JUL 31 1996 Sta. 37 (20)

ENGINEERING DATA TRANSMITTAL

1. EDT 606475

2. To: (Receiving Organization)	3. From: (Originating Organization)	4. Related EDT No.:
RETRIEVAL ENGINEERING	RETRIEVAL ENGINEERING	N/A
5. Proj./Prog./Dept./Div.:	6. Cog. Engr.:	7. Purchase Order No.:
ISSTRS	S.A. Krieg	N/A
8. Originator Remarks:		9. Equip./Component No.:
Approval/Release		N/A
		10. System/Bldg./Facility:
		N/A
11. Receiver Remarks:		12. Major Assm. Dwg. No.:
		N/A
		13. Permit/Permit Application No.:
		N/A
		14. Required Response Date:
		N/A

15. DATA TRANSMITTED

(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Approval Designator	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	WHC-SD-WM-SEMP-003			ISSTRS Project SEMP	X N/A	1	1	1

16. KEY

Approval Designator (F)	Reason for Transmittal (G)	Disposition (H) & (I)
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)	1. Approval 4. Review 2. Release 5. Post-Review 3. Information 6. Dist. (Receipt Acknow. Required)	1. Approved 4. Reviewed no/comment 2. Approved w/comment 5. Reviewed w/comment 3. Disapproved w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION
(See Approval Designator for required signatures)

(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.
1	1	Cog.Eng. J. S. Hertzel		7/17/96	H5-61	D. B. Hagmann			H5-61	3	
1	1	Cog. Mgr. R. P. Marshall		7/24/96	H5-61	L. B. McDaniel			H5-61	3	
		QA N/A				D. H. Nyman			H5-36	3	
		Safety N/A				W. R. Wrzesinski			S7-53	3	
		Env. N/A				Central Files			A3-88	3	
3		C. E. Grenard			H5-61						
3		G. A. Meyer			S2-48						

18.	19.	20.	21. DOE APPROVAL (if required) Ctrl. No.
S. A. Krieg 7/17/96 Signature of EDT Originator Date	J. S. Hertzel 7/17/96 Authorized Representative for Receiving Organization Date	R. P. Marshall 7/24/96 Cognizant Manager Date	[ ] Approved [ ] Approved w/comments [ ] Disapproved w/comments

BD-7400-172-2 (04/94) GEF097

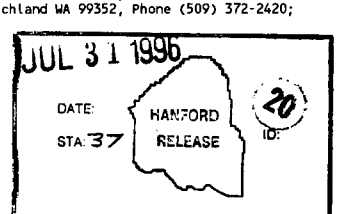
Initial Single Shell Tank Retrieval System Project System Engineering Management Plan

S. A. Krieg
Westinghouse Hanford Company, Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-87RL10930

EDT/ECN: 606475 UC: 2030
Org Code: 74420 Charge Code: D2036
B&R Code: EW3130010 Total Pages: 22

Key Words: Single Shell Tanks: Sluicing, ISSTRS, SEMP

Abstract: This System Engineering Management Plan (SEMP) describes the Systems Engineering approach that will be used to manage the retrieval of waste from the first single shell tank farm using past practice sluicing techniques. This Project SEMP is used to supplement the requirements of the TWRS SEMP, WHC-SD-WM-SEMP-002.



