

Y-12

OAK RIDGE Y-12 PLANT

LOCKHEED MARTIN



RESOURCE CONSERVATION AND
RECOVERY ACT (RCRA)
CLOSURE PLAN SUMMARY
FOR
INTERIM REACTIVE WASTE
TREATMENT AREA (IRWTA)

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Environmental Compliance Organization
Environmental Management Enrichment Facility

July 1997

Prepared by
Oak Ridge Y-12 Plant
Oak Ridge, Tennessee 37831-8169
Managed by
Lockheed Martin Energy Systems, Inc.
for the
U.S. DEPARTMENT OF ENERGY
Under Contract DE-AC05-84OR21400

MANAGED BY
LOCKHEED MARTIN ENERGY SYSTEMS, INC.
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Y/TS-1680

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1.0 INTRODUCTION

This closure summary has been prepared for the Interim Reactive Waste Treatment Area (IRWTA) located at the Y-12 Plant in Oak Ridge, Tennessee. The IRWTA was used to treat waste sodium and potassium (NaK) that are regulated by the Resource Conservation and Recovery Act (RCRA). This was a final closure.

Further details on the Y-12 Plant, IRWTA site location, detailed unit description, and treatment process can be found in Appendix A. Closure correspondence can be found in Appendix F.

2.0 CLOSURE PLAN CONTENTS

Because the IRWTA is part of the Y-12 Plant (a federal facility), no closure cost estimate, financial assurance mechanism, or liability insurance is required. This exemption from certain financial requirements is found in Title 40, Code of Federal Regulations (CFR) 265.140(c) and Tennessee Rule 1200-1-11-.05 (8)(a).

3.0 CLOSURE PERFORMANCE STANDARD

The closure of the IRWTA has eliminated the need for further maintenance and documents the absence of hazardous constituents in the area. All RCRA wastes were totally consumed by the treatment process and none remained on site.

4.0 CLOSURE ACTIVITIES

The treatment records for the IRWTA were reviewed and a total of six treatments (or NaK burns) have been conducted. The dates of the treatments were:

11/23/88
02/09/89
05/16/89
04/11/90
10/16/90
10/10/93

The Burn Report Forms for the latter two dates are shown in Appendix B. Reports for the previous burns could not be located although the dates were documented in correspondence titled "History of the Disposal of Sodium-Potassium Waste at the Y-12 Plant," issued in early 1993 (see Appendix C). This document was copied from an extensive collection of correspondence and reports maintained by the Air Compliance Department of the Environmental Compliance organization at the Y-12 Plant. This department was responsible for maintaining a current Open Burn Permit for the disposal of NaK. The most current

permit (6001) expired on February 27, 1997. Historically, the Open Burn Permit number has been 01-0020-0000-1 through 4 until the last permit (6001) was issued February 27, 1996.

The IRWTA area was photographed on November 21, 1996, and those photographs are shown in Appendix D. Air Compliance Department correspondence files indicate the area currently appears identical to photographs taken April 11, 1990. The IRWTA area was surveyed for radiological contamination on July 2, 1997, and these results are shown in Appendix E. The site was classified as radiologically uncontaminated.

The independent professional engineer and this author surveyed the IRWTA area on June 12, 1997, and observed a condition identical to that shown in Appendix D. The site surface was typically soil, stone, and gravel covered. Some standing water was evident at the lowest elevations. There was evidence of small wood scrap (typically 4 to 12 in. in length and 1 in.² in cross section) from previous nonhazardous material burn activity. There was no evidence of metal scrap, containers, or other similar debris. There was no evidence of hazardous material or residue from previous burn events.

5.0 WASTE INVENTORY

No hazardous waste has ever been stored on the site. All hazardous NaK brought to the site was immediately treated by burning which consumed all the material. No burn residue was generated.

6.0 CLOSURE SCHEDULE

Closure activities were completed within 180 days from the date of closure plan approval by the state. The approval date was April 29, 1997, thereby resulting in October 26, 1997, being the required date of postmark of the certification of closure by personnel from the Department of Energy to personnel at the Tennessee Department of Environment and Conservation. No interim closure dates were established by the closure plan. An internal schedule of necessary events (record searches, photographs, surveys, and documentation) was established, executed, and met which resulted in delivery of the required certification by the required date.

7.0 CLOSURE CERTIFICATION

The DOE/Lockheed Martin Energy Systems and independent registered professional engineer certifications of closure are included separately from this document.

Additional certifications or notices are not required for this area.

3.0 POST-CLOSURE CARE

Activities of this closure plan were intended to document the absence of any RCRA hazardous contaminants that may have resulted from treatment activities associated with the IRWTA. Upon acceptance of the closure certification by the TDEC Commissioner, the IRWTA will not be subject to any further requirements under 40 CFR Part 265, Subpart G or Tennessee Rule 1200-1-11-.05(7).

APPENDIX A

Y/TS-1607, RCRA Closure Plan for IRWTA

Y/TS-1607

MARTIN MARIETTA

**RESOURCE CONSERVATION AND
RECOVERY ACT (RCRA)
CLOSURE PLAN
FOR
INTERIM REACTIVE WASTE
TREATMENT AREA (IRWTA)**

Environmental Management Department

November 1996

**Prepared by
Oak Ridge Y-12 Plant
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Y/TS-1607

RESOURCE CONSERVATION AND
RECOVERY ACT (RCRA)
CLOSURE PLAN
FOR
INTERIM REACTIVE WASTE
TREATMENT AREA (IRWTA)

Environmental Management Department

November 1996

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1.0 INTRODUCTION

This closure plan has been prepared for the Interim Reactive Waste Treatment Area (IRWTA) located at the Y-12 Plant in Oak Ridge, Tennessee (Environmental Protection Agency [EPA] Identification TN 389-009-0001). The actions required to achieve closure of the IRWTA are outlined in this plan, which is being submitted in accordance with Tennessee Rule 1200-1-11-.05(7) and Title 40, Code of Federal Regulations (CFR), Part 265, Subpart G.

