U. S. DEPARTMENT OF ENERGY
P.O. BOX 3090
CARLSBAD, NM 88221

4. Generator's Phone (505) 887-8759

5. Transporter 1 Company Name
DAWN ENTERPRISES

6. US EPA ID Number
N M D 9 8 6 6 6 9 6 0 4

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address
IDAHO NATIONAL ENGINEERING LAB.C/O
EG&G IDAHO INC. FOR U.S. DEP'T OF
ENERGY BOX 1625 IDAHO FALLS ID

10. US EPA ID Number
I D 4 8 9 0 0 0 8 9 5 2

	11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	HM	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a.	WASTE RADIOACTIVE MATERIAL, FISSILE, N.O.S. RADIOACTIVE MATERIAL, UN2918 SEE ATTACHED FOR ADDITIONAL DESCRIPTION	RQ	X X 1	C M	1 6 2 8 0	P
b.					7/23	191
c.	* * *

RADIOACTIVE MATERIAL SHIPMENT NO. 1SCPO

Page 2 of 2

ISC DATA

Shipper:

Westinghouse Electric Corporation
For United States Department of Energy
WIPP Site
Jal Highway
P.O. Box 2078
Carlsbad, New Mexico 88221

Quantity: Greater Than Type A.

Fissile Class: I

Label Applied:

Consignee:

EG&G IDAHO, INC.
FOR U.S. DEPARTMENT OF ENERGY
INEL SITE
ATTN: DON POUND
SCOVILLE, ID. 83415

Carrier: DAWN ENTERPRISES

Tractor Number: _____

Trailer Number: _____

PLACARDS TENDERED ☐ YES ☐ NO

Exclusive Use Driver's ☒ YES ☐ NO

Driver's Signature: _____

Packaging: _____

Certificate of Compliance Number: _____

Seal Numbers: _____

Package No.	Package Type	Proper Shipping Name and Hazard Class per 49 CFR 172.101	ID Number	Wt. (lbs)
1	CASK	RADIOACTIVE MATERIAL, FISSILE, N.O.S. RADIOACTIVE MATERIAL	UN2918	16260

ADDITIONAL DESCRIPTIONS: (per 49 CFR 172.203)

Container Number	Description of Contents	Radionuclide	Activity In Curies	Weight lbs	Physical Form	Chemical Form	Radiation Levels mr/hr Surface	Radiation Levels mr/hr 1 meter	External Loose Cont Level dpm/100 cm²
127	BINS WI12345678910	Pu^{238}	0.0058	16260	SOLID	OXIDE	<0.1	<0.1	less than
	WI34567891012	Pu^{239}	3.39	JW 7/23/91					2200 beta/
		Pu^{240}	0.761						gamma
		Pu^{241}	20.36						less than
		Pu^{242}	4.4E-5						220 alpha
		TOTAL	24.52						

N/A **WARNING FISSILE CLASS III SHIPMENT.** Do not load more than N/A packages per vehicle. In Loading and Storage areas, keep at least 20 feet (6 meters) from other packages bearing radioactive labels.

This is to certify that the above named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation.

Signature Jeffrey L. Winkel

Date 7/23/91

990B:4688

ISCPO
RADIOACTIVE MATERIAL, FISSILE, N.O.S.
UN2918

ERG90 **GUIDE 63**

POTENTIAL HAZARDS

HEALTH HAZARDS

External radiation hazard from unshielded radioactive material.
Internal radiation hazard from inhalation, ingestion or breaks in skin.
Radioactive material; degree of hazard will vary greatly, depending on type and quantity of radioactive material and type of packaging.
Materials in Special Form or in Type B packagings are not expected to cause contamination in accidents.
Some radioactive materials cannot be detected by commonly available instruments.
Runoff from fire control or dilution water may cause pollution.

FIRE OR EXPLOSION

Some of these materials may burn, but none of them ignites readily.
Radioactivity does not change flammability or other properties of the materials.

EMERGENCY ACTION

Keep unnecessary people at least 150 feet upwind of spill; greater distances may be necessary for people downwind, or if advised by Radiation Authority.
Isolate hazard area and deny entry.
Response actions may be performed prior to any measurement of radiation; limit entry to shortest possible time.
Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide limited protection.
Notify Radiation Authority of accident conditions.
Detain uninjured persons, isolate equipment with suspected contamination, and delay cleanup until instruction of Radiation Authority.
CALL CHEMTREC AT 1-800-424-9300 FOR EMERGENCY ASSISTANCE.
If water pollution occurs, notify the appropriate authorities.

FIRE

Do not move damaged containers; move undamaged containers out of fire zone.
Small Fires: Dry chemical, CO_2, water spray or regular foam.
Large Fires: Water spray, fog (flooding amounts).
For massive fire in cargo area, use unmanned hose holder or monitor nozzles.

SPILL OR LEAK

Do not touch damaged containers or spilled material.
Damage to outer container may not affect primary inner container.
Small Liquid Spills: Take up with sand, earth or other noncombustible absorbent material.
Large Spills: Dike far ahead to collect runoff water.

FIRST AID

Use first aid treatment according to the nature of the injury.
If not affecting injury, remove and isolate suspected contaminated clothing and shoes; wrap victim in sheet or blanket before transporting.
If there is no injury, remove and isolate suspected contaminated clothing and shoes; assist person to shower with soap and water and notify Radiation Authority of action.
Advise medical personnel that victim may be contaminated with radioactive material.

9.6.9

ISC DATA

CARRIER/DRIVER INSTRUCTIONS

Emergency Response Plan During Transportation

This Emergency Response Plan is to be used as guidance in the event a package of hazardous material has been damaged during transport. The following actions are to be taken in addition to all normal actions (e.g., extinguishing fires, medical treatment of injured personnel, placing caution devices on the road) necessary to control an accident situation.

1. Isolate the immediate area around the vehicle or compartment where the package was stored or is located.

2. Prevent unauthorized personnel from entering the affected area.

3. Notify local authorities.

4. Notify Waste Isolation Division immediately at 505-885-6883 (collect) or 505-887-8234 and report to Transportation as much of the following information as available at the time. Do not delay calling if all the information is not known.

   Date, time and location of accident.

   Description of accident.

   WIPP shipment number and description of material from the shipping papers.

   Extent of property damage and/or personnel injuries.

   Who is in charge at the scene.

   What civil agencies have been notified.

   What assistance is required.

5. Notify your dispatch agent.

6. As required by 49 CFR, notify the Department of Transportation 1-800-424-8802.

7. Do not immediately move vehicles, containers or wreckage unless directed by the on-scene commander or if it is in the interest of public safety to do so.

8. Identify people who might have been in the immediate area of the vehicle or compartment where the package is or was stored to the on-scene commander. If the on-scene commander is not present request those persons which have been identified to remain at the scene.

9. Stand by until assistance arrives.

ISC DATA

A. The shipping documents attached to this form contain the information prescribed by DOT regulations for a shipment of Hazardous Materials. These documents must accompany all carriers of this shipment.

B. ALL drivers carrying radioactive material:

1. You have inspected the load and agree that it is properly secured.

2. Proper packaging, marking, labeling, and shippers certification are indicated on the attached shipping papers.

3. Package marking or labeling, if necessary, is provided and affixed by the shipper. The carrier is responsible for replacing any labels that are lost or damaged.

4. Vehicle Placarding, if necessary, is provided and affixed by the shipper. The carrier is responsible for replacing any placards that are lost or damaged.

5. You are advised that certain shipments of radioactive materials cannot be transported through or on certain highway facilities, i.e., tunnels, bridges, toll roads, etc.

6. In case of fire, accident, breakage or suspected radioactive contamination, you are to immediately notify Waste Isolation Division Transportation.

(505) 887-8234 between 0730 - 1600 hours, MT weekdays

(505) 885-6883 (collect) 24-hour number

C. VEHICLE CARRYING RADIOACTIVE MATERIAL:

Not Exclusive Use

1. With the addition of this shipment the total transport index on your vehicle does not exceed 50.

Exclusive Use

1. You are advised per the shipping papers and these instructions to transport the items defined on the shipping documents under "EXCLUSIVE USE" provisions.

2. DO NOT transfer shipment from originating carrier vehicle.*

3. DO NOT load other packages on originating carrier vehicle.

4. Deliver shipment directly to consignee.

9.6.9

ISC DATA

5. If the trailer is sealed, the seals must not be broken until the shipment reaches its destination.

6. _____

7. _____

*If transfer from originating carrier vehicle is necessary, then maintenance of exclusive use provisions are required for each subsequent carrier vehicle. Permission to transfer shipment from one vehicle to another vehicle or to another carrier must be obtained from WID Transportation Operations prior to the transfer.

D. DRIVER QUALIFICATION

1. You have been informed that the Federal Motor Carrier Regulations (DOT) require specific driver qualifications, if not exempted, for carriers of hazardous materials.

Vehicle Operators Acknowledgement:

Carrier: _____

Driver: _____
Date

9.6.9

ISC DATA

TRANSPORTATION SHIPMENT CHECKLIST

Shipment Number ISCPO

Description ISC OUTBOUND SHIPMENT IN TRUPACT-II

FOR TRAINING ONLY

For each checkpoint, initial completed items or mark the checkpoint "Not Applicable" (N/A). Do not leave blank spaces.

CLASSIFICATION

1. JW Content and quantity have been determined. Shipping Request and Shipment Worksheet are part of shipment portfolio.

PACKAGING

1. JW The package is in good condition for transport by proposed mode.
2. JW Packaging is compatible with contents and mode of shipment.
3. Package properly marked (172, Subpart D)
   - JW Proper shipping name
   - JW ID number
   - N/A "Inhalation Hazard," if required
   - N/A Consignee's name and address
   - N/A "THIS SIDE UP" or "THIS END UP" for liquid materials
   - JW "RQ" in association with proper shipping name for hazardous substances
   - N/A "POISON," if applicable
4. N/A HPT has given a "free release" of the material to be shipped.
5. JW Package radiation/contamination meets 173.441/443.
6. JW Package is properly labeled (172, Subpart E).
7. JW Markings and labels are near closure device.

9-6-9

ISC DATA

TRANSPORTATION SHIPMENT CHECKLIST
(Continued)

Shipment Number ISCPO

DOCUMENTATION

1. Shipping Papers

- JW Consignor name and address
- JW Consignee name and address
- JW Number of pieces for each HAZMAT
- JW Type of container(s) for each HAZMAT
- JW "X" or "RQ," as applicable, placed in HAZMAT column
- JW Proper shipping name of each HAZMAT, no abbreviations unless permitted by Table 172.101
- JW UN or NA number
- JW Total quality (pounds, gallons, liters, cubic feet) of each HAZMAT
- JW Additional descriptions, as required
- JW Shipper's name is typed or printed after certification
- JW Emergency contact phone number is on Bill of Lading
- JW Emergency response information is supplied to driver with shipping papers

2. Placarding

- N/A Placards are tendered and installed, if applicable

3. JW Cargo Separation per 177.848

INITIAL	SIGNATURE	
JW		

9.6.9

ISC DATA

ROUTINE DETERMINATIONS FOR RADIOACTIVE MATERIAL PACKAGING

Shipment Number: ISCPO

Containe: [redacted] #127

CONTAIN[redacted] EXAMINATION	INITIAL
1. The packaging is in unimpaired physical condition, except for superficial marks.	WW
2. Each closure device of the packaging, including any required gasket, is properly installed, secured, and free of defects.	WW
3. For fissile material, each moderator and neutron absorber if required is present and in proper condition.	NA
4. Each special instruction for filling, closing, and preparation of the packaging for shipment has been followed.	WW
5. Each closure, valve, or other opening of the containment system through which the radioactive content might escape is properly closed and sealed.	WW
6. Each packaging containing liquid in excess of an A_2 quantity and intended for air shipment has been tested to show that it will not leak under an ambient atmospheric pressure of not more than 0.25 atmosphere, absolute, (0.25 kilograms per square centimeter or 3.6 psia). The test must be conducted on the entire containment system, to determine compliance with this requirement.	NA
7. The internal pressure of the containment system will not exceed the allowable limits specified in this subchapter.	See Sample 4.6.9

Notes: _____

Container Inspected By:

Wade Wagenon 7-23-91

ISC DATA

Shipment 1 SCPO

SHIPMENT A2 UNITY CALCULATION

SHIPMENT DESCRIPTION: WI12345678910

MATERIAL WEIGHT IN GRAMS: 540260

ISOTOPE	AMOUNT IN CI	UNITY FRACTIONS A2 VALUE	A2	HRCQ	GRAMS MATERIAL	DECAY HEAT
		ISOTOPES WITH A2 VALUES < = .05				
AM-241	0	0.008	0	0	0	
AM-243		0.008	0	0	0	
CF-252		0.009	0	0	0	
CM-243		0.009	0	0	0	
CM-244	0	0.01	0	0	0	
CM-246		0.006	0	0	0	
NP-237	0	0.005	0	0	0	
PU-238	0.04973	0.003	16.57666	0.005525	0.002874	0.001647
PU-239	1.695	0.002	847.5	0.2825	26.94753	0.052547
PU-240	0.3805	0.002	190.25	0.063416	1.654347	0.011845
PU-242	0.000022	0.003	0.007393	0.000002	0.005586	0.000000
U-232		0.03	0	0		
		0.001	0	0		
		0.001	0	0		
		0.001	0	0		
		0.001	0	0		
		0.001	0	0		
		0.001	0	0		
UNITY FRACTION TOTAL			1054.334	0.351444	28.61034	0.066040
		ISOTOPES WITH A2 VALUES				
MFP		0.4	0	0		
CM-242		0.2	0	0		
PU-241	10.18	0.1	101.8	0.033933	0.097884	0.000323
SR-90		0.4	0	0		
U-230		0.1	0	0		
U-233	0	0.1	0	0		
U-234		0.1	0	0		
U-235	0	0.2	0	0		
U-236		0.2	0	0		
		0.05	0	0		
		0.05	0	0		
		0.05	0	0		
		0.05	0	0		
		0.05	0	0		
UNITY FRACTION SUB-TOTAL			101.8	0.033933	0.097884	0.000323
UNITY FRACTION TOTAL			1054.334	0.351444	28.61034	0.066040

9.6.9

ISC DATA

Shipment ISCPO

SHIPMENT A2 UNITY CALCULATION

SHIPMENT DESCRIPTION: WI34567891012 PAGE 1 OF 2

MATERIAL WEIGHT IN GRAMS: 608360

ISOTOPE	AMOUNT IN CI	UNITY FRACTIONS A2 VALUE	A2	HRCQ	GRAMS MATERIAL	DECAY HEAT
		ISOTOPES WITH A2 VALUES < = .05				
AM-241	0	0.008	0	0	0	
AM-243		0.008	0	0	0	
CF-252		0.009	0	0	0	
CM-243		0.009	0	0	0	
CM-244	0	0.01	0	0	0	
CM-246		0.006	0	0	0	
NP-237	0	0.005	0	0	0	
PU-238	0.04973	0.003	16.57666	0.005525	0.002874	0.001647
PU-239	1.695	0.002	847.5	0.2825	26.94753	0.052547
PU-240	0.3805	0.002	190.25	0.063416	1.654347	0.011845
PU-242	0.000022	0.003	0.007393	0.000002	0.005586	0.000000
U-232		0.03	0	0		
		0.001	0	0		
		0.001	0	0		
		0.001	0	0		
		0.001	0	0		
		0.001	0	0		
		0.001	0	0		
UNITY FRACTION TOTAL			1054.334	0.351444	28.61034	0.066040
		ISOTOPES WITH A2 VALUES				
MFP		0.4	0	0		
CM-242		0.2	0	0		
PU-241	10.18	0.1	101.8	0.033933	0.097884	0.000323
SR-90		0.4	0	0		
U-230		0.1	0	0		
U-233	0	0.1	0	0		
U-234		0.1	0	0		
U-235	0	0.2	0	0		
U-236		0.2	0	0		
		0.05	0	0		
		0.05	0	0		
		0.05	0	0		
		0.05	0	0		
		0.05	0	0		
UNITY FRACTION SUB-TOTAL			101.8	0.033933	0.097884	0.000323
UNITY FRACTION TOTAL			1054.334	0.351444	28.61034	0.066040

Σ .707 NOT HRCQ

9.6.9

ISC DATA

ROUTINE DETERMINATIONS FOR RADIOACTIVE MATERIAL PACKAGING

Shipment Number: 1scPO

Container I.D.: #126

CONTAINER EXAMINATION	INITIAL
1. The packaging is in unimpaired physical condition, except for superficial marks	J.W.
2. Each closure device of the packaging, including any required gasket, is properly installed, secured, and free of defects.	J.W.
3. For fissile material, each moderator and neutron absorber if required is present and in proper condition.	NA
4. Each special instruction for filling, closing, and preparation of the packaging for shipment has been followed.	J.W.
5. Each closure, valve, or other opening of the containment system through which the radioactive content might escape is properly closed and sealed.	J.W.
6. Each packaging containing liquid in excess of an A_2 quantity and intended for air shipment has been tested to show that it will not leak under an ambient atmospheric pressure of not more than 0.25 atmosphere, absolute, (0.25 kilograms per square centimeter or 3.6 psia). The test must be conducted on the entire containment system, to determine compliance with this requirement.	NA
7. The internal pressure of the containment system will not exceed the allowable limits specified in this subchapter.	SEE SHIP

9.6.9

Notes: THESE DETERMINATIONS BASED UPON RECEIPT FROM SHIPPER

Container Inspected By:

J.W. Wilk

ISC DATA

290B:3866

FOR GROUND TRANSPORTATION

WASTE

Proper Shipping Name (172.101 c): RADIOACTIVE MATERIAL, FISSILE, N.O.S.

Hazard Class (172.10 d): RADIOACTIVE MATERIAL UN/NA No. (172.101 e): UN2918

Hazardous Substance (172.101 App.) .01 Ci (Value) Inhalation Hazard (173.3 a, b): N/A (Y/N)

PACKAGING (Part 173)

A. Packaging Sections (172.101 g) Ref. Col. 5 a): .453 Ref. Col. 5 b): .417

B. Packaging Used: USA/9218/B(U) Reference: .417(a)(4)

C. General Packaging Sections (173.24): — Per Hazard Class (173.XXX): .400

MARKING (Sub Part D)

(A) Proper Shipping Name (172.301 a)

(B) UN/NA Number (172.301 a)

C. Name and Address (172.306 a)

D. THIS END UP (172.312.a)

(E) Hazardous Substance RQ (Name) (172.324)

F. ORM Designation (172.316.a)

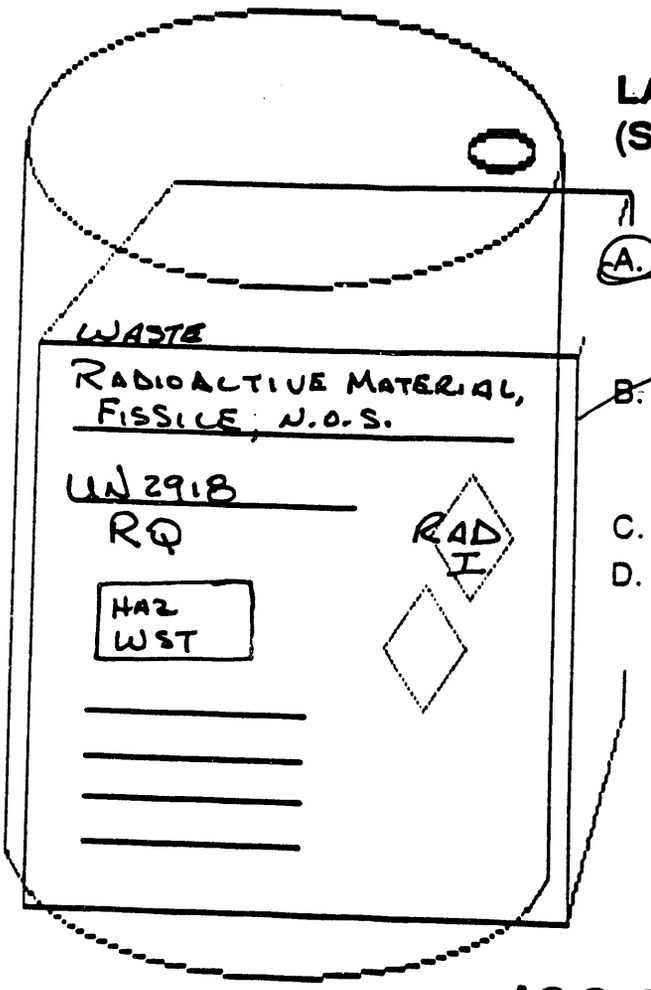
G. Inhalation Hazard (172.301.a)

(H) Packaging Spec. Marks (173.24.c)

(I) Other Marks (172.310 / 173.25)

OK - Packaging Authorized (173.1 b)

OK - Integrity (Not Leaking etc.)



LABELING (Sub Part E)

(A) HMT Labels (172.400) 172.101 f)

B. Additional Hazard (172.402 a)

C. Others

D. Placement (172.406)

46.9

ISC DATA

NOT REQ'D

890B:3861

UNDERGROUND

SECTION

ISC

RECORD OF REVISION

Rev./PCN No.	Reason for Revision/Change
0	New procedure to track the Integrated System Checkout.

TECHNICAL REVIEW ORGANIZATIONS (check as applicable)

Waste Handling Operations	X	Radioactive Waste Handling Engineering	X	Facility Operations	N/A	Facility Engineering	N/A
Operations Department	X	Sandia National Laboratories	X	Quality Assurance	X	Environmental	N/A
Technical Services	X	DOE/WPO	X	Regulatory Assurance	N/A	Sandia National Laboratories	N/A

Initiated By: A. Brown D. Mackney (Name) — 7/ 2/91 (Date)

OPSRC Approval: (Signature) — 7/8/91 (Date)

Approved By: (Signature) — 7/8/91 (Date)

Effective Date: 7/8/91

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1.0 PURPOSE AND SCOPE

1.1 The purpose of this procedure is to track and document those activities required for Contact Handled Transuranic (CH TRU) bin receipt, handling, emplacement, operation, retrieval, and off-site shipping preparation at the Waste Isolation Pilot Plant (WIPP).

1.2 This procedure is a tool to be used in the assessment of the WIPP Integrated Systems Checkout (ISC).

1.3 The ISC will be used to exercise the systems, operating procedures, and training readiness of personnel to safely carry out specifically dedicated activities to determine the effectiveness of the WIPP to conduct the Bin-Scale Test Plan.

NOTE: This Note applies to Step 1.4.
The measurement/assessment and evaluation of the ISC is performed in part by the use of this procedure, the observation reports formulated for the ISC, Operational Readiness Review (ORR) findings, Training and Qualification documentation, and other input as required by the Department of Energy (DOE), the Waste Isolation Division (WID) of Westinghouse, and Sandia National Labs (SNL).

1.4 The scope of the ISC requires a measurement/assessment and evaluation of the following:

1.4.1 The adequacy of procedural controls.

1.4.2 The use of safety, efficiency, and procedural compliance in job performance.

1.4.3 The ability of personnel to manage and resolve simulated unusual events.

NOTE: There are no radioactive materials used during the performance of this procedure. For the unusual events/drills that simulate contamination conditions, it is important that the concept of As Low As Reasonably Achievable (ALARA) be incorporated into the way test personnel perform their individual tasks.

1.4.4 The ability to maintain personnel radiological dose ALARA within the WIPP Final Safety Analysis Report and Addendum (FSAR) assumptions.

1.4.5 Compliance to requirements of regulations regarding the receipt and preparation for shipment of CH TRU waste.

1.4.6 Documentation of qualifications of personnel performing activities.

1.4.7 The adequacy of equipment and systems to meet design performance requirements.

1.4.8 The ability of personnel to perform ISC activities within the requirements of the FSAR Operational Safety Requirements (OSRs) through the use of approved site procedures.

1.5 This checkout utilizes four bins (test bins - TB); TBX05(2), TBX06 and TBX07 which are utilized as follows (Steps are identified for each bin on Attachment 1, ISC Checkout Step Matrix):

- TBX05 will be utilized for checkout demonstrations depicting bin handling from receipt to offsite waste shipment. Two bins (one situated in the underground at the Waste Handling Shaft landing, one on the surface) will be labeled TBX05.

- TBX06 will be utilized for checkout demonstrations depicting waste receipt up to transport to the underground. Once placed on the conveyance loading car, TBX06 will be placed in abeyance on the SURFACE. TBX06 will be used upon resumption of the activities depicting bin retrieval and waste shipment preparation.

- TBX07 will be prestaged in the underground and utilized for checkout demonstrations depicting all activities in the underground.

1.6 This checkout utilizes two production bins (baseline bins): TB001, and TB002, are utilized to provide control information on bin characteristics.

- The baseline bins will be set up and connected to the Data Acquisition System (DAS) in the underground

2.0 REFERENCES

2.1 BASELINE DOCUMENTS

- WP 02-9, Final Safety Analysis Report, and Addendum
- SAND90-1974, Test Plan: WIPP Bin-Scale CH TRU Waste Tests
- SAND90-2082, UC-721, Test Plan Addendum #1: WIPP Bin-Scale CH TRU Waste Tests
- DOE/WIPP 90-002, Dry Bin-Scale Integrated Systems Checkout Plan

2.2 REFERENCED DOCUMENTS

- ASME NQA-1-1989, and Addenda, Quality Assurance Program Requirements for Nuclear Facilities
- WP 05-WH1001, TRUPACT-II Loading
- WP 05-WH1005, Loading TRUPACT-II Trailer
- WP 05-WH1010, TRUPACT-II Receipt
- WP 05-WH1011, TRUPACT-II Unloading
- WP 05-WH1032, TRUPACT-II Payload Transportation Certification
- WP 05-WH1033, Payload Assembly Transportation Certification
- WP 05-WH1051, Varian Model 938-41 Porta-Leak Detector
- WP 05-WH1080, TRUPACT-II Verification Leak Test
- WP 05-WH1506, Surface Gas Purge
- WP 05-WH1507, Surface Air Purge

- WP 05-WH1606, Bin Surface Purging and Gas Sampling
- WP 05-WH1801, Oxygen Gettering of Bin
- WP 05-WH1802, Oxygen Getter Regeneration
- WP 05-WH1803, Argon Purge of Bin
- WP 05-WH1804, Nitrogen Purge of Bin
- WP 05-WH1807, Bin Leak Check
- WP 05-WH1808, Bin Gas Sampling
- WP 05-WH1809, Bin Pressurization
- WP 05-WH1810, Routine Sampling and Monitoring of Bins
- WP 05-WH1811, Tracer Gas Injection
- WP 05-WH1901, Bin Handling
- WP 05-WH1902, Bin Retrieval
- WP 05-WH1910, Bin Equipment Connection for Emplacement
- WP 05-WH1912, Bin Equipment Disconnection for Retrieval
- WP 05-WH1913, Bin Oxygen Monitor Recirculation System Replacement
- WP 05-WH1914, Bin Primary Instrument String Replacement
- WP 05-WH1915, Bin Secondary Instrument String Replacement
- WP 05-WH1916, Bin Primary Mechanical Safety Relief Replacement

- WP 05-WH1917, Bin Secondary Mechanical Safety Relief Replacement
- WP 06-102, Shipment of Radioactive Materials
- WP 12-503, Personnel Contamination Surveys for Alpha and Beta-Gamma Radiation
- WP 12-504, Surface Contamination Surveys: Alpha and Beta-Gamma Radiation
- WP 12-523, Small Area "Spot" Decontamination
- WP 12-AL6010, Shipping and Receiving Sample Canisters
- WP 12-EM1602, Helium Cylinder Installation and Removal
- WP 12-EM1603, VOST Tubes and Carbon Bed
- WP 12-EM1622, VOC Sample Canister Handling
- WP 12-EM1624, VOC-10 Sampler Canister Handling
- SNL-346, Bin-Scale Instrumentation String Board, Oxygen Sensor and Thermocouple (Removal/Installation/Checkout)
- SNL-352, Connection and Activation of Bin Scale Gages into D.A.S.
- SNL-362, Alarms Identification Methods for the Bin Tests
- WP Form 1834 (in WP 12-AL6005) Sample Chain-of Custody

3.0 DEFINITIONS

NOTE: This note applies to Steps 3.1 through 3.3. A Surface and Underground position of each of the following positions will be manned for the Checkout. The definition and the procedure refer to only a singular individual and that individual will be the assigned person on the scene of the activity (Refer to Attachment 1, ISC OBSERVER ORGANIZATION and INTERFACE CHART).

3.1 CHECKOUT TEST ENGINEER (CTE) - That designated individual having overall responsibility for coordinating the checkout activities of the ISC.

3.2 ISC OBSERVER - A WID/SNL individual chosen to view a stated process/procedure of the ISC and to provide determined opinions as to the successful completion of the process/procedure, based upon observation and using stated guidelines. The individuals are chosen in line with Attachment 1.

3.3 ISC LEAD OBSERVER - That designated individual chosen to coordinate the observation activities of the ISC Observers and observers from other organizations viewing the ISC process.

4.0 RESPONSIBILITIES

4.1 The CTE has the responsibility for the following Bin-Scale Test activities:

4.1.1 Coordinating checkout activities during the performance of this procedure.

4.1.2 Monitoring checkout activities during the performance of this procedure.

4.1.3 Preparing the final report regarding completion of this procedure and plant participation in the performance of the procedures that support the ISC.

4.2 The ISC Observer has the responsibility to monitor activities performed during this procedure and report findings to the Lead ISC Observer.

4.3 The ISC Lead Observer has the responsibility to compile and consolidate the observations of the ISC Observers, and to provide this information to the CTE.

4.4 The ISC Lead Observer has the responsibility to provide data and information to ISC participants during ISC activities AND drill scenarios, if a drill requires information or data that would normally be seen or available to the system operators that IS NOT available due to the non-existence of the suggested condition(s).

5.0 TRAINING

5.1 Inividuals performing duties per Section 8.0 complete Attachment 2, ISC Checkout Tracking Report.

5.2 CTE complete Attachment 2 during ISC activities.

5.2.1 Upon directing the start of the procedure, print the name of the individual notified, the start time and date, and initial for signoff.

5.2.2 Upon notification of procedure completion, print the name of the notifying individual, the stop time and date, and initial for signoff.

5.3 ISC QA Observer complete Attachment 2 by verifying completion of activity, notification of the CTE, and receipt of record of activity, by initialing as Verifier (VER).

6.0 SPECIAL EQUIPMENT

NONE

7.0 PRECAUTIONS AND LIMITATIONS

7.1 The ALARA concept **SHALL** be practiced even though NO radioactive materials are used in the performance this procedure.

8.0 INITIAL CONDITIONS

[] 8.1 The CTE obtains a copy of the Readiness Review Board (RRB) declaration that all systems required to support the ISC have been verified ready as a part or the Operational Readiness Review. This declaration **SHALL** be signed by the Chairman of the RRB.

SIGNOFF REQUIRED

8.2 The Manager, Waste Handling Operations (WHO) verifies the completion of the following:

[] 8.2.1 Test Bins TBX05 and TBX06 are assembled in accordance with the guidelines provided by Radwaste Handling Engineering (RWHE) and loaded into TRUPACT-IIs in accordance with WP 05-WH1001, TRUPACT-II Loading.

SIGNOFF REQUIRED

[] 8.2.2 TRUPACT-IIs are loaded onto TRUPACT trailer in accordance with procedure WP 05-WH1005, Loading TRUPACT-II Trailer, and are available for transport to the outer gate of the Security vehicle trap.

SIGNOFF REQUIRED

[] 8.2.3 Bin/RCB TBX07 is prestaged in Panel 1, Room 1 in location 57 (top bin) on top of an empty SWB in position 58.

SIGNOFF REQUIRED

[] 8.2.4 Baseline Bins TB001 and TB002 are setup in Panel 1, Room 1 in locations 1 and 3.