Release Approval Janis Bishop 7-31-96 Date

Release Stamp

Approved for Public Release

ISSTRS PROJECT SEMP

MAY 1996

S. A. Krieg

TABLE OF CONTENTS

LIST OF TERMS

BIO	Basis for Interim Operation
BSD	Baseline System Description
CRML	Critical Risk Management List
D&D	Decontamination and Decommissioning
DDR	Definitive Design Review
DRBL	Design Requirements Baseline
DRD	Design Requirements Document
FRD	Functions and Requirements Document
FSAR	Final Safety Analysis Report
HMI	Hazardous Material Inventory
ICD	Interface Control Document
ISSTRS	Initial Single Shell Tank Retrieval System
LCAA	Life Cycle Cost Analysis
MAR	Mission Analysis Report
P&ID	Process and Instrumentation Diagram
PDC	Project Design Concept
PDS	Project Design Specification
PSAR	Preliminary Safety Analysis Report
PSE	Preliminary Safety Evaluation
RML	Risk Management List
SARR	Safety Analysis reference Report
SDD	System Design Description
SDR	System Design Review
SE	Systems Engineering
SEMP	Systems Engineering Management Plan
SIP	System Integration Plan
SSC	Systems, Structures, and Components
SST	Single Shell Tanks
TEP	Test and Evaluation Plan
TPM	Technical Performance Measurement
TRBL	Technical Requirements Baseline
TRR	Technical Requirements Review
TRS	Technical Requirements Specification
TSR	Technical Safety Requirements
TWRS	Tank Waste Remediation System

1.0 Introduction

The Initial Single Shell Tank Retrieval System (ISSTRS) is one of the Tank Waste Remediation System (TWRS) projects for retrieving waste from one underground single shell tank (SST) farm or an equivalent number of tanks. The ISSTRS project will provide equipment, systems, permits, approvals, procedures, and trained operators. The ISSTRS project includes the transfer of the waste from the SSTs to a Double Shell Tank for storage. Past practice sluicing has been selected as the waste retrieval method that will be used for ISSTRS (Erickson 1995). The designs for the retrieval systems and equipment will be the same as those developed for project W320 (Tank C-106), after project descoping. Additional information on the ISSTRS project description, scope, goals, and funding is contained in the project mission analysis (Hertzel 1996a) and the ISSTRS approach plan (Hagmann 1995).

The ISSTRS project will use Systems Engineering, as defined in the TWRS SEMP, for the development of project documentation and technical data, with the exceptions addressed in this project SEMP. The full set of Systems Engineering documents required by the TWRS SEMP are shown in table 1 and the proposed ISSTRS SE activities are shown in table 2. The ISSTRS project activities occur below the heavy line under the Technical Requirements Baseline (TRBL) shown on table 1. The ISSTRS project exceptions to the standard TWRS SEMP documentation and technical activities that are discussed below are primarily due to 1) ISSTRS using the W320 designs and 2) the experience already gained in sluicing waste out of the SSTs in the past. The use of these proven designs and techniques allows the combination of several of the Systems Engineering phases and activities listed in the TWRS SEMP (see table 2).

2.0 System Definition Phase

The ISSTRS project will combine the Design Requirements Baseline portion of the Pre-Concept phase and the Concept phase into a single "System Definition Phase" (see table 2). This will complete the "Systems Engineering" conceptual design. The trade studies, decision reports, and system effectiveness analysis that appear under both the pre-concept and concept phases (table 1) will be combined into a single set of documents. The systems engineering documentation that will be prepared for the ISSTRS system definition phase is shown below. These documents, all extracted from the TWRS SEMP, will not necessarily be stand alone documents, but may be included as chapters in a "System Design Description" (SDD) as described in the listing below. The listing is divided into two sections, one for those documents that will be prepared as described in the TWRS SEMP (Peck 1996) and one for those that will be deleted or prepared other than as described in the TWRS SEMP.

2.1 TWRS SEMP Documents

The documents and activities listed below are as defined in the TWRS SEMP. These will be used by the ISSTRS project without exception or modification. Although a project SEMP is required to list only the exceptions, all required SEMP documents are included for clarity.

- System Engineering Level Assessment

  A System Engineering Level Assessment document has been prepared for the ISSTRS project. The preliminary determination is that ISSTRS will be a Systems Engineering Level 2 project (SE-2). A SE-2 project requires the full set of SE activities and documents, but the documentation is significantly less detailed than a SE-1 project (Peck 1996).

- Baseline System Description (BSD)

  The TWRS BSD will be updated as required to include the pertinent ISSTRS data.

- Systems Engineering Management Plan (SEMP)

  A project SEMP (this document) will be prepared to define the ISSTRS project Systems Engineering philosophy.

- Preliminary Safety Evaluation (PSE)

  A PSE will be prepared that will include the hazards analysis (HA) the technical safety requirements (TSR), and the safety structures, systems, and components (SSC) evaluation.

- Risk Management Plan

  A risk management plan will be prepared for the project that includes the risk management list (RML) and the critical risk management list (CRML).