The IRWTA was used to treat waste sodium and potassium (NaK) that are regulated by the Resource Conservation and Recovery Act (RCRA). The location of the IRWTA is shown in Figures 1 and 2, and a diagram is shown in Figure 3. This plan details all steps that will be performed to close the IRWTA. Note that this is a final closure.

The Oak Ridge Y-12 Plant was built by the U.S. Army Corps of Engineers in 1943 as part of the Manhattan Project. The original mission of Y-12 Plant personnel was to separate the fissionable isotope of uranium using the electromagnetic process. After World War II, the electromagnetic separation process was discontinued in favor of the more economical gaseous diffusion process. In recent years, the Y-12 Plant staff has developed this site into a highly sophisticated manufacturing and developmental engineering facility.

The U.S. Department of Energy (DOE) owns and operates the Y-12 Plant. Personnel from Lockheed Martin Energy Systems (Energy Systems) co-operate and manage the Y-12 Plant under a prime contract with DOE. The contract is administered by personnel at the DOE, Oak Ridge Operations Office.

The Y-12 Plant occupies approximately 800 acres in Anderson County, Tennessee, and is located southwest of the city of Oak Ridge. Approximately 4,000 people are employed at the Y-12 Plant, including employees of the Oak Ridge National Laboratory who are assigned to the plant. Two surface streams, East Fork Poplar Creek and Bear Creek, border the facility on the south, east, and southwest sides of the plant. Access to the Y-12 Plant is controlled on Bear Creek Road on the north side of the facility; indirect access is available from Scarboro Road on the east side and Bethel Valley Road on the south side of the facility. A controlled access road from Bethel Valley Road by way of Mt. Vernon Road is located on the southwest side of the plant.

The IRWTA is located in the Bear Creek Burial Grounds west of the Y-12 Plant. Access to the site is controlled on Bear Creek Road from the east and west and by gates into the Burial Grounds.

The mission of Y-12 Plant personnel is to provide a key manufacturing technology center for the development and demonstration of unique materials, components, and services of importance to DOE and the nation. This mission is accomplished through reclaiming and storing nuclear materials, manufacturing nuclear materials, manufacturing components for the defense capabilities of the nation, supporting national security programs, and providing services to other customers as approved by DOE personnel.

1.1 UNIT DESCRIPTION

The IRWTA is a 100 ft by 100 ft grubbed area on which piles containing NaK are treated. The site is located in the Bear Creek Burial Ground, to the west of the Y-12 Plant, a few hundred feet east of the now closed and capped Area A, and just to the north of a local access road (See Figure 2). The nearest Y-12 Plant property line is 3,200 ft away. Kerr Hollow Quarry was previously used for treating the NaK waste material by exposure to water. However, because of its closure, interim treatment was conducted at the IRWTA.

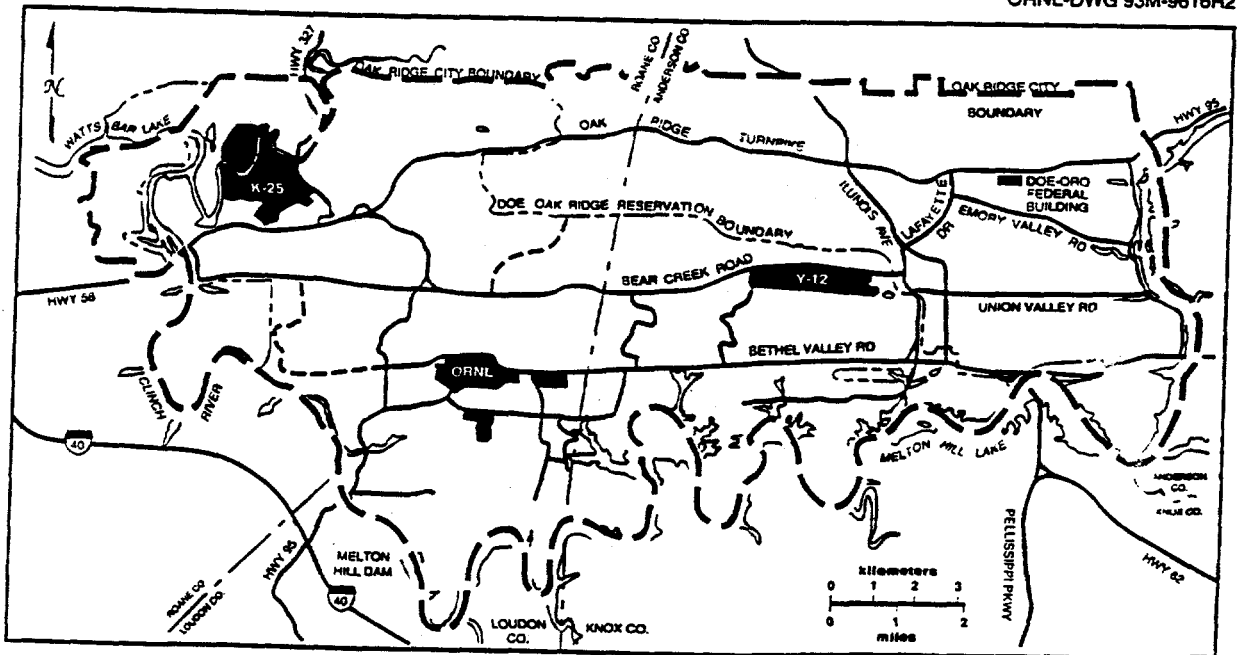
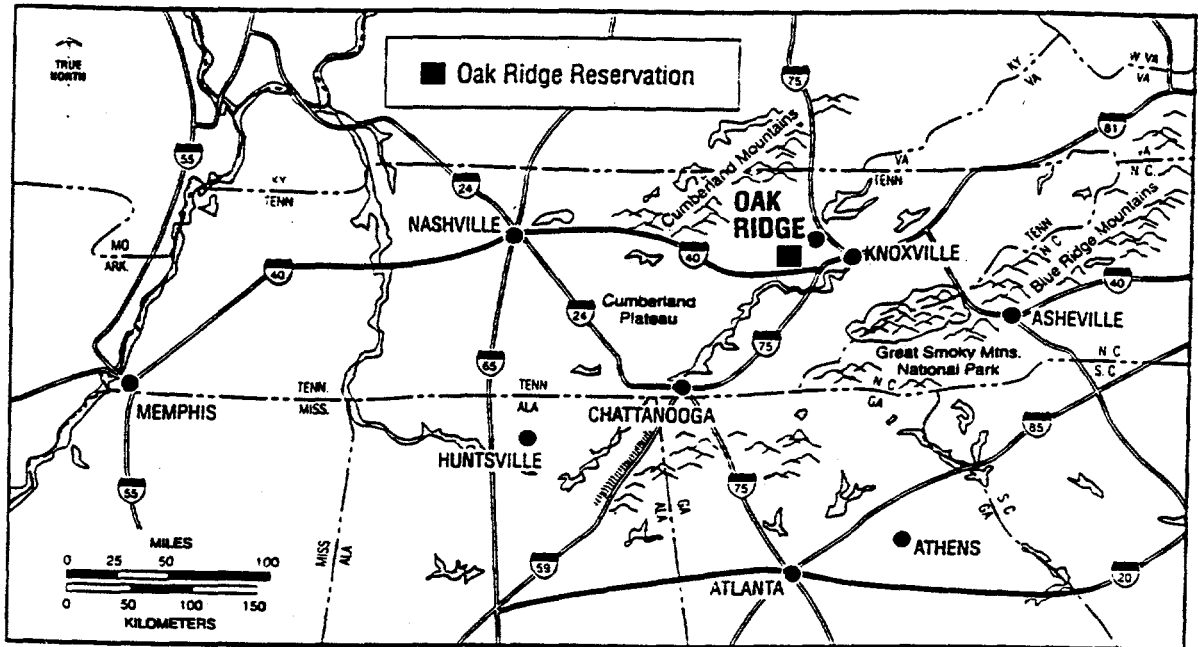