SIGNOFF REQUIRED

[] 8.3 The Transportation Engineer completes and provides the proper shipping papers and Bar Codes required for shipment simulation and receipt of the TRUPACT-IIs with the Test Bins.

SIGNOFF REQUIRED

[] 8.4 The CTE verifies a pre-checkout briefing(s) was held for the managers and observers and other participants involved in the conduct of this checkout procedure, and documents the completion of the briefing(s) on Attachment 3, ISC Briefing Sheet.

SIGNOFF REQUIRED

9.0 PROCEDURE

NOTE: Steps throughout Section 9.0 may be performed concurrently or in parallel where multiple test bins or test TRUPACTs are involved, if feasible and at the direction of the CTE.

NOTE: Steps in Section 9.5 perform unusual events/drills which may be performed out of sequence, with the concurrence of the CTE as they are called out in the specific section of the checkout procedure.

NOTE: Placekeeping Aids may contain numbers, corresponding to a bin, between the brackets as an aid in tracking.

9.1 WASTE RECEIPT, INSPECTION, DOWNLOAD AND EMPLACEMENT

9.1.1 Direct Transportation and Hazardous Material Handling to initiate procedure WP 05-WH1010, TRUPACT-II Receipt, upon notification of TRUPACT-II shipment arrival, and to notify CTE upon completion of the procedure.

SIGNOFF REQUIRED

A) Major steps

[ ] • Tractor/Trailer/TRUPACT-IIs released from Security trap

NOTE: This note applies to the following bullet of Step 9.1.1 A). The total number of smears counted may be reduced after successful demonstration of counting techniques as observed by the ISC HP Observer.

[ ] • Tractor/Trailer/TRUPACT-IIs radiologically surveyed

[ ] • Shipping papers reviewed by Transportation Engineer

[ ] • TRUPACT-IIs released to Waste Handling Operations for offload

B) Procedure completed

[ ] • TRUPACT received

SIGNOFF REQUIRED

9.1.2 Direct WHO to perform WP 05-WH1011, TRUPACT-II Unloading, for unloading bins TBX05 and TBX06 from each TRUPACT-II received and to notify the CTE upon completion of the procedure.

SIGNOFF REQUIRED

A) Major steps

[5] [6] • TRUPACT-II placed into loading dock

NOTE: This note applies to the following bullet of Step 9.1.2 A). The total number of smears counted may be reduced after successful demonstration of counting techniques as observed by the ISC HP Observer.

[5] [6] • Health Physics monitor TRUPACT-II for radiological assessment during unloading

[5] [6] • Dock Vacuum and Vent Hood Systems utilized

[5] [6] • Outer Containment Vessel (OCV) and Inner Containment Vessel (ICV) heads removed and placed in designated areas

[5] [6] • ICV head space sampled

[5] [6] • SWB package verified against WIPP Waste Information System (WWIS)

B) Procedure completed

[5] • TRUPACT-II containing Test Bin TBX05 unloaded

SIGNOFF REQUIRED

[6] • TRUPACT-II containing Test Bin TBX06 unloaded

SIGNOFF REQUIRED

9.1.3 Direct WHO to perform WP 05-WH1901, Bin Handling, for bins TBX05 and TBX06, directing that bin TBX06 DOES NOT require to be surface purged, sampled, oxygen gettered, or pressurized. and to notify CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

NOTE: This note applies to the following bullet of Step 9.1.3 A). The total number of smears counted may be reduced after successful demonstration of counting techniques as observed by the ISC HP Observer.

[5] [6] • HP monitors bin for radiation and contamination

[5] [6] • Bins removed from SWBs

[5] [6] • Hoses, filters, thermocouples installed

[5] [6] • Bin placed into SWB and converted to RCB

[5] [6] • Bin leak tested in accordance with WP 05-WH1807 (**Proceed to Step 9.1.4; upon completion, return to this Step.**)

[5] • Bin TBX05 surface purged and sampled for oxygen concentration in accordance with WP 05-WH1606 (**Proceed to Step 9.1.5; upon completion, return to this Step.**)

[5] • Bin TBX05 gettered of oxygen concentration in accordance with WP 05-WH1801 (**Proceed to Step 9.1.7; upon completion, return to this Step.**)

[5] • Oxygen getter regeneration in accordance with WP 05-WH1802 (**Proceed to Step 9.1.8; upon completion, return to this Step.**)

[5] • Bin TBX05 pressurized in accordance with WP 05-WH1506 (**Proceed to Step 9.1.5 AND 9.1.6; upon completion, return to this Step.**)

[5] • Bin TBX05 emplaced in position #28 in underground

[6] • Bin TBX06 placed on conveyance loading car in abeyance

B) Procedure completed (**Requires prior completion of Steps 9.1.4, 9.1.5, 9.1.7, and 9.1.8**).

[5] • Test Bin TBX05 emplaced

SIGNOFF REQUIRED

[6] • Test Bin TBX06 placed in abeyance on conveyance loading car until retrieval (Step 9.6.4)

SIGNOFF REQUIRED

• Proceed to Step 9.2

9.1.4 Direct WHO to perform procedure WP 05-WH1807, Bin Leak Rate Test, for bins TBX05 and TBX06, and to notify CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

NOTE: This note applies to the following bullet of Step 9.1.4 A). The time duration required to complete the Bin Leak Rate Test may be reduced after successful demonstration of the technique as determined by the ISC Lead Observer.

[5] [6] • Thermistors set on Bin

[5] [6] • Leak tester set up for operation

NOTE: This note applies to the following bullet of Step 9.1.4 A).The ISC Radioactive Waste Handling Engineer Observer will supply a Base Leak Rate Test value of $1x10^{-3}$ cc/sec.

[5] [6] • Bin leak tested and result reviewed

B) Procedure completed

[5] • Test Bin TBX05 leak tested

SIGNOFF REQUIRED

[6] • Test Bin TBX06 leak tested

SIGNOFF REQUIRED

• Return to Step 9.1.3

9.1.5 Direct WHO to perform procedure WP 05-WH1506, Bin Surface Purging and Gas Sampling, for bin TBX05, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5] • Purging and recirculation system installed on RCB

NOTE: This note applies to the following bullet of Step 9.1.5 A). The purge of the bin may be STOPPED after procedure and techniques have been demonstrated, as determined by the ISC Lead Observer.

[5] • Bin purged and oxygen concentration monitored

[5] • Bin sampled and sample sent to WIPP lab in accordance with 12-AL6010, Sample Custody

• Return to Step 9.1.3

NOTE: This note applies to the following bullet of Step 9.1.5 A). The pressurization of the bin may be STOPPED after procedure and techniques have been demonstrated, as determined by the ISC Lead Observer.

• Bin pressurized for transport underground

B) Procedure completed

[5] • Test Bin TBX05 purged, sampled, and pressurized

SIGNOFF REQUIRED

• Return to Step 9.1.3

[5] 9.1.6 Direct WHO to depressurize bin TBX05 and place it in abeyance on the surface.

9.1.7 Direct WHO to perform procedure WP WH1801, Oxygen Gettering of Bin, for bin TBX05, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5] • Gettering hoses installed on RCB

NOTE: This note applies to the following bullet of step 9.1.7 A). The Bin Oxygen Gettering may be stopped after procedure techniques have been successfully demonstrated as determined by the ISC Lead Observer.

[5] • Bin gettered

B) Procedure completed

[5] • Test Bin TBX05 gettered

SIGNOFF REQUIRED

9.1.8 Direct WHO to perform procedure WP 05-WH1802, Oxygen Getter Regeneration, and notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[ ] • Gas cylinders aligned for operation

[ ] • Bed requiring regeneration selected

[ ] • Getter system pressurized

[ ] • Getter bed regenerated

B) Procedure completed

[ ] • Oxygen Getter Regenerated

SIGNOFF REQUIRED

9.2 BIN/RCB EMPLACEMENT AND OPERATIONAL PREPARATION

9.2.1 Direct WHO to perform procedure WP 05-WH1910, Bin Equipment Connection for Emplacement, for bins TBX05 and TBX07, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[✓] [✓] • Gas Recirculation System connected

[✓] [✓] • Primary Pressure Relief Instrumentation String connected

[✓] [✓] • Secondary Pressure Relief Instrumentation String connected

[✓] [✓] • Primary Mechanical Relief Valve Assembly connected

[✓] [✓] • Secondary Relief Valve Assembly connected

[✓] [✓] • Bin connected to Volatile Organic Compound (VOC) Sample Collection Manifold

[✓] [✓] • Bin equipment connected to DAS and checked out in accordance with procedures SNL-346 and SNL-352 per 9.4.1

B) Procedure completed

[✓] • Test Bin TBX05 equipment connected to DAS

[✓] • Test Bin TBX05 equipment activated

SIGNOFF REQUIRED

[✓] • Test Bin TBX07 equipment connected to DAS

[✓] • Test Bin TBX07 equipment activated

SIGNOFF REQUIRED

9.2.2 Direct WHO to perform procedure WP-05-WH1806, Bin Gas Sampling, for the T=Emplacement sample for bin TBX07, and to notify the CTE upon completion

SIGNOFF REQUIRED

A) Major steps

[✓] • Sample canisters received from lab with Chain-of-Custody, WP Form 1834 (in WP 12-AL6005)

[✓] • Water vapor cell leak tested and sample measured

[✓] • Gas Sample manifold leak tested

[✓] • Gas samples taken

[✓] • Samples returned to lab using WP Form 1834

B) Procedure completed

[✓] • Test bin TBX07 sampled

SIGNOFF REQUIRED

9.2.3 Direct WHO to perform procedure WP 05-WH1803, Argon Purge of Bin, for bin TBX05, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[ ] • Purging hose assembly installed on RCB

[ ] • Purge assembly installed to VOC exhaust header

NOTE: This note applies to the following bullet of step 9.2.3 A). The purge of the bin may be stopped after procedure techniques have been demonstrated, as determined by the ISC Lead Observer.

[ ] • Bin/RCB purged

B) Procedure completed

[ ] • Test Bin TBX05 purged

SIGNOFF REQUIRED

9.2.4 Direct WHO to perform procedure WP 05-WH1801, Oxygen Gettering of Bin, for bin TBX05, and notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[ ] • Gettering hoses installed on RCB

NOTE: This note applies to the following bullet of step 9.2.4 A). The Bin Oxygen Gettering may be stopped after procedure techniques have been demonstrated, as determined by the ISC Lead Observer.

[ ] • Bin Gettered

B) Procedure completed

[ ] • Test Bin TBX05 Gettered

SIGNOFF REQUIRED

9.2.5 Direct WHO to perform procedure WP 05-WH1802, Oxygen Getter Regeneration, and notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[ ] • Gas cylinders aligned for operation

[ ] • Bed requiring regeneration selected

[ ] • Getter system pressurized

[ ] • Getter bed regenerated

B) Procedure completed

[ ] • Oxygen Getter Regenerated

SIGNOFF REQUIRED

9.2.6 Direct WHO to perform procedure WP 05-WH1809, Bin Pressurization, for bins TBX05 and TBX07, and to notify CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[✓] [✓] • Gas cylinder required for bin obtained

[✓] [✓] • Regulator/hose assembly attached to gas cylinder

[✓] [✓] • Bin pressurized

[✓] [✓] • Bin DAS pressure relief program activated per Step 9.4.1

B) Procedure completed

[✓] • Test Bin TBX05 Pressurized

SIGNOFF REQUIRED

[✓] • Test Bin TBX07 Pressurized

SIGNOFF REQUIRED

9.2.7 Direct WHO to perform procedure WP 05-WH1811, Tracer Gas Injection, for bins TBX05 and TBX07, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[ ] [ ] • Injection volume provided by SNL

[ ] [ ] • Tracer gas injection assembly attached to sample port connectors

[ ] [ ] • Leak test performed on tracer gas and evacuation port assembly

[ ] [ ] • Tracer gas syringe filled

[ ] [ ] • Tracer gas injected and circulated

[ ] [ ] • Tracer gas assembly and leak detector removed

[ ] [ ] • Sample port connectors plugged

B) Procedure completed

[ ] • Test Bin TBX05 tracer gas injected

SIGNOFF REQUIRED

[ ] • Test Bin TBX07 tracer gas injected

SIGNOFF REQUIRED

9.3 BIN/RCB OPERATION, ROUTINE MONITORING AND SAMPLING

NOTE: This Note applies to Step 9.3.1. Gas sampling **SHALL** be performed at T = 0. Further samples will be taken at the discretion of the CTE.

9.3.1 Direct WHO to commence procedure WP 05-WH1810, Routine Bin Monitoring, for bins TBX05 and TBX07, and to notify the CTE upon completion of the day's monitoring of each bin.

SIGNOFF REQUIRED

A) Major steps

[✓] [✓]
- Bin monitoring log generated for each bin (1 log per bin per week)

[✓] [✓]
- Bin monitored for pressure relief path to satisfy OSR

NOTE: This note applies to the following bullet of step 9.3.1 A). ISC Lead Observer will provide simulated flammable gas sample results to the lab and/or the WHO technician.

[✓] [N/A] [D9.5.12] 07/12/91
- Bin flammable gas sample results verified to be below flammability requirements to satisfy OSR

B) Procedure completed

NOTE: This note applies to the following bullet of step 9.3.1 B). For this step, completion is considered once the bin has a monitoring log started with the first day's monitoring completed.

[✓]
- Bin TBX05 routinely monitored

SIGNOFF REQUIRED

[✓]
- Bin TBX07 routinely monitored

SIGNOFF REQUIRED

9.3.2 Direct WHO to perform procedure WP 05-WH1806, Underground Bin Sampling, for the T=0 sample, for bins TBX05 and TBX07, and to notify the CTE upon completion

SIGNOFF REQUIRED

A) Major steps

[~~5~~] [V] • Sample canisters received from lab with WP Form 1834

[~~5~~] [V] • Water vapor cell leak tested and sample measured

[~~5~~] [V] [D 9.5.8 TBX07 only] AB 07/12/91 • Gas Sample manifold leak tested

[~~5~~] [V] • Gas samples taken

[5] [V] • Samples returned to lab using WP Form 1834

B) Procedure completed

[~~5~~] • Test bin TBX05 sampled

SIGNOFF REQUIRED

[V] • Test bin TBX07 sampled

SIGNOFF REQUIRED

~~[D9.5.11]~~ N/A AB TMS 07/12/91

9.3.3 Direct Analytical Lab to take sample and perform procedure WP 12-AL6010, Shipping and Receiving Sample Canisters, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[✓] • Sample packaged

[✓] • Custody form completed

[✓] • Sample shipped

B) Procedure completed

[✓] • Sample shipped

SIGNOFF REQUIRED

9.3.4 Direct VOC Monitoring to perform procedure WP 12-EM1624, VOC 10 (Room 1) VOC Sampler Canister Handling, for the Bin VOC Sampler, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[✓] • Certified sample canister obtained from VOC Monitoring Program Storage Area

[✓] • Filled canister removed from sampler

[✓] • Chain-of-Custody form completed

[✓] • Sample canister returned with Chain-of Custody form to VOC Monitoring Storage Area

B) Procedure completed

[✓] • VOC 10 sample canister removed and replaced

SIGNOFF REQUIRED

9.3.5 Direct VOC Monitoring to perform procedure WP 12-EM1603, VOST Tubes and Carbon Bed, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[✓] • Carbon bed obtained from VOC Monitoring Storage Area

[✓] • Remove used Carbon Bed and replace with new unit

[✓] • Three VOST tubes obtained from VOC Monitoring Storage Area

[✓] • Used VOST removed

[✓] • VOST tubes assembled as a VOST and placed into system

[✓] • Used VOST tubes labeled and returned to VOC Monitoring Storage Area

B) Procedure completed

[✓] • Carbon Bed replaced

SIGNOFF REQUIRED

[✓] • VOST replaced

SIGNOFF REQUIRED

9.4 DAS SYSTEM READINESS

NOTE: This note applies to step 9.4.1. The ISC Test Bins will provide for testing the systems and equipment supporting the Dry Bin-Scale CH TRU Waste Test. The Data Acquisition System (DAS) is designed and test . to ensure that it meets the requirements for collecting data from the ISC Test Bins. The following Section 9.4.1 Steps are provided for documenting the interface between the ISC Test Bins and the DAS.

9.4.1 DAS operation acceptance. CTE verify with Experimental Operations the following Major steps in accordance with SNL procedures:

A) Major steps

[15] [V] • SNL verify bin instrumentation electrical is operational in accordance with SNL-346 and SNL-352

[15] [V] • SNL verify bin valves are connecting instrumentation to bins in accordance with WP 05-WH1910

[15] [V] • SNL verify bin pressure is in accordance with WP 05-WH1809

B) Procedure complete

[V] • Bin TBX05 Instrumentation activated to DAS

[V] • Bin TBX05 Pressure Relief Program activated to DAS

SIGNOFF REQUIRED

[V] • Bin TBX07 Instrumentation activated to DAS

• Bin TBX07 Pressure Relief Program activated to DAS

SIGNOFF REQUIRED

RW 00-01

9.5 BIN/RCB OPERATIONAL UNUSUAL EVENTS/DRILLS

NOTE: Drills will be limited to a failure of each representative board as determined by the CTE's choice of 9.5.1, 9.5.2, 9.5.3, and 9.5.5

9.5.1 Primary Instrument String Pressure Sensor/Transducer Failure

A) Objective:

- Evaluate the response to a faulty pressure sensor/transducer

B) Expected Response:

- DAS Operator will implement the Bin-Scale Instrument Failure Response section of WP 05-WH1810 and SNL 362, as required
- Initiate replacement of the Primary Instrument String in accordance with WP 05-WH1914
- DAS Operator contact and inform the CMRO

C) Initiation:

- Post Drill Observer with Technician at the DAS and CMR
- Initiate drill and the Drill Critique form, Attachment 4, page 1 of 26
- Technician disconnect the amphenol connector

D) Termination and Recovery:

- Terminate upon drill players' initiation of steps for replacement of the instrument
- Direct the technician to reconnect the amphenol connector
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.2 Solenoid Operated Control Valve Failure

A) Objective:

- Evaluate the response to a failed solenoid operated control valve

B) Expected response:

- DAS Operator will implement the Bin-Scale Instrument Failure Response section of WP 05-WH1810 and SNL 362, as required
- Initiate replacement of the Primary Instrument String in accordance with WP 05-WH1914

C) Initiation:

- Post drill observer with technician at the DAS and CMR
- Initiate drill and the Drill Critique form, Attachment 4, page 3 of 26
- Direct the technician to disconnect the solenoid connector

D) Termination and Recovery:

- Terminate upon drill players' initiation of steps for replacement of the instrument
- Direct the technician to reconnect the solenoid connector
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.3 Oxygen Analyzer/Sensor Failure

A) Objective:

- Evaluate the response to an Oxygen Analyzer/Sensor failure

B) Expected response:

- DAS Operator will implement the Bin-Scale Instrument Failure Response section of WP 05-WH1810 and SNL 362, as required
- Initiate replacement of the Primary Instrument String in accordance with WP 05-WH191~~3~~ TYPO 07/19/91

C) Initiation:

- Post drill observer with technician at the DAS and CMR
- Initiate drill and the Drill Critique form, Attachment 4, page 5 of 26
- Direct the technician to turn OFF an oxygen analyzer channel

D) Termination and Recovery:

- Terminate upon drill players' initiation of steps for replacement of the instrument
- Direct the technician to re-energize the oxygen analyzer channel
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.4 Primary Mechanical Relief Path Failure

A) Objective:

- Evaluate the response to a failed mechanical safety relief valve during functional testing

B) Expected response:

- Initiate replacement of the Bin Primary Mechanical Safety Relief valve in accordance with WP 05-WH1916
- Pressurize bin in accordance with WP 05-WH1808

C) Initiation:

- Post drill observer and technician at Bin/RCB
- Initiate drill and the Drill Critique form, Attachment 4, page 7 of 26
- Drill observer have the technician remove the cap and open PR-9 Purge Port to depressurize the RCB instrumentation and then close valve and replace cap
- Direct the DAS Operator to perform a demand scan of RCB instrumentation

D) Termination and Recovery:

- Terminate upon drill players' initiation of steps for the replacement of the relief valve
- Verify bin is pressurized in accordance with WP 05-WH1808
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.5 Secondary Instrument String Flow Transducer Failure

A) Objective:

- Evaluate the response to a faulty flow transducer on the Secondary Instrument String

B) Expected response:

- DAS Operator will implement the Bin-Scale Instrument Failure Response section of WP 05-WH1810 and SNL 362, as required
- Initiate replacement of the Secondary Instrument String in accordance with WP 05-WH1914

C) Initiation:

- Post drill observer with technician at the DAS and CMR
- Initiate drill and the Drill Critique form, Attachment 4, page 9 of 26
- Direct the technician to disconnect the AMP connector

D) Termination and Recovery:

- Terminate upon drill players' initiation of steps for the replacement of the instrument
- Direct the technician to reconnect the AMP connector
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.6 Bin Low Pressure

A) Objective:

- Evaluate the ability to repressurize the bin

B) Expected response:

- Repressurize bin in accordance with WP 05-WH1809

C) Initiation:

- Post drill observer at Bin/RCB
- Initiate drill and the Drill Critique form, Attachment 4, page 11 of 26
- ISC Lead Observer direct the designated Waste Handling Technician to perform the following:

  1) Verify valves PR-1,2,7 and 8 are open
  2) Remove cap from PR-10
  3) Connect hose to VOC manifold
  4) Open valve PR-10 as required to depressurize bin to 0.1 psig as indicated on local bin pressure gage
  5) Close valve PR-10
  6) Remove the hose and replace cap

D) Termination and Recovery:

- Terminate upon completion of pressurization of the bin
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.7 Contaminated Assessment Filter

A) Objective:

- Evaluate the response to a Contaminated Assessment Filter

B) Expected response:

- Implement the Contaminated Assessment Filter Response section of WP 05-WH1810

C) Initiation:

- Initiate drill and the Drill Critique form, Attachment 4, page 13 of 26
- Post drill observer at Bin/RCB
- Direct technician to take bin gas samples in accordance with WP 05-WH1806
- Assessment filter contaminated with 200 dpm alpha

D) Termination and Recovery:

- Terminate upon completion of contaminated material being contained in accordance with Radiation Safety procedures
- Reestablish initial conditions in accordance with WP 05-WH1806, to realign the recirculation system for normal operations
- Inform drill participants of drill completion

9.5.8 Contaminated Equipment Module Fitting

A) Objective:

- Evaluate the response to a Contaminated Module fitting

B) Expected response:

- Implement the requirements of WP 12-504

C) Initiation:

- Initiate drill and the Drill Critique form, Attachment 4, page 15 of 26
- Post drill observer at Bin/RCB
- Direct technician to take bin gas samples in accordance with WP 05-WH1806
- Assessment filter module fitting contaminated with 150 dpm alpha

D) Termination and Recovery:

- Terminate upon completion of contaminated material being contained in accordance with Radiation Safety procedures
- Reestablish initial conditions in accordance with WP 05-WH1806, to realign the recirculation system for normal operations
- Inform drill participants of drill completion

9.5.9 Loose Surface Contamination on Bin

NOTE: This note applies to Step 9.5.9. This unusual event sets the scene for Step 9.5.10, Contaminated Personnel, which should be performed concurrently.

A) Objective:

- Evaluate the personnel response to a Loose Surface Contamination on bin, involving small area decontamination

B) Expected response:

- HPT will implement the requirements of WP 12-504 and WP 12-523

C) Initiation:

- Post drill observer at Bin/RCB
- Initiate drill and the Drill Critique form, Attachment 4, page 17 of 26
- Direct the HP technician to perform daily surveys in accordance with procedure WP 12-504
- While assessing swipes survey, 300 DPM alpha contamination is found on the bin

D) Termination and Recovery:

- Terminate upon completion of small area (area approximately 200 cm^2) decontamination and disposal of the derivative waste
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.10 Contaminated Personnel During Bin Activities

A) Objective:

- Evaluate the response to Personnel Contamination

B) Expected response:

- Technician implement the personnel decontamination requirements of WP 12-501

C) Initiation:

- Post drill observer at Bin/RCB
- Initiate drill and the Drill Critique form, Attachment 4, page 19 of 26
- During the performance of the personnel body survey in accordance with WP 12-503, ISC HPT Observer identify to the HP technician of survey readings (20 cpm alpha) showing skin contamination found on right index and middle fingers
- HPT initiate personnel decontamination in accordance with WP 12-501

D) Termination and Recovery:

- Terminate upon completion of personnel decontamination and disposal of the derivative waste
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.11 Loss of DAS Shed Power to Bins

A) Objective:

- Evaluate the response to a Loss of Power from the DAS Shed to the bins

B) Expected response:

- DAS Shed auto-dialer calls SNL and the CMR
- CMRO contacts WHS of loss of DAS Shed power
- Underground Ops, WHS and Experimental Ops evaluate cause of the loss of power

C) Initiation:

- Post drill observers at CMR and DAS
- Initiate drill and the Drill Critique form, Attachment 4, page 21 of 26.
- ISC Lead Observer direct the designated DAS technician to turn off the power supply to the DAS Shed (480 Volt), and restore power after a short delay (approximately 30 seconds)

D) Termination and Recovery:

- Terminate upon completion of evaluation as to cause of loss of power and/or upon receipt of the Auto-dial to CMR
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.12 Flammable Gas Concentration High

A) Objective:

- Evaluate the response to a Flammable Gas concentration ≥50 % of the Lower Flammability Limit (LFL) as analyzed and reported by the Analytical Lab

B) Expected response:

- Lab notifies WHO of flammable concentration ≥50 % of the Lower Flammability Limit (LFL)
- WHO and SNL confer on course of action to be taken
- Bin is purged in accordance with WP 05-WH1803

C) Initiation:

- Post drill observers at Bin/RCB
- Initiate drill and the Drill Critique form, Attachment 4, page 23 of 26
- ISC Lead Observer inform Analytical Lab that gas sample results on bin TBX05 has a flammable gas concentration of hydrogen gas 2.1% as analyzed

D) Termination and Recovery:

- Terminate upon the bin being purged
- Reestablish initial conditions
- Inform drill participants of drill completion

9.5.13 Particulate Filter and Hose Failure

A) Objective:

- Evaluate the response to an Internally Contaminated RCB with attaching hoses becoming Contaminated Material for disposal

B) Expected response:

- WHO should inform WHS of the Contaminated Material findings
- WHS will organize a meeting with HP, WHO and SNL, as appropriate to discuss the corrective actions response to be taken
- HP Technician and WHO initiate the corrective action as determined by the Command Action Team (CAT)

C) Initiation:

- Post drill observer at Bin/RCB
- Initiate drill and the Drill Critique form, Attachment 4, page 25 of 26
- During the performance of the contamination survey in accordance with WP 12-508, ISC HPT Observer identify to the HP technician results of survey readings (500 dpm alpha) showing that the smears of hoses internal to the RCB lid on TBX06 are contaminated (due to leaking Particulate Filter and failed hose)

NOTE: This note applies to Step 9.5.13 D). These hoses shall be considered contaminated material and treated accordingly for disposal

D) Termination and Recovery:

- Terminate upon completion of contaminated Bin/RCB/material being contained in accordance with Radiation Safety procedures
- Inform drill participants of drill completion

9.6 ISC Termination, Retrieval, Loading TRUPACT-II, Trailer Loading and Offsite Shipping

NOTE: Termination of the checkout and retrieval of the two Test Bins TBX05 and TBX07 is determined by the SNL Principle Investigator with concurrence of the Manager of Waste Handling Operations.

9.6.1 ISC terminated for the bins as notified by SNL Quality Assurance (QA) and WHO Manager.

[✓]

- Bin TBX05 ISC terminated

SIGNOFF REQUIRED

[✓]

- Bin TBX07 ISC terminated

SIGNOFF REQUIRED

9.6.2 Direct WHO to perform procedure WP 05-WH1806, Bin Sampling, for bins TBX05 and TBX07 and obtain the final gas sample, T=Termination, and notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

- Take the T=Termination, final gas sample

B) Procedure completed

[5]

- Bin TBX05 Final Gas Sample (T=Termination) obtained

SIGNOFF REQUIRED

[7] N/A AB 02/22/91
Duplication of samples.

- Bin TBX07 Final Gas Sample (T=Termination) obtained

SIGNOFF REQUIRED

9.6.3 Direct WHO to perform procedure WP 05-WH1912, Bin Equipment Disconnect for Retrieval for bins TBX05 and TBX07, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

NOTE: This note applies to the following bullet of Step 9.6.3 A). The total number of smears counted may be reduced after successful demonstration of counting techniques as observed by the ISC HP Observer.

N/A AB 07/22/91 *

[~~6~~] [7] • Bin depressurized

[~~6~~] [7] N/A AB 07/22/91 * • Bin equipment disconnected from DAS

[~~6~~] [7] N/A AB 07/22/91 * • Bin disconnected from VOC Sample Collection Manifold

[~~6~~] [7] N/A AB 07/22/91 * • Bin equipment disconnected from RCB

B) Procedure completed

[~~6~~] • Test Bin TBX05 equipment disconnected

SIGNOFF REQUIRED

[7] N/A AB 07/22/91 * • Test Bin TBX07 equipment disconnected

SIGNOFF REQUIRED

* Duplication of WH1912, B12 Equipment disconnect was performed and TBX05 was depressurized due to slow leak. AB 07/22/91

9.6.4 Direct WHO to perform procedure WP 05-WH1902, Bin Retrieval to return bin TBX05 to the surface, and to retrieve from abeyance on the surface bin TBX06, for transport offsite, and to notify the CTE upon completion

SIGNOFF REQUIRED

A) Major steps

[5] • Bin retrieved from underground

NOTE: This note applies to the following bullet of Step 9.6.4 A). The total number of smears counted may be reduced after successful demonstration of counting techniques as observed by the ISC HP Observer.

[5] [6] • RCB reconverted into SWB

[5] [6] • Bin repackaged into clean SWB

B) Procedure completed

[5] • Test Bin TBX05 retrieved and converted to SWB

SIGNOFF REQUIRED

[6] • Test Bin TBX06 converted to SWB

SIGNOFF REQUIRED

9.6.5 Direct WHO to perform procedure WP 05-WH1032, Payload Certification for bin TBX05 and TBX06, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5] [6] • Determine physical content of bin

[5] [6] • Verify decay heat value

[5] [6] • Verify SWB weight

[5] [6] • WWIS information on each bin is retrieved and reviewed

B) Procedure completed

[5] • Bin TBX05 certified for transport

SIGNATURE REQUIRED

[6] • Bin TBX06 certified for transport

SIGNATURE REQUIRED

9.6.6 Direct WHO to perform procedure WP 05-WH1033, Payload Assembly Transportation Certification for bins TBX05 and TBX06, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5] [6] • Documents prepared to allow loading of bin into TRUPACT-II

B) Procedure completed

[5] [6] • Bin TBX05 and TBX06 assembled for transport

SIGNATURE REQUIRED

9.6.7 Direct WHO to perform procedure WP 05-WH1001, TRUPACT-II Loading, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5] [6] • TRUPACT-II disassembled

[5] [6] • OCV inspected

[5] [6] • ICV inspected

[5] [6] • SWB containing Test Bin loaded into TRUPACT-II

B) Procedure completed

[5] • TRUPACT-II loaded with Test Bin TBX05 and TBX06

SIGNATURE REQUIRED

9.6.8 Direct WHO to perform procedure WP 05-WH1080, TRUPACT-II Verification Leak Test, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[5] [6] • ICV leak tested

[5] [6] • OCV leak tested

B) Procedure completed

[5] • TRUPACT-II containing Test Bin TBX05 and TBX06 leak tested

SIGNOFF REQUIRED

9.6.9 Direct WHO to perform procedure WP 05-WH1005, Loading TRUPACT-II Trailer, and to notify the CTE upon completion.

A) Major steps

[5] [6] • TRUPACT-II tie-downs inspected

[5] [6] • TRUPACT-II loaded onto trailer

B) Procedure completed

[ ] • TRUPACT-II for TBX05 and TBX06 loaded onto trailer

SIGNATURE REQUIRED

9.6.10 Direct the Transportation Engineer to perform procedure WP 06-102 to complete and provide the shipping papers and Bar Codes required for shipment simulation of the TRUPACT-II offsite with the Test Bins, and to notify the CTE upon completion.