- Decision Management Plan/Decision Reports

  Appropriate decision management plans and decision reports will be prepared for ISSTRS as the needs are identified. These will be prepared in accordance with the TWRS Systems Engineering Manual (WHC 1996b). Presently, seven critical decisions has been identified for the ISSTRS project. Each of these decisions is expected to require a trade/engineering study to develop the basic information to feed decision management. These critical decisions are listed below:

  1) What is the correct LDMM strategy to present to the state?

  2) Is sluicing the proper waste retrieval technology to deploy for ISSTRS?

  3) Is four tanks the correct number of tanks for ISSTRS?

4) Have we selected the right tanks to retrieve for the ISSTRS project?

5) Have we selected the correct receiver tank for ISSTRS?

6) What are we trying to "demonstrate" with the salt cake demo for ISSTRS-production rate, sluicability, solubility?

7) Is funding ISSTRS as an expense project the proper acquisition strategy?

- Trade Studies

In addition to the trades studies in support of decision management, other trade and engineering studies will be prepared as necessary to support the system definition phase of the project. The items listed below are potential subjects for these studies. Additional topics are expected to be identified during the development of the design and will be added to the list of studies.

Use of existing sluice lines in the A/AX farms

There are existing 6" lines in the A and AX farms that were used in the earlier sluicing campaigns. These lines could be used for ISSTRS. The practicality of using these lines needs to be determined from both the cost and compliance standpoints.

Sluice line routing options

There are various options for routing the new sluice lines. These options need to be evaluated and the most favorable option identified.

Receiver Tank Options

The cost differences between using AN-101 and AY-102 for the ISSTRS receiver tank need to be developed and documented along with the technical considerations.

Practicality of using a slurry pump in tank A-102

Tank A-102 contains 13.5" of waste. Evaluate the practicality and cost effectiveness of installing both a slurry pump and a heel pump in the tank for this small amount of waste.

C-106 HVAC/Chiller System

Determine the feasibility of using the C-106 HVAC/chiller system design for ISSTRS. Identify modifications, if any, that should be made to the design to meet the ISSTRS requirements.

Tank Leakage Monitoring and Mitigation

Prepare a trade study to evaluate leakage detection, monitoring, and mitigation technologies to support retrieval of the waste from the single-shell tanks.

Operational Leak Detection and Minimization

Prepare a trade study to determine the appropriate operational responses to tank leakage during retrieval activities. Base the study on the leak requirements in the Functions and Requirements document (Cruse, 1995) for Single Shell Tank retrieval.

- Project Development Specification (PDS)

  The ISSTRS project will prepare a PDS which is a lower-level specification based on the Project functions and requirements analysis (in the TRS) and traceable to the program-level requirements in the DRD. Provided as basis to perform design. The PDS will be formatted per Mil-Std-490 (EP 1.2).

- Project Design Concept(PDC)

  The ISSTRS project will prepare a PDC which is a project level BSD formatted per WHC-EP-0586.

- Technical Performance Measurement (TPM)

  The ISSTRS project will prepare two TPMs, one to determine the actual retrieval rate(s) of the retrieval system and one to determine the degree of tank clean-out achievable with the retrieval system.

- Hazardous Material Inventory (HMI)

  The project will prepare a project specific HMI.

- System Integration Plan (SIP)

  The project will prepare a SIP that includes a project schedule and project cost estimate.

2.2 TWRS SEMP Exceptions

The following are deletions or revisions to the direction contained in the TWRS SEMP that will be followed by the ISSTRS project.

- Design Requirements Document (DRD)

  The DRD is not yet available to update so ISSTRS will prepare a Project Mission Analysis Report (Hertzel 1996a) and an "equivalent" or project DRD (Hertzel 1996b) along with an up front determination of the program risks assumed by this process (Peck 1996).

- Flow Sheets

  The TRBL flow sheets are not expected to be completed by the time they are needed by the ISSTRS project. Therefore,

project specific flow sheets will be developed for ISSTRS. These will be patterned after the W320 flow sheets.

- Interface Control Document (ICD)

  The pre-concept and concept phase draft ICDs will be combined into draft ISSTRS project ICDs. These documents will be prepared in accordance with the guidelines in the TWRS System Engineering Manual (WHC 1995b).