Figure 1. Y-12 Plant Location

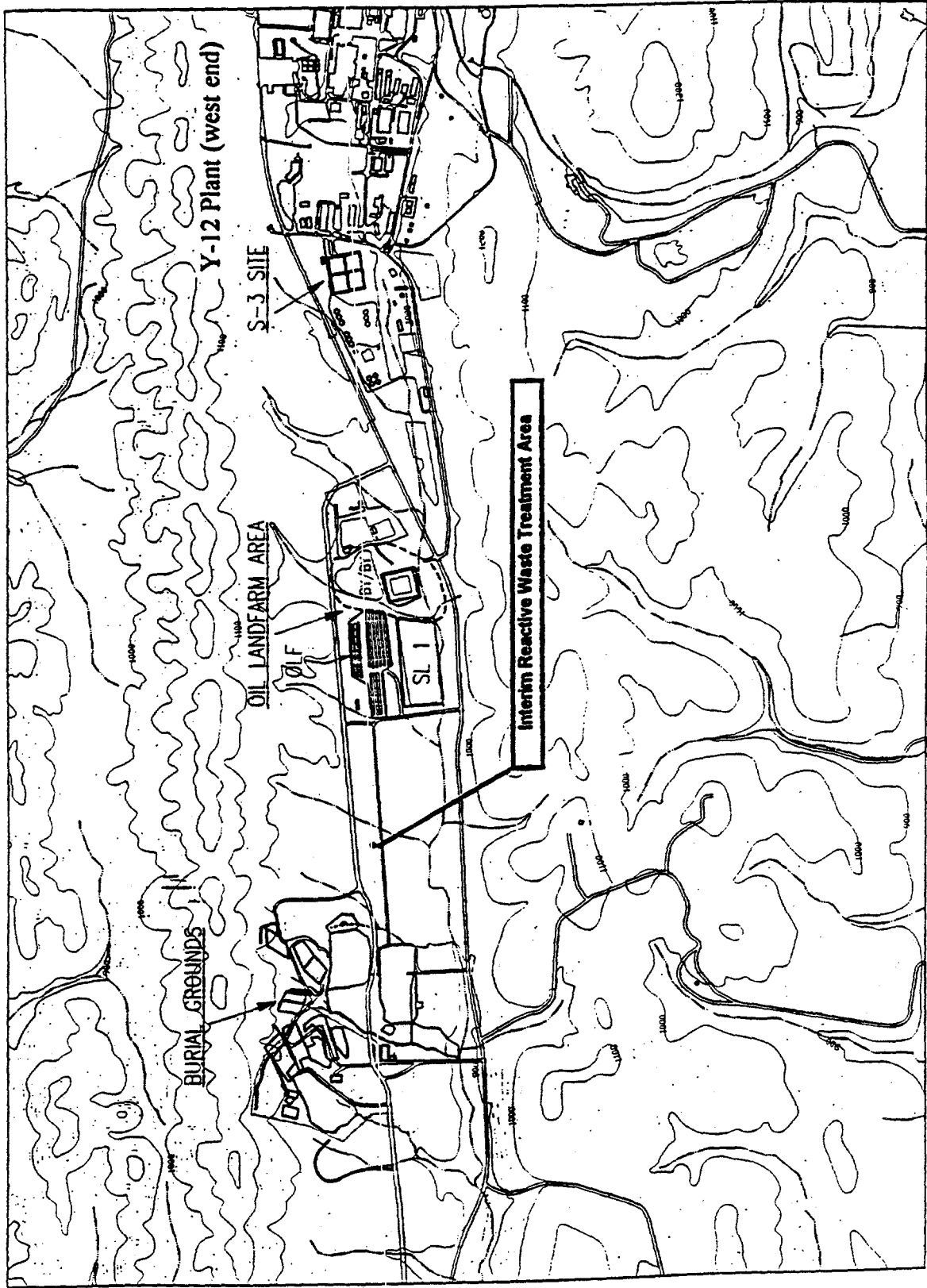


Figure 2. Interim Reactive Waste Treatment Area location in the Bear Creek Burial Grounds west of the Y-12 Plant.