SIGNOFF REQUIRED

A) Major steps

[ ] • Shipping documents complete for TBX05 and TBX06

B) Procedure completed

[ ] • TRUPACT-IIs and Trailer ready to be shipped offsite

SIGNOFF REQUIRED

10.0 ACCEPTANCE CRITERIA

10.1 The completion of this procedure is deemed to be acceptable upon review of the following documentation for the ISC generated by this procedure.

- Attachment 2, ISC Checkout Tracking Report
- Attachment 3, ISC Pre-Checkout Briefing Sheet
- Attachment 4, ISC Unusual Event/Drill Critique Sheet
- Attachment 5, ISC System/Subsystem Readiness Verification Sheet
- Attachment 6, ISC CTE Checkout Log
- Attachment 7, ISC Bin Checkout Termination Notification
- Attachment 8, ISC Observer Final Report
- Attachment 9, ISC Procedure Completion Verification Sheet

10.2 All data generated by the individual Operating Procedures will be maintained in accordance with the procedure that generated the Record.

10.3 All data generated by the indivdual Operating Procedures will be stamped "ISC DATA".

CONTROLLED COPY

10.4 Final acceptance of the ISC by the designated appropriate approval disciplines requires review of the following:

- Site procedures were adequate to perform the individual tasks
- Tasks were performed safely, efficiently and in accordance with approved procedures
- Unusual events/drills that were performed demonstrated the ability for site personnel to respond, manage and resolve the unusual tasks as identified by the Test Plan
- Personnel demonstrated their ability to follow the Radiation Safety ALARA program during the performance of assigned tasks
- Personnel are trained and qualified in accordance with approved site procedures to perform their discipline assigned tasks
- CH TRU systems and equipment provide sufficient confidence in their ability to perform designed functions
- Site personnel involved in the ISC demonstrate an ability to operate existing equipment and respond to given situations with confidence

11.0 REVIEW

11.1 CTE attach copies of Attendance Sheets for Pre-Checkout Briefings, and complete Attachment 3, ISC Pre-Checkout Briefing Sheet by verifying the identified personnel were in attendance at a Pre-Checkout Briefing.

11.2 CTE complete Attachment 4, ISC Unusual Event/Drill Critique Sheet, by reviewing drill comments with ISC Observers, answering the Attachment questions, providing a summation of ISC Observer comments and attaching the ISC observers comments to the procedure.

11.3 CTE complete Attachment 5, ISC System/Subsystem Readiness Verification Sheet, by attaching the copy of the Readiness Review Board declaration, and by verifying receipt of the response to Engineering Department letter HA:91:3623, Certification of System/Equipment Readiness to Support the Integrated Systems Checkout.

11.4 CTE attach to the procedure as Attachment 6, the CTE ISC Checkout Log generated by this procedure.

11.4.1 The CTE log entries **SHALL** include the date (one entry per day), the time of entry, and **SHALL** be initialled after each entry.

11.5 SNL Quality Assurance Officer and WID Waste Handling Operations Manager complete Attachment 7, ISC Bin Checkout Termination Notification, for each bin upon making a checkout termination decision for the bin, and provide the Sheet to the CTE.

11.6 ISC Lead Observer attach to the procedure as Attachment 8, the ISC Lead Observer Final Report generated by the procedure.

11.7 CTE complete Attachment 9, ISC Procedure Completion Verification Sheet.

INDEPENDENT VERIFICATION

11.8 Manager, Radwaste Handling Engineering review the completed WIPP Dry Bin-Scale CH TRU Waste Integrated System Checkout procedure and attached/accompanying ISC CTE reports. Quality Assurance to independently verify.

- Verify that all appropriate designated SIGNOFFS REQUIRED have been completed for identified tasks
- Verify the procedure log is complete with appropriate narration, dates & times, and special points of interests are identified and signed off at the end of each evolution or shift
- Verify the Attachments are complete as required
- Verify the completed procedure appropriately addresses entries made to it in error, and that appropriate corrections have been made
- Complete Attachment 9

SIGNOFF REQUIRED

12.0 RECORDS

12.1 The following Permanent Quality Assurance Records are generated by this procedure:

- Procedure WP 05-WH5101, WIPP Dry Bin-Scale CH TRU Waste Integrated System Checkout; Waste Handling Operations

12.2 The following Non-Permanent Quality Assurance Records are generated by this procedure:

- Copies of the records generated by the procedures implemented by this procedure as denoted on Attachment 2, ISC Checkout Tracking Report

12.3 The Non-Permanent Records are to be retained with the Permanent Records of this procedure for one year at which time they may be referenced to the master record and properly disposed.

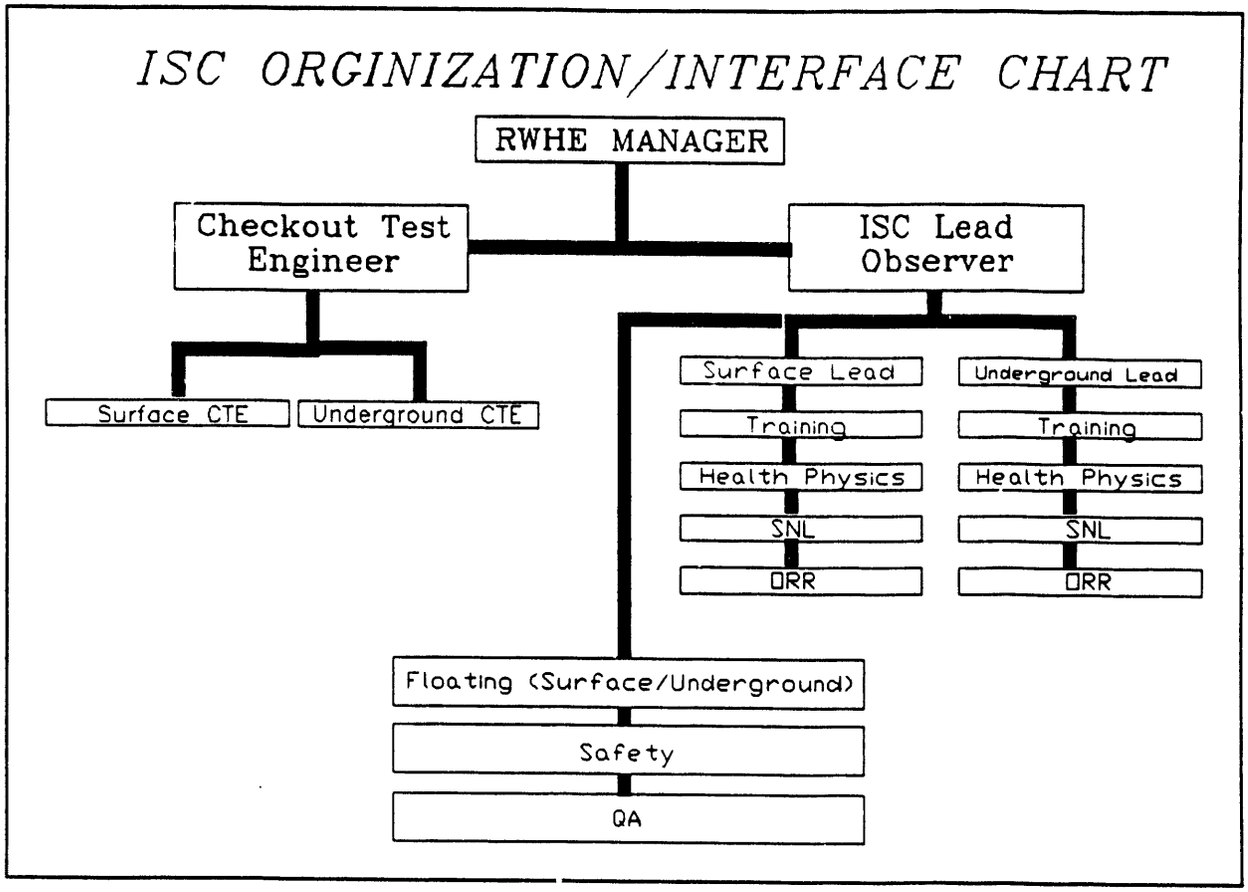
12.4 Quality Assurance Records **SHALL** be corrected, stored, and maintained in accordance with NQA-1-1989.

12.5 Quality Assurance Records from this procedure **SHALL** be identified on the Engineering Department Record Inventory and Disposition Schedule (RIDS).

12.6 The Manager, Waste Handling Operations, is responsible for the validation of the Records to be transmitted to the Master Records Center (MRC).

ATTACHMENT 1

ISC OBSERVER ORGANIZATION and INTERFACE CHART



TTACHMENT 1

ISC OBSERVER ORGANIZATION and INTERFACE CHART

Steps in WP 05-WH5101 and Bin to which they correspond.

Step	TBX05	TBX06	TBX07	Step	TBX05	TBX06	TBX07
9.1.1				9.3.1	X		X
9.1.2	X	X		9.3.2	X		X
9.1.3	X	X		9.3.3			
9.1.4	X	X		9.3.4			
9.1.5	X			9.3.5			
9.1.6	X			9.6.1	X		X
9.1.7	X			9.6.2	X		X
9.1.8				9.6.3	X		X
9.2.1	X		X	9.6.4	X	X	
9.2.2			X	9.6.5	X	X	
9.2.3	X			9.6.6	X	X	
9.2.4	X			9.6.7	X	X	
9.2.5	X		X	9.6.8	X	X	
9.2.6	X		X	9.6.9	X	X	
				9.6.10			

ATTACHMENT 2

NOTE: All performers signifying completion of work performed as covered by the procedure steps indicated in Attachment 2, are required to print name, initial and date the last page of this attachment.

ISC CHECKOUT TRACKING REPORT

STEP	PROCEDURE	RECORD	NOTIFY	START	STOP	INT	VER
8.1	RBB Declaration						
8.2.1	TB001, TB002, TBX05, TBX06, TBX07 assembled						
8.2.2	TRUPACT-IIs loaded onto Trailers						
8.2.3	TBX07 set in position 57						
8.2.4	TB001 and TB002 set in position 1 and 3						
8.3	Transportation papers ready						
8.4	Pre-Checkout Briefing	WH5101 Attachment 3					

COMMENTS:
(Initial any entry)

07-26-91 See Surface Section

N/A

ATTACHMENT 2

ISC CHECKOUT TRACKING REPORT

STEP	PROCEDURE	RECORD	NOTIFY	START	STOP	INT	VER
9.1.1	05-WH1010						
9.1.1 B)	TRUPACT-II receipt	2080					
9.1.2	05-WH1011		N/A AB 07-26-91				
9.1.2 B)	TRUPACT-II unloaded	2108					
9.1.2 B)	TRUPACT-II unloaded	2108					
9.1.3	05-WH1901 TBX05		B. McMillian	1033 7/17		AB	
9.1.3	05-WH1901 TBX06						
9.1.3 B)	TBX05 converted and emplaced	2098	B. McMillian		1110 7/17	AB	RJL
9.1.3 B)	TBX06 converted and abated	2098					
9.1.4	05-WH1807 TBX05			07-26-91			
9.1.4	05-WH1807 TBX06		N/A AB				
9.1.4 B)	TBX05 leak tested	2087					
9.1.4 B)	TBX06 leak tested	2087					
9.1.5	05-WH1506						
9.1.5 B)	TBX05 surface purged	2119					

COMMENTS:
(Initial any entry)

N/A's for Surface Testing AB 07-26-91

ATTACHMENT 2

ISC CHECKOUT TRACKING REPORT

STEP	PROCEDURE	RECORD	NOTIFY	START	STOP	INT	VER
9.1.7	05-WH1801						
9.1.7 B)	TBX05 gettered	2088	N/A AB 07-26-91				
9.1.8	05-WH1802						
9.1.8 B)	Getter regenerated	2090					

COMMENTS:
(Initial any entry) N/A's Surface Testing AB 07-26-91

ATTACHMENT 2

ISC CHECKOUT TRACKING REPORT

STEP	PROCEDURE	RECORD	NOTIFY	START	STOP	INT	VER
* 9.2.1	05-WH1910 TBX~~05~~ 07		B. McMillian	1200 7/10			
9.2.1	05-WH1910 TBX~~07~~ 05		B. McMillian	1113 7/17			
9.2.1 B)	TBX05 DAS interfaced	2138	M. Schuhen SNL		1600 7/17		
9.2.1 B)	TBX07 DAS interfaced	2138	Wes DeYonge SNL		1630 7/10		
9.2.2	05-WH1806		B. McMillian	1010 7/11			
9.2.2 B)	TBX07 sampled	1834 +	B. McMillian		1640 7/11		
9.2.3	05-WH1803		B. McMillian	1205 7/19			
9.2.3 B)	TBX~~07~~ 05 purged 7/19/91	1915 1922	B. McMillian		1300 7/19		
9.2.4	05-WH1801		B. McMillian	1605 7/17			
9.2.4 B)	TBX~~07~~ 05 gettered 7/17/91	2088	B. McMillian		1735 7/17		
9.2.5	05-WH1802		Surface	N/A		N/A	
9.2.5 B)	Getter regenerated	2090	Surface		N/A	N/A	N/A
9.2.~~5~~ 6	05-WH1809 TBX05		B. McMillian	0850 7/18			
9.2.~~5~~ 6	05-WH1809 TBX07		B. McMillian	1700 7/11			
9.2.6 B)	TBX05 pressurized	2086	B. McMillian		1100 7/18		
9.2.6 B)	TBX07 pressurized	2086	B. McMillian		1805 7/11		
9.2.7	05-WH1811 TBX05		B. McMillian	0912 7/22			
9.2.7	05-WH1811 TBX07		B. McMillian	1010 7/12			
9.2.7 B)	TBX05 tracer gas	NONE	B. McMillian		1055 7/22		N/A
9.2.7 B)	TBX07 tracer gas	NONE	B. McMillian		1240 7/12		N/A

Typo 07/11/91

COMMENTS:
(Initial any entry) * ERROR, Signed for opposite Bin / + Water Vapor Sample not taken this date, due to HE Leak Check Failure of Module Fitting; will re-perform on 07/12/91 for WH1806.
Step 9.2.5-WH1802 will be Performed on the Surface.

ATTACHMENT 2

ISC CHECKOUT TRACKING REPORT

STEP	PROCEDURE	RECORD	NOTIFY	START	STOP	INT	VER
9.3.1	05-WH1810 TBX05		B. McMillian +	0915 7/17		AB	
9.3.1	05-WH1810 TBX07		B. McMillian *	0834 7/10		AB	
9.3.1 B)	TBX05 routine monitor	2129 2130 2131 2132 2133	B. McMillian **		0859 7/19	AB	HRL
9.3.1 B)	TBX07 routine monitor	2129 2130 2131 2132 2133	B. McMillian **		1000 7/12	AB	HRL
9.3.2	05-WH1806 TBX05		B. McMillian	1058 7/22		AB	
9.3.2	05-WH1806 TBX07		B. McMillian	1250 7/12		AB	
9.3.2 B)	TBX05 sampled	1834	B. McMillian		1258 7/22	AB	HRL
9.3.2 B)	TBX07 sampled	1834	B. McMillian		1445 7/12	AB	HRL
9.3.3	12-AL6010 ++		R. Bisping	0900 7/22		AB	
9.3.3 B)	Sample shipped	Shipping Papers	R. Bisping		1400 7/22	AB	HRL
9.3.4	12-EM1624		P. Martinez	1215 7/19		AB	
9.3.4 B)	VOC 10 sample canister	SHIPPING PAPERS	P. Martinez		1245 7/19	AB	JAM
9.3.5	12-EM1603		P. Martinez	1105 7/23		AB	
9.3.5 B)	Carbon bed replaced	NONE	P. Martinez		1130 7/23	AB	N/A
9.3.5 B)	VOST tube replaced	1833	P. Martinez		1140 7/23	AB	JAM
9.4.1 B)	TBX05 DAS Activated		J. Johnson SNL		1130 7/18	AB	N/A
9.4.1 B)	TBX07 DAS activated		J. Johnson SNL		1830 7/11	AB	N/A

PCN 00-01

PCN 00-01

COMMENTS:
(Initial any entry)

* Step 9.3.1 initiates Bin Check Logs which run for a week, thus documents will be received at end of each week for each BIN. AB

** Received Forms for TBX07 on 07/15/91 AB. ** Received Forms for TBX05 on 07/22/91 AB + Step 9.3.1 Commenced for TBX05 on 07/17/91. AB Step 9.3.2 B) requires FORM 1834, Copy Later. AB

++ Step 9.3.3, Procedure WP 12-AL6010 INCORPORATES FORM 1834 and Procedure WP 12-AD3014 AB.

ATTACHMENT 2

ISC CHECKOUT TRACKING REPORT

STEP	PROCEDURE	RECORD	NOTIFY	START	STOP	INT	VER
9.6.1	TBX05 Checkout Terminated	Attachment 7	Jim Johnson SNL		1340 7/22	AB	HRL
9.6.1	TBX07 Checkout Terminated	Attachment 7 +	N/A		N/A	N/A	N/A
9.6.2	05-WH1806 TBX05		B. McMillian	1342 7/12		AB	
9.6.2	05-WH1806 TBX07		B. McMillian	1250 7/12		AB	
9.6.2 B)	TBX05 gas sampled	NONE **	B. McMillian		1530 7/22	AB	N/A
9.6.2 B)	TBX07 gas sampled	NONE +*	B. McMillian *		1445 7/12	AB	N/A
9.6.2 B)	05-WH1912 TBX05		B. McMillian	1536 7/12		AB	
9.6.3	05-WH1912 TBX07		N/A	N/A		N/A	
9.6.3 B)	TBX05 equipment disconnected	2139	B. McMillian		1710 7/22	AB	HRL
9.6.3 B)	TBX07 equipment disconnected	2139 +	N/A		N/A	N/A	N/A
9.6.4	05-WH1902 TBX05		B. McMillian	0945 7/23		AB	
9.6.4	05-WH1902 TBX06		N/A	N/A		N/A	
9.6.4 B)	TBX05 bin retrieved	2097 2144	B. McMillian		1100 7/23	AB	HRL
9.6.4 B)	TBX06 bin retrieved	2097 2144	N/A		N/A	N/A	N/A
9.6.5	05-WH1032 TBX05						
9.6.5	05-WH1032 TBX06		Surface-				
9.6.5 B)	TBX05 certified	2116	N/A AB 9-26-91				
9.6.5 B)	TBX06 certified	2116					

COMMENTS:
(Initial any entry)
* Step 9.3.2 performed TBX07 samples T=0 and surface both T=0 & T= Termination samples are performed Alska, this Step 9.6.2 was extra and takes credit for performance AB
** Step 9.6.2 performed TBX05 T= Termination samples and surface TBX05 demonstrated T=0 & T= Termination this date, credit was taken for TBX07 T= Termination AB
+ TBX07 Termination only required notification from SNL/WHM, no T= Termination Sample nor disconnect was required to be demonstrated. AB

ATTACHMENT 2

ISC CHECKOUT TRACKING REPORT

STEP	PROCEDURE	RECORD	NOTIFY	START	STOP	INT	VER
9.6.6	05-WH1033						
9.6.6 B)	TBX05 and TBX06 assembly for transport	2146 2147					
9.6.7	05-WH1001						
9.6.7 B)	TBX05 and TBX06 loaded into TRUPACT	2081					
9.6.8	05-WH1080						
9.6.8 B)	TRUPACT leak test	2074 2075 2076 2077 2078 2079	N/A 07-26-91 Surface				
9.6.9	05-WH1005						
9.6.9 B)	TRUPACT on trailer	1826					
9.6.10	06-102						
9.6.10 B)	TBX05 and TBX06 shipping papers						

COMMENTS:
(Initial any entry) N/A Surface Testing AR 07-26-91

ATTACHMENT 2

ISC CHECKOUT TRACKING REPORT

COMMENTS:
(Initial any entry)

Persons initialling this Attachment **SHALL** enter their printed name, initials, and date below.

Print Name	Initial	Date.
AL BROWN	AB	07-10-91
Howard Leos	HL	07-10-91
James F. Allen	JFA	07/12/91
W. D. McMillion	WDM	07-23-91
James McCormick	JMc	8-12-91

ATTACHMENT 3

ISC PRE-CHECKOUT BRIEFING SHEET

PRE-CHECKOUT BRIEFING SHEET ROSTER

CTE verify the attendance of the following Organizational Managers and other noted ISC personnel in attendance at a ISC Pre-Checkout Briefing. Attach a copy of the attendance sheet.

[ ]	Waste Handling Operations	[ ]	Facility Operations
[ ]	Operational Health Physics	[ ]	Dosimetry and Analytical Technology
[ ]	Maintenance	[ ]	Safety and Plant Protection
[ ]	Transportation and Hazardous Material Handling	[ ]	Inspection Services and QA Records
[ ]	Facilities Engineering	[ ]	Radiation Waste Handling Engineering
[ ]	Mine Engineering	[ ]	Checkout Test Engineers
[ ]	Sandia National Laboratories		

ISC personnel verified in attendance, and records attached.

See Surface Sheet for Initials 07-26-91

CTE _____
Print Name Initial Date

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Failure of Primary Instrument String Pressure Sensor/Transducer

05-WH5101 STEP NO. 9.5.1

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [X] No [ ]

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [X] No [ ]

   Comments: WHS used WP 05-WH1810 which prescribed the appropriate actions to investigate and evaluate the symptoms identified by the DAS.

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [ ] No [X]

   b. Normal wear and tear? Yes [ ] No [X]

   Comments: The imposed failure was a broken connection to the Pressure Transducer (Primary Board). WHS Analysis was able to narrow the Problem to either a faulty Transducer or broken rupture Lock, Observer directed WHS to Assume bad Transducer.

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Failure of Primary Instrument String Pressure Sensor/Transducer

05-WH5101 STEP NO. 9.5.1

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [X] No [ ]

Comments: This drill was terminated prior to WHTs actually replacing the instrument string, however the WHS did direct HPT to monitor the WHTs as they inspected the BIR for obvious leak sources.

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [X] No [ ]

Comments:

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [X] No [ ]

If No, recommendations/comments:

H.B. Boom 07/18/91
CTE Signature /Date

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Solenoid Operated Control Valve Failure

05-WH5101 STEP NO. 9.5.2

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [] No []

   Comments:

   N/A 07-26-91

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No []

   b. Normal wear and tear? Yes [] No []

   Comments:

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Solenoid Operated Control Valve Failure

05-WH5101 STEP NO. 9.5.2

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

N/A AB 07-26-91

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

_____ /

CTE Signature /Date

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Oxygen Analyzer/Sensor Failure

05-WH5101 STEP NO. 9.5.3

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [X] No [ ]

   Comments: Initiated @ 0843 by turning off the O2 Analyzer channel

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [X] No [ ]

   Comments: Yes, WH1810 provided guidance to the WHS which prescribed the appropriate actions to investigate and evaluate the symptoms identified by the DAS.

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [ ] No [X]

   b. Normal wear and tear? Yes [ ] No [X]

   Comments: WHT followed the requirements of Section 7.6 of WP 05-WH1810, Routine Air Monitoring for O2 Monitor Failure Response.

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Oxygen Analyzer/Sensor Failure

05-WH5101 STEP NO. 9.5.3

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [X] No [ ]

Comments: HPT did monitor WHTs as they inspected the DRU for obvious damage to the O_2 Analyser Unit. Drill was terminated at the point the WHS & SNC PE determined Changout of the O_2 Analyser was required.

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [X] No [ ]

Comments:

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [X] No [ ]

If No, recommendations/comments:

[signature] 07/19/91
CTE Signature /Date

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Primary Mechanical Safety Relief Path Failure

05-WH5101 STEP NO. 9.5.4

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

Yes [X] No [ ]

Comments: Yes, Drill was discussed with WHS, and WHS directed the WHT to open PR-9 and stand back while Venting the RCB to Atmosphere for Drill initiation.

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

Yes [X] No [ ]

Comments: Yes, WH1810 provided guidance to WHS and directed WHT to check Valve Lineup and connections. WHT reported no deficiencies and WHS consulted SNL for further direction.

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

a. Design specifications? Yes [ ] No [X]

b. Normal wear and tear? Yes [ ] No [X]

Comments: No evaluation could be performed until the Relief Valve & Disk Assembly have been removed and evaluated. This was not req'd for the drill performance.

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Primary Mechanical Safety Relief Path Failure

05-WH5101 STEP NO. 9.5.4

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [ ] No [X]

Comments: NA, not req'd for this was mainly looking for response from WHS and SNL personnel as to what appropriate actions would be taken. WHT inspection for Value Line up and connections was done with ALARA in mind.

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [X] No [ ]

Comments: Yes, very smooth response from all parties involved

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [X] No [ ]

If No, recommendations/comments:

R B Brown 07/12/91
CTE Signature /Date

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Secondary Instrument Board Flow Transducer Failure

05-WH5101 STEP NO. 9.5.5

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [] No []

   Comments:

MA 07-26-91

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No []

   b. Normal wear and tear? Yes [] No []

   Comments:

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Secondary Instrument Board Flow Transducer Failure

05-WH5101 STEP NO. 9.5.5

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

N/A RJZ 07-26-91

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

CTE Signature /Date

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Bin Low Pressure

05-WH5101 STEP NO. 9.5.6

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

Yes [X] No [ ]

Comments: BIR was at Low Pressure and directed the CAS operator to put DAS into Pressure monitoring mode for TBX07.

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

Yes [X] No [ ]

Comments:

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

a. Design specifications? Yes [ ] No [~~ ~~]

b. Normal wear and tear? Yes [ ] No [~~ ~~]

Comments: Loss of Pressure was determined to be due to excessive gas sampling. Not Applicable

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Bin Low Pressure

05-WH5101 STEP NO. 9.5.6

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [ ] No [~~]

Comments:
Not Applicable
WHMD HP Controls Previous BIR Pressurization exercise demonstrated the WHT Ability to Pressurize Under HP Controls.

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [~~X~~] No [ ]

Comments:

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [~~X~~] No [ ]

If No, recommendations/comments:

H. Brown 07/22/91
CTE Signature /Date

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Contaminated Assessment Filter

05-WH5101 STEP NO. 9.5.7

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

Yes [X] No [ ]

Comments: Sample from TBX05 was determined by Observer to have a contaminated RAF

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

Yes [X] No [ ]

Comments: WHS used procedure WH1810 for guidelines and worked with HPTs in containing the Module.

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

a. Design specifications? Yes [ ] No [ ]

b. Normal wear and tear? Yes [ ] No [ ]

Comments: Not Applicable

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Contaminated Assessment Filter

05-WH5101 STEP NO. 9.5.7

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [X] No [ ]

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [X] No [ ]

Comments:

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [X] No [ ]

If No, recommendations/comments:

B Brown 07/19/91
CTE Signature /Date

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Contaminated Equipment Module Fitting

05-WH5101 STEP NO. 9.5.8

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [X] No [ ]

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [X] No [ ]

   Comments: WHS used WP 05-WH1810. HPT had copy of WP 12-5 in their Cover office at the entrance to the RMAs at RH 1.

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [ ] No [ ]

   b. Normal wear and tear? Yes [X] No [ ]

   Comments: Abnormal Failure of HEPA Filter and RAF were simulated causes of this drill.

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Contaminated Equipment Module Fitting

05-WH5101 STEP NO. 9.5.8

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [X] No [ ]

Comments: HPT provided satisfactory guidance and instructions to the WHT as to how to bag the gas module.

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [X] No [ ]

Comments:

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [X] No [ ]

If No, recommendations/comments:

Brown 07/12/91
CTE Signature /Date

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Loose Surface Contamination on Bin

05-WH5101 STEP NO. 9.5.9

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [] No []

   Comments:

N/A RBB 07-26-91

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No [] N/A [ ]

   b. Normal wear and tear? Yes [] No [] N/A [ ]

   Comments:

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Loose Surface Contamination on Bin

05-WH5101 STEP NO. 9.5.9

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

N/A AR 07-26-91

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

CTE Signature /Date

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Contaminated Personnel

05-WH5101 STEP NO. 9.5.10

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [] No []

   Comments:

N/A RR 07-26-91

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No [] N/A [ ]

   b. Normal wear and tear? Yes [] No [] N/A [ ]

   Comments:

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Contaminated Personnel

05-WH5101 STEP NO. 9.5.10

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

N/A AB 07-26-91

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

_____ /_____
CTE Signature /Date

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Loss of DAS Shed Power to Bins

05-WH5101 STEP NO. 9.5.11

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

Yes [X] No [ ]

Comments: DAS SHED 480 V Power Supply disconnect was opened for 30 seconds and re closed for Initiation of drill

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

Yes [ ] No [X]

Comments: SKL 362 does not provide the same guidance for contacting the WHS as does Step 7.12 of WP 05-WH1810.

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

a. Design specifications? Yes [ ] No [~~]~~

b. Normal wear and tear? Yes [ ] No [~~]~~ Not Applicable

Comments: Power loss to DAS Shed was performed at disconnect for drill initiation

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Loss of DAS Shed Power to Bins

05-WH5101 STEP NO. 9.5.11

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [ ] No [X]

Comments: Not Applicable

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [ ] No [X]

Comments: Procedures SNC-362 & WP05-WH1810 do not provide equal guidance, to ensure that the CMR Contacts WHS.

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [X] No [ ]

If No, recommendations/comments:
Overall Personnel knew what actions to take, but procedures differed.

[signature] 07-22-91
CTE Signature /Date

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Flammable Gas Concentration High

05-WH5101 STEP NO. 9.5.12

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

Yes [X] No [ ]

Comments: Lab informed WHS of >2.05% H_2 Flammable Gas Concentration

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

Yes [X] No [ ]

Comments: WHS Conferred with Procedure WH1810 And SNL PI And determined to Purge for 1 hour And Sample.

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

a. Design specifications? Yes [ ] No [N]

b. Normal wear and tear? Yes [ ] No [N]

Comments: not Applicable

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Flammable Gas Concentration High

05-WH5101 STEP NO. 9.5.12

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [X] No [ ]

Comments: Personnel located at bin were Filmed for later review of Dose Assessment.

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [ ] No [X]

Comments: WH1803 requires PCN to address Purging Flow rate from 10 to 100 as indicated on flow meter. WHS Concerns for Purging O2 from Lines prior to Purging, to Prevent charging O2 from hose into bin

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [X] No [ ]

If No, recommendations/comments:

[signature] 07/19/91
CTE Signature /Date

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Failure of a Particulate Filter and Hose

05-WH5101 STEP NO. 9.5.13

1. Did drill preparation controls provide adequate, accurate, and safe guidance to perform the event/drill?

   Yes [] No []

   Comments:

2. Were site approved procedures used for the performance of this event/drill? If no, list the procedure and its status below.

   Yes [] No []

   Comments:

N/A AOE 07-26-91

3. Were participant observations during this event/drill sufficient to determine if the equipment malfunction was due to either of the following:

   a. Design specifications? Yes [] No [] N/A [ ]

   b. Normal wear and tear? Yes [] No [] N/A [ ]

   Comments:

ATTACHMENT 4

ISC UNUSUAL EVENT/DRILL CRITIQUE SHEET

DRILL: Failure of a Particulate Filter and Hose

05-WH5101 STEP NO. 9.5.13

4. Were radiological controls associated with this event/drill, implemented, personnel exposures assessed, and ALARA practices consistent with the requirements of WP 12-5, Radiation Safety Manual?