- System Effectiveness Analysis

  A single, combined System Effectiveness Analysis will be prepared for the system definition phase of the ISSTRS project.

- Requirements Traceability

  The requirements traceability and system assessment will be combined into a single Requirements Traceability supporting document describing how each requirement/constraint is met by the conceptual design. This is to address each item in the Function and Requirements Document (FRD), the (equivalent) DRD, and the TRS.

- Project Configuration Management Plan

  The ISSTRS project will use the existing TWRS configuration management policies as delineated in the TWRS Systems Engineering manual (WHC 1996b), Section 5. Therefore, a project configuration management plan is not required.

- Life Cycle Cost Analysis (LCCA)

  The LCCA is a tool to assist in the evaluation of alternatives. WHC has been directed by DOE RL (Erickson 1995) to use past practice sluicing as the waste retrieval method for ISSTRS. Since other waste retrieval alternatives have been eliminated, a LCCA is not required for the ISSTRS project and will not be produced. However, this item is one of the critical ISSTRS decisions that require validation by the decision board or decision officer. Accepting this direction without validation and going forward with the ISSTRS project will be carried as a "risk".

- Test and Evaluation Plan (TEP)

  ISSTRS is a demonstration project that uses the designs and systems from project W320 therefore confirmation testing is not required and a TEP will not be prepared for ISSTRS. Two of the overall ISSTRS goals are to determine 1) the actual waste retrieval rate, and 2) to determine the degree of cleanout achievable with the retrieval system. These goals cannot be determined until the operational phase of the task and are not part of the ISSTRS project.

- System Design Description (SDD)

The SDD is one of the primary technical documents produced in the "System Definition Phase" of the project. The SDD may contain the items listed above as "chapters" or the items may be produced as stand-alone documents (if determined to be more feasible and cost effective by the project). If they are included as SDD chapters, the chapter titles will be the same as in this SEMP so there is a one-to-one correlation. Drawings and analysis produced during the system definition phase will be included in the SDD.

- Reviews

  The Design Requirements Review (DRR) and the System Requirements Review (SRR) will be combined into a single review that will be conducted at the end of the System Definition Phase of the project. This review will complete the Design Configuration Baseline (DCBL) portion of the ISSTRS project.

3.0 Design Phase

The ISSTRS project will combine Preliminary design and detail design into a single design phase (see table 2). ISSTRS will not make any exceptions to the TWRS SEMP requirements for these phases except for the System Design Review (SDR). ISSTRS will combine the System Design Review and the Definitive Design Review (DDR) into a single DDR at the completion of the design phase.

4.0 Construction and Startup

The ISSTRS construction and startup activities will be conducted in accordance with the requirements in the TWRS SEMP (Peck 1996).

TABLE 1
TWRS (SEMP) SYSTEMS ENGINEERING

Requirements & Architecture		Phase	Support Documents
Mission Analysis **FRD** **BSD** **FRBL**	**SRR**	**Pre-Concept Phase** **(Program Level)**	**Trade Studies** **Decision Reports** **System Effect. Analysis** **System Assessment**
TRS **ICD** **BSD Update** **Flow Sheets** **TRBL**	**TRR**		**Trade Studies** **Decision Reports** **System Effect. Analysis** **System Assessment**
DRD ICD BSD Update DRBL	DRR	ISSTRS ↓	Trade Studies Decision Reports System Effect. Analysis System Assessment✓ PSE
DRD Update* PDS PDC Project ICD DCBL	SDR	Concept Phase (Project Level) M-45-04A	SE Level Assessment Project SEMP Trade Studies Decision Reports System Effect. Analysis Hazard Analysis HMI, SSC, TSRs LCCA Tech Performance Measure Risk Mgt Plan RML CRML Requirement Traceability SIP TEP Config Mgt Plan Decision Mgt Plan Data Management Guide (Concept Des Complete)

TABLE 1 (CONT)