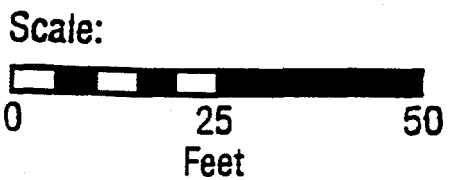
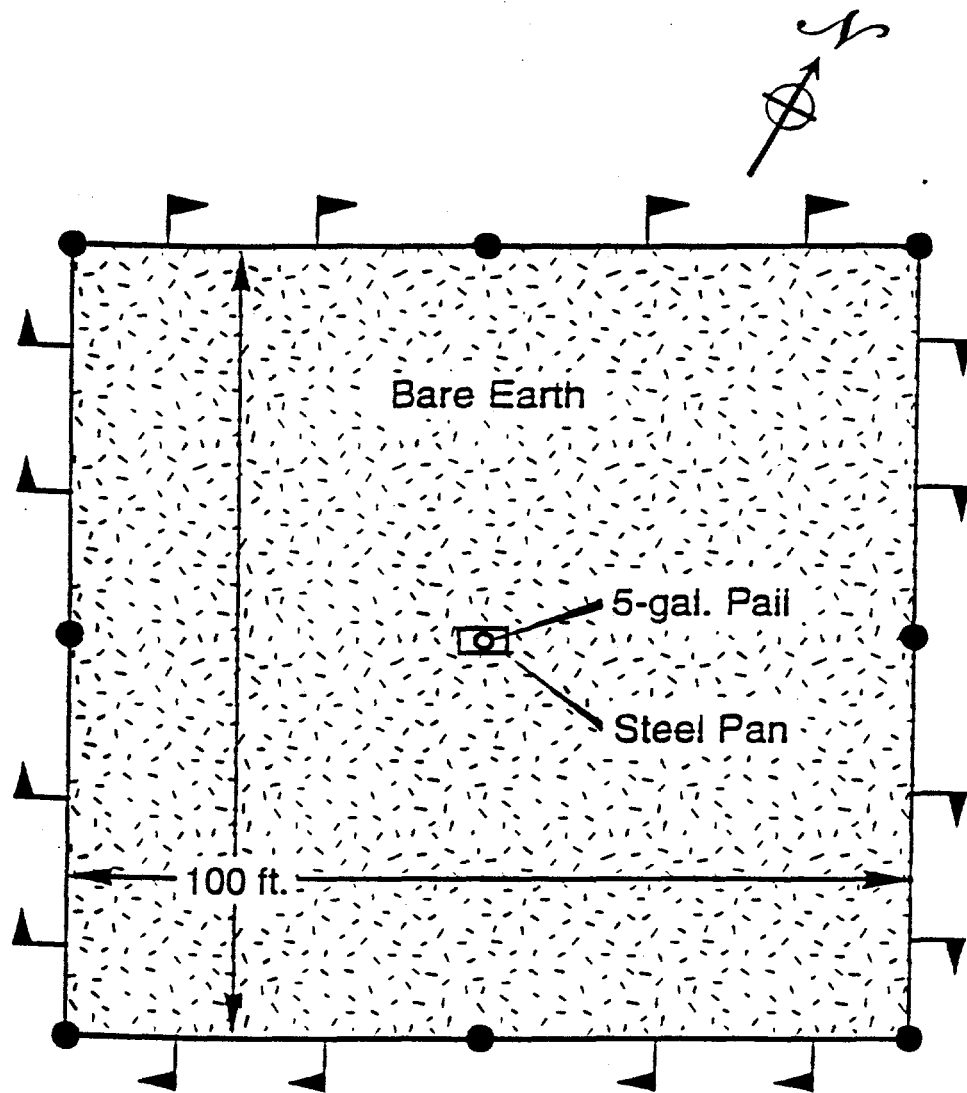