Yes [] No []

Comments:

5. Were the overall activities/responses observed during this event/drill indicative of sufficient procedural controls?

Yes [] No []

Comments:

N/A ATR 07-26-91

6. Was the overall response to this event/drill indicative of satisfactorily trained participants?

Yes [] No []

If No, recommendations/comments:

CTE Signature /Date

ATTACHMENT 5

ISC SYSTEM/SUBSYSTEM READINESS VERIFICATION SHEET

The following records were received in accordance with site letter HA:91:3623.

[ ]	Waste Handling Building HVAC	[ ]	TRUPACT Unloading Dock and Associated Equipment
[ ]	SWB and Bin Handling Equipment	[ ]	SWB Ventilation Hood
[ ]	RCB Lids	[ ]	Bin Pressurization Test Rig
[ ]	Gas Analysis Equipment	[ ]	Bin Gas Recirculation
[ ]	Surface Bin Gas Sampling Equipment	[ ]	Underground Bin Gas Sampling Equipment
[ ]	Exercise Bins	[ ]	Bin Filters
[ ]	SWB	[ ]	Facility Pallet and SWB Hold-downs
[ ]	Fork Trucks	[ ]	Overpack Enclosure
[ ]	Conveyance Loading Car	[ ]	Underground Transporter
[ ]	Waste Hoist	[ ]	Underground Ventilation
[ ]	Underground Fork Lifts	[ ]	Room 1 Bulkheads
[ ]	DAS	[ ]	Site VOC Monitoring Systems
[ ]	Room 1 Electrical Distribution	[ ]	Bin Platforms
[ ]	Bin VOC Monitoring System	[ ]	Room 1 CAMs and Fixed Air Monitors
[ ]	Oxygen Gettering/Argon Purge System	[ ]	Instrumentation Strings
[ ]	Tracer Gas Injection System	[ ]	Low Level Radiological Monitoring System (smear counting)
[ ]	Mechanical Relief Modules	[ ]	Backup Power to Panel 1
[ ]	Waste Handling Building CAMS and Effluent	[ ]	Leak Test Equipment
[ ]	Contract Lab for VOC		
[ ]	Argon, Nitrogen, Air Purge Equipment		

N/A See Surface Sections 9/26/91

ATTACHMENT 5

ISC SYSTEM/SUBSYSTEM READINESS VERIFICATION SHEET

The following records were received in accordance with Step 8.1, copy of Readiness Review Board declaration of site and system readiness.

The requirements of Attachment 5 are complete

CTE _____

Print Name | Initial | Date

MH See Surface Section AP 07-26-91

ATTACHMENT 6

ISC CTE CHECKOUT LOG

Attached is/are the log(s) maintained by the Checkout Test Engineer.

Log Attachment 6 to WP05-WH5108, ISC Procedure
Print any identifiers

Number of pages 13

Effective dates 07-09-91 through 07-26-91

CTE AL BROWN [signature] 07-26-91
Print Name Initial Date

Log _____
Print any identifiers

Number of pages _____

Effective dates _____

CTE _____
Print Name Initial Date

Log _____
Print any identifiers

Number of pages _____

Effective dates _____

CTE _____
Print Name Initial Date

N/A [signature] 07-26-91

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 1 OF

ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
07/09/91	Section	Commenced with Section 8.0, to	
0830	8.0	Complete Prior to starting with	
	Surface	Section 9.0 very Soon now.	
		C. Kelley & I Verified Steps 8.2.1	
		through 8.2.4 As complete for ISC.	
		J. Winkel & I Verified Step 8.3	
		As ready to start ISC.	
		I held briefings with each of the	
		discipline managers as depicted	
		on Attachment 3, with no negative	
		comments from the group	
		A Brown	AB
07/10/91	Surface	Completing Section 8.0, need step	
0730		8.1 from C. CONWAY to start Section	
		9.0.	AB
07/10/91	Section	Recieved direction from RWHE	
1000	8.0	Manager J. J. Garcia, to start	
	Surface	the U/G ISC Portion, since Section	
		8.0 Step 8.1 has been satisfied by	
		meeting minutes RB:91:0547 which	
		will address systems support to start	
		ISC.	AB
07/10/91	Section	Commenced performing Step 9.2.1 @	
1200	9.2	1200, informed B. McMillian of our	
	U/G	intentions to support the Camera Crew	

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 2 OF 13
ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
07/10/91	Section 9.2	Continued: During the Performance of this	
1200	U/G	Step 9.2.1, for Dose Assessments	
LATE ENTRY 0834	Step 9.3.1	WHO Performed the daily WH1810,	
	U/G	Routine Bin Monitoring on TBX07	
07/10/91 1350	Step 9.2.1	Completed connecting bin equipment,	
	U/G	Commenced with SNL connection &	
		c/o of the D.A.S. on TBX07	
07/10/91 1630	Step 9.2.1	Completed D.A.S. Activation of TBX07	
	U/G	on FORM 2138. Secured from RMA	
		Condition in RM 1 & Secured for today	
07/11/91 0953	Step 9.3.1	Commenced with WH1810, Routine	
	U/G	Bin Monitoring of TBX07 and	
		Completed the daily Log Checks	
07/11/91 0955	Step 9.2.1	B. McMillian Provided me with FORM 2138	
	U/G	of WH1910	
07/11/91 1010	Step 9.2.2	Directed B. McMillian to Perform WH1806,	
	U/G	Bin Gas Sampling for TBX07	
07/11/91 1655	Step 9.2.2	B. McMillian informed me that WH1806,	
	U/G	Bin Gas Sampling for TBX07 is Complete	

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 3 OF

ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
07/11/91 1700	Step 9.2.6	Directed B. McMillian to Perform WH1809,	
	U/G	Bin Pressurization	
07/11/91 1805	Step 9.2.6	B. McMillian informed me that WH1809,	
	U/G	Bin Pressurization is completed.	
		Secured from ISC Testing for today.	
		D.A.S. Activated!	
Late Entry 07/12/91 0800	Step 8.1	Received Meeting Minutes documentation,	
		RB: 91:0547 for Verification of	
		Systems Support for Starting ISC.	
07/12/91 0900	Step 9.2.6	Received WH1809, Bin Pressurization	
		FORM 2086 from B. McMillian Along	
		with QA Verification, TBX07 depressurized	
07/12/91 0930	Step 9.2.7	Directed B. McMillian to repressurize	
	U/G	TBX07 to 14.35 PSI IAW WH1809,	
		for Support of Step 9.2.7 & Unusual	
		Event/Drill 9.5.4 Scheduled.	
07/12/91 1000	Drill 9.5.4	Pressurization of TBX07 Completed and	
	U/G	D.A.S. Activated, Commenced Unusual	
		Event/Drill 9.5.4 by depressurizing bin.	
07/12/91 1010	Step 9.2.7	Directed B. McMillian to Perform WH 1811,	
	U/G	Tracer Gas Injection along with Drill	
		Since there is no impact to the drill	

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 4 OF 13
ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
07/12/91 1050	Drill 9.5.4	Completed Unusual Event/Drill 9.5.4	
	U/G	Satisfactory, and Attachment 4 completed	
07/12/91 1240	Step 9.2.7	B. McMillian informed me that WH1811,	
	U/G	Tracer Gas Injection was completed	
07/12/91 1250	Step 9.3.2	Directed B. McMillian to Perform WH1806	
	U/G	on TBX07, Biz Gas Sampling. Performed	
		Unusual Event/Drill 9.5.8 during	
		this Step on the Reactive Gas Sample	
		Module.	
07/12/91 1430	Drill 9.5.8	Commenced Unusual Event/Drill 9.5.8	
	U/G	during removal of the Reactive Gas	
		Sample Module.	
07/12/91 1445	Drill 9.5.8	Satisfactory Completed Unusual Event/	
	U/G	Drill 9.5.8 and Step 9.3.2 for	
		the Biz Gas Sample, WH1806.	
07/12/91 1450	Step 9.3.1	Completed Routine Biz Monitoring for	
	U/G	TBX07, daily logs for past few	
		days and will receive FORMS	
		2129 through 2133 of WH1810	
		to be attached Later.	
07/12/91 1530	U/G	Secured from Interval ISC Performance	

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 5 of 12
ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
07/16/91	N/A	Today the VOC Group staged A	
14:15	Surface	demonstration on Packaging and	
		Shipping off-site three VOC	
		Canisters. I took the opportunity	
		to witness the event and obtained	
		a copy of the shipping documents	
		for attachment to this Procedure.	
		No Signatures were taken credit	
		for in this procedure for this event	
		Since the Samples were previously	
		taken outside the ISC procedure	
		direction. Steps 9.3.4 & 9.3.5	
		of this Procedure will be demonstrated	
		per Schedule and documented later.	
		[signature]	
		07-23-91	
		[signature]	

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 6 OF 13
ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
07/17/91	8.1	Received Letter RB:91:0569 from	
0930	Surface	C. Conway, which Provides readiness	
		Verification in support of	
		Commencing with the External ISC	AMB
07/17/91	9.1.3	Directed B. McMillian to Perform	
1033	U/G	WH1901 Bin Handling Procedure and	
		emplace TBX05	AMB
07/17/91	9.1.3	B. McMillian informed me that TBX05	
1110	U/G	is emplaced.	AMB
07/17/91	9.2.1	Directed B. McMillian to Perform	
1113	U/G	WH1910, Bin Equipment Connection	
		on TBX05	AMB
07/17/91	Late Entry 0915	B. McMillian informed me that	
1115	U/G	WH1810, Routine Bin Monitoring	
		Procedure Logs are established	
		Per Step 9.3.1 for TBX05	AMB
07/17/91	9.2.1	B. McMillian informed me that	
1600	U/G	WH1910, Bin Equipment Connection	
		C/O is complete for TBX05 and	
		Form 2138 will be Provided Later	
		upon Surface Completion of WH1901	AMB

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 7 OF

ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
07/17/91	9.2.4	Directed B. McMillian to Perform	
1605	U/G	WH1801, O2 Gettering on TBX05.	
		Note: Purging Step 9.2.3 of TBX05	
		Will be Performed Later	
07/17/91	9.2.4	B. McMillian informed me that	
1735	U/G	WH1801, O2 Gettering of TBX05	
		is Complete. Sending the O2	
		Gettering Cart Unit to the Surface	
		to Perform Step 9.2.5, Procedure	
		WH 1802, O2 Getter Regeneration.	
		Secured from ISC Testing for Today	
07/18/91	9.3.1	B. McMillian informed me that WH1810	
0830	U/G	B.2 Monitoring of TBX05 daily Log	
		Checks is complete	
07/18/91	9.2.6	Directed B. McMillian to Perform WH1809	
0850	U/G	B.2 Pressurization on TBX05. Received	
		Forms 2088 & 2138 from B. McMillian	
07/18/91	9.2.6	TBX05 Pressurized and B. McMillian	
1100	U/G	requested that TBX05 be Placed on	
		the DAS Pressure Relief Program	
	LATE ENTRY	Received Form 2086 @ 0845 07/19/91	

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 8 OF 13
ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
07-18-91	9.5.1	Performed Unusual Event/Drill	
1155	U/G	9.51 on TBX07. Secured from	
		ISC Testing for today	
		[signature]	
07-19-91	9.3.1	B. McMillion informed me that WH1810	
0859	U/G	Air Monitoring for TBX05 daily log	
		Checks is Complete.	[signature]
07-19-91	9.5.3	Initiated & Performed Unusual Event	
0859	U/G	Drill 9.5.3 on TBX07	[signature]
07-19-91	9.5.12	Initiated and Performed Unusual	
0935	U/G	Event/Drill 9.5.12 on TBX05	[signature]
07-19-91	9.5.6	Initiated and Performed Unusual	
1202	U/G	Event/Drill 9.5.6 on TBX07	[signature]
07-19-91	9.3.4	Directed P. Hartness to Perform Procedure	
1215	U/G	WP12-EM1624, VOC Sample Canister	
		Handling and Send to Surface for Packaging	
		& Shipping off Site.	[signature]
07-19-91	9.2.3	Performed WH 803 in Support of Drill	
1300	U/G	9.5.12 on TBX05	[signature]
07-19-91	9.5.7	Initiated and Performed Unusual Event	
1445	U/G	Drill 9.5.7 on TBX05.	[signature]

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 9 O

ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
07/19/91	U/G	Completed Testing for the day and	
		will Pick up on TRACER GAS	
		Injection next. WH1811 Step	
		9.2.7	
		A Brow	
07/22/91	9.3.1	B McMillian informed me that WH1810	
0911	U/G	Bin Monitoring for TBX05 daily Log	
		Checks are Completed. Also	
		received FORMs 2129-2133 and	
		FORM 1915 from WHS.	
07/22/91	9.2.7	Directed B. McMillian to Perform	
0912	U/G	Procedure WH1811, TRACER Gas Inj.	
		on TBX05	
07/22/91	9.2.7	B. McMillian informed me that WH1811	
1055	U/G	was complete on TBX05.	
07/22/91	9.3.2	Directed B. McMillian to Perform	
1058	U/G	WH1806, U/G Bin GAS Sampling on	
		TBX05, for T=0,	
07/22/91	9.3.2	B. McMillian informed me that WH1806	
1258	U/G	was complete on TBX05.	
07/22/91	9.3.4	Commenced VOC 10 CANister Handling	
1300	U/G	Per Step 9.3.4 of WP12-EM1624	

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 10 OF 13
ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
07/22/91	9.5.11	Initiated Unusual Event/Drill	
1330	U/G	9.5.11, Loss of DAS SHED Power,	
		Verified CMR Contacted WHS	
		after being called by the DAS	
		SHED Auto-Dialer System.	
07/22/91	Attach 7	Initiated Form Attachment 7 for	
1340	U/G	SNL & WHM Approval to	
		Terminate from Testing TBX05	
		Attachment 7 Later	
07/22/91	9.6.2	Directed B. McMillian to Perform	
1342	U/G	WH1806 for T2 Termination Sample	
		on TBX05 and Since two Samples	
		T=0 & T=Termination were Performed	
		This date, Credit was taken for	
		TBX07 - T2 termination Signed off.	
		Since both Samples are the same	
		there is no need to perform three	
		Samplings for demonstration.	
07/22/91	9.6.3	Directed B. McMillian to Perform	
1536	U/G	WH1912, Bin Equipment Removal,	
		SNL to take TBX05 readings and	
		depressurize	
07/22/91	9.5.6	Directed B. McMillian to Pressurize TBX07	
1550	U/G	in response to Unusual Event/Drill 9.5.6	

DATE/TIME	STEP(S)	ENTRY	INIT
07/22/91	9.5.6	Continued drill response to 9.5.6	
1550	U/G	from 07/19/91. Drill was secured	
		due to lack of time and the	
		response to the BIR low Pressure	
		was that SWC directed WHS to	
		depressurize TBX07 to 14.35 PSIA	AB
07-22-91	Note:	Performance of Step 9.6.3 was	
1550		to demonstrate with TBX05, but	
		the Procedure Step mistakenly depicts	
		both TBX05 & TBX07. Since TBX07	
		holds its Pressure better than TBX05,	
		it was determined that the BIR	
		Equipment Disconnect would be	
		demonstrated on TBX05 and the	
		depressurization in accordance with	
		WH1912 would be demonstrated	
		on TBX07.	AB
07/22/91	9.5.6	Completed Pressurizing ~~TBOX~~ TBX07 and	
1700	U/G	Secured from Unusual Event/WHU	AB
07/22/91	9.6.3	Completed WH1912, BIR Equipment	
1710		disconnect as informed by B. McMillion	
		on TBX05, using TBX07 to Perform	
		demonstration of the BIR depressurization	
		Portion of WH1912.	AB

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET
ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
07/23/91	9.3.1	B. McMillian informed me that WH1810	
0930	U/G	Routine Biz Monitoring for TBX05 and	
		daily Log checks were completed	
07/23/91	9.6.4	Directed B. McMillian to Perform	
0945	U/G	Procedure WH1902, Biz Retrieval	
		for TBX05.	
07/23/91	9.6.4	B. McMillian informed me that WH1902	
1100	U/G	was complete for U/G on TBX05	
07/23/91	9.3.5	Directed P. Martinez to Perform	
1105	U/G	Procedure WP 12-EM1603, VOST	
		Tubes & Carbon Bed.	
07/23/91	9.3.5	Completed Carbon Bed replacement	
1130	U/G	Portion of Procedure EM1603	
1140		completed VOST Tubes replacement	
07/23/91	ISC	Completed the Performance of the	
1145	U/G	ISC Procedure for the U/G	
		Portion and Secured from Testing	
		07-23-91	

WASTE ISOLATION PILOT PLANT
WIPP DRY BIN-SCALE CH TRU WASTE INTEGRATED SYSTEM CHECKOUT

LOG SHEET PAGE 13 OF

ATTACHMENT 6 to WP 05-WH5101, ISC Procedure

DATE/TIME	STEP(S)	ENTRY	INIT
07-26-91	Review	Reviewed and compiled all reports, Attachments in accordance with Attachment 9 and placed Attachment 3, Attachment 5 and Attachment 8 into the Surface Section of the ISC Procedure. Wrote Cover Letter to J.J. GARCIA Summarizing this Procedure and directing it to be Filed into the WIPP Engineering Records Files under System WH06, Bin Scale Tests.	
08-01-91		[signature]	

ATTACHMENT 7

ISC BIN CHECKOUT TERMINATION NOTIFICATION

Bin TBX05 is terminated from the checkout and is to be retrieved from the underground.

	Print Name	Initial	Date
SNL QA	Janis Trone	JT	7-22-91
WHO MGR	W.D. McMillian per C.R. Kelley	WDM	7-23-91

Bin TBX06 is terminated from the checkout and is to be retrieved from abeyance on the surface.

	Print Name	Initial	Date
SNL QA	N/A		07-26-91
WHO MGR	N/A - Surface		

Sandia National Laboratories

Albuquerque, New Mexico 87185

Attachment 1

date: July 22, 1991

to: Memo of Record

Janis Stone for A.O.

from: Andrew Orrell, Bin Task Leader

subject: Termination of Checkout of Test Bins TBX05 and TBX07

It has be determined that checkout of Test Bins TBX05 and TBX07 should be terminated. Please terminate as per WID procedure WP05-5101.

Concurrence: Clint Kelley, WHO Manager

ATTACHMENT 8

ISC LEAD OBSERVER FINAL REPORT

Attached is/are the final report(s) maintained by the ISC Lead Observer.

Log _____
Print any identifiers

Number of pages _____

Effective dates _____

CTE _____
Print Name Initial Date

Log _____
Print any identifiers

Number of pages _____

Effective dates _____

CTE _____
Print Name Initial Date

See Surface Section 07-26-91

ATTACHMENT 9

ISC PROCEDURE COMPLETION VERIFICATION SHEET

The following items are herein attached as the Record Package for WP 05-WH5101 and have been reviewed as per Step 11.0.

	CTE	DATE
Attachment 2, ISC Checkout Tracking Report	AB	07-25-91
Attachment 3, ISC Pre-Checkout Briefing Sheet	AB	07-10-91 See Surface Section
Attachment 4, ISC Unusual Event/Drill Critique Sheet	AB	07-25-91
Attachment 5, ISC System/Subsystem Readiness Verification Sheet	AB	07-12-91 See Surface Section
Attachment 6, ISC CTE Log Books	AB	07-23-91
Attachment 7, ISC Bin Checkout Termination Notification	AB	07-23-91
Attachment 8, ISC Observer Report	AB	07-25-91 See Surface Section

CTE A. BROWN A Brown 07-26-91

Print Name Signature Date

VALIDATION: Completion of this Step constitutes validation of this procedure.

RWHE J. J. GARCIA John J. Garcia 8/9/91

QA M. J. Trefren M J Trefren 8-12-91

Print Name Signature Date

WORKING COPY
[ ] Revision Checked
[ ] Page Checked
NAME
SIGN
Bin Handling
DATE

STEP NO.	DESCRIPTION	INITIAL
6.2	Test Bin ID:_____	
6.3	Torque Wrench _____ Range / _____ ID Number / _____ Cal Due Date Torque Wrench _____ Range / _____ ID Number / _____ Cal Due Date	
6.4	RWP:_____ SWP:_____	
6.10	CMRO Notified Date:_____ Time:_____	
7.1.29	Valve tamper indicating devices intact	
7.1.34	PR-1, INSTR PORT Valve open PR-2, INSTR PORT BACKUP Valve open GR-1, RECIRC OUT Valve open GR-2, RECIRC IN Valve open INDEPENDENT VERIFICATION _____	
7.1.36	1" hose connected to OG/AP-1 1" hose connected to OG/AP-2 1" hose connected to GRB-1 1" hose connected to GRB-2 INDEPENDENT VERIFICATION _____	
7.1.37	OG/AP-1, OXYGEN GETTER/ARGON Valve open OG/AP-2, OXYGEN GETTER/ARGON Valve open GRB-1, OXY GETTER/RECIRC OUT BACKUP Valve open GRB-2, OXY GETTER/RECIRC IN BACKUP Valve open INDEPENDENT VERIFICATION _____	
7.1.42	**HOLD POINT** ALL thermocouple checks satisfactory	EOT

PCN 00-01

9.1.3

PCN 00-02

ISC DATA

Bin Handling (Continued)

STEP NO.	DESCRIPTION	INITIAL
7.1.51.D)	Static Ground Bolt torqued 25-27 in-lbs **QA HOLD POINT** _____	
7.1.56	PR-1, INSTR PORT hose connected PR-2, INSTR PORT BACKUP hose connected GR-1, RECIRC OUT hose connected GR-2, RECIRC IN hose connected OG/AP-1, OXY GETT/ARGON hose connected OG/AP-2, OXY GETT/ARGON hose connected GRB-1, OXY GETT/RECIRC OUT BACKUP hose connected GRB-2, OXY GETT/RECIRC IN BACKUP hose connected INDEPENDENT VERIFICATION _____	
7.1.69	All RCB Lid Bolts torqued to 30 ± 5 ft-lbs **QA HOLD POINT** _____	
7.1.70	All RCB Lid Bolts torqued to 50 ± 5 ft-lbs **QA HOLD POINT** _____	
7.2.3	No CH Bay CAMs indicate airborne activity No loose surface contamination in CH Bay No loose surface contamination on the RCB RCB properly tagged with radiological information **HPT HOLD POINT** _____	
7.3.7	WT12345678910 / TBX05 RCB Package ID No. / Test Bin ID No. **QA HOLD POINT** N/A	
7.3.8.B)	7/12/91 / 1114 / 1 / 1 / 1 / 28 Date / Time / Panel / Room / Position **QA HOLD POINT** N/A	
7.3.9	CMRO Notified Date: 7/12/91 Time: 1118	

ISC DATA

Bin Handling (Continued)

PCN 00-07

Performers responsible for step completion or data recording SHALL enter their printed names, initials and date below:

Print Name	Initial	Date
W.D. McMillian	WDM	7/17/91
K.A. Lacy	KAL	7/17/91

REMARKS: for ISC (TSX05 a portion performed first.)

8.2 REVIEW This record has been reviewed and is found to be complete.

WHS (Print Name)	(Signature)	Date	Time
W.D. McMillian	WDM	7/17/91	1122

9.4 VALIDATION Completion of this step constitutes validation of this record.

Manager (Print Name) Waste Handling Operations	(Signature)	Date	Time
C.R. Kelley	C.R. Kelley	7/18/91	12:30

ISC DATA 9.1.3

WORKING COPY
[ ] Revision Checked
[ ] Page Checked
NAME W. D. McMillan
SIGN W D McMillan
DATE 7/10/91

ATTACHMENT 1

Page 1 of 2

Bin Equipment Connection For Emplacement

STEP	DESCRIPTION	INITIALS
7.1	TBX07 / 91-0170 / NA Test Bin ID / RWP Number / SWP Number	MJ
7.2	1037-1 / 7-16-91 Oxygen Analyzer ID / Cal Due Date	MJ
	081546 / 7-16-91 Oxygen Sensor ID / Cal Due Date	MJ
	BA410113 / 1-1-92 Flow Monitor / Cal Due Date	MJ
	BA410113 / 1-1-92 Flow Indicator / Cal Due Date	MJ
	76907-1-10 Primary Instrument String ID	MJ
	76907-1-1E Secondary Instrument String ID	MJ
	75-CM-0109 / 8-19-91 Bin Pressure Gage / Cal Due Date	MJ
7.44.1	PR-1 Valve open INDEPENDENT VERIFICATION BS	
7.44.2	PR-7 Valve open INDEPENDENT VERIFICATION BS	
7.44.3	PR-15 Valve open INDEPENDENT VERIFICATION BS	
7.45.1	PR-1 Valve tamper indicating device installed INDEPENDENT VERIFICATION BS	
7.45.2	PR-7 Valve tamper indicating device installed INDEPENDENT VERIFICATION BS	
7.45.3	PR-15 Valve tamper indicating device installed INDEPENDENT VERIFICATION BS	
7.53.1	PR-2 Valve open INDEPENDENT VERIFICATION BS	
7.53.2	PR-8 Valve open INDEPENDENT VERIFICATION BS	
7.53.3	PR-16 Valve open INDEPENDENT VERIFICATION BS	

7/16
Stop 9.2.1

ATTACHMENT 1 Page 2 of 2

Bin Equipment Connection for Emplacement (Continued)

STEP	DESCRIPTION	INITIALS
7.54.1	PR-2 Valve tamper indicating device installed INDEPENDENT VERIFICATION BS	AWM
7.54.2	PR-8 Valve tamper indicating device installed INDEPENDENT VERIFICATION BS	AWM
7.54.3	PR-16 Valve tamper indicating device installed INDEPENDENT VERIFICATION BS	AWM
7.57	The following connected to DAS and in service: Oxygen Monitor Primary Instrument String Secondary Instrument String Thermocouples	DAS TECHNICIAN TR TR TR TR
Performers responsible for step completion or data recording SHALL enter their printed names, initials, and date below.		

PCN 00-01

PRINT NAME	INITIAL	DATE
Anthony W. MATHEW	AWM	7-10-91
BART L. SMITH	BS	7-10-91
Melody Smith	MS	7-10-91
Danny Richey	TR	7-10-91

REMARKS Performed for ISC

8.2 REVIEW This record has been reviewed and is found to be complete.

WHS (Print Name)	(Signature)	Date	Time
W. D. K. Miller	WD McCarl	7/11/91	1007

9.4 VALIDATION Completion of this step constitutes validation of this record.

SNL QA Chief (Print Name)	(Signature)	Date	Time
SUSAN Y. PICKERING	Susan Y. Pickering	7-26-91	13:10

ISC DATA

9.2.1

HOLD POINT

7.2.19 HPT to verify the RAF activity is below acceptable limits.

SIGNOFF REQUIRED

[ ] 7.2.20 Remove HEPA Filter from the evacuation port SM-4.

[ ] 7.2.21 Install caps on the HEPA Filter.

[ ] 7.2.22 Install end cap on the evacuation port SM-4 connector.

7.3 PLACING THE LEAK DETECTOR IN STANDBY

[ ] 7.3.1 LTT remove the Leak Detector Hose Assembly from the Test Port on top of the leak detector.

NOTE: Hand tightness of the Test Port plug is sufficient to compress the O-ring and establish a vacuum tight seal. This Note applies to Step 7.3.2.

[ ] 7.3.2 LTT insert and tighten the Test Port plug.

[ ] 7.3.3 LTT verify the operating handle of the leak detector is in VENT position.

[ ] 7.4 Performers of this procedure **SHALL** complete Step 9.4.

[ ] 7.5 Forward the procedure to the Waste Handling Supervisor (WHS).

8.0 REVIEW

8.1 WHS **SHALL** review this procedure for completeness and **SHALL** print name, then sign and date in the space below:

NAME (PRINT)	SIGNATURE	DATE
W.O. McMillin	W O McM	7/19/91 7/11/91

Comments N/A 7.1.5 & 7.1.19 Won't pass Lockcheck on Water Vapor Manifold. Tightened fittings & retried, still failed. ISC DATA Step 9.2.3

4/6

ATTACHMENT 1 original cf

Page

SAMPLE CHAIN OF CUSTODY

Sample Apparatus Data & Custody Trail to Sample Location:

Apparatus ID # W.L # 100 | Requesting Department WHO | Ready For Use ☒ YES ☐

Sample Custody Trail to Sample Location	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Lab Tech Cheryl Payton	N/A	N/A	7/11/91: 0755	CP
Custodian A.W. MASHAW	07-11-91 0956	AWM	7-12-91 1541	AWM
Custodian				
Custodian				

Sample Data:

Sample Number : W P - 0 7 1 1 9 1 - W L 1 0 0
(Sample Date: 07 11 91 — Apparatus I.D.: WL 100)

Bin ID Number TBX-07 | Sample Matrix

Sample Type
- ☐ Reference Standard
- ☐ Field Blank
- ☐ Manifold Blank
- ☒ Sample
- ☐ Duplicate
- ☐ Head space

Analysis Request
- ☐ Reactive Gases
- ☐ VOC/Inorganic Gases
- ☐ Flammable inorganic
- ☐ Flammable VOC's
- ☐ Flame Test
- ☐ Head space

SAMPLE TIME : 1552 SAMPLER : _____

Filter Pack Flow Rate : _____ Flow Time : _____

Sample Custody:

Sample Custody Trail to Laboratory	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Sampler A. W. Mashaw	N/A	N/A	7/12/91/13:35	AWM
Custodian Cheryl Payton	7/12/91/13:35	CP	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A

Sample Disposition:

☑ - ANALYZED ON-SITE | ☐ - SHIPPED OFF SITE

Lab Name Analytical Lab | Lab Number

Date / Time of sample receipt : N/A | Initials CP

Comments : NO discrepancies CP/ NO discrepancies CP/

8.1 REVIEWED BY : R. Bisping (SIGNATURE) 7/29/91 1300 (DATE/TIME)

8.2 RELEASED BY : R. Bisping (SIGNATURE) 7/29/91 1305 (DATE/TIME)

9.4 THIS SIGNATURE CONSTITUTES VALIDATION OF THIS RECORD.

VALIDATED BY : _____ (PRINTED NAME) _____ (SIGNATURE) _____ (DATE/TIME)

ISC Drill Only Record
Not a Laboratory Record
No Validation Required R. Bisping

ISC DATA

WG Step 9.2.2

DATE/TIME

ATTACHMENT 1 Original COC

SAMPLE CHAIN OF CUSTODY

Sample Apparatus Data & Custody Trail to Sample Location

Apparatus ID # W.L #117 | Requesting Department WHO | Ready For Use ☒ YES ☐ N

Sample Custody Trail to Sample Location	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Lab Tech Cheryl Payton	N/A	N/A	7/11/91 : 0755	CP
Custodian A.W. MASHAW	07-11-91 0757	AWM	7-12-91 1541	AWM
Custodian N/A	N/A	N/A	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A

Sample Data

Sample Number : W P - 0 7 1 1 9 1 - W L 1 1 7
(Sample Date: 07 11 91 — Apparatus I.D.: WL117)

Bin ID Number TBX07 | Sample Matrix Argon gas

Sample Type
☐ Reference Standard ☐ Sample
☐ Field Blank ☐ Duplicate
☐ Manifold Blank ☐ Head space

Analysis Request
☐ Reactive Gases ☐ Flammable VOC's
☐ VOC/Inorganic Gases ☐ Flame Test
☐ Flammable Inorganic ☐ Head space

SAMPLE TIME : 1548 SAMPLER : A.W. Mashaw

Filter Pack Flow Rate : N/A Flow Time : N/A

Sample Custody

Sample Custody Trail to Laboratory	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Sampler A.W. Mashaw	N/A	N/A	13:35 7/12/91	
Custodian Cheryl Payton	7/12/91/13:35	CP	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A

Sample Disposition

☒ - ANALYZED ON-SITE ☐ - SHIPPED OFF SITE

Lab Name Analytical Lab | Lab Number LN / W.L #112

Date / Time of sample receipt : N/A | Initials CP

Comments : No discrepancies CP / [illegible] / No discrepancies CP [illegible]

8.1 REVIEWED BY : K. Bisping (SIGNATURE) 7/25/91 1310 (DATE/TIME)

8.2 RELEASED BY : K. Bisping (SIGNATURE) 7/25/91 1310 (DATE/TIME)

9.4 THIS SIGNATURE CONSTITUTES VALIDATION OF THIS RECORD.

VALIDATED BY : _____ (PRINTED NAME) _____ (SIGNATURE) ISC DATA (DATE/TIME)

WP Form 1834: 04/22/91
Page 1 of 1

ISC Drill Only Record
Not a Laboratory Required
No Validation

JJG 9.25

WP 12-AD3014 Rev

ATTACHMENT 1

Page 1 of 1

Bin Pressurization Record

STEP NO.	DESCRIPTION	INITIAL
7.3	TBX-07 / 91-0173 / N/A Test Bin ID / RWP Number / SWP Number BP-01 / 12-1-91 / Pressure Unit ID / Cal Due Date 14.35 Bin Pressure Range	AWM
7.33	14.15 / 14.15 / 14.13 / 13.92 Press 1 / Press 2 / Press 3 / Press A	WM
7.34	DAS Pressure: 14.1537 30.1607 / 30.3186 / 30.0875 / 30.1249 / 29.9898 TC-1 / TC-2 / TC-3 / TC-4 / TC-5	WM
7.38	Max Flow Rate: 0.998 lpm	AWM
7.43	14.35 / 14.35 / 14.33 / 13.93 Press 1 / Press 2 / Press 3 / Press A	AWM
7.44	Total Gas Added: 16.439 Liters	AWM
7.45	DAS Pressure: PR 14.3348 / sec. 14.3467 30.1588 / 30.3085 / 30.0924 / 30.1279 / 29.9765 TC-1 / TC-2 / TC-3 / TC-4 / TC-5	AWM
7.46	Local Bin Pressure Gage: 0.5	AWM
7.54	**HOLD POINT** RAF Activity < acceptable limit	HPT MB
7.59	**HOLD POINT** RAF Activity < acceptable limit	HPT MB

12 DD 01

Performers responsible for step completion SHALL enter their printed names, initials, and date below.