TWRS (SEMP) SYSTEMS ENGINEERING

Requirements & Architecture		Phase	Support Documents
PDS Update PDC Update Project ICDs DCBL2	PDR	Preliminary Design	Flow Sheets P&IDs Trade Studies Decision Reports System Effect. Analysis
PDS Final DCBL3	DDR	Detailed Design	Construction Drawings Startup Documents Operating Documents PSAR
Update previous documents ABBL	ORR	Construction	As builts Update previous documents D&D Plans FSAR/BIO update TSRs

TABLE 2

ISSTRS SYSTEMS ENGINEERING

Requirements & Architecture		Phase	Support Documents
MAR ICD BSD Update PDS PDC Flow Sheets DCBL	SDR	System Definition	SE Level Assessment Project SEMP Trade Studies System Effect. Analysis System Assessment PSE Hazard Analysis HMI, SSC, TSRs Tech Performance Measure Risk Mgt Plan RML CRML Requirement Traceability SIP
PDS update PDC update/final Project ICDs DCBL3	DDR	Design	Flow Sheets P&IDs Trade Studies Decision Reports System Effect. Analysis Construction Drawings Startup Documents Operating Documents SA
Update previous documents ABBL	ORR	Construction	As builts Update previous documents D&D Plans BIO update (FSAR) TSRs

5.0 REFERENCES

Certa, P. J., 1995, *Preliminary Retrieval Sequence and Blending Strategy*, WHC-SD-WM-RPT-167, Westinghouse Hanford Company, Richland, Washington.

Cruse, J.M., 1995, *Functions and Requirements for Hanford Single-Shell Tank Leakage Detection and Monitoring*, WHC-SD-WM-FRD-021, Rev 0, April 1995, Westinghouse Hanford Company, Richland Washington.

Ecology, EPA, and DOE, 1994, *Hanford Federal Facility Agreement and Consent Order*, as amended, Washington State Department of Ecology, U.S. Environmental Protection Agency, and U.S. Department of Energy, Olympia, Washington.

Erickson, L., 1995, *Supplemental direction Regarding the Implementation of FY 1995 Retrieval, Treatment, and Immobilization, and system Engineering Program Areas*, 95-RTI-003, Department of Energy, Richland Operations Office, Richland, Washington.

Gibbons, P.W., Sabin, J.C., Prather, M.C., Krieg, S.A., 1993, *Review of Prior Single-Shell Tank Waste Retrieval Process Studies*, WHC-SD-WM-ES-252, Rev.0, September 1993, Westinghouse Hanford Company, Richland, Washington.

Hagmann, D.B., 1995, *Approach Plan for the Initial Single-Shell Tank Retrieval System Definition Effort*, WHC-SD-WM-AP-039, Westinghouse Hanford Company, Richland, Washington.

Hertzel, J.S., 1996a, *Initial Single-Shell Tank Retrieval System Mission Analysis Report*, WHC-SD-WM-MAR-009, Rev 1, March 1996, Westinghouse Hanford Company, Richland, Washington.

Hertzel, J.S., 1996b, *Preliminary Design Requirements Document for the Initial Single-shell Tank Retrieval System*, WHC-SD-WM-DRD-010, Rev. 0, July 1996, Westinghouse Hanford Company, Richland Washington.

Johnson, M.E., 1995, *Tank Waste Remediation System, Baseline System Description*, WHC-EP-0856, Rev. 1, DRAFT, September 1995 draft (to be revised and issued).

Orme, R.M., 1995, *Tank Waste Remediation System Process Flowsheet*, WHC-SD-WM-TI-613, Rev. 1, August 1995, Westinghouse Hanford Company, Richland Washington.

Peck, L.G., 1996, *Tank Waste Remediation System Systems Engineering Management Plan*, WHC-SD-WM-SEMP-002, Rev 0, February 1996, Westinghouse Hanford Company, Richland, Washington.

WHC, 1995a, *Tank Waste Remediation System Mission Analysis*, WHC-SD-WM-MAR-008, Rev. 0, September 1995, Westinghouse Hanford Company, Richland Washington.

WHC, 1995b, *WHC Tank Waste Remediation System Systems Engineering Manual, Mission Analysis*, WHC-IP-(Interim), August 1995, Westinghouse Hanford Company, Richland Washington.