Figure 3. Interim Reactive Waste Treatment Area

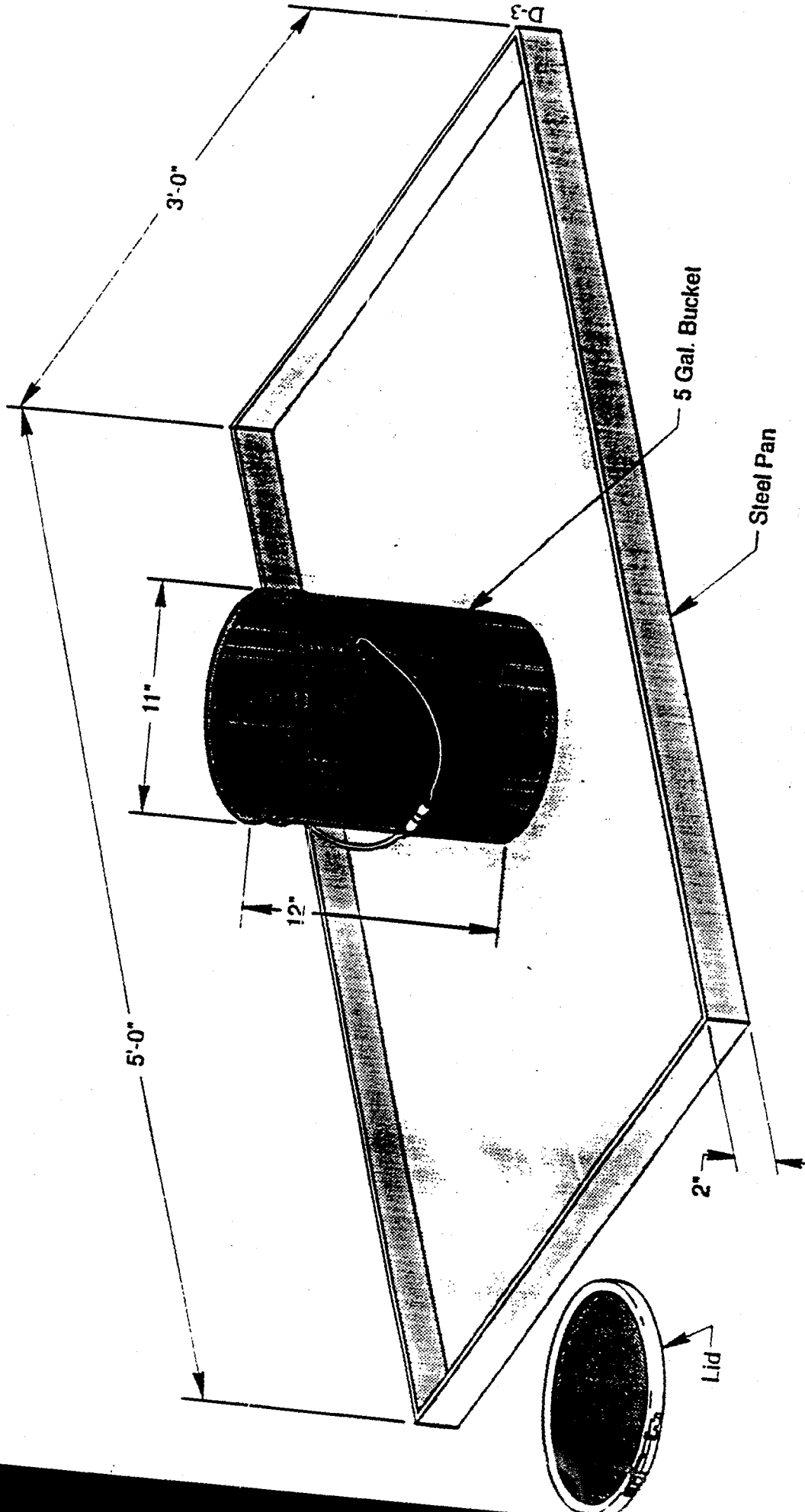


Figure 4. Interim Reactive Waste Treatment Area treatment equipment.

NaK is a liquid at standard temperature and pressure, but there also may have been solid oxides and NaK contaminated materials (such as rags, floor sweepings, etc.) associated with the waste material treated in this area. Sodium and potassium are, individually and collectively, highly reactive, particularly with moisture. Reactions evolve much heat or, if there is any confinement, an explosion may occur. They will ignite spontaneously in moist air. NaK waste is stored under mineral oil in order to prevent reaction with moist air. Radioactive contamination is not normally associated with interim treatments. However, NaK can be generated as a result of crucible failure; in such situations, contamination of NaK with a small amount of depleted uranium is possible.

The NaK was accumulated in an accumulation area prior to treatment and brought to the IRWTA in a 5-gal covered pail and was under 3 to 4 in of mineral oil. The 5-gal pail, usually containing 0.5 gal of NaK, was placed on a steel pan in the center of the 100 ft x 100 ft cleared area and the cover removed. The oil was burned by inserting a wick (wad of paper) into the oil, lighting the wick by hand, and allowing the oil to burn. Once the oil was burned away, the NaK was exposed to the air and reacted with the available moisture, generating heat and hydrogen. It flashed and burned until all waste material was consumed. The total treatment capacity for the IRWTA was 150 gal/day. Figure 4 shows the IRWTA containers used during treatment of the waste.

All pails of NaK were properly identified with hazardous waste material disposal forms (UCN-2114A) which identified the waste in addition to generator-specific information and start/end dates of waste accumulation. All pails of NaK and the vehicle transporting them were labeled as "Water Reactive Flammable Solid." The pails were only placed in the IRWTA when they were to be burned. All equipment was brought to the area only when the unit was operated. Containers of NaK were not stored at the IRWTA; they were only placed there for immediate burning. Burns are not conducted during storm events. The pails were single rolled and constructed of minimum 28-gauge mild steel with no liner. The Y-12 Plant Fire Department personnel and equipment were present throughout the duration of each treatment event to ensure the safe treatment of NaK.

The progress of the combustion of the mineral oil and subsequent oxidation of the NaK was monitored by a Waste Management technician. The technician visually monitored the treatment process to ensure that it progressed as expected and also visually inspected the integrity of the containers during treatment to ensure breaches did not occur. The length of time from ignition to completion of the treatment was normally 8 hr, with the majority of the time spent burning the mineral oil layer. Once the mineral oil layer was burned, the NaK reaction would be completed within 45 min. When the reaction was complete, the pail was allowed to cool, and the residue from the burn (if any) was tested for Toxicity Characteristic Leaching Procedure metals and disposed of as hazardous or nonhazardous waste, depending on results. All waste handling, safety, and spill-control equipment were removed when the burn was complete.

The IRWTA has also been used in recent years for burning trees and stumps from various Comprehensive Environmental Response, Compensation and Liability Act projects and wood skids. The location of these burns has been to the east side of the IRWTA, but still within the boundaries of the IRWTA.