PRINT NAME	INITIAL	DATE
A.W. MASHAW	AWM	7-11-91
W.D. McMillin	WM	7-11-91
M. Beckman	MB	7-11-91

ISC DATA

REMARKS: _____

8.2 **REVIEW:** This form has been reviewed and is complete. 9.1.6

WHS (Print Name)	(Signature)	Date	Time
W. D. McMillin	WD McM	7/11/91	1820

9.4 **VALIDATION:** Completion of this step validates this form. Step 9.2.6

SNL QA Chief (Print Name)	(Signature)	Date	Time
SUSAN Y. PICKERING	Susan Y. Pickering	7-29-91	0815

WORKING COPY
[✓] Revision Checked
[✓] Page Checked
NAME W. B. Mc Millan
SIGN WBMc
DATE 7/11/91

ATTACHMENT 1

Page 1 of 1

Area/Room Inspection Log

Room Number: 1

Parameter	Date	7/11/91	7/12/91					
Back, Ribs, Floor	✓/U*	✓	✓					
Waste Containers	✓/U*	(U)	(U)					
Warning Signs	✓/U*	✓	✓					
Lighting	✓/U*	(U)	(U)					
Phone System	✓/U*	✓	✓					
Mine Pager System	✓/U*	✓	✓					
Room Ventilation	> 25,000 SCFM	32720	32501					
Fire Extinguishers	✓/U*	(U)	(U)					
RCRA Spill Cabinet	✓/U*	✓	✓					
Radiological Emergency Cabinet	✓/U*	✓	✓					
Initials	N/A	BS	MS					
WHS Review Initials	N/A	MQ	MQ					

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form **SHALL** enter their printed names, initials, and date on WP Form 2133.

PCN 00-02

VALIDATION: Completion of this step validates the Records Package consisting of WP Forms 2129, 2130, 2131, 2132, and 2133.

1. Review this and each attached WP Form. Initial and date the VALIDATION REVIEW space on WP Forms 2130, 2131, 2132, and 2133.

2. Sign below to validate the Records Package.

MARK EBY , Mark Eby , 7/16/91

Operations Assessment Manager (Print Name) Signature Date

ISC DATA

4/16

Step 9.3.1

WORKING COPY
[ ] Revision Checked
[ ] Page Checked
NAME
SIGN
DATE

ATTACHMENT 1

Page 1 of 1

Area/Room Inspected

Room Number:

Parameter	Date	7/9/91	7/10/91		7/12/91			
Back, Ribs, Floor	√/U*	✓	✓					
Lighting	√/U*	U	U		U			
Phone System	√/U*	✓	✓					
Mine Pager System	√/U*	✓	✓					
Room Ventilation	> 25,000 SCFM	28,725	29,338					
Fire Extinguishers	√/U*	✓	U		U			
RCRA Spill Cabinet	√/U*	✓	✓					
Radiological Emergency Cabinet	√/U*	✓	✓					
Initials	N/A	AWM	MS					
WHS Review Initials	N/A	ML	ML					

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form **SHALL** enter their printed names, initials, and date on WP Form 2133.

VALIDATION: Completion of this step validates the Records Package consisting of WP Forms 2129, 2130, 2131, 2132, and 2133.

1. Review this and each attached WP Form. Initial and date the VALIDATION REVIEW space on WP Forms 2130, 2131, 2132, and 2133.

2. Sign below to validate the Records Package.

MARK EBY , Mark Eby , 7/29/91

Operations Assessment Manager (Print Name) | Signature | Date

U16
9.3.1

ISC DATA

ATTACHMENT 2

Page 1 of 1

Gas Flammability Sampling OSR LCO 10.1.2 Log

Date / Time	Analytical Laboratory Contacted	< 50% Lower Flammability Limit √/U*	Initials	WHS Review Initials
7/9/91 1142	N/A Person Contacted	N/A	[illegible]	[illegible]
7/10/91 0818	N/A Person Contacted	N/A	[illegible]	[illegible]
7/11/91 0937	N/A Person Contacted	N/A	BS	[illegible]
7/12/91 0837	N/A Person Contacted	N/A	[illegible]	[illegible]
	Person Contacted			
	Person Contacted			
	Person Contacted			

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form **SHALL** enter their printed names, initials, and date on WP Form 2133.

VALIDATION REVIEW: (Initials) MG (Date) 7/29/91

U/G

ISC DATA

a.3.1

ATTACHMENT 3

Bin Monitoring Log

Room Number: 1 Test Bin No.: TB-002

Parameter								
	Date	7/9/91	7/10/91	7/11/91	7/12/91			
	Time	1129	0819	0942	0838			
RCB Physical Condition								
RCB	✓/U*	✓	✓	✓	✓			
RCB Platform	✓/U*	✓	✓	✓	✓			
Instruments	✓/U*	✓	✓	✓	✓			
RCB Platform Level								
Stable N-S Axis < 2°	✓ U*	✓	Check weekly, indicate status by circling the appropriate ✓ or U*. Record the numerical value in the block.					
Stable E-W Axis < 2°	✓ U*	✓						
Level N-S Axis ± 5°	✓ U*	✓						
Level E-W Axis ± 5°	✓ U*	✓						
Bin Parameters								
O_2 Concentration	% or PPM	N/A	N/A	N/A	N/A			
Recirculation Flow > 250 mL/Min	mL/m	N/A	N/A	N/A	N/A			
Bin Press <0.5 psig	✓/U*	N/A	N/A	N/A	N/A			
OSR Surveillance Requirements								
Primary Valve Seals Intact	✓/U*	U	✓	✓	(U)			
Secondary Valve Seals Intact	✓/U*	(U)	✓	✓	U			
Initials	N/A	AW	MS	DS	MS			
WHS Review Initials	N/A	ML	ML	ML	ML			

PCN 00-01

PCN 00-01

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form SHALL enter their printed names, initials, and date on WP Form 2133.

VALIDATION REVIEW: (Initials) ML (Date) 7/29/91

4/16

ISC DATA

9.3.1

ATTACHMENT 3

Bin Monitoring Log

Room Number: 1 Test Bin No.: TB001

Parameter								
	Date	7-10-91	7-11-91	7/12/91				
	Time	0529	0942	0840				
RCB Physical Condition								
RCB	✓/U*	✓	✓	✓				
RCB Platform	✓/U*	✓	✓	✓				
Instruments	✓/U*	U	U	U				
RCB Platform Level								
Stable N-S Axis < 2°	✓ U*	✓	Check weekly, indicate status by circling the appropriate ✓ or U*. Record the numerical value in the block.					
Stable E-W Axis < 2°	✓ U*	✓						
Level N-S Axis ± 5°	✓ U*	✓						
Level E-W Axis ± 5°	✓ U*	✓						
Bin Parameters								
O_2 Concentration	% or PPM	N/A	N/A	N/A				
Recirculation Flow > 250 mL/Min	mL/m	N/A	N/A	N/A				
Bin Press <0.5 psig	✓/U*	N/A	N/A	N/A				
OSR Surveillance Requirements								
Primary Valve Seals Intact	✓/U*	✓	✓	U				
Secondary Valve Seals Intact	✓/U*	✓	✓	U				
Initials	N/A	ALM	ML	ML				
WHS Review Initials	N/A	MRP	[illegible]	ML				

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form SHALL enter their printed names, initials, and date on WP Form 2133.

VALIDATION REVIEW: (Initials) ML (Date) 7/29/91

PCN 00-01

PCN 00-01

ISC DATA 9.3

ATTACHMENT 3

Page 1 of 2

Bin Monitoring Log

Room Number: 1 Test Bin No.: TBX07

Parameter								
	Date	7-11-91	7/12/91					
	Time	0946	0843					
RCB Physical Condition								
RCB	✓/U*	✓	✓					
RCB Platform	✓/U*	✓	✓					
Instruments	✓/U*	✓	✓					
RCB Platform Level								
Stable N-S Axis < 2°	(✓) U*	0.0	Check weekly, indicate status by circling the appropriate ✓ or U*. Record the numerical value in the block.					
Stable E-W Axis < 2°	(✓) U*	0.0						
Level N-S Axis ± 5°	(✓) U*	0.8						
Level E-W Axis ± 5°	(✓) U*	0.6						
Bin Parameters								
O_2 Concentration	% or PPM	99.14	99.14					
Recirculation Flow > 250 mL/Min	mL/m	189	260 DS 7/11 (189)					
Bin Press <0.5 psig	✓/U*	✓	✓					
OSR Surveillance Requirements								
Primary Valve Seals Intact	✓/U*	✓	✓					
Secondary Valve Seals Intact	✓/U*	✓	✓					
Initials	N/A	AWW	DS					
WHS Review Initials	N/A	MG	MG					

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form **SHALL** enter their printed names, initials, and date on WP Form 2133.

VALIDATION REVIEW: (Initials) MG (Date) 7/12/91

PCN 00-01

PCN 00-01

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9.3.1

ISC DATA

ATTACHMENT 4

Page 1 of 1

Routine Bin Monitoring Remarks

WHS Review Date	7/9/91	7/10/91	7/11/91	7/12/91			
WHS Review Initials	MR	MR	MR	MR			

*REMARKS: 7/9/91 lighting ballast may be overheating creating unlit fixtures - performed for EMORR request. 7

7-10-91 Instrumentation not installed. Readings not Available due to lack of Instrumentation

Fire extinguisher at 51950 Rm 3 missing seal

7-11-91 7 LIGHT BALLASTS NOT LIGHTING

FIRE EXTINGUISHER ON CART 74-C-035 HAS NOT BEEN CHECKED SINCE APRIL.

NO WASTE CONTAINERS IN Rm

FIRE EXTINGUISHER AT 51950 Rm 3 MISSING SEAL

Flow not correct on TBX07 due to Flowmeter adj

7-12-91 Values 7 & 8 on TBX01 & TBX02 are closed.

8 Lights out

Fire extinguishers same as 7/11/91

No waste containers ; Values PR-7 & PR-8 open and Seals Missing PR-7 & PR-8 on both TB001 & TB002

Foss Notified

4/16

*Remarks **SHALL** include the date and time.

VALIDATION REVIEW: (Initials) MK (Date) 7/29/91

ISC DATA 93

ATTACHMENT 5

Page 1 of 1

Routine Bin Monitoring Signatures

Print Name	/ Init/ Date	Print Name	/ Init/ Date
Anthony W. MARSHALL	/ AWM / 7/9/91		/ /
Melody Smith	/ MS / 7/10/91		/ /
BART SMITH	/ BS / 7/11/91		/ /
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ISC DATA

4/16

9.3.1

VALIDATION REVIEW: (Initials) MK (Date) 7/29/91

SANDIA NATIONAL LABORATORIES
REQUEST FOR BIN SCALE WORK

Bin Number: TB X07.
Bin Position Number: 57
Log Number: _____

Check Line

✓ Requested Date of Start: 7/12/91

___ Inject Tracer Gas per WP 05WH1811 in the following amounts:
Krypton: _____ ml Xenon: _____ ml Syringe Pressure: _____

___ Oxygen getter per WP 05WH1801 to _____ ppm.

___ Argon Purge per WP 05WH1803 to _____ ppm.

___ Nitrogen purge per WP 05WH1804 to _____ percent.

___ Air purge per WP 05WH1805 _____ time limit. (on air purge)

___ Pressurize with _____ gas to _____ psia per WP 05WH1809

✓ Sample per WP 05WH1806 for Flammable Gas X
VOCS X
Reactive Gas X
Radon
Water Vapor X

___ Requested Maintenance: _____

___ Install Primary Instrument String per WP 05xxxxx panel serial number _____

___ Install Secondary Instrument String per WP 05xxxxx panel serial number _____

___ Install Gas Recirculation Loop per WP 05xxxxxx panel serial number _____

___ Remove Primary Instrument String per WP 05xxxxx panel serial number _____

___ Remove Secondary Instrument String per WP 05xxxxx panel serial number _____

___ Remove Gas Recirculation Loop per WP 05xxxxxx panel serial number _____

___ Leak Check installed equipment:

Requested By: WDM for ISC Date 7/12/91 Time 12:44

ISC DATA

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Sandia National Laboratories

Albuquerque, New Mexico 87185

SANDIA NATIONAL LABORATORIES
REQUEST FOR BIN SCALE WORK

Bin Number: TB X07
Bin Position Number: 57
Log Number: _____

Check Line

___ Requested Date of Start: 7/11/91

3 Inject Tracer Gas per WP 05WH1811 in the following amounts:
Krypton: 100 ml Xenon: 100 ml Syringe Pressure: 5 psig
only

___ Oxygen getter per WP 05WH1801 to _____ ppm.

___ Argon Purge per WP 05WH1803 to _____ ppm.

___ Nitrogen purge per WP 05WH1804 to _____ percent.

___ Air purge per WP 05WH1805 _____ time limit. (on air purge)

2 Pressurize with ARGON gas to 14.35 psia per WP 05WH1809

1 Sample per WP 05WH1806 for Flammable Gas X
VOCS X
Reactive Gas X
Water Vapor X

___ Requested Maintenance: NONE

___ Install Primary Instrument String per WP 05WH1910 panel serial number _____

___ Install Secondary Instrument String per WP 05WH1910 panel serial number _____

___ Install Gas Recirculation Loop per WP 05WH1910 panel serial number _____

___ Remove Primary Instrument String per WP 05WH1910 panel serial number _____

___ Remove Secondary Instrument String per WP 05WH1910 panel serial number _____

___ Remove Gas Recirculation Loop per WP 05WH1910 panel serial number _____

___ Leak Check installed equipment:

Requested By: ANDREW ORRELL Date 7/11/91 Time 7:00

ISC DATA

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WORKING COPY
[✓] Revision Checked
Page Checked
NAME W.D. McMillan
SIGN
DATE 7/12/91

ATTACHMENT 1 Page 1 of 2

Varian 938-41 Porta-Test Leak Detector Calibration Record

Date: 7-12-91 Time: 09:53

STEP NO.	DESCRIPTION	INITIAL
7.3.1	Varian 938-41 ID: 41-R-013B	MR
	Helium Calibration Leak, ≤ 5 X 10^{-7} cc/sec 1.3 X 10^{-7} (Cal Value) 75-QA-0028 (Equip ID) 2-93 (Cal Due Date)	MR
	Temperature device ± 2°F (1°C) accuracy 75-CM-0352 (Equip ID) 3-8-92 (Cal Due Date)	MR
7.3.6	Calibrated Leak Temp: 30.4°C	MR
7.3.8	Corrected Leak Value: 1.6 X 10^{-8}	MR
7.3.21	Bar Graph Indication: 0 X 10^{-8}	MR
7.3.24	Bar Graph Indication: 1.6 X 10^{-7}	MR
7.3.25	ACCEPTANCE CRITERIA SATISFIED: (✓) [✓] YES 7/12/91 [ ] NO 10:08 James L. Allen (ID) / Mike Rogers (Leak Test Technician) / TR Level / 7-12-91 Date / 10:08 Time	

Performers responsible for step completion SHALL enter their printed names, initials, and date below.

PRINT NAME	/INITIAL/DATE	
Mike Rogers	/ MR / 7-12-91 /	Mike Rogers (LTT Signature)
J.E. Allen	/ JEA / 7/12/91	James L. Allen

REMARKS: Reviewed Mike Rogers JEA

4/6
5.6.2
9.3.2

REVIEW

J.E. Allen	/ James L. Allen	/ TR	7/12/91	1010
LTS (Print Name)	(Signature)	Level	Date	Time
W.D. McMillan	/ W.D. McMillan	/	7/12/91	1010
WHS (Print Name)	(Signature)		Date	Time

ISC DATA

ATTACHMENT 1 original CF

SAMPLE CHAIN OF CUSTODY

Page

Sample Apparatus Data & Custody Trail to Sample Location:

Apparatus ID # W.L # 100 | Requesting Department WHO | Ready For Use ☒ YES ☐

Sample Custody Trail to Sample Location	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Lab Tech Cheryl Payton	N/A	N/A	7/11/91: 0755	CP
Custodian A.W. MASHAW	07-11-91 0956	AWM	7-11-91 1541	AWM
Custodian				
Custodian				

Sample Data

Sample Number : W P - 0 7 1 1 9 1 - W L 1 0 0
(Sample Date) (Apparatus I.D.)

Bin ID Number TBX-07 | Sample Matrix Argon

Sample Type: ☐ Reference Standard ☐ Field Blank ☐ Manifold Blank ☒ Sample ☐ Duplicate ☐ Head space

Analysis Request: ☐ Reactive Gases ☒ VOC/Inorganic Gases ☐ Flammable Inorganic ☐ Flammable VOC's ☐ Flame Test ☐ Head space

SAMPLE TIME : 1552 SAMPLER : A.W. Mashaw

Filter Pack Flow Rate : N/A Flow Time : N/A

Sample Custody

Sample Custody Trail to Laboratory	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Sampler A.W. Mashaw	N/A	N/A	7/12/91/13:35	AWM
Custodian Cheryl Payton	7/12/91/13:35	CP	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A

Sample Disposition

☒ - ANALYZED ON-SITE | ☐ - SHIPPED OFF SITE

Lab Name Analytical Lab | Lab Number LN/W.L # 100

Date / Time of sample receipt : N/A | Initials CP

Comments : NO discrepancies CP/ NO discrepancies CP/

8.1 REVIEWED BY : R Bynum (SIGNATURE) 8/1/91, 1230 (DATE/TIME)

8.2 RELEASED BY : R Bynum (SIGNATURE) 8/1/91, 1232 (DATE/TIME) 4/6 9.27

9.4 THIS SIGNATURE CONSTITUTES VALIDATION OF THIS RECORD.

VALIDATED BY : _____ (PRINTED NAME) _____ (SIGNATURE) _____ (DATE/TIME)

ISC Checkout Drill
NOT a Laboratory Record
No Validation Required R Bynum

ATTACHMENT 1 original CoC

SAMPLE CHAIN OF CUSTODY

Sample Apparatus Data & Custody Trail to Sample Location

Apparatus ID # W.L #117 | Requesting Department WHO | Ready For Use ☒ YES ☐ N

Sample Custody Trail to Sample Location	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Lab Tech Cheryl Payton	N/A	N/A	7/11/91 : 0755	CP
Custodian A.W. MASHAW	07-11-91 0757	AWM	7-12-91 1541	AWM
Custodian N/A	N/A	N/A	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A

Sample Data

Sample Number : W P - 0 7 1 1 9 1 - W L 1 1 7
(Sample Date: 07 11 91 — Apparatus I.D.: W L 1 1 7)

Bin ID Number TBX07 | Sample Matrix Argon Gas

Sample Type
- ☐ Reference Standard
- ☐ Field Blank
- ☐ Manifold Blank
- ☐ Sample
- ☐ Duplicate
- ☐ Head space

Analysis Request
- ☐ Reactive Gases
- ☐ VOC/Inorganic Gases
- ☐ Flammable Inorganic
- ☐ Flammable VOC's
- ☐ Flame Test
- ☐ Head space

SAMPLE TIME : 1548 SAMPLER : A.W. Mashaw | Filter Pack Flow Rate : N/A Flow Time : N/A

Sample Custody

Sample Custody Trail to Laboratory	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Sampler A.W. Mashaw	N/A	N/A	13:35 7/12/91	[illegible]
Custodian Cheryl Payton	7/12/91/13:35	CP	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A

Sample Disposition

☑ - ANALYZED ON-SITE | ☐ - SHIPPED OFF SITE

Lab Name Analytical Lab | Lab Number LN / W.L #112

Date & Time of sample receipt : N/A | Initials CP

Comments : No discrepancies CP / [illegible] / No discrepan CP [illegible]

8.1 REVIEWED BY : R Bryning (SIGNATURE) 8/4/91 1246 (DATE/TIME)

8.2 RELEASED BY : R Bryning (SIGNATURE) 8/4/91 1245 (DATE/TIME)

9.4 THIS SIGNATURE CONSTITUTES VALIDATION OF THIS RECORD.

VALIDATED BY : _____ (PRINTED NAME) _____ (SIGNATURE) DATE/TIME 8/6

WP Form 1834; 04/22/91
Page 1 of 1

ISC Drill only
Not a Laboratory Record
No Validation Required
R Bryning

9.22

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Page 1

SAMPLE CHAIN OF CUSTODY

Sample Apparatus Data & Custody Trail to Sample Location

Apparatus ID # W.L #C12 | Requesting Department WHO | Ready For Use ☑ YES ☐ NO

Sample Custody Trail to Sample Location	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Lab Tech Cheryl Payton	N/A	N/A	08:25 7/12/91	CP
Custodian A.W. MARSHALL	7-12-91 0830	AWM	1539 7-12-91	AWM
Custodian				
Custodian				

Sample Data

Sample Number : W P - 0 7 1 2 9 1 - ~~1~~ 2 W.L C12
Sample Date — Apparatus I.D.

Bin ID Number TBX-07 | Sample Matrix ARGON

Sample Type
☐ Reference Standard ☒ Sample
☐ Field Blank ☐ Duplicate
☐ Manifold Blank ☐ Head space

Analysis Request
☑ Reactive Gases ☐ Flammable VOC's
☐ VOC/Inorganic Gases ☐ Flame Test
☐ Flammable Inorganic ☐ Head space

SAMPLE TIME : 1421 SAMPLER : [signature] | Filter Pack Flow Rate : 260 Flow Time : 20 min

Sample Custody

Sample Custody Trail to Laboratory	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Sampler A.W. MARSHALL	N/A	N/A	7-12-91 1539	AWM
Custodian Cheryl Payton	7/12/91 1540	CP	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A

Sample Disposition

☑ - ANALYZED ON-SITE | ☐ - SHIPPED OFF SITE

Lab Name Analytical Lab | Lab Number

Date / Time of sample receipt : N/A | Initials CP

Comments : ND discrepancy CP/[illegible] CP/AWM

8.1 REVIEWED BY : [signature] 7/12/91 1900
SIGNATURE DATE/TIME

8.2 RELEASED BY : [signature] 7/12/91 1910
SIGNATURE DATE/TIME

9.4 THIS SIGNATURE CONSTITUTES VALIDATION OF THIS RECORD.

VALIDATED BY : _____ / _____ / _____
PRINTED NAME SIGNATURE DATE/TIME

WP Form 1834: 04/22/91
Page 1 of 1

ISC Drill Only Record
Not a laboratory
No Validation Required

ISC DATA

Step 9.3.2

WP 12-AD3001-1 (Re

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SAMPLE CHAIN OF CUSTODY

Sample Apparatus Data & Custody Trail to Sample Location

Apparatus ID # W.L # 046 | Requesting Department WHO | Ready For Use ☐ YES ☐ NO

Sample Custody Trail to Sample Location	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED
Lab Tech Cheryl Payton	N/A	N/A	08:25/7/14/91	CP
Custodian A.W. MATTHEW	7-12-91 0826	AWM	1538 7/12/91	AWM
Custodian				
Custodian				

Sample Data

Sample Number : W P - 0 7 1 2 9 1 - W L 0 4 6
(Sample Date: 071291 — Apparatus I.D.: WL046)

Bin ID Number TRX-07 | Sample Matrix ARGON

Sample Type
- ☐ Reference Standard
- ☒ Sample
- ☐ Field Blank
- ☐ Duplicate
- ☐ Manifold Blank
- ☐ Head space

Analysis Request
- ☐ Reactive Gases
- ☒ Flammable VOC's
- ☒ VOC/Inorganic Gases
- ☐ Flame Test
- ☒ Flammable Inorganic
- ☐ Head space

SAMPLE TIME : 1409 SAMPLER : [signature] | Filter Pack Flow Rate : N/A Flow Time : N/A

Sample Custody

Sample Custody Trail to Laboratory	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED
Sampler A.W. MATTHEW	N/A	N/A	7-12-91 1538	AWM
Custodian Cheryl Payton	7/14/91 1540	CP	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A

Sample Disposition

☒ ANALYZED ON-SITE | ☐ - SHIPPED OFF SITE

Lab Name Analytical Lab | Lab Number

Date / Time of sample receipt : N/A | Initials CP

Comments : ND discrepancy CP / [signature] Reviewed QA / AWM

8.1 REVIEWED BY : [signature] 7/12/91 1510
SIGNATURE DATE/TIME

8.2 RELEASED BY : [signature] 7/12/91 1911
SIGNATURE DATE/TIME

9.4 THIS SIGNATURE CONSTITUTES VALIDATION OF THIS RECORD.

VALIDATED BY : _____ / _____ / _____
PRINTED NAME SIGNATURE DATE/TIME

WP Form 1834: 04/22/91
Page 1 of 1

ISC Drill Only Record
Not a laboratory Record
No Validation Required
R Bynum

ISC DATA 9.3.9

WP 12-AD3001.1 (Re

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Page 1

SAMPLE CHAIN OF CUSTODY

Sample Apparatus Data & Custody Trail to Sample Location

Apparatus ID # W.L# 120 | Requesting Department WHO | Ready For Use ☒ YES ☐ N

Sample Custody Trail to Sample Location	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Lab Tech Cheryl Payton	N/A	N/A	08:25/7/12/91	CP
Custodian A.W. MASHAW	7-12-91 0828	AWM	1538 7-12-91	AWM
Custodian				
Custodian				

Sample Data

Sample Number : W P - 0 7 1 2 9 1 - W L 1 2 0
(Sample Date: 07129 1 — Apparatus I.D.: WL120)

Bin ID Number TRX-07 | Sample Matrix AZGW N

Sample Type
☐ Reference Standard ☒ Sample
☐ Field Blank ☐ Duplicate
☐ Manifold Blank ☐ Head space

Analysis Request
☐ Reactive Gases ☐ Flammable VOC's
☐ VOC/Inorganic Gases ☐ Flame Test
☐ Flammable Inorganic ☐ Head space

SAMPLE TIME : 1405 SAMPLER : [signature] | Filter Pack Flow Rate : _____ Flow Time : _____

Sample Custody

Sample Custody Trail to Laboratory	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Sampler A.W. MASHAW	N/A	N/A	7-12-91 1538	AWM
Custodian Cheryl Payton	7/12/91/1540	CP	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A

Sample Disposition

☒ - ANALYZED ON-SITE | ☐ - SHIPPED OFF SITE

Lab Name Analytical Lab | Lab Number

Date / Time of sample receipt : N/A | Initials CP

Comments : No discrepancies CP/ [signature] AWM CP / AWM

8.1 REVIEWED BY : [signature] 7/12/91 1500
SIGNATURE DATE/TIME

8.2 RELEASED BY : [signature] 7/12/91 1515
SIGNATURE DATE/TIME

9.4 THIS SIGNATURE CONSTITUTES VALIDATION OF THIS RECORD.

VALIDATED BY : _____ / _____ / _____
PRINTED NAME SIGNATURE DATE/TIME

WP Form 1834: 04/22/91
Page 1 of 1

WP 12-AD3001-1

ISC Drill Unit Record
Not a Laboratory
No Validation Required
K. Bisping

ISC DATA 9.3.2

TRACER GAS INJECTION APPARATUS

Check Out	Check In
Apparatus ID Number: WL 119 (GRTGOU1)	
Location of Use: TBX-07	
Received by: A.W. MASHAW	Received by: ~~A.W. MASHAW~~ ~~Cheryl Payton~~
Department: WRTD	
Date/Time: 07-12-91 0819	Date/Time: 7/12/91 1335
Initials: AWM	Initials: ~~CP~~ D.W.M

ISC DATA 9.3.2 w/G

WATER VAPOR APPARATUS

Check Out	Check In
Apparatus ID Number: CR0051 (GRUU001 CR)	
Location of Use: TBX-07	
Received by: A.W. MASHAW	Received by: A.W. Mashaw ~~Cheryl Paytencyp~~
Department: WHO	
Date/Time: 07-12-91 0818	Date/Time: 7/12/91 / 13:35
Initials: AWM	Initials: ~~CP~~ AWM

ISC DATA 9.3.2 11/6

WIPP WASTE ISOLATION PILOT PLANT	TITLE: BIN SCALE WORK REQUEST (UNDERGROUND)	Sandia National Laboratories PROCEDURE REVISION FORM No.