WHC, 1996a, *Tank Waste Remediation System Functions and Requirements Document*, WHC-SD-WM-FRD-020, Draft Rev. A, January 1996, Westinghouse Hanford Company, Richland Washington.

WHC, 1996b, *Tank Waste Remediation System Systems Engineering Manual*, WHC-IP-1231, Rev. 0, May 1996, Westinghouse Hanford Company, Richland Washington.

ISSTRS UNREVIEWED SAFETY QUESTION

DRAFT

UNREVIEWED SAFETY QUESTION SCREENING FORM (Per WHC-IP-0842)	WHC-SD-WM-SEMP-003, Rev. 0

USQ Tracking No.: TF-96-020 Rev. No.:

REFERENCE DOCUMENT(S):

ECN No. PCA No.

Work Pkg No. Other (Specify) WHC-SD-WM-AP-039

TITLE: Initial Single Shell Tank Waste Retrieval System

This USQ screening addresses the proposed change to retrieve waste as described in WHC-SD-WM-AP-039, "Approach Plan For The Initial Single-Shell Tank Retrieval System Definition Effort". This task is necessary to provide the safety documentation for the "Initial Single Shell Tank Retrieval System (ISSTRS) task", derived from TPA milestone M-45-04-T01 for tanks A-102, Ax-103, C-103 & C-105. The waste retrieved from these tanks will be stored in double shell tanks. The plan described in WHC-SD-WM-AP-039 essentially patterns itself after project W-320, 241-C-106 sluicing. This project has been determined to be unauthorized as well.

A.Does the PROPOSED CHANGE represent a change to the facility as described in the AUTHORIZATION BASIS documentation?

[] N/A [] No [X] Yes/Maybe

Basis: Removal of waste from these tanks as described in the proposed change document (WHC-SD-WM-AP039) is not currently analyzed and will require further safety analysis.

B.Does the PROPOSED CHANGE represent a change to procedures as described in the AUTHORIZATION BASIS?

[] N/A [] No [X] Yes/Maybe

Basis: Present TWRS procedures are for waste storage. Sluicing/retrieval is not currently described in the Authorization Basis. This activity may require new procedures or change to the existing procedures.

C.Does the test or experiment represent a test or experiment not described in the AUTHORIZATION BASIS documentation?

[] N/A [X] No [] Yes/Maybe

Basis: This is a not a test or experiment.

D.Does the change, test or experiment impact:

- Implemented OSRs or IOSRs? [] N/A [] No [X] Yes/Maybe
- Approved IOSR Compliance Implementation Plans? [] N/A [X] No [] Yes/Maybe

Basis: Sluicing/retrieval is not currently analyzed or authorized and required controls are not described in the IOSRs, OSDs or CIP.

Based on the above, a Safety Evaluation [X] **DOES** [] **DOES NOT** need to be performed for this change

USQE No. 1 Jasbir K. Bajwa
Print Name

Signature Date

USQE No. 2 L. F. Dougherty
Print Name

Signature Date

UNREVIEWED SAFETY QUESTION EVALUATION FORM (Per WHC-IP-0842)	WHC-SD-WM-SEMP-003, Rev. 0

USQ Tracking Number: TF-96-0020 Rev. No. Does this change require a revision to the authorization basis? [x] Yes [] No

AREA: [X] East [] West

Facility: [] 242-A [] DST [X] SST [] LERF
[] Aging Waste [] Other

EQUIPMENT DESCRIPTION: The scope of this unreviewed safety question evaluation is a proposed change including the retrieval of waste by hydraulic sluicing from SSTs: A-102, AX-103 (hydrogen flammable gas tank), C-103 (organic tank), and C-105, to double shell tanks. The proposed change is defined in WHC-OSD-WM-AP-039 Rev 0, "Approach Plan For The Initial Single-Shell Tank Retrieval System Definition Effort". This plan states that the proposed change will pattern itself after project W-320 which has been determined to also be unauthorized.

REFERENCE DOCUMENT(S):

ECN No. NA PCA No. NA

Work Pkg No. NA Other (Specify) WHC-SD-WM-AP-039 Rev.0

TITLE: Initial Single-Shell Tank Waste Retrieval System

1.Does the PROPOSED CHANGE, test, experiment or DISCOVERY increase the probability of occurrence of an accident previously evaluated in the AUTHORIZATION BASIS documentation?