2.0 CLOSURE PLAN CONTENTS

This plan has been prepared in accordance with the requirements of Title 40 CFR 265, Subpart G, and Tennessee Rule 1200-1-11-.05(7)(a). The actions necessary to perform closure are detailed in Section 4.0, Closure Activities.

Because the IRWTA is part of the Y-12 Plant, which is a federal facility, no closure cost estimate, financial assurance mechanism, or liability insurance is required. The exemption from certain financial requirements is found in Title 40 CFR 265.140© and Tennessee Rule 1200-1-11-.05(8)(a).

3.0 CLOSURE PLAN PERFORMANCE STANDARD

Closure of the IRWTA will eliminate the need for further maintenance, document the absence of hazardous constituents in the area, protect human health and the environment, and comply with all applicable closure requirements. The applicable requirements for the site are found in Title 40 CFR 265.197 and Tennessee Rule 1200-1-11-.05(10).

The standard has been accomplished through the removal of all RCRA hazardous wastes from the area. The RCRA wastes were totally consumed by the treatment process; and, if there had been any residual hazardous material not reacted, it would have been reacted, with rain falling on the site, into nonhazardous/nonregulated RCRA materials.

4.0 CLOSURE ACTIVITIES

Submission of this closure plan serves as notification to the Commissioner of the Tennessee Department of Environment and Conservation (TDEC) of the intent to close the IRWTA. The activities outlined in this closure plan section describe the actions to be taken to document closure of this area.

The closure of IRWTA will be a final closure. No partial closure site condition will remain. Closure activities will consist of visual confirmation that the site is open to natural elements and is therefore incapable of containing any unreacted sodium or potassium. These elements are highly reactive (D003 hazardous waste code) with water and their existence on site following even a light rain event is not possible. The site will be visually surveyed for any containers that might possibly contain NaK. If any such containers are found, they will be appropriately investigated to ensure no hazardous materials are present. If hazardous materials are found, they will be removed to an appropriate storage facility for further investigation and proper disposal. The site will also be surveyed for radiological contamination if a recent (since last burn event--of any material) survey has not already been conducted.

Soil sampling and analysis of the site are not considered necessary and will not be conducted. The only hazardous material known to have been brought to the site is NaK, which cannot exist when exposed to open air due to its reaction and consumption with only the slightest levels of moisture.

5.0 MAXIMUM WASTE INVENTORY

A maximum storage capacity of hazardous waste at the IRWTA is inapplicable. All waste was immediately burned and consumed, resulting in no residual hazardous waste remaining on-site. The maximum total treatment capacity was 150 gal/day.

6.0 SCHEDULE FOR CLOSURE

Closure activities will be completed within 180 days from the date the closure plan is approved by the state. Following closure activities, closure documentation and certification will be prepared and presented to the state within 60 days.

It is not anticipated that the closure activity will require the complete 180 days or that an extension of time for closure activities will be required. However, if closure cannot be completed within the specified time, a request for an extension of closure time will be submitted to the TDEC commissioner in accordance with Tennessee Rule 1200-1-11-.06(7)(d).

7.0 CERTIFICATION OF CLOSURE

Within 60 days of completing closure activities, the owner and operators of the IRWTA will submit, in writing and by registered mail, a closure certification to the TDEC commissioner. The closure certification will certify that the IRWTA has been closed in accordance with the requirements of the approved closure plan. The certification will be signed by an authorized representative and an independent registered professional engineer.

Additional certification or notices are not required for this area.

8.0 POST-CLOSURE CARE

The closure activities of this closure plan are intended to document the absence of any RCRA hazardous contaminants that may have been brought to the site. Upon certification/approval of the closure certification by the TDEC commissioner, the IRWTA will not be subject to any further requirements under Title 40 CFR 265, Subpart G, or Tennessee Rule 1200-1-11-.05(7).

A site survey plot, notice for local land authority, post-closure certification, or notice to deed to property are not required for this clean closure.

Distribution:

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APPENDIX B

IRWTA Burn Report Forms

7.3.1 The Y-12 Plant Sodium - Potassium (NaK) Open Burn Report Form

Y-12 PLANT
SODIUM - POTASSIUM (NaK) OPEN BURN
REPORT FORM

This form shall be completed during the day on which open burning is conducted, and forwarded on the next day to the Environmental Compliance Section of the HSE&A Division

Date of Burn : October 16, 1990

Location of Burn : Bear Creek Burial Ground

() Verification received from Environmental Compliance Section that notifications have been made, and burn is authorized.

() The Y-12 Plant Fire Department is at the site to monitor burn.

() Burn permit is available at site during the hours of burn.

Reason for burn, i.e., spill emergency, operational change out, etc. : Operational change out

Quantity of NaK, Mineral oil, and other materials (rags, etc.) included in the burn. Indicate number and size of containers.

3 Three each 5 gallon buckets 1/3 full of mineral oil + 1 qt of NaK

Quantity of radioactive material measured or believed present.

Less than 55 gms in bucket # & Less than 5 in path # & # According to Portable Curi. Monitor

Start Time (Oil combustion) : 9:35 AM

Start Time (NaK combustion) : 12:30 PM

Weather conditions at start, i. e., wind speed/direction: temperature (use 80 meter tower data).

~~Temp 68°F~~ WIND 5.3 mps Per hour dir: EAST
~~55°F~~ Temp 51.4°F

Monitoring during burn. Yes

Comments : Indicate any unusual occurrences. _____

Report Prepared By : J J Foster

Date : 10/16/90

8.0 EMERGENCY RESPONSE GUIDELINES

Rod -- What emergencies could occur, besides spreading of the fire, or explosion? The PSS would have to be notified and have the Fire Dept. return to the site, or should the FD stay during the burn operations???