Bin Number TBX-05a Requested By Pickering Date 7/16/91 Time 13:15
Bin Position 28
Log Number _____ Performed By WD Patterson et al Date 7/22/91 Time 14:00

Requested Check Line		Performed Check/Line (Initials)
X	Requested Start Date: 7/17/91.	___
X	Install Primary Bin-Scale Instrumentation Board per WP 05-WH1910, Serial # PRL0005.	WD
X	Install Secondary Bin-Scale Instrumentation Board per WP 05-WH1910, Serial # PRL0006.	WD
X	Install Recirculation System per WP 05-WH1910, Serial # GRIR0.16	WD
___	Remove/Replace _____ per WP 05-WH19__, Serial # _____.	___
X	Leak Check installed equipment.	___
X	Sample per WP 05-WH1806 for: Flammable Gas X VOC's X Reactive Gas X Water Vapor X	WD WD WD WD
X	Argon Purge per WP 05-WH1803 to ~~14.35~~ 1000 ppm. SP 7-16-91	WD
___	Nitrogen Purge per WP 05-WH1804 to _____ percent.	___
___	Air Purge per WP 05-WH1805 _____ time limit.	___
X	Oxygen Getter per WP 05-WH1801 to <10 ppm.	WD
X	Pressurize with Argon gas to 14.35 psia per WP 05-WH1809.	WD
X	Inject Tracer Gas per WP 05-WH1811: Krypton: 50 ml Xenon: 50 ml Syringe Pressure 5psig	WD

Requested Maintenance or Comments: Request is in support of ISC exercises. Please return completed form to SAK SP 7-16-91

Section 5 Steps 9.2

ISC DATA

SANDIA NATIONAL LABORATORIES
REQUEST FOR BIN SCALE WORK

Bin Number: TB X05
Bin Position Number: 26
Log Number: _____

Check Line

___ Requested Date of Start: 7/22/91

___ Inject Tracer Gas per WP 05WH1811 in the following amounts:
Krypton: _____ ml Xenon: _____ ml Syringe Pressure: _____

___ Oxygen getter per WP 05WH1801 to _____ ppm.

___ Argon Purge per WP 05WH1803 to _____ ppm.

___ Nitrogen purge per WP 05WH1804 to _____ percent.

___ Air purge per WP 05WH1805 _____ time limit. (on air purge)

___ Pressurize with _____ gas to _____ psia per WP 05WH1809

✓ Sample per WP 05WH1806 for Flammable Gas ✓
VOCS ✓
Reactive Gas ✓
Radon ___
Water Vapor ✓

___ Requested Maintenance: _____

___ Install Primary Instrument String per WP 05xxxxx panel serial number _____

___ Install Secondary Instrument String per WP 05xxxxx panel serial number _____

___ Install Gas Recirculation Loop per WP 05xxxxxx panel serial number _____

___ Remove Primary Instrument String per WP 05xxxxx panel serial number _____

___ Remove Secondary Instrument String per WP 05xxxxx panel serial number _____

___ Remove Gas Recirculation Loop per WP 05xxxxxx panel serial number _____

___ Leak Check installed equipment:

Requested By: [signature] Date 7/22/91 Time 14:00

ISC DATA

ISC DATA

SANDIA NATIONAL LABORATORIES
REQUEST FOR BIN SCALE WORK

Bin Number: TB X07
Bin Position Number: 37
Log Number: _____

Check Line

✓ Requested Date of Start: 7/24/91

___ Inject Tracer Gas per WP 05WH1811 in the following amounts:
Krypton: _____ ml Xenon: _____ ml Syringe Pressure: _____

___ Oxygen getter per WP 05WH1801 to _____ ppm.

___ Argon Purge per WP 05WH1803 to _____ ppm.

___ Nitrogen purge per WP 05WH1804 to _____ percent.

___ Air purge per WP 05WH1805 _____ time limit. (on air purge)

X Pressurize with Argon gas to 14.35 psia per WP 05WH1809

___ Sample per WP 05WH1806 for Flammable Gas ____
VOCS ____
Reactive Gas ____
Water Vapor ____

___ Requested Maintenance: _____

_____

_____

___ Install Primary Instrument String per WP 05WH1910 panel serial number _____

___ Install Secondary Instrument String per WP 05WH1910 panel serial number _____

___ Install Gas Recirculation Loop per WP 05WH1910 panel serial number _____

___ Remove Primary Instrument String per WP 05WH1910 panel serial number _____

___ Remove Secondary Instrument String per WP 05WH1910 panel serial number _____

___ Remove Gas Recirculation Loop per WP 05WH1910 panel serial number _____

___ Leak Check installed equipment:

Requested By: James Johnson Date 7/22/91 Time 15:53

ISC DATA

ISC DATA

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[ ] Revision Checked
[ ] Page Checked
NAME
SIGN
Bin Handling
DATE

STEP NO.	DESCRIPTION	INITIAL
6.2	Test Bin ID:_____	
6.3	Torque Wrench _____ / _____ / _____ Range ID Number Cal Due Date Torque Wrench _____ / _____ / _____ Range ID Number Cal Due Date	
6.4	RWP:_____ SWP:_____	
6.10	CMRO Notified Date:_____ Time:_____	
7.1.29	Valve tamper indicating devices intact	
7.1.34	PR-1, INSTR PORT Valve open PR-2, INSTR PORT BACKUP Valve open GR-1, RECIRC OUT Valve open GR-2, RECIRC IN Valve open INDEPENDENT VERIFICATION _____	
7.1.36	1" hose connected to OG/AP-1 1" hose connected to OG/AP-2 1" hose connected to GRB-1 1" hose connected to GRB-2 INDEPENDENT VERIFICATION _____	
7.1.37	OG/AP-1, OXYGEN GETTER/ARGON Valve open OG/AP-2, OXYGEN GETTER/ARGON Valve open GRB-1, OXY GETTER/RECIRC OUT BACKUP Valve open GRB-2, OXY GETTER/RECIRC IN BACKUP Valve open INDEPENDENT VERIFICATION _____	
7.1.42	**HOLD POINT** ALL thermocouple checks satisfactory	EOT

PCN00-01

1/12 @ 1110

PCN00-02

Step 9.13

PCN00-03

Bin Handling (Continued)

STEP NO.	DESCRIPTION	INITIAL
7.1.51.D)	Static Ground Bolt torqued 25-27 in-lbs **QA HOLD POINT** _____	
7.1.56	PR-1, INSTR PORT hose connected PR-2, INSTR PORT BACKUP hose connected GR-1, RECIRC OUT hose connected GR-2, RECIRC IN hose connected OG/AP-1, OXY GETT/ARGON hose connected OG/AP-2, OXY GETT/ARGON hose connected GRB-1, OXY GETT/RECIRC OUT BACKUP hose connected GRB-2, OXY GETT/RECIRC IN BACKUP hose connected **INDEPENDENT VERIFICATION** _____	
7.1.69	All RCB Lid Bolts torqued to 30 ± 5 ft-lbs **QA HOLD POINT** _____	
7.1.70	All RCB Lid Bolts torqued to 50 ± 5 ft-lbs **QA HOLD POINT** _____	
7.2.3	No CH Bay CAMs indicate airborne activity No loose surface contamination in CH Bay No loose surface contamination on the RCB RCB properly tagged with radiological information **HPT HOLD POINT** _____	
7.3.7	WT12345678910 RCB Package ID No. TBX05 Test Bin ID No. **QA HOLD POINT** N/A	WL
7.3.8.B)	7/17/91 / 1114 / 1 / 1 / 28 Date / Time / Panel / Room / Position **QA HOLD POINT** N/A	WL
7.3.9	CMRO Notified Date: 7/17/91 Time: 11:18	WL

PCN00-02 PCN00-01 PCN00-01 PCN00-03 PCN00-03

ISC DATA 9.1

Bin Handling (Continued)

PCN 00-07

Performers responsible for step completion or data recording **SHALL** enter their printed names, initials and date below:

Print Name	Initial	Date
W. D. McMillian	WDM	7/17/91
K A Lacy	KAL	7/17/91

REMARKS: for ISC (TBX05 a portion performed first.)

8.2 REVIEW This record has been reviewed and is found to be complete.

WHS (Print Name)	(Signature)	Date	Time
W. D. McMillian	WDM	7/17/91	1122

9.4 VALIDATION Completion of this step constitutes validation of this record.

Manager (Print Name) Waste Handling Operations	(Signature)	Date	Time
C R Kelley	C R Kelley	7/29/91	1259

ISC DATA 9.1.3

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[ ] Revision Checked
[ ] Page Checked
NAME
SIGN
DATE

Bin Equipment Connection for Emplacement

STEP	DESCRIPTION	INITIALS
7.1	TBX05 / 91-0179 / N/A Test Bin ID / RWP Number / SWP Number	
7.2	1037-7 / 7-18-91 Oxygen Analyzer ID / Cal Due Date 091136 / 7-18-91 Oxygen Sensor ID / Cal Due Date BA40615 / 1-1-92 Flow Monitor / Cal Due Date SN 84087 / 1-1-92 Flow Indicator / Cal Due Date PRL0005 Primary Instrument String ID PRL0006 Secondary Instrument String ID 75-CM0109 / 8/1991 Bin Pressure Gage / Cal Due Date	
7.46.1	PR-1 Valve open INDEPENDENT VERIFICATION	
7.46.2	PR-7 Valve open INDEPENDENT VERIFICATION	
7.46.3	PR-15 Valve open INDEPENDENT VERIFICATION	
7.47.1	PR-1 Valve tamper indicating device installed INDEPENDENT VERIFICATION	
7.47.2	PR-7 Valve tamper indicating device installed INDEPENDENT VERIFICATION	
7.47.3	PR-15 Valve tamper indicating device installed INDEPENDENT VERIFICATION	
7.55.1	PR-2 Valve open INDEPENDENT VERIFICATION	
7.55.2	PR-8 Valve open INDEPENDENT VERIFICATION	
7.55.3	PR-16 Valve open INDEPENDENT VERIFICATION	

ATTACHMENT 1 Page 2 of 2

Bin Equipment Connection for Emplacement (Continued)

STEP	DESCRIPTION	INITIALS
7.56.1	PR-2 Valve tamper indicating device installed INDEPENDENT VERIFICATION MD	AWM
7.56.2	PR-8 Valve tamper indicating device installed INDEPENDENT VERIFICATION MD	AWM
7.56.3	PR-16 Valve tamper indicating device installed INDEPENDENT VERIFICATION MD	AWM
7.59	The following connected to DAS and in service: Oxygen Monitor Primary Instrument String Secondary Instrument String Thermocouples	DAS TECHNICIAN TRA TRA TRA TRA

PCN 00-01

Performers responsible for step completion or data recording SHALL enter their printed names, initials, and date below.

Melody Smith / MS / 7-17-91
H.W. MASHAW / AWM / 7-17-91
T Rowcliff / TRA / 7-17-91
_____ / _____ / _____
_____ / _____ / _____
PRINT NAME /INITIAL/DATE

REMARKS _____

8.2 REVIEW This record has been reviewed and is found to be complete.

W. P. McMillion / WPMcM / 7/17/91 / 16
WHS (Print Name) (Signature) Date Time

9.4 VALIDATION Completion of this step constitutes validation of this record.

SUSAN PICKERING / Susan Pickering / 7-29-91 / 1328
SNL QA Chief (Print Name) (Signature) Date Time

TSC DATA

ATTACHMENT 1

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[ ] Revision Checked
[ ] Page Checked
NAME W. D. Kelly
SIGN
DATE 7/19/91

Argon Purge ~~Record~~

STEP NO.	DESCRIPTION	INITIAL
7.1	TBX05 / 91-0185 / N/A Test Bin ID / RWP Number / SWP Number NOT AVAILABLE ~~Purge Rotameter ID / Cal Due Date~~	MS

PURGE DATA FOR STEP 7.19

PURGE	DATE	TIME	OXYGEN CONCENTRATION	INITIALS
1	7-19-91	1301	13.67%	MS
2				
3				
4				
5				
6				

PURGE DATA FOR STEP 7.21

PURGE	DATE	TIME	OXYGEN CONCENTRATION	INITIALS
1	7-19-91	1304	13.66%	MS
2				
3				
4				
5				
6				

Performers responsible for step completion **SHALL** enter their printed names, signatures, and initials on the next page.

per Change Notice 00-03 7/19/91

TBX05 Step 9.2.3 ISC DATA

Argon Purge Record (Continued)

STEP NO.	DESCRIPTION	INITIAL
7.25	**HOLD POINT** RAF Activity < acceptable limit	HPT
7.30	**HOLD POINT** RAF Activity < acceptable limit	HPT
7.35	**HOLD POINT** RAF Activity < acceptable limit	HPT
7.40	**HOLD POINT** RAF Activity < acceptable limit	HPT
7.45	**HOLD POINT** RAF Activity < acceptable limit	HPT
7.50	**HOLD POINT** RAF Activity < acceptable limit	HPT

PCN 00-01

NAME (print)	SIGNATURE	INITIALS
Alan M Peña	Alan M Peña	AMP
Melody Smith	Melody Smith	MS
A.W. MASHAW	A.W. Mashaw	AWM

REMARKS: _____

8.3 **REVIEW:** WP Forms 1915 and 1922 have been reviewed and are found to be complete.

WHS (Print Name)	Signature	Date
W.D. McMillan		7/19/91

9.4 **VALIDATION:** Completion of this signature constitutes validation of WP Forms 1915 and 1922.

SNL QA Chief (Print Name)	Signature	Date
SUSAN PICKERING	Susan Pickering	7-29-91

JSC DATA 9.2.3

ATTACHMENT 2

Page 1 of 1

Argon Purge Log

Date: 7-19-91 Test Bin ID: BTX05 Page 1 of 1

PCN 00-01

TIME	OXYGEN MONITOR	BIN PRESS	MANIFOLD PRESS	REMARKS/INITIALS
1211	13.66%	.05	2500.	@ 10 glass flow, the needle
				has no appreciable
				movement.
1258 MJ 7-19				1258 7-19-91 Stop

Performers responsible for data collection **SHALL** enter their printed names, signatures, and initials on WP Form 1915.

WHS Review Initials MC Date 7/19/91

Validation Initials SP Date 7-29-91

ISC DATA 9.2.3

NAME W. D. McMillan
SIGN W D McM
DATE 7/17/91

ATTACHMENT 1

Page 1 of 1

Oxygen Gettering Record

STEP NO.	DESCRIPTION	INITIAL
7.1	RWP No: 91-0179	MS
7.2	Test Plan Bin No: TBX 05	MS
7.3	Oxygen Concentration: 15.30	MS
7.28	Indicate (✓) Purifier Switch Position [ ] CIRCULATE A REGENERATE B [✓] CIRCULATE B REGENERATE A	MS
7.63	Oxygen Concentration:	15.19
7.64	[ ] Oxygen Concentration ≤10 ppm [ ] Purifier Bed depletion [ ] Flow Restrictions [✓] Other/WHS direction (record in REMARKS)	MS
7.67	**HOLD POINT** RAF activity < acceptable limit	HPT CL
7.73	**HOLD POINT** RAF activity < acceptable limit	HPT CL
7.79	**HOLD POINT** RAF activity < acceptable limit	HPT CL

Performers responsible for step completion **SHALL** enter their printed names, signatures, and initials below.

NAME (print)	SIGNATURE	INITIALS	DATE
Melody Smith	Melody Smith	MS	7-17-91
Carolyn Lawrence	Carolyn Lawrence	CL	7-17-91
A.W. MASHAW	[illegible]	AWM	7-17-91

REMARKS: satisfied ISC per lead observer

8.2 REVIEW This record has been reviewed and is acceptable.

WHS (Print Name)	Signature	Date	Time
W.D. McMillan	W D McMill	7/17/91	1732

9.4 VALIDATION Completion of this step validates this record.

QA Chief, SNL (Print Name)	Signature	Date	Time
SUSAN PICKERING	Susan Pickering	7-29-91	13:10

ISC DATA Step 9.2.4

ATTACHMENT 2

Page 1 of 1

Oxygen Gettering Log Page ___ of ___

7.4	Date: 7-17-91	Test Plan Bin No. TBX05

7.49 and 7.50.1

TIME	O_2 MON (PPM)	GET FLOW (CFM)	REMARKS	Initials
1647	15,34	243	Initial Readings	MS

Performers responsible for step completion **SHALL** enter their printed names, signatures, and initials below.

NAME (print)	SIGNATURE	INITIALS	DATE
Melody Smith	Melody Smith	MS	7-17-91
A.W. MATHEW		AWM	7-17-91
BART SMITH		BS	7-17-91
Carolyn Littrell	Carolyn Littrell	CL	7-17-91

8.2 **REVIEW** This record has been reviewed and is acceptable.

W.D. McMillion / [signature] / 7/17/91 / 1732

WHS (Print Name) Signature Date Time

9.4 **VALIDATION** Completion of this Step validates this record.

SUSAN PICKERING / Susan Pickering / 7-29-91 / 1300

QA Chief, SNL (Print Name) Signature Date Time

ISC DATA

WORKING COPY
[ ] Revision Checked
[ ] Page Checked
NAME W. D. McMillin
SIGN W D McMillin
DATE 7/18/91

ATTACHMENT 1 Page 1 of 1

Bin Pressurization Record

STEP NO.	DESCRIPTION	INITIAL
7.3	TBX 05 / 91-0180 / N/A Test Bin ID / RWP Number / SWP Number BP-01 / 12-1-91 Pressure Unit ID / Cal Due Date 14.35 psia Bin Pressure Range	MS
7.33	13.98 / 13.98 / 13.97 / 13.94 Press 1 / Press 2 / Press 3 / Press A	MS
7.34	DAS Pressure: 13.96 30.4409 / 30.5694° / 130.4002° / 130.3189 / 130.1631° TC-1 / TC-2 / TC-3 / TC-4 / TC-5	MS
7.38	Max Flow Rate: 0.998 lpm	MS
7.43	14.35 / 14.35 / 14.33 / 13.94 Press 1 / Press 2 / Press 3 / Press A	MS
7.44	Total Gas Added: 28.810 Liters	MS
7.45	DAS Pressure: 14.3312 30.4558 / 30.5879 / 130.4334 / 130.3358 / 130.1601 TC-1 / TC-2 / TC-3 / TC-4 / TC-5	MS
7.46	Local Bin Pressure Gage: 0.45	MS
7.54	**HOLD POINT** RAF Activity < acceptable limit	HPT amp
7.59	**HOLD POINT** RAF Activity < acceptable limit	HPT amp

PCN 00-01

Performers responsible for step completion SHALL enter their printed names, initials, and date below.

PRINT NAME	/INITIAL/DATE
Melody Smith	/ MS / 7-18-91
A.W. MASHAW	/ AWM / 7-18-91
KA Lacy	/ KAL / 7/18/91
Adam M Peña	/ amp / 7-18-91

REMARKS: _____

8.2 **REVIEW:** This form has been reviewed and is complete.

W D McMillin / W D McM / 7/18/91 / 1105
WHS (Print Name) (Signature) Date Time

9.4 **VALIDATION:** Completion of this step validates this form.

SUSAN PICKERING Susan Pickering / 7-29-91 / 0900
SNL QA Chief (Print Name) (Signature) Date Time

ISC DATA 9.26

FLAMMABLE GAS ANALYSIS REPORT

Sample # : WP - 07 1991 - AAAAA (SAMPLE DATE (MMDDYY) / APPARATUS I.D. (AAXXX)) **Analysis Date :** 07/19/91

: ISC Test Brine | Lab # : Test-WL TEST | Batch # : 01-WL Test

COMPONENT	LIMIT	RESULTS (%)
Hydrogen (H_2)	< 2.00 %	2.05%
Methane Equivalents (CH_4)	< 2.25 %	ND
Oxygen (O_2)	NO LIMIT	

	DATE/TIME	INITIALS
Analyzed By : Jan F Bernard	7-19-91 0815 / 1015 7-19-91	JFB / JFB

COMMENTS : Exceeds Upper Limit

REVIEW AND APPROVAL	DATE / TIME
REVIEWED BY :	
VERIFIED BY :	

8.1 REVIEWED BY : Jo Kalduff (SIGNATURE) 7-19-91 10:19 (DATE/TIME)

8.2 RELEASED BY : R Bisping (SIGNATURE) 7/19/91 1025 (DATE/TIME)

9.4 THIS SIGNATURE CONSTITUTES VALIDATION OF THIS RECORD.

VALIDATED BY : NA (PRINTED NAME) / (SIGNATURE) / (DATE/TIME)

WORKING COPY
[ ] Revision Checked
[ ] Page Checked
NAME
SIGN
DATE

ISC DATA 9!
7-19-91
0935

Drill
9.5.12

ISC Drill Only
Not a Laboratory Record
No Validation Required
R Bisping

WP 12-AL6310-1 (Rev 0)

SNL Task List Form
for
WID Experimental Operations Work Request

Date: 7/19/91 MMPS: S22002 SNL Originator: M. Schuhen x____

Task Description: Troubleshoot and/or replace the oxygen recirculation system at TB1257X1.

Work Description: (attach additional sheets as needed, list task goals, criteria for completion, etc. as appropriate.)

Follow the steps of procedure 346 if the O_2 system must be replaced. First insure that the problem is not cables, connections or plumbing. by ohming out the cables and visual inspection.

I have considered the following aspects in requesting this work and the documentation is complete, signed and attached as appropriate; Work Instructions (Work packages, 030's, JHA's, RWP's), approved procedures, (list procedure and revision #'s), approved drawings or sketches, appropriate forms (MAD's, Drill Requests, etc.), parts & equipment are available to complete the task, (list part #, quantity & location), QA , NEPA and ES&H reviews have been completed as required.

Requester Signature & Date: Michael D Schuhen 7/19/91

ES&H Coordinator Signature& Date: _____

Work to be Started By: 7/19/91 Work to Be Completed By: 7/20/91

Estimated Man-Shifts: 3hrs - 2men

If the described work is *Ready To Work*, then check Category A, ☒.

For all other work, (preliminary, planning, deferred, rescinded, etc.) check Category B, ☐.

Explanation: _____

ISC DATA

Drill 9.5.3

- - - -

WIPP WASTE ISOLATION PILOT PLANT	TITLE: MEASURAND ACTION DATA	Sandia National Laboratories PROCEDURE 346 REVISION 1 FORM No. 103-A

DATE: 7/19/91	ROOM 1 Panel 1 INSTRUMENT TYPE SERIAL No. CAL. DUE DATE ___/___/___	Bin Location 57X1	TEAM APPROVAL Q.A.

MRAND NUMBER	GAGE NUMBER	SUGGESTED ACTION DATE AND INITIALS	ACTION TAKEN DATE AND INITIALS
6614	57X1	The oxygen recirculation system output has changed from 9.96 Vdc to 3.79 Vdc. Isolate the system from the bin and determine if the problem is the oxygen system by checking out all cables, connections & plumbing. If no other faults are identified, replace the recirculation system with a currently calibrated and leak checked system by following the steps in procedure 346. If other faults are identified contact the SNL gage cognizant engineer for further instructions. 7/19/91 mos	

ISC DATA 9.3

WORKING COPY
[✓] Revision Checked
[✓] Page Checked
NAME W.P. McMillan
SIGN
DATE 7/17/91

ATTACHMENT 1

Page 1 of 1

Area/Room Postponed

Room Number: 1

Parameter	Date	7/17/91	7/18/91	7/19/91				
Back, Ribs, Floor	✓/U*	✓	✓	✓				
Waste Containers	✓/U*	✓	✓	✓				
Warning Signs	✓/U*	✓	✓	✓				
Lighting	✓/U*	U	U	U				
Phone System	✓/U*	✓	✓	✓				
Mine Pager System	✓/U*	✓	✓	✓				
Room Ventilation	> 25,000 SCFM	29,611	38,773	40,818				
Fire Extinguishers	✓/U*	U	U	U				
RCRA Spill Cabinet	✓/U*	✓	✓	✓				
Radiological Emergency Cabinet	✓/U*	✓	✓	✓				
Initials	N/A	MS	MS	MS				
WHS Review Initials	N/A	MR	MR	MR				

PCN 00-02

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form **SHALL** enter their printed names, initials, and date on WP Form 2133.

VALIDATION: Completion of this step validates the Records Package consisting of WP Forms 2129, 2130, 2131, 2132, and 2133.

1. Review this and each attached WP Form. Initial and date the VALIDATION REVIEW space on WP Forms 2130, 2131, 2132, and 2133.

2. Sign below to validate the Records Package.

Mark Eby, Mark Eby, Staff 7/24/91

Operations Assessment Manager (Print Name) Signature Date

ISC DATA 9.3.1

ATTACHMENT 2

Page 1 of 1

Gas Flammability Sampling **OSR** LCO 10.1.2 Log

Date / Time	Analytical Laboratory Contacted	< 50% Lower Flammability Limit √/U*	Initials	WHS Review Initials
7/17/91 0910	N/A Person Contacted		[illegible]	[illegible]
7/18/91 0814	N/A Person Contacted		[illegible]	[illegible]
07/19/91 0826	N/A Person Contacted		[illegible]	[illegible]
	Person Contacted			
	Person Contacted			
	Person Contacted			
	Person Contacted			

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form **SHALL** enter their printed names, initials, and date on WP Form 2133.

VALIDATION REVIEW: (Initials) NA (Date) 7/29/91

ISC DATA 9.3.1

ATTACHMENT 3

Bin Monitoring Log

Room Number: 1 Test Bin No.: TBX001

Parameter								
	Date	7/17/91	7/18/91	7/19/91				
	Time	0859	0814	0827				
RCB Physical Condition								
RCB	✓/U*	✓	✓	✓				
RCB Platform	✓/U*	✓	✓	✓				
Instruments	✓/U*	✓	✓	✓				
RCB Platform Level								
Stable N-S Axis < 2°	✓ U*	0.3 7/19/91						
Stable E-W Axis < 2°	✓ U*	0.5 7/19/91						
Level N-S Axis ± 5°	✓ U*	1.3						
Level E-W Axis ± 5°	✓ U*	.5						
Bin Parameters								
O_2 Concentration	% or PPM	N/A	N/A	N/A				
Recirculation Flow > 250 mL/Min	mL/m	N/A	N/A	N/A				
Bin Press <0.5 psig	✓/U*	✓ MM 7-17	✓	✓				
OSR Surveillance Requirements								
Primary Valve Seals Intact	✓/U*	✓	✓	U				
Secondary Valve Seals Intact	✓/U*	✓	✓	U				
Initials	N/A	MD	MD	MD				
WHS Review Initials	N/A	MD	MD	MD				

Check weekly, indicate status by circling the appropriate ✓ or U*.

Record the numerical value in the block.

PCN 00-01

PCN 00-01

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form SHALL enter their printed names, initials, and date on WP Form 2133.

VALIDATION REVIEW: (Initials) MC (Date) 7/19/91

93!

ISC DATA

ATTACHMENT 3

Bin Monitoring Log

Room Number: 1 Test Bin No.: TBX002

Parameter								
	Date	7/17/91	7/18/91	7/19				
	Time	0904	0818	0831				
RCB Physical Condition								
RCB	✓/U*	✓	✓	✓				
RCB Platform	✓/U*	✓	✓	✓				
Instruments	✓/U*	✓	✓	✓				
RCB Platform Level								
Stable N-S Axis < 2°	(✓) U*	1.1 7-17-91						
Stable E-W Axis < 2°	(✓) U*	.3 7-17-91						
Level N-S Axis ± 5°	(✓) U*	1.1						
Level E-W Axis ± 5°	(✓) U*	.3						
Bin Parameters								
O_2 Concentration	% or PPM	MD 7-17-91	14.89	14.79				
Recirculation Flow > 250 mL/Min	mL/m	MD 7-17-91	450	449				
Bin Press <0.5 psig	✓/U*	MD 7-17-91	✓	✓				
OSR Surveillance Requirements								
Primary Valve Seals Intact	✓/U*	✓	✓	✓				
Secondary Valve Seals Intact	✓/U*	✓	✓	✓				
Initials	N/A	MJ	MJ	MJ				
WHS Review Initials	N/A	WL	WL	WL				

Check weekly, indicate status by circling the appropriate ✓ or U*.

Record the numerical value in the block.

PCN 00-01

PCN 00-01

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form SHALL enter their printed names, initials, and date on WP Form 2133.

VALIDATION REVIEW: (Initials) MG (Date) 7/29/91

ISC DATA

ATTACHMENT 3

Page 1 of 2

Bin Monitoring Log

Room Number: 1 Test Bin No.: TBX07

Parameter								
	Date	7/17/91	7/18/91	7/19/91				
	Time	0906	0822	0835				
RCB Physical Condition								
RCB	✓/U*	✓	✓	✓				
RCB Platform	✓/U*	✓	✓	✓				
Instruments	✓/U*	✓	✓	✓				
RCB Platform Level								
Stable N-S Axis < 2°	✓ U*	1.8						
Stable E-W Axis < 2°	✓ U*	0.7						
Level N-S Axis ± 5°	✓ U*	1.1						
Level E-W Axis ± 5°	✓ U*	0.7						
Bin Parameters								
O_2 Concentration	% or PPM	99.13	6.3	6.3				
Recirculation Flow > 250 mL/Min	mL/m	260	260	260				
Bin Press <0.5 psig	✓/U*	✓	✓	✓				
OSR Surveillance Requirements								
Primary Valve Seals Intact	✓/U*	✓	✓	✓				
Secondary Valve Seals Intact	✓/U*	✓	✓	✓				
Initials	N/A	MS	MS	MS				
WHS Review Initials	N/A							

Check weekly, indicate status by circling the appropriate ✓ or U*.

Record the numerical value in the block.

PCN 00-01

PCN 00-01

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form SHALL enter their printed names, initials, and date on WP Form 2133.

VALIDATION REVIEW: (Initials) MS (Date) 7/29/91

ISC DATA 9.3!

Bin Monitoring Log

Room Number: 1 Test Bin No.: TBX05

Parameter								
	Date	7/18/97	7/19/97					
	Time	0824	0839					
RCB Physical Condition								
RCB	✓/U*	✓	✓					
RCB Platform	✓/U*	✓	✓					
Instruments	✓/U*	✓	✓					
RCB Platform Level								
Stable N-S Axis < 2°	(✓) U*	0.0						
Stable E-W Axis < 2°	(✓) U*	0.0						
Level N-S Axis ± 5°	(✓) U*	-0.8						
Level E-W Axis ± 5°	(✓) U*	-0.2						
Bin Parameters								
O_2 Concentration	% or PPM	14.25%	5.88					
Recirculation Flow > 250 mL/Min	mL/m	676	-0.10					
Bin Press <0.5 psig	✓/U*	✓	✓					
OSR Surveillance Requirements								
Primary Valve Seals Intact	✓/U*	✓	U					
Secondary Valve Seals Intact	✓/U*	✓	U					
Initials	N/A	MS	MS					
WHS Review Initials	N/A	MD	MD					

Check weekly, indicate status by circling the appropriate ✓ or U*.

Record the numerical value in the block.

PCN 00-01

PCN 00-01

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form **SHALL** enter their printed names, initials, and date on WP Form 2133.

VALIDATION REVIEW: (Initials) MG (Date) 7/24/97

ISC DATA 9

ATTACHMENT 4

Page 1 of 1

Routine Bin Monitoring Remarks

WHS Review Date	7/17/91	7/18/91	7/19/91				
WHS Review Initials	MK	MK	MK				

*REMARKS: Page 1 of 1

7-17-91 4 lights out (in Rm 1)
Fire Extinguisher #167 still missing tamper indicating device. Getter cart does not have extinguisher, Varian cart extinguisher insp not current.
7-18-91 2 lights out
Fire Extinguishers 730 on Varian cart # 35 out of date
#167 No tamper indicating device -
7-19 TBX01 valve PR 7+8 have caution tags.
0827 Keep closed to prevent leaking
TBX07 PR 18 closed as per caution tag.
TBX05 PR 7 and PR 8 are closed due to testing for leaks
Pump is off
9 lights out
Fire Extinguisher #167 (Room 3 outside) No Tamper indicating device

*Remarks SHALL include the date and time.

VALIDATION REVIEW: (Initials) MK (Date) 7/24/91

ISC DATA 9.3.1

ATTACHMENT 5

Page 1 of 1

Routine Bin Monitoring Signatures

Print Name	Init	Date	Print Name	Init	Date
Melody Smith	MS	7-17-91			
BART SMITH	BS	7-17-91			
A.W. MASHAW	AWM	7-17-91			
W.D. McMillian	WM	7.17.91			

VALIDATION REVIEW: (Initials) MG (Date) 1/27/94 ISC DATA 9.3.1

ATTACHMENT 1

Page 1 of 1

Bin Pressurization Record

STEP NO.	DESCRIPTION	INITIAL
7.3	TBX07 / 91-0187 / N/A Test Bin ID / RWP Number / SWP Number BP01 / 12-1-91 Pressure Unit ID / Cal Due Date 14.35 Bin Pressure Range	MS
7.33	14.06 / 14.06 / 14.05 / 13.94 Press 1 / Press 2 / Press 3 / Press A	MS
7.34	DAS Pressure: 14.0672 30.0651 / 30.2213 / 30.0341 / 30.0960 / 29.9414 TC-1 / TC-2 / TC-3 / TC-4 / TC-5	MS
7.38	Max Flow Rate: .998 lpm	MS
7.43	14.35 / 14.35 / 14.34 / 13.94 Press 1 / Press 2 / Press 3 / Press A	MS
7.44	Total Gas Added: 23.565 Liters	MS
7.45	DAS Pressure: 14.3525 30.102 / 30.2470 / 30.0582 / 30.1038 / 29.9459 TC-1 / TC-2 / TC-3 / TC-4 / TC-5	MS
7.46	Local Bin Pressure Gage: 0.45	MS
7.57	HOLD POINT RAF Activity < acceptable limit	HPT N/A
7.64	HOLD POINT RAF Activity < acceptable limit	HPT N/A

PCN 00-01

Performers responsible for step completion SHALL enter their printed names, initials, and date below.