[] No [] Yes [X] Maybe*

Basis: The following authorization and safety basis documents for SSTs A-102, AX-103, C-103, and C-105 were revised:

WHC-SD-WM-ISB-001, Vol I, Rev. 0-I Hanford Site Tank Farm Facility Interim Safety Basis Section 6.

WHC-SD-WM-OSR-005, Rev. A Single Shell Tank Interim Operation Safety Requirements.

WHC-SD-WM-SAR-006, Rev. 2

WHC-SD-WM-SAR-034, Rev. 0-A

Review of these documents indicates that sluicing and retrieval are not included in the existing authorization basis. The proposed change may increase the probability of occurrence of an accident previously evaluated in the Authorization Basis. Hazard and accident analyses are required to be performed.

2.Does the PROPOSED CHANGE, test, experiment or DISCOVERY increase the consequences of an accident previously evaluated in the AUTHORIZATION BASIS documentation?

[] No [] Yes [X] Maybe*

Basis: Because sluicing and retrieval are not included in the existing authorization basis the proposed change may increase the consequences of an accident previously evaluated in the Authorization Basis.

3.Does the PROPOSED CHANGE, test, experiment or DISCOVERY increase the probability of occurrence of a malfunction of EQUIPMENT previously evaluated in the AUTHORIZATION BASIS documentation?

[] No [] Yes [X] Maybe*

Basis: The proposed change is not included in the authorization basis and has not been analyzed, therefore it may increase the probability of occurrence of a malfunction of equipment previously evaluated in the Authorization Basis.

4.Does the PROPOSED CHANGE, test, experiment or DISCOVERY increase the consequences of a malfunction of ITS EQUIPMENT previously evaluated in the AUTHORIZATION BASIS documentation?

[] No [] Yes [X] Maybe*

Basis: Because sluicing and retrieval are not included in the existing authorization basis or have been analyzed the proposed change may increase the consequences of a malfunction of ITS equipment previously evaluated in the Authorization Basis.

5.Does the PROPOSED CHANGE, test, experiment or DISCOVERY create the possibility of an accident of a different type than any previously evaluated in the AUTHORIZATION BASIS documentation?

[] No [] Yes [X] Maybe*

Basis: Removal of waste from these tanks may the change waste chemistry for organic tanks or alter the production of flammable gas, which could initiate accident sequences. Further hazard and accident analysis is required for this proposed change.

6.Does the PROPOSED CHANGE, test, experiment or DISCOVERY create the possibility of a malfunction of EQUIPMENT of a different type than any previously evaluated in the AUTHORIZATION BASIS documentation?

[] No [] Yes [X] Maybe*

Basis: Because sluicing and retrieval are not included in the existing authorization basis or has been analyzed the proposed change may create the possibility of a malfunction of EQUIPMENT of a different type than any previously evaluated in the AUTHORIZATION BASIS documentation.

7.Does the PROPOSED CHANGE, test, experiment or DISCOVERY reduce the margin of safety as defined in the basis for any Technical Specification/Operational Safety Requirement?

[] No [] Yes [X] Maybe*

Basis: Because sluicing and retrieval are not included in the authorization basis a hazard and accident analysis specific to the proposed action is required in order to determine if there is a reduction in margin of safety.

8.Does the PROPOSED CHANGE, test, experiment or DISCOVERY require a new or revised OSR, IOSR or a compensatory measure required by a Compliance Implementation Plan?

[] No [] Yes [X] Maybe*

Basis: Because sluicing and retrieval are not authorized activities in these tanks a hazard and accident analysis specific to the proposed action is required in order to determine the required safety equipment and controls. These analysis may require new or revised OSRs.

USQE No. 1 Jasbir K. Bajwa
Print Name

Signature Date

USQE No. 2 L. F. Dougherty
Print Name

Signature Date

PRC REVIEW (If Required)

Meeting No.: _____ Date _____

PRC Chairman Concurrence: _____ _____
Signature Date

Comments:

*Requires PRC Subcommittee meeting for resolution.