Prepared: 080389/B.O.Griggs

R. R. Kimmitt :

Attached is a DRAFT COPY of the procedure for the NaK Burn Disposal Operations, primarily to see if I have covered all the concepts we discussed. If there are any other items which you would like to include, please write out a description of the info to be included.

BOG/080389

Y-12 PLANT
SODIUM - POTASSIUM (NaK) OPEN BURN
REPORT FORM

This form shall be completed during the day on which open burning is conducted, and forwarded on the next day to the Environmental Compliance Section. (L. O. Vaughan, 9116, MS-8098)

Date of Burn 10-10-93

Location of Burn Bear Creek Burial Ground

Verification received from Environmental Compliance Section that notifications have been made and burn is authorized.

The Y-12 Plant Fire Department is at site to monitor initiation of burn.

Burn permit is available at site during hours of burn.

Reason for burn, i.e., spill emergency, operational change out, etc.

Operational Change Out

Quantity of NaK, mineral oil, and other material (rags, etc.) included in burn. Indicate number and size of containers.

2 5 gallon buckets 1/4 full of
mineral oil + 1 quart of NaK

Quantity of radioactive material measured or believed present.

18 g. ²⁴¹Am according to Waste Conc Monitor.

Start Time (oil combustion) 10:00 AM

Start Time (NaK combustion) CAN #1 11:48 CAN #2 12:15

Weather conditions at start, i.e., wind speed/direction; temperature (use 60 meter tower data).

Wind ^{with} S/NE 47.5 F°

Monitoring during burn. Yes, conducted by Industrial Hygiene

Department

Comments: Indicate any unusual occurrences.

Report Prepared By: V. M. Harris

Date: 10-11-93

APPENDIX C

History of the Disposal of Sodium-Potassium Waste at the Y-12 Plant

**HISTORY OF THE DISPOSAL OF
SODIUM-POTASSIUM WASTE
AT THE Y-12 PLANT**

Rules contained in Chapter 1200-3-4 of the Tennessee Department of Environment and Conservation (TDEC), Division of Air Pollution Control Regulations, were implemented to establish controls on open burning so as to prevent undesirable levels of air contaminants in the atmosphere. This regulation prohibits open burning except as specifically exempted by Rule 1200-3-4-.04 EXCEPTIONS TO PROHIBITION, or as authorized by a specific permit in Rule 1200-3-4-.05 PERMITS FOR OPEN BURNING. Rule 1200-3-4-.04-(1)(h) allows for the open burning of this material as approved by the Technical Secretary where there are presently no other practical, safe, and/or lawful method of disposal. In addition, Rule 1200-3-4-.05(1) states:

"Open burning of all other types of materials, except those specifically exempted in rule 1200-3-4-.04, may be conducted only when authorized by a specific permit issued by the TDEC, Division of Air Pollution Control before burning commences and then only when done in conformity with conditions of this regulation and any special conditions and terms of the permit."

Therefore, a request for an open burning permit for the disposal of sodium-potassium (NaK) alloy was submitted to the TDEC in June 1988 by the Department of Energy (DOE). This waste is a water-reactive material generated as a result of depleted uranium operations at the Y-12 Plant Arc Melt Facility.

On October 31, 1988, Open Burning Permit Number 01-00020-0000-1 was issued by the TDEC, Division of Air Pollution Control to the Y-12 Plant. This permit allowed for the burning of NaK coolant, associated contaminated materials, and mineral oil at the Y-12 Plant Fire Training Facility (Building 9817) or a designated area at the Bear Creek Burial Grounds (BCBG). Special conditions noted in the permit required that all burn events be reported on a quarterly basis. Following issuance of the permit, three open burning events involving NaK waste, were conducted. The first burn was conducted on November 23, 1988, the second on February 9, 1989, and the third event on May 16, 1989. These burns included 10 five-gallon buckets containing a total of approximately 2.5 gallons of NaK waste. The original open burn permit expired on October 31, 1989.

A permit renewal was submitted to the TDEC on October 30, 1989. Following receipt, the TDEC requested verification of the maximum uranium content of the waste, or in lieu of verification, analysis of each batch of NaK prior to the burn. Ambient air sampling during randomly selected burns was also requested as a means to verify that radiological impacts, if any, were minimal. In response to those requests, an air monitoring plan and an outline procedure for verifying the level of contamination in each batch of NaK waste was provided to the TDEC for review. TDEC was informed, during discussions in Knoxville, that the open burnings conducted in the BCBG, designated as the Interim Reactive Waste Treatment Area (IRWTA), would be discontinued when a permanent treatment facility could be constructed. This facility, to be known as the Reactive Waste Treatment Facility, was to be constructed in FY 1993.

On March 30, 1990, Open Burning Permit Number 01-00020-0000-2 was issued by the Division of Air Pollution Control. Following issuance of the permit, an open burn event containing approximately 1 quart of NaK waste, was conducted on April 11, 1990 at the IRWTA. Mr. Victor Malichis, of the Tennessee Division of Air Pollution Control, was present to observe this controlled burn. Photographs of the burn were requested by Mr. Malichis, depicting the open burn site, the air sampling equipment, and the configuration of the sampling equipment around the container of material. On October 16, 1990, three 5-gallon buckets containing a total of approximately 1 quart of NaK waste was disposed of using strict adherence to the special conditions set forth by the current permit. This permit expired on March 31, 1991.

On March 27, 1991, request for renewal of Open Burn Permit 01-00020-0000-2, was transmitted to Victor N. Malichis, Division of Air Pollution Control, Knoxville, Tennessee. The permit renewal was issued on May 21, 1991, and was valid until May 31, 1992. There were no open burns of NaK waste conducted under this permit.