PRINT NAME	INITIAL	DATE
Melody Smith	MS	7-22-91
A. W. McMillan	[illegible]	7-22-91

For Drill 9.5.6

REMARKS: For ISC so that depressurization can be performed. No HP or LTT coverage

7/22 1350

8.2 REVIEW: This form has been reviewed and is complete.

WHS (Print Name)	(Signature)	Date	Time
W. R. M. Millin	[signature]	7/22/91	1705

9.4 VALIDATION: Completion of this step validates this form.

SNL QA Chief (Print Name)	(Signature)	Date	Time
SUSAN PICKERING	Susan Pickering	7-22-91	1310

ISC DATA

ATTACHMENT 1

Area/Room Inspection Log

Room Number: 1

Parameter	Date	7/22/91	7/23/91					
Back, Ribs, Floor	√/U*	✓	✓					
Waste Containers	√/U*	✓	✓					
Warning Signs	√/U*	✓	✓					
Lighting	√/U*	(U)	(U)					
Phone System	√/U*	✓	✓					
Mine Pager System	√/U*	✓	✓					
Room Ventilation	> 25,000 SCFM	28630	47008					
Fire Extinguishers	√/U*	(U)	(U)					
RCRA Spill Cabinet	√/U*	✓	✓					
Radiological Emergency Cabinet	√/U*	✓	✓					
Initials	N/A	MJ	AO					
WHS Review Initials	N/A	MB	MB					

PCN 00-02

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form **SHALL** enter their printed names, initials, and date on WP Form 2133.

VALIDATION: Completion of this step validates the Records Package consisting of WP Forms 2129, 2130, 2131, 2132, and 2133.

1. Review this and each attached WP Form. Initial and date the VALIDATION REVIEW space on WP Forms 2130, 2131, 2132, and 2133.

2. Sign below to validate the Records Package.

MARK EBY | Mark Ellen 7.23 | 7/24

Operations Assessment Manager (Print Name) | Signature | Date

7-22-91 ISC DATA 9.3.1

ATTACHMENT 2

Page 1 of 1

Gas Flammability Sampling OSR LCO 10.1.2 Log

Date / Time	Analytical Laboratory Contacted	< 50% Lower Flammability Limit √/U*	Initials	WHS Review Initials
7/22/91 / 0847	N/A — Person Contacted		MS	MK
7/23/91 / 0918	Kirk Ferdig — Person Contacted	√	BS	MK
	Person Contacted			
	Person Contacted			
	Person Contacted			
	Person Contacted			
	Person Contacted			

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form **SHALL** enter their printed names, initials, and date on WP Form 2133.

VALIDATION REVIEW: (Initials) MK (Date) 7/29/91

ISC DATA 9.3.1

Bin Monitoring Log

Room Number: 1 Test Bin No.: TB001

Parameter								
	Date	7/22/91	7/23/91					
	Time	0849	0920					
RCB Physical Condition								
RCB	✓/U*	✓	✓					
RCB Platform	✓/U*	✓	✓					
Instruments	✓/U*	✓	✓					
RCB Platform Level								
Stable N-S Axis < 2°	✓ U*	0.0	Check weekly, indicate status by circling the appropriate ✓ or U*. Record the numerical value in the block.					
Stable E-W Axis < 2°	✓ U*	0.0						
Level N-S Axis ± 5°	✓ U*	1.4						
Level E-W Axis ± 5°	✓ U*	-.2						
Bin Parameters								
O_2 Concentration	% or PPM	N/A	N/A					
Recirculation Flow > 250 mL/Min	mL/m	N/A	N/A					
Bin Press <0.5 psig	✓/U*	✓	✓					
OSR Surveillance Requirements								
Primary Valve Seals Intact	✓/U*	✓	✓					
Secondary Valve Seals Intact	✓/U*	✓	✓					
Initials	N/A	MJ	MS					
WHS Review Initials	N/A	WH	WH					

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form SHALL enter their printed names, initials, and date on WP Form 2133.

VALIDATION REVIEW: (Initials) MK (Date) 7/29/91

ISC DATA 9.3

ATTACHMENT 3

Bin Monitoring Log

Room Number: 1 Test Bin No.: TB002

Parameter								
	Date	7/22/91	7/23/91					
	Time	0854	0921					
RCB Physical Condition								
RCB	✓/U*	✓	✓					
RCB Platform	✓/U*	✓	✓					
Instruments	✓/U*	✓	✓					
RCB Platform Level								
Stable N-S Axis < 2°	(✓) U*	0.0		Check weekly, indicate status by circling the appropriate ✓ or U*. Record the numerical value in the block.				
Stable E-W Axis < 2°	(✓) U*	0.0						
Level N-S Axis ± 5°	(✓) U*	1.0						
Level E-W Axis ± 5°	(✓) U*	-.7						
Bin Parameters								
O_2 Concentration	(%) or PPM	14.76	14.76					
Recirculation Flow > 250 mL/Min	mL/m	449	450					
Bin Press <0.5 psig	(✓)/U*	✓	✓					
OSR Surveillance Requirements								
Primary Valve Seals Intact	✓/U*	✓	✓					
Secondary Valve Seals Intact	✓/U*	✓	✓					
Initials	N/A	MJ	MJ					
WHS Review Initials	N/A	[illegible]	[illegible]					

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form SHALL enter their printed names, initials, and date on WP Form 2133.

VALIDATION REVIEW: (Initials) NK (Date) 7/29/91

PCN 00-01

PCN 00-01

ISC DATA 9.3.1

ATTACHMENT 3

Bin Monitoring Log

Room Number: 1 Test Bin No.: TBR07

Parameter								
	Date	7/22/91	7/23/91					
	Time	0854	0923					
RCB Physical Condition								
RCB	✓/U*	✓	✓					
RCB Platform	✓/U*	✓	✓					
Instruments	✓/U*	✓	✓					
RCB Platform Level								
Stable N-S Axis < 2°	(✓) U*	0.0	Check weekly, indicate status by circling the appropriate ✓ or U*. Record the numerical value in the block.					
Stable E-W Axis < 2°	(✓) U*	0.0						
Level N-S Axis ± 5°	(✓) U*	.9						
Level E-W Axis ± 5°	(✓) U*	.8						
Bin Parameters								
O_2 Concentration	(%) or PPM	6.28	6.15					
Recirculation Flow > 250 mL/Min	mL/m	260	260					
Bin Press <0.5 psig	✓/U*	✓	✓					
OSR Surveillance Requirements								
Primary Valve Seals Intact	✓/U*	✓	✓					
Secondary Valve Seals Intact	✓/U*	✓	✓					
Initials	N/A	[illegible]	[illegible]					
WHS Review Initials	N/A	[illegible]	[illegible]					

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form SHALL enter their printed names, initials, and date on WP Form 2133.

VALIDATION REVIEW: (Initials) [illegible] (Date) 7/29/91

PCN 00-01

PCN 00-01

ISC DATA 9-3-99

ATTACHMENT 3

Page 1 of 2

Bin Monitoring Log

Room Number: L Test Bin No.: TBX05

Parameter								
Date	9/22/97	9/23/97						
Time	0857	0924						
RCB Physical Condition								
RCB	✓/U*	✓	✓					
RCB Platform	✓/U*	✓	✓					
Instruments	✓/U*	✓	N/A					
RCB Platform Level								
Stable N-S Axis < 2°	(✓) U*	0.0	Check weekly, indicate status by circling the appropriate ✓ or U*. Record the numerical value in the block.					
Stable E-W Axis < 2°	(✓) U*	0.0						
Level N-S Axis ± 5°	(✓) U*	-.5						
Level E-W Axis ± 5°	(✓) U*	.3						
Bin Parameters								
O_2 Concentration	(%) or PPM	13.64	N/A					
Recirculation Flow > 250 mL/Min	mL/m	670	N/A					
Bin Press <0.5 psig	✓/U*	✓	N/A					
OSR Surveillance Requirements								
Primary Valve Seals Intact	✓/U*	✓	N/A					
Secondary Valve Seals Intact	✓/U*	✓	N/A					
Initials	N/A	MS	MS					
WHS Review Initials	N/A	[illegible]	[illegible]					

* Note any unsatisfactory conditions on WP Form 2132.

Persons recording data and/or reviewing this form SHALL enter their printed names, initials, and date on WP Form 2133.

VALIDATION REVIEW: (Initials) MG (Date) 7/29/91

PCN 00-01

PCN 00-01

ISC DATA 9.3

ATTACHMENT 4

Page 1 of 1

Routine Bin Monitoring Remarks

WHS Review Date	7/22/91	7/23/91					
WHS Review Initials	MK	MK					

*REMARKS: _____ Page ___ of ___

MON 7-22-91 0845 Fire extinguisher #732/carion cart out of date tag 6 lights on the back are not working. Fire extinguisher outside Room 3 has no tamper indicating seal. TB001 PR7 + PR8 closed as per caution tag TBX07 . PR18 closed as per caution tag

TUES 7-23-91 0916 8 lights out - TB001 PR7+PR8 closed per caution tag ~~TBX07 PR18 closed per caution tag~~ MJ 7-23-91 TBX05 Has been disconnected + ready for shipment to the surface. Fire extinguisher #730/carion cart out of date on tag. Extinguisher outside Room 3 has no tamper indicating device

*Remarks **SHALL** include the date and time.

ISC DATA 9.3.1

VALIDATION REVIEW: (Initials) MK (Date) 7/29/91

ATTACHMENT 5

Page 1 of 1

Routine Bin Monitoring Signatures

Print Name	Init	Date	Print Name	Init	Date
Melody Smith	MS	7-22-91			
A.W. MARSHALL	AWM	7-22-91			
Larry Porter	LP	7-22-91			
W.P. McMillian	WM	7/22/91			

VALIDATION REVIEW: (Initials) MG (Date) 7/22/91

HSC DATA 9.31

ATTACHMENT 1 original COC

Page 1 of

SAMPLE CHAIN OF CUSTODY

Sample Apparatus Data & Custody Trail to Sample Location

Apparatus ID # W.L.F A 10 | Requesting Department WHO | Ready For Use ☒ YES ☐ NO

Sample Custody Trail to Sample Location	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Lab Tech Cheryl Payton	N/A	N/A	08:15 7/17/91	CP
Custodian A.W. MASHAW	7-12-91 0838	AWM	1532 7-19-91	AWM
Custodian BART SMITH	7-19-91 0534	BS	1115 7/22/91	BS
Custodian LARRY PORTER	7/22/91 1115	LP	N/A	N/A

Sample Data

Sample Number : W P - 0 7 2 2 9 1 - W L A 1 0
(Sample Date: 0 7 2 2 9 1 — Apparatus I.D.: W L A 1 0)

Bin ID Number TRX-05 | Sample Matrix N/A

Sample Type
☐ Reference Standard ☒ Sample
☐ Field Blank ☐ Duplicate
☐ Manifold Blank ☐ Head space

Analysis Request
☒ Reactive Gases ☐ Flammable VOC's
☐ VOC/Inorganic Gases ☐ Flame Test
☐ Flammable Inorganic ☐ Head space

SAMPLE TIME : 12:26 SAMPLER : L Porter

Filter Pack Flow Rate : 669 Flow Time : 2 hr

Sample Custody

Sample Custody Trail to Laboratory	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED
Sampler Larry Porter	N/A	N/A	7-22-91 1402	LP
Custodian BART SMITH	7/22/91 1443	BS	7/22/91 1443	BS
Custodian (Cheryl) Payton	7/22/91 1443	CP	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A

Sample Disposition

☒ ANALYZED ON-SITE ☐ - SHIPPED OFF SITE

Lab Name Analytical Lab | Lab Number WA1203 1X025

Date / Time of sample receipt : N/A | Initials CP

Comments : No discrepancies CP/ [illegible] No Discrepancies CP/BS

8.1 REVIEWED BY : R B Bynum (SIGNATURE) 7/25/91 1315 (DATE/TIME) ISC DATA

8.2 RELEASED BY : R Bynum (SIGNATURE) 7/25/91 1316 DATE/TIME

9.4 THIS SIGNATURE CONSTITUTES VALIDATION OF THIS RECORD.

VALIDATED BY : _____ (PRINTED NAME) _____ (SIGNATURE) DATE/TIME

STEP 9.3

WP Form 1834: 04/22/91
Page 1 of 1

ISC Drill Only
Not a laboratory Record
NO Validation Required
R. Bynum

HOLD POINT

7.2.19 HPT to verify the RAF activity is below acceptable limits.

Ann

SIGNOFF REQUIRED

[✓] 7.2.20 Remove HEPA Filter from the evacuation port SM-4.

[✓] 7.2.21 Install caps on the HEPA Filter.

[✓] 7.2.22 Instal. end cap on the evacuation port SM-4 connector.

7.3 PLACING THE LEAK DETECTOR IN STANDBY

[✓] 7.3.1 LTT remove the Leak Detector Hose Assembly from the Test Port on top of the leak detector.

NOTE: Hand tightness of the Test Port plug is sufficient to compress the O-ring and establish a vacuum tight seal. This Note applies to Step 7.3.2.

[✓] 7.3.2 LTT insert and tighten the Test Port plug.

[✓] 7.3.3 LTT verify the operating handle of the leak detector is in VENT position.

[] 7.4 Performers of this procedure **SHALL** complete Step 9.4.

[] 7.5 Forward the procedure to the Waste Handling Supervisor (WHS).

8.0 REVIEW

8.1 WHS **SHALL** review this procedure for completeness and **SHALL** print name, then sign and date in the space below:

NAME (PRINT)	SIGNATURE	DATE
W. D. McMillan	W D McMillan	7/22/91

Comments 28 7/22/91. Sump water Vapor Manifold failed first leak test, replaced lower gasket & it passed ISC info. (TBX05) T=Ø

Step 9.3.2

ISC DATA

8.2 LTS **SHALL** review the leak test sections of this procedure for completeness and **SHALL** print name, then sign; enter level and date in the space below:

NAME (PRINT)	SIGNATURE	LEVEL	DATE

[] 8.3 WHS **SHALL** record the completion of this procedure in the Waste Handling Operations Logbook in accordance with WP 04-304.

[] 8.4 WHS **SHALL** transmit this procedure to Sandia National Laboratories (SNL).

9.0 RECORDS

9.1 This entire procedure is a Permanent Quality Assurance Record; SNL.

9.2 Quality Assurance Records **SHALL** be corrected, stored and maintained in accordance with ASME NQA-1-1989.

9.3 Quality Assurance Records from this procedure **SHALL** be identified on the SNL Records Inventory and Disposition Schedule.

9.4 Performers responsible for step completion **SHALL** enter their printed names, initials and date below. The LTT **SHALL** enter Level in (_) after Name.

NAME	INITIALS	DATE
A.W. MATHAS	AWM	07-22-91
Larry Porter	LP	07-22-91
Melody Smith	MS	07-22-91

LTT NAME, LEVEL ()	INITIALS	DATE
K A Lacy	KAL	7/22/91

9.5 The Quality Assurance Chief, SNL, is responsible for the validation of the records generated by this procedure before they are transmitted to Master Records Center.

Completion of this step constitutes validation of this record.

NAME (PRINT)	SIGNATURE	DATE
SUSAN TUCKER	Susan Tucker	7-29-91

9.3.2

ISC DATA

SNL Task List Form
for
WID Experimental Operations Work Request

Date: 7/18/91 MMPS: S22002 SNL Originator: W. DeYonge x 8434

Task Description: Perform repairs on RM gages for the Bin Test.

Work Description: (attach additional sheets as needed, list task goals, criteria for completion, etc. as appropriate.)
Reference the MAD sheet issued for Bin 57 on 7/18/91 (Primary Board).

I have considered the following aspects in requesting this work and the documentation is complete, signed and attached as appropriate; Work Instructions (Work packages, 030's, JHA's, RWP's), approved procedures, (list procedure and revision #'s), approved drawings or sketches, appropriate forms (MAD's, Drill Requests, etc.), parts & equipment are available to complete the task, (list part #, quantity & location), QA , NEPA and ES&H reviews have been completed as required.

Requester Signature & Date: Wesley DeYonge 7/18/91

ES&H Coordinator Signature& Date: [signature] 7/18/91

Work to be Started By: 7/19/91 Work to Be Completed By: 7/19/91

Estimated Man-Shifts: 1

If the described work is *Ready To Work*, then check Category A, ☒.

For all other work, (preliminary, planning, deferred, rescinded, etc.) check Category B ☐

Explanation: _____

7-18-91 @ 1155

Received By WID RAM _____ Concurrence For Category A by WID RAM _____

Task Start Date _____ Task Completion Date _____ Budget Number _____

☐ Suspended ☐ Returned Explanation: _____

ISC DATA Drill 9.5.1 TBX07

WIPP WASTE ISOLATION PILOT PLANT	TITLE: MEASURAND ACTION DATA	Sandia National Laboratories PROCEDURE 346 REVISION 1 FORM No. 103-A

DATE 7/18/91	ROOM 1, Panel 1 INSTRUMENT TYPE SERIAL No. CAL. DUE DATE ___/___/___	Bin Location 57	TEAM APPROVAL Q.A.

MRAND NUMBER	GAGE NUMBER	SUGGESTED ACTION DATE AND INITIALS	ACTION TAKEN DATE AND INITIALS
		Gage alarms and data indicate a failure of the primary pressure gage. Determine and isolate the problem. If the gage/board is defective, replace the board with a Left Hand spare. If the problem is cable or shed related contact myself or any of the other SNL Gage (Instrumentation) Cognizant Engineers. for further direction. 7/18/91 WJS	

ISO DATA

WASTE ISOLATION PILOT PLANT
LABORATORY OPERATIONS
NON-OSR / SAIL 3
TITLE: SAMPLE CUSTODY

ORIGINAL

ATTACHMENT 1 original COC

Page 1 of

SAMPLE CHAIN OF CUSTODY

Sample Apparatus Data & Custody Trail to Sample Location

Apparatus ID # W.U.F A 10 | Requesting Department WHO | Ready For Use ☒ YES ☐ NO

Sample Custody Trail to Sample Location	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Lab Tech Cheryl Payton	N/A	N/A	08:25 7/1/91	CP
Custodian A.W. MASHBURN	7-12-91 0838	AWM	1532 7-19-91	AWM
Custodian BART SMITH	7-19-91 0534	BS	1115 7/22/91	BS
Custodian LARRY PORTER	7/22/91 1113	LP	N/A	N/A

Sample Data

Sample Number : W P - 0 7 2 2 9 1 L - W L A 1 0
Sample Date / Apparatus I.D.

Bin ID Number TBX-05 | Sample Matrix N/A

Sample Type: ☐ Reference Standard ☒ Sample ☐ Duplicate ☐ Field Blank ☐ Head space ☐ Manifold Blank

Analysis Request: ☒ Reactive Gases ☐ Flammable VOC's ☐ VOC/Inorganic Gases ☐ Flame Test ☐ Flammable Inorganic ☐ Head space

SAMPLE TIME : 12:26 SAMPLER : L. Porter | Filter Pack Flow Rate : 669 Flow Time : 2 m

Sample Custody

Sample Custody Trail to Laboratory	RECEIVED DATE/TIME	RECEIVED INIT	RELINQUISHED DATE/TIME	RELINQUISHED INIT
Sampler Larry Porter	N/A	N/A	7-22-91 1409	LP
Custodian BART SMITH	7/22/91 1443	BS	7/22/91 1448	BS
Custodian Cheryl Payton	7/22/91 1443	CP	N/A	N/A
Custodian N/A	N/A	N/A	N/A	N/A

Sample Disposition

☒ ANALYZED ON-SITE | ☐ - SHIPPED OFF SITE

Lab Name Analytical Lab | Lab Number WA1203 X025

Date / Time of sample receipt : N/A | Initials CP

Comments : No discrepancies CP/BS — No Discrepancies CP/BS

8.1 REVIEWED BY : R Bussing 7/25/91 1315 DATE/TIME
SIGNATURE

8.2 RELEASED BY : R Bussing 7/25/91 1316
SIGNATURE

ISC DAT..

DATE/TIME

9.4 THIS SIGNATURE CONSTITUTES VALIDATION OF THIS RECORD.

VALIDATED BY : _____ / _____
PRINTED NAME SIGNATURE

DATE/TIME

STEP 9.3

WP 12-AD3001-1 (Re

ISC Drill Only
Not a laboratory Record
NO Validation Required
R. Bussing

RECORD COP. 7-23-91

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 0611803526

1113M 0611803526

CUSTOMER: PLEASE REMOVE ONE OF THESE LABELS AND PLACE IT ABOVE THE AIRBILL ON YOUR PACKAGE

925E0897L90 925E0897L90

1 Sender's Federal Express Account Number: 0871-0786-8 Date: 07/23/91

From (Your Name) Please Print: Dr. C. F. Wu
Your Phone Number (Very Important): (505) 887-8384
Company: WESTINGHOUSE WIPP PROJECT
Department/Floor No.:
Street Address: 401 CANAL
City: CARLSBAD State: NM ZIP Required: 88220

2 To (Recipient's Name) Please Print: Tim Sander
Recipient's Phone Number (Very Important): (513) 782-4600
Company: ITAS - Cincinnati
Department/Floor No:
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 11499 Chester Road
City: Cincinnati, State: OH ZIP Required: 45246

YOUR INTERNAL BILLING REFERENCE INFORMATION (First 24 characters will appear on invoice.)

3 PAYMENT 1 ☐ Bill Sender Acct No Req'd 2 ☐ Bill Recipient's FedEx Acct. No Fill in Account Number below 3 ☐ Bill 3rd Party FedEx Acct. No. Fill in Account Number below (req'd) 4 ☐ Bill Credit Card Fill in Credit Card No. below (req'd)
5 ☐ Cash/Check Acct./Credit Card No. _____ Exp. Date ___/___

F IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address:
City: State: ZIP Required:

4 SERVICES (Check only one box)

Priority Overnight		Standard Overnight	
11	☒ YOUR PACKAGING	51	☐ YOUR PACKAGING
16	☐ FEDEX LETTER *	56	☐ FEDEX LETTER *
12	☐ FEDEX PAK *	52	☐ FEDEX PAK *
13	☐ FEDEX BOX	53	☐ FEDEX BOX
14	☐ FEDEX TUBE	54	☐ FEDEX TUBE
Economy Two-Day		Government Overnight	
30	☐ ECONOMY	46	☐ GOVT. LETTER
		41	☐ GOVT. PACKAGE

Freight Service (for Extra Large or any package over 150 lbs.)
70 ☐ OVERNIGHT FREIGHT ** (Additional information required) † Delivery commitment may be later in some areas
80 ☐ TWO-DAY FREIGHT ** *Declared Value Limit $500 **Call for delivery schedule

DELIVERY AND SPECIAL HANDLING (Check services required)

1 ☐ HOLD FOR PICK-UP (If # in Box H)
2 ☐ DELIVER WEEKDAY
3 ☐ DELIVER SATURDAY (Extra charge) (Not available to all locations)
4 ☐ DANGEROUS GOODS (Extra charge)
5 ☐
6 ☐ DRY ICE Lbs
7 ☐ OTHER SPECIAL SERVICE
8 ☐
9 ☐ SATURDAY PICK UP (If extra charge)
10 ☐
11 ☐
12 ☐ HOLIDAY DELIVERY (If offered) (Extra charge)

PACKAGES	WEIGHT in Pounds Only	YOUR DECLARED VALUE (See rates)
Total	Total	Total

DIM SHIPMENT (Dimensionable Weight) ☐ lbs

Received At: 1 ☐ Regular Stop 1 ☐ Drop Box

SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY

Use of this airbill constitutes your agreement to the service conditions in our current Service Guide, available upon request. See back of sender's copy of this airbill for information. Service conditions may vary for Government Overnight Service. See U.S. Government Service Guide for details.
We will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, and document your actual loss for a timely claim. Limitations found in the current Federal Express Service Guide apply. Your right to recover from Federal Express for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the declared value specified in the bill. Recovery cannot exceed actual documented loss. The maximum Declared Value for FedEx Letter and FedEx Pak packages is $100.00.
In the event of untimely delivery, Federal Express will at your request and with some limitations, refund all transportation charges paid. See Service Guide for further information.

Sender authorizes Federal Express to deliver this shipment without obtaining a delivery signature and shall indemnify and hold harmless Federal Express from any claims resulting therefrom.

5 Release Signature

Declared Value Charge
Other 1
Other 2
Total Charge
REVISION DATE 1/91
FORMAT 8088
068

ISC DATA

ORDER

FORM 23970 E

INVOICE SECTION 6

TYPE OF BILL: A/P | REG. | N

FROM WESTINGHOUSE ELECTRIC CORP.
AT WIPP SITE

IN CORRESPONDING SHOW OUR
ORDER NO. & DATE 75WRA39940SX
CUSTOMER'S OR SUPPLIER'S REFERENCE AND DATE

COPIES OF INV. TO ACCOUNTING

COPIES OF S/N TO

CREDIT FOR
WESTINGHOUSE ELECTRIC CORP.
P.O. BOX 2078
CARLSBAD, NM 88221

SHIPPED TO
ITAS - CINCINNATI
11499 CHESTER ROAD
CINCINATI, OH 45246
(513) 782-4600/TIM SANDER

MARK EACH PACKAGE

F. O. B.	CHARGE TRANSP. TO	TAX CODE	HOW TO SHIP AND ROUTE	PREPAID	COLL
SITE	WAD44403-1		FEDERAL EXPRESS	X	

MATERIAL LOCATED IN	DATE MATERIAL TO BE SHIPPED	EST. VALUE
WIPP SITE, ANALYTICAL LAB	BLANKET REQUEST	$600

PKG. NO. & WEIGHT	ITEM	QUANTITY	IDENTIFICATION AND DESCRIPTION	UNIT PRICE	MULTIPLIER	AMOUNT
AB	1	1	250 ML SUMMA CANISTER ~~6 LITER SUMMA CANISTER~~ eco 07/23/91 CONTACT: ROBERT ASKREN WESTINGHOUSE ELECTRIC CORP. P.O. BOX 2078 CARLSBAD, NM 88221 (505) 885-7523			

REASON FOR SHIPPING: RETURN TO VENDOR

ISC DATA Stel 9.3.3

R/N# D/A#

GROSS WEIGHT	CHG. INCOMING TRANSP. YES / NO	INCOMING CARRIER	CREDIT ACCOUNT	COMM. CODE

ZONE / AMT. PPD.	REQUESTED BY	DEPT.	APPROVED	CORRESPONDENT
	WILLIE MOST		ROBERT ASKREN	

EXP. / B. NO.	CAR INFORMATION	ROUTE	SHIPMENT NO. AND DATE	PART.	FINAL	PPD.	C
			L-3545-01 07/23/91				

EXTRACT THIS COPY AND RETAIN FOR YOUR FILE

Environmental VOC Chain of Custody Record

SAMPLE NUMBER 001

C/C Control No. 0001 ~~0250~~

R/A Control No. 02220

Date of Receipt: 7 / 1 / 91

Shipping Document No. 43543-3

Equipment Type: VOC CANISTER

Serial/ID No. 03962/WE015

Cleaning Cert. Date: N/A

Cal. Due Date: N/A

Storage Location: TR 918 Date: 7 / 1 / 91 Time: 0800

Installation Location: VOC-10 Date: 7 / 18 / 91 Time: 1030

1 Received By: P-J Martinez (Signature) 7-1-91 (Date)

Relinquished By: P-J Martinez (Signature) STORAGE 7-1-91 (Date)

2 Received By: P-J Martinez (Signature) 7-18-91 (Date)

Relinquished By: P-J Martinez (Signature) INSTALLED 7-18-91 (Date)

3 Received By: P-J Martinez (Signature) 7-19-91 (Date)

Relinquished By: P-J Martinez (Signature) SHIPPED 7-19-91 (Date)

4 Received By: (Signature) (Date)

Relinquished By: (Signature) (Date)

5. Received By: (Signature) (Date)

Relinquished By: (Signature) (Date)

6. Received By: (Signature) (Date)

Relinquished By: (Signature) (Date)

Performers responsible for date entry or step completion **SHALL** enter their printed names, signatures, and date below.

NAME (print)	SIGNATURE	DATE
PORF MARTINEZ	P-J Martinez	7-1-91

Remarks:

8.1 This record has been reviewed and is found to be complete.

Name (print)	Signature	Date
Linda Frank	Linda Frank	7-19-91

9.2 Completion of this step constitutes validation of this record.

Name (print)	Signature	Date
Linda Frank	Linda Frank	7-19-91

ISC DATA

9.3 Step

WHITE COPY (Original) - Dosimetry & Analytical Technology
YELLOW COPY - To Accompany Sample
PINK COPY - to MHC

WP 12 EM3201 2 (Rev

C C Control No. 01

WASTE ISOLATION PILOT PLANT
WESTINGHOUSE ELECTRIC CORP.
P. O. BOX 2078
CARLSBAD, NM 88221-2078

DATE SAMPLES SHIPPED 7-19-91
LAB DESTINATION I.T. CORP. CINCINNATI OH
LABORATORY CONTACT TIM SANDERS
SEND LAB REPORT TO LINDA FRANK
WESTINGHOUSE ELEC. CORP.
P.O BOX 2078 CARLSBAD, NM 88220

SAMPLING PROGRAM VOC MONITORING PROGRAM

DATE REPORT REQUIRED TWO-WEEK TURN AROUND
PROJECT CONTACT PORF MARTINEZ
PROJECT CONTACT PHONE NO. 505-887-8394

PURCHASE ORDER NO. 75WPT40033SX

Sample Number	Sample Type	Sample Quantity	Preservative	Req't. Testing Program	Special Instructions
001	AMBIENT AIR	12 L	NONE	CONTRACT VOC'S	—

ISC DATA 9.3.4

TURNAROUND TIME REQUIRED: (Rush must be approved by appropriate ager.) NORMAL X RUSH _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are haz ous materials and/or suspected to contain high levels of hazardous substances.)