On May 5, 1992, a permit application was forwarded to Tom E. Dalton, Division of Air Pollution Control, Knoxville, Tennessee, by Mr. L. L. Radcliffe, Director Waste Management and K-25 Operations Division, DOE Oak Ridge Field Office, for review and renewal.

On May 27, 1992, discussions were held at the Y-12 Plant with Victor N. Malichis and other members of the TDEC, Division of Department of Energy Oversight, concerning the continued renewal of the Open Burn Permit for NaK. Mr. Malichis stated that in 1988, when the initial open burn permit was issued for this activity, it was understood by the TDEC that burns of NaK waste would be conducted only until a permanent treatment facility could be designed and constructed. He stipulated that an internal policy prohibits the continued issuance of an open burn permit after a five-year period. Therefore, following the next permit expiration, TDEC would be unable to renew the open burn permit unless authorization is obtained from the Air Resources Section of the Division of Air Pollution Control.

On November 16, 1992, Open Burn Permit 01-0020-0000-3 was issued by the Technical Secretary, Division of Air Pollution Control. This burn permit is valid until November 30, 1993. Special burning conditions contained in this permit limit the burns to four (4) during the life of this renewed permit. In addition, a report as to the progress in developing alternate methods of disposal, with proper open burning applications, must be filed with the Air Resources Section of the Division of Air Pollution Control no later than October 30, 1993, to formally request a renewal of open burning authorization. To date, there have been no open burns of NaK waste under the current permit.

Should you have any questions or comments, please contact me at 6-7586.

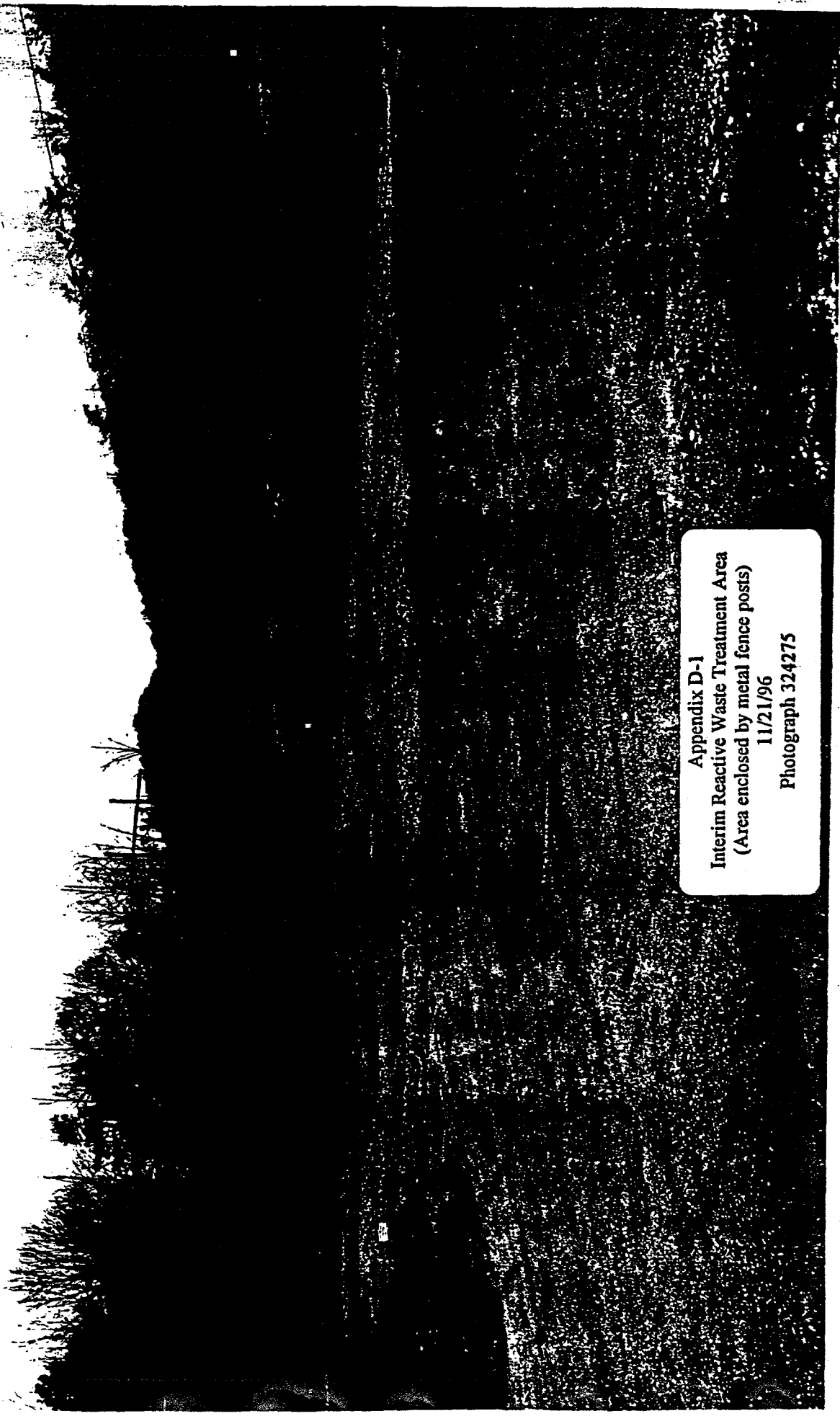
G. L. Seeber, Bldg. 9115, MS-8219 (6-7586)

GLS:mif

cc: H. L. Fellers/I. D. Shelton
File - EMD - RC

APPENDIX D

IRWTA Site Photographs



Appendix D-1
Interim Reactive Waste Treatment Area
(Area enclosed by metal fence posts)
11/21/96
Photograph 324275

CAUTION
HAZARDOUS WASTE
FACILITY
AUTHORIZED PERSONNEL ONLY

Appendix D-2
Interim Reactive Waste Treatment Area