NONHAZARD X FLAMMABLE _____ SKIN IRRITANT _____ HIGHLY TOXIC _____ BIOLOGICAL _____ OTHER _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis RETURN TO CLIENT _____ DISPOSAL BY LAB X

FOR LABORATORY USE ONLY

RECEIVED BY _____ DATE/TIME _____

WHITE - Original, to accompany samples / YELLOW - Field Copy / PINK

WP Form 1177; Revised 8/18/89

"L" ORDER

FORM 23970 E

INVOICE SECTION 6

TYPE OF BILLING: A/P | REG. | E

FROM / AT: WESTINGHOUSE ELECTRIC CORP. WIPP SITE	IN CORRESPONDING SHOW OUR ORDER NO. & DATE: 75WPT40033SX
TEP	CUSTOMER'S OR SUPPLIER'S REFERENCE AND DATE
COPIES OF INV. TO: ACCOUNTING	COPIES OF S/N TO

CREDIT FOR:
WESTINGHOUSE ELECTRIC CORP.
P.O. BOX 2078
CARLSBAD, NM 88221

SHIPPED TO:
ITAS-CINCINNATI
11499 CHESTER RD.
CINCINNATI, OH 45246
(513) 782-4600 / TIM SANDER

MARK EACH PACKAGE

F. O. B.	CHARGE TRANSP. TO	TAX CODE	HOW TO SHIP AND ROUTE	PREPAID	COLLECT
SITE	WAD44403-1		UPS	X	

MATERIAL LOCATED IN	DATE MATERIAL TO BE SHIPPED	EST. VALUE
WIPP SITE, VOC TRAILER	BLANKET REQUEST	$800 ea

PKG. NO. & WEIGHT	ITEM	QUANTITY	IDENTIFICATION AND DESCRIPTION	UNIT PRICE	MULTIPLIER	AMOUNT
		1	VOC CANISTERS SERIAL # 03962/WEDIS			

CONTACT: DENNIS CANTRELL
WESTINGHOUSE ELECTRIC CORP.
P.O. BOX 2078
CARLSBAD, NM 88221
(505) 885-7524

AB

REASON FOR SHIPPING: CANISTER VOC SAMPLE ANALYSIS, CLEANING, AND CERTIFICATION - ACKNOWLEDGEMENT OF DELIVERY IS REQUIRED.

R/N# D/A #

GROSS WEIGHT	CHG. INCOMING TRANSP. YES / NO	INCOMING CARRIER	CREDIT ACCOUNT	COMM. CODE

ZONE / AMT. PPD.	REQUESTED BY	DEPT.	APPROVED	CORRESPONDENT
	WILLIE MOST		D Cantrell DENNIS CANTRELL	

EXP. W/B. NO.	CAR INFORMATION	ROUTE	SHIPMENT NO. AND DATE	PART. / IN... / PPD. / CO...
			L-3543-3 7-19-91	

ISC DATA

EXTRACT THIS COPY AND RETAIN FOR YOUR FILE

PACKING LIST

Environmental VOC Chain of Custody Record

SAMPLE NUMBER 002

C/C Control No. 0002 ~~0250~~

R/A Control No. 02221

Date of Receipt: 7 / 1 / 91

Shipping Document No. _____

Equipment Type: VOC CANISTER

Serial/ID No. 03963/ME016

Cleaning Cert. Date: N/A

Cal. Due Date: N/A

Storage Location: TR 918 Date: 7 / 1 / 91 Time: 0800

Installation Location: VOC-10 Date: 7 / 19 / 91 Time: 1100

1 Received By: Signature: Porf Martinez Date: 7-1-91	3 Received By: Signature: _____ Date: _____	5. Received By: Signature: _____ Date: _____
Relinquished By: Signature: Porf Martinez STORAGE Date: 7-1-91	Relinquished By: Signature: _____ Date: _____	Relinquished By: Signature: _____ Date: _____
2 Received By: Signature: Porf Martinez Date: 7-19-91	4. Received By: Signature: _____ Date: _____	6. Received By: Signature: _____ Date: _____
Relinquished By: Signature: Porf Martinez INSTALLED Date: 7-19-91	Relinquished By: Signature: _____ Date: _____	Relinquished By: Signature: _____ Date: _____

Performers responsible for date entry or step completion **SHALL** enter their printed names, signatures, and date below.

NAME (print)	SIGNATURE	DATE
PORF MARTINEZ	Porf Martinez	7-1-91

Remarks: _____

8.1 This record has been reviewed and is found to be complete.

Name (print)	Signature	Date

9.2 Completion of this step constitutes validation of this record.

Name (print)	Signature	Date

ISC DATA

WHITE COPY (Original) - Dosimetry & Analytical Technology
YELLOW COPY - To Accompany Sample
PINK COPY - to MRC

WP Form 2177; 5/29/91
Page 1 of 1

WP 12 EM3201 2 (Rev

9.3.4

ATTACHMENT 1

Page 1 of 1

VOC-10 Sample Canister Log

Remarks: RWP 91-0005U SWP N/A

Date: 7-19-91

FILLED SAMPLE CANISTER

ID and Sample Number	Date and Time of Removal
D3962/WED15 SAMPLE #1	7-19-91 1045 AM

EMPTY SAMPLE CANISTER

ID Number	Date and Time Installed
D3963/WED16 SAMPLE #2	7-19-91 1100

Canister Surface Contamination			Assessment Filter		
<20 dpm/100 cm^2	X Yes	___ No*	<4 √background cpm	X Yes	___ No*

* Contamination present, item not released isotopic analysis required.

Performers responsible for data entry or step completion **SHALL** enter their printed names, signatures, and date below.

NAME (print)	SIGNATURE	DATE
PORF MARTINEZ	Porf Martinez	7-19-91
C. LITTRELL	C. Littrell	7/19/91

Remarks: ___

This record has been reviewed and is found to be complete.

Name (print)	Signature	Date
Linda Frank	Linda Frank	7/19/91

Completion of this step constitutes validation of this record.

Name (print)	Signature	Date
Linda Frank	Linda Frank	7/19/91

ISC DATA 9,3,4

CONTROLLED COPY

WORKING COPY
[ ] Revision Checked
[ ] Page Checked
NAME W. B. McMillian
SIGN W. B. McMillian
DATE 7/23/91

BIN RETRIEVAL

STEP NO.	DESCRIPTION	INITIAL
	UNDERGROUND	
6.1.2	TBX05 191-0188 / N/A Bin ID RWP No SWP No.	MJ
6.1.5	CMRO Notified of Procedure Performance Underground	MJ
	SURFACE	
6.2.4	____ / ____ RWP No SWP No	
6.2.5	____ / ____ / ____ Torque Wrench ID/ Range /Cal Due Date ____ / ____ / ____ Load Cell ID/ Weight Error /Cal Due Date	
6.2.8	CMRO Notified of Procedure Performance on Surface	
7.3.1	Tamper Indicating Device Intact	
7.3.54	PR-1 Valve Closed INDEPENDENT VERIF ____ PR-2 Valve Closed INDEPENDENT VERIF ____ GR-1 Valve Closed INDEPENDENT VERIF ____ GR-2 Valve Closed INDEPENDENT VERIF ____ GRB-1 Valve Closed INDEPENDENT VERIF ____ GRB-2 Valve Closed INDEPENDENT VERIF ____ OG/AP-1 Valve Closed INDEPENDENT VERIF ____ OG/AP-2 Valve Closed INDEPENDENT VERIF ____	____ ____ ____ ____ ____ ____ ____ ____
7.4.12	**QA HOLD POINT** ____ All Lid Bolts torqued to 30 ± 5 ft-lbs	
7.4.13	**QA HOLD POINT** ____ All Lid Bolts torqued to 50 ± 5 ft-lbs	
7.4.15	Tamper Indicating Device Installed	
7.4.19	Filter Model Number ____	
7.4.20	ALL Unused Filter Ports are Plugged	
7.4.24	CMRO Notified of Procedure Completion	

ISC DATA

Performers responsible for recording data or step completion **SHALL** enter their printed names and initials on the next page.

9.6.4

BIN RETRIEVAL (Continued)

NAME	INITIALS	DATE
Melody Smith	MS	7-23-91
A.W. MASHAW	AWM	7-23-91
Adan M Peña	AMP	7-23-91

REMARKS: ISC DATA TBX05a

8.1 **REVIEW:** This record has been reviewed and is complete.

WHS (Print Name)	Signature	Date
W.D. McMillion	WDMcM	7/24/91

9.4 **VALIDATION:** Completion of this step validates this record.

WHM (Print Name)	Signature	Date
C.R. Kelley	C.R. Kelley	7/29/91

ISC DATA 9.6.4

PCN 00-01

WORKING COPY
[✓] Revision Checked
[✓] Page Checked
NAME W. D. McMillion
SIGN W D McM
DATE 7/23/91

ATTACHMENT 2

SWB Shipment Data Worksheet

STEP NO.	DESCRIPTION	INITIAL
7.2.6	SWB Package ID Number:	
7.4.17	Highest Contact Gamma Reading: mrem/hr	
7.4.17	Highest Contact Neutron Reading: mrem/hr	
7.4.21	SWB Weight: lbs	
7.4.22	SWB Weight Error lbs	

Performers responsible for recording data **SHALL** enter their printed names and initials below.

NAME	INITIALS	DATE

N/A BTX 05
BTX & [illegible]
Surface personnel was

REMARKS: _____

8.1 **REVIEW:** This record has been reviewed and is complete.

WHS (Print Name) / Signature / Date

9.4 **VALIDATION:** Completion of this step validates this record.

WHM (Print Name) / Signature / Date

ISC DATA
9.6.4

ATTACHMENT 1

Page 1 of 2

Bin Equipment Removal for Retrieval

Date: 7-22-91 Time: 15:39

STEP	DESCRIPTION	INITIALS
7.1	TBY05 / 91-0187 / 01A Test Bin ID / RWP Number / SWP Number	LP
7.6	Thermocouples disconnected Oxygen Analyzer disconnected Primary Instrument String disconnected Second Instrument String disconnected	DAS TECHNICIAN TR.
7.10	OG/AP-1 OXY GETT/ARGON Valve closed	BS
	OG/AP-2 OXY GETT/ARGON Valve closed	BS
	PR-1 INSTR PORT Valve closed	BS
	GR-1 RECIRC OUT Valve closed	BS
	GR-2 RECIRC IN Valve closed	BS
	PR-2 INSTR PORT BACKUP Valve closed	BS
	GRB-1 OXY GETT/RECIRC OUT BACKUP Valve closed	BS
	GRB-2 OXY GETT/RECIRC IN BACKUP Valve closed	BS
	PR-15 VOC MANIFOLD VALVE closed	BS
	PR-16 VOC MANIFOLD VALVE closed	BS
7.12	**HOLD POINT** RAF below acceptable limits	HPT amp
7.17	**HOLD POINT** RAF below acceptable limits	HPT amp
7.22	**HOLD POINT** RAF below acceptable limits	HPT amp
7.27	**HOLD POINT** RAF below acceptable limits	HPT amp

PCN 00-01

PCN 00-01

Performers responsible for step completion **SHALL** enter their printed names, initials, and date on the next page.

ISC DATA 9.6.93

Bin Equipment Removal for Retrieval (Continued)

PCN 00-01

STEP	DESCRIPTION	INITIALS
7.35	**HOLD POINT** RAF below acceptable limits	HPT AMP
7.40	**HOLD POINT** RAF below acceptable limits	HPT AMP
7.64	PR-1 INSTR PORT Valve open	DS

PRINT NAME	INITIAL	DATE
Donny Rinke	TR	7-22-91
DART Smith	DS	7-22-91
Larry Porter	LP	7-22-91
Alan McKenna	AMP	7-22-91

REMARKS

ISC DATA (TBX05=)

8.2 REVIEW This record has been reviewed and is found to be complete.

W.D. McMillian | WDMcM | 7/24/91 | 1720

WHS (Print Name) (Signature) Date Time

9.4 VALIDATION Completion of this step constitutes validation of this record.

SUSAN PICKERING | Susan Pickering | 7-29-91 | 1310

SNL QA Chief (Print Name) (Signature) Date Time

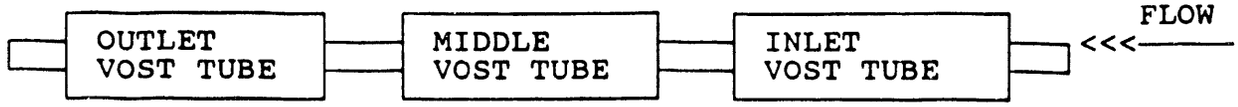
ISC DATA

Step 9.6.3

ATTACHMENT 1

Page 1 of 2

VOST Usage



RWP no. 91-0006 u

SWP no. N/A

Carbon Bed Assessment Filter	VOST Assessment Filter
<4 √background cpm — X Yes — No*	<4 √background cpm — X Yes — No*

* Contamination present, item not released isotopic analysis required.

New VOST tubes:

Inlet VOST tube no. 211/VT023 Sample no. V0023

Middle VOST tube no. 212/VT024 Sample no. V0024

Outlet VOST tube no. 210/VT025 Sample no. V0025

Installed: 7-23-91 / 1137
Date Time

Used VOST tubes:

Inlet VOST tube no. 123/VT003 Sample no. V006

Middle VOST tube no. 456/VT002 Sample no. V002

Outlet VOST tube no. 789/VT001 Sample no. V004

Removed: 7-23-91 /
Date Time

Performers responsible for data entry or step completion in this procedure **SHALL** enter their printed names and signatures below.

NAME (print)	SIGNATURE	DATE
PORF MARTINEZ	P-/M	7-23-91
C. Littrell	C Littrell	7/23/91

ISC DATA
CONTROLLED COPY

VOST Usage(continued)

Remarks: _____

_____

_____

8.1 Review

This record has been reviewed and is found to be complete.

Name (print)	Signature	Date
Linda Frank	Linda Frank	7/23/91

9.2 Validation

Completion of this step constitutes validation of this record.

Name (print)	Signature	Date
Linda Frank	Linda Frank	7/23/91

ISC DATA

CONTROLLED COPY

Environmental VOC Chain of Custody Record

SAMPLE NUMBER V004

C/C Control No. 0003 ~~0250~~ P.M 7-23-91

R/A Control No. 02223

Date of Receipt: 7/15/91

Shipping Document No. L-3543-4

Equipment Type: VOST Tube

Serial/ID No. 789/VT001

Cleaning Cert. Date: N/A

Cal. Due Date: N/A

Storage Location: TR 918 Date: 7/15/91 Time: 09:32

Installation Location: VOC 1D Date: 7/17/91 Time: 10:25

1. Received By: Kim Greer 7-15-91 (Signature / Date)	3. Received By: [signature] 7-23-91 (Signature / Date)	5. Received By: (Signature / Date)	
Relinquished By: Kim Greer 7-15-91 (Signature / Date)	Relinquished By: [signature] SHIPPED 7-23-91 (Signature / Date)	Relinquished By: (Signature / Date)	
2. Received By: [signature] 7-17-91 (Signature / Date)	4. Received By: (Signature / Date)	6. Received By: (Signature / Date)	
Relinquished By: [signature] INSTALLED 7-17-91 (Signature / Date)	Relinquished By: (Signature / Date)	Relinquished By: (Signature / Date)	

Performers responsible for date entry or step completion **SHALL** enter their printed names, signatures, and date below.

NAME (print)	SIGNATURE	DATE
Kim Greer	Kim Greer	7-15-91
Pore Martinez	[signature]	7-17-91

Remarks:

8.1 This record has been reviewed and is found to be complete.

Name (print)	Signature	Date
Linda Frank	Linda Frank	7/25/91

9.2 Completion of this step constitutes validation of this record.

Name (print)	Signature	Date
Linda Frank	Linda Frank	7/25/91

ISC DATA

WP Form 2177 (Rev. 0)
Page 1 of 1

WHITE COPY (Original) - Dosimetry & Analytical Technology
YELLOW COPY - To Accompany Sample
PINK COPY - to MRC

WP 12 EM3201-2 (Rev. 0)

Environmental VOC Chain of Custody Record

SAMPLE NUMBER V002

C/C Control No. ~~0250~~ 0004 P.M. 7.23.91

R/A Control No. 02222

Date of Receipt: 7/15/91

Shipping Document No. L-3543-4

Equipment Type: VOST Tube

Serial/ID No. 456/VT002

Cleaning Cert. Date: NA

Cal. Due Date: NA

Storage Location: TR 918 Date: 7/15/91 Time: 09:31

Installation Location: VOC 10 Date: 7/17/91 Time: 10:20

1 Received By: Kim Greer 7-15-91 (Signature / Date)	3 Received By: [illegible] 7-23-91 (Signature / Date)	5. Received By: (Signature / Date)	
Relinquished By: Kim Greer 7-15-91 (Signature / Date)	Relinquished By: [illegible] SHIPPED 7-23-91 (Signature / Date)	Relinquished By: (Signature / Date)	
2 Received By: [illegible] 7-17-91 (Signature / Date)	4. Received By: (Signature / Date)	6. Received By: (Signature / Date)	
Relinquished By: [illegible] INSTALLER 7-17-91 (Signature / Date)	Relinquished By: (Signature / Date)	Relinquished By: (Signature / Date)	

Performers responsible for date entry or step completion **SHALL** enter their printed names, signatures, and date below.

NAME (print)	SIGNATURE	DATE
Kim Greer	Kim Greer	7-15-91
PORF MARTINEZ	[illegible]	7-17-91

Remarks:

ISC DATA

8.1 This record has been reviewed and is found to be complete.

Name (print)	Signature	Date
Linda Frank	Linda Frank	7/25/91

9.2 Completion of this step constitutes validation of this record.

Name (print)	Signature	Date
Linda Frank	Linda Frank	7/25/91

7.3.5

WHITE COPY (Original) - Dosimetry & Analytical Technology
YELLOW COPY - To Accompany Sample
PINK COPY - to MRC

Environmental VOC Chain of Custody Record

SAMPLE NUMBER V006

C/C Control No. 0005 ~~0250~~ P.M. 7-29-91

F/A Control No. 02224

Date of Receipt: 7/15/91

Shipping Document No. 1-3543-4

Equipment Type: VOST Tube

Serial/ID No. 123/VT003

Cleaning Cert. Date: N/A

Cal. Due Date: N/A

Storage Location: Tr 918 Date: 7/15/91 Time: 09:30

Installation Location: VOC 1D Date: 7/17/91 Time: 10:15

1 Received By: Kim Green (Signature) 7-15-91 (Date)	3 Received By: P-J Martin (Signature) 7-23-91 (Date)	5. Received By: (Signature) (Date)
Relinquished By: Kim Green (Signature) 7-15-91 (Date)	Relinquished By: P-J Martin (Signature) SHIPPED 7-23-91 (Date)	Relinquished By: (Signature) (Date)
2 Received By: P-J Martin (Signature) 7-17-91 (Date)	4. Received By: (Signature) (Date)	6. Received By: (Signature) (Date)
Relinquished By: P-J Martin (Signature) Installed 7-17-91 (Date)	Relinquished By: (Signature) (Date)	Relinquished By: (Signature) (Date)

Performers responsible for date entry or step completion **SHALL** enter their printed names, signatures, and date below.

NAME (print)	SIGNATURE	DATE
Kim Green	Kim Green	7-15-91
PORF MARTINER	P-J Martin	7-17-91

Remarks:

8.1 This record has been reviewed and is found to be complete.

Name (print)	Signature	Date
Linda Frank	Linda Frank	7/25/91

9.2 Completion of this step constitutes validation of this record.

Name (print)	Signature	Date
Linda Frank	Linda Frank	7/23/91

ISC DATA

9.3.5

WP Form 2[illegible]; 5/29/91
Page 1 of

WHITE COPY (Original) - Dosimetry & Analytical Technology
YELLOW COPY - To Accompany Sample
PINK COPY - to MRC

WP 12 EM3201 2 (Rev. 0)

REQUEST FOR ANALYSIS

R A Control No. 2223 7-23-91 2220
C C Control No. 1 03

WASTE ISOLATION PILOT PLANT
WESTINGHOUSE ELECTRIC CORP.
P. O. BOX 2078
CARLSBAD, NM 88221-2078

DATE SAMPLES SHIPPED 7-23-91
LAB DESTINATION I.T. CORP. CINCINNATI OH
LABORATORY CONTACT TIM SANDERS
SEND LAB REPORT TO LINDA FRANK
WESTINGHOUSE ELEC. CORP.
P.O.BOX 2078, Carlsbad, NM 88220

SAMPLING PROGRAM VOC MONITORING PROGRAM

DATE REPORT REQUIRED 2-WEEK TURN AROUND
PROJECT CONTACT PORF MARTINEZ

PURCHASE ORDER NO. 75WPT400335X

PROJECT CONTACT PHONE NO. 505-887-8394

Sample Number	Sample Type	Sample Quantity	Preservative	Req't. Testing Program	Special Instructions
VOD4	VOST TUBE	8 grams	NONE	CONTRACT THERMAL DESORPTION	

ISC DATA

TURNAROUND TIME REQUIRED: (Rush must be approved by appropriate manager.) NORMAL X RUSH _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are hazardous materials and/or suspected to contain high levels of hazardous substances.)

NONHAZARD X FLAMMABLE _____ SKIN IRRITANT _____ HIGHLY TOXIC _____ BIOLOGICAL _____ OTHER _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis) RETURN TO CLIENT _____ DISPOSAL BY LAB X

FOR LAB USE ONLY

9.3.5

RECEIVED BY _____ DATE/TIME _____

WHITE - Original, to accompany samples / YELLOW - Field Copy / PINK

WP Form 1177; Revised 8/18/89

REQUEST FOR ANALYSIS

R A Control No. 02222 ~~2220~~ 7-23-91
C C Control No. L.04

WASTE ISOLATION PILOT PLANT
WESTINGHOUSE ELECTRIC CORP.
P. O. BOX 2078
CARLSBAD, NM 88221-2078

DATE SAMPLES SHIPPED 7-23-91
LAB DESTINATION II. CORP. CINCINNATI OH
LABORATORY CONTACT TIM SANDERS
SEND LAB REPORT TO LINDA FRANK
WESTINGHOUSE ELEC. CORP.
P.O. BOX 2078, CARLSBAD, NM 88220

SAMPLING PROGRAM VOC MONITORING PROGRAM

DATE REPORT REQUIRED 2-WEEK TURN AROUND
PROJECT CONTACT PORF MARTINEZ
PROJECT CONTACT PHONE NO. 505-887-8394

PURCHASE ORDER NO. 75WPT40033SX

Sample Number	Sample Type	Sample Quantity	Preservative	Req't. Testing Program	Special Instructions
VD02	VOST TUBE	8 grams	NONE	CONTRACT THERMAL DESORPTION	

ISC DATA

TURNAROUND TIME REQUIRED: (Rush must be approved by appropriate ager.) NORMAL X RUSH _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are haz us materials and/or suspected to contain high levels of hazardous substances.)

NONHAZARD X FLAMMABLE _____ SKIN IRRIT.NT _____ HIGHLY TOXIC _____ BIOLOGICAL _____ OTHER _____ (Please Specifiy)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis RETURN TO CLIENT _____ DISPOSAL BY LAB X

FOR LAB USE ONLY

RECEIVED BY _____ DATE/TIME _____

WHITE [illegible] accom[illegible] sample[illegible] YELL[illegible] Field[illegible] / PI[illegible]h [illegible] [illegible] [illegible]

WASTE ISOLATION PILOT PLANT
WESTINGHOUSE ELECTRIC CORP.
P. O. BOX 2078
CARLSBAD, NM 88221-2078

C C Control No. 05

DATE SAMPLES SHIPPED 7-23-91
LAB DESTINATION I.T. CORP. CINCINNATI OH
LABORATORY CONTACT TIM SANDERS
SEND LAB REPORT TO LINDA FRANK
WESTINGHOUSE ELEC CORP.
P.O. Box 2078, Carlsbad NM. 88220

SAMPLING PROGRAM VOC MONITORING PROGRAM

DATE REPORT REQUIRED 2-WEEK TURN AROUND
PROJECT CONTACT PORF MARTINEZ
PROJECT CONTACT PHONE NO. 505-887-8394

PURCHASE ORDER NO. 75WPT400335X

Sample Number	Sample Type	Sample Quantity	Preservative	Req't. Testing Program	Special Instructions
V006	VOST TUBE	8 grams	NONE	CONTRACT THERMAL DESORPTION	

ISC DATA

TURNAROUND TIME REQUIRED: (Rush must be approved by appropriate ager.) NORMAL X RUSH _____ (Subject to rush surcharge)

POSSIBLE HAZARD IDENTIFICATION: (Please indicate if sample(s) are haz ous materials and/or suspected to contain high levels of hazardous substances.)

NONHAZARD _____ FLAMMABLE _____ SKIN IRRITANT _____ HIGHLY TOXIC _____ BIOLOGICAL _____ OTHER _____ (Please Specify)

SAMPLE DISPOSAL: (Please indicate disposition of sample following analysis RETURN TO CLIENT _____ DISPOSAL BY LAB X

FOR LAB USE ONLY

9.3.5

RECEIVED BY _____ DATE/TIME _____

WHITE - Original, to accompany samples / YELLOW - Field Copy / PINK hr

WP Form 1177; Revised 8/18/89

"L" ORDER

FORM 23970 E

INVOICE SECTION 6

TYPE OF BILLING: A/P | REG. | E

FROM: WESTINGHOUSE ELECTRIC CORP.
WIPP SITE
AT

IN CORRESPONDING SHOW OUR ORDER NO. & DATE: 75WPT40033SX

TEF

CUSTOMER'S OR SUPPLIER'S REFERENCE AND DATE

COPIES OF INV. TO: ACCOUNTING

COPIES OF S/N TO

CREDIT

FOR: WESTINGHOUSE ELECTRIC CORP.
P.O. BOX 2078
CARLSBAD, NM 88221

SHIPPED TO: ITAS-CINCINNATI
11499 CHESTER RD.
CINCINNATI, OH 45246
(513) 782-4600 / TIM SANDER

MARK EACH PACKAGE

F. O. B.	CHARGE TRANSP. TO	TAX CODE	HOW TO SHIP AND ROUTE	PREPAID	COLLECT
SITE	WAD44403-1		UPS	X	

MATERIAL LOCATED IN	DATE MATERIAL TO BE SHIPPED	EST. VALUE
WIPP SITE, VOC TRAILER	BLANKET REQUEST	$100.00

PKG. NO. & WEIGHT	ITEM	QUANTITY	IDENTIFICATION AND DESCRIPTION	UNIT PRICE	MULTIPLIER	AMOUNT
		3	VOST TUBES SERIAL #S. 789/VT001 456/VT002 123/VT003			

CONTACT: DENNIS CANTRELL
WESTINGHOUSE ELECTRIC CORP.
P.O. BOX 2078
CARLSBAD, NM 88221
(505) 885-7524

AB

REASON FOR SHIPPING: CANISTER VOC SAMPLE ANALYSIS, CLEANING, AND CERTIFICATION.
ACKNOWLEDGEMENT OF DELIVERY IS REQUIRED.

ISC DATA

R/N# D/A #

GROSS WEIGHT	CHG. INCOMING TRANSP. YES / NO	INCOMING CARRIER	CREDIT ACCOUNT	COMM. CODE

ZONE	AMT. PPD.	REQUESTED BY	DEPT.	APPROVED	CORRESPONDENCE
		WILLIE MOST		D Cantrell DENNIS CANTRELL	

EXP	B. NO.	CAR INFORMATION	ROUTE	SHIPMENT NO. AND DATE	PART.	FINAL	PPD.	CO
				L-3543-4 7-23-91				

EXTRACT THIS COPY AND RETAIN FOR YOUR FILE

PACKING LIST

Environmental VOC Chain of Custody Record

SAMPLE NUMBER V0023

C/C Control No. 0007 ~~0250~~ P.M 7-23-91

R/A Control No.

Date of Receipt: 7/15/91

Shipping Document No.

Equipment Type: VOST Tube

Serial/ID No. 211/VT023

Cleaning Cert. Date: N/A

Cal. Due Date: N/A

Storage Location: TR 918 Date: 7/15/91 Time: 11:30

Installation Location: VOC-1B Date: 7/23/91 Time: 11:37

1 Received By: Kim Green 7-15-91 (Signature / Date)	3 Received By: (Signature / Date)	5. Received By: (Signature / Date)
Relinquished By: Kim Green 7-15-91 (Signature / Date)	Relinquished By: (Signature / Date)	Relinquished By: (Signature / Date)
2 Received By: P.J. Martinez 7-23-91 (Signature / Date)	4. Received By: (Signature / Date)	6. Received By: (Signature / Date)
Relinquished By: P.J. Martinez 7-23-91 INSTALLED (Signature / Date)	Relinquished By: (Signature / Date)	Relinquished By: (Signature / Date)

Performers responsible for date entry or step completion **SHALL** enter their printed names, signatures, and date below.

NAME (print)	SIGNATURE	DATE
Kim Green	Kim Green	7-15-91
PORF MARTINEZ	P.J. Martinez	7-23-91

Remarks:

8.1 This record has been reviewed and is found to be complete.

Name (print)	Signature	Date

9.2 Completion of this step constitutes validation of this record.

Name (print)	Signature	Date

ISC DATA

WP Form 2177; 5/29/91
Page 1 of 1

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YELLOW COPY - To Accompany Sample
PINK COPY - to MRC

WP 12 EM3201 2 (Rev. 0)

9.3.5

Environmental VOC Chain of Custody Record

SA. .E NUMBER V0024

C/C Control No. 0008 P.M. ~~0250~~ 7-23-91

R/A Control No.

Date of Receipt: 7/15/91

Shipping Document No.

Equipment Type: VOST Tube

Serial/ID No: 212/VTD24

Cleaning Cert. Date: N/A

Cal. Due Date: N/A

Storage Location: TR 918 Date: 7/15/91 Time: 11:35

Installation Location: VOC-10 Date: 7/23/91 Time: 1137

1 Received By: Kim Green 7-15-91 (Signature / Date)	3 Received By: (Signature / Date)	5. Received By: (Signature / Date)
Relinquished By: Kim Green 7-15-91 (Signature / Date)	Relinquished By: (Signature / Date)	Relinquished By: (Signature / Date)
2 Received By: P-J Martinez 7-23-91 (Signature / Date)	4. Received By: (Signature / Date)	6. Received By: (Signature / Date)
Relinquished By: P-J Martinez 7-23-91 (Signature / Date)	Relinquished By: (Signature / Date)	Relinquished By: (Signature / Date)

Performers responsible for date entry or step completion **SHALL** enter their printed names, signatures, and date below.

NAME (print)	SIGNATURE	DATE
Kim Green	Kim Green	7-15-91
PORF MARTINEZ	P-J Martinez	7-23-91

Remarks:

8.1 This record has been reviewed and is found to be complete.

9.2 Completion of this step constitutes validation of this record.

Name (print)	Signature	Date	Name (print)	Signature	Date

ISC DATA 3,5

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YELLOW COPY - To Accompany Sample
PINK COPY - to MRC

WP 12 EM3201 2 (Rev 0)

Environmental VOC Chain of Custody Record

SAMPLE NUMBER V0025

C/C Control No. 0006 ~~0250~~ P.M 225

FIA Control No. _____

Date of Receipt: 7, 15, 91

Shipping Document No. _____

Equipment Type: VOST Tube

Serial/ID No. 210/VT025

Cleaning Cert. Date: N/A

Cal. Due Date: N/A

Storage Location: TR 918 Date: 7, 15, 91 Time: 11:38

Installation Location: VOC-10 Date: 7, 23, 91 Time: 11:37

1 Received By: Kim Green 7-15-91 (Signature / Date)	3 Received By: _____ (Signature / Date)	5. Received By: _____ (Signature / Date)
Relinquished By: Kim Green 7-15-91 (Signature / Date)	Relinquished By: _____ (Signature / Date)	Relinquished By: _____ (Signature / Date)
2 Received By: P-f Martz 7-23-91 (Signature / Date)	4. Received By: _____ (Signature / Date)	6. Received By: _____ (Signature / Date)
Relinquished By: P-f Martz 7-23-91 (Signature / Date) INSTALLED	Relinquished By: _____ (Signature / Date)	Relinquished By: _____ (Signature / Date)

Performers responsible for date entry or step completion **SHALL** enter their printed names, signatures, and date below.

NAME (print)	SIGNATURE	DATE
Kim Green	Kim Green	7-15-91
PORF MARTINEZ	P-f Martz	7-23-91

Remarks: _____

8.1 This record has been reviewed and is found to be complete.

Name (print)	Signature	Date

9.2 Completion of this step constitutes validation of this record.

Name (print)	Signature	Date

ISC DATA

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Page 1 of 1

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END

DATE FILMED

12/17/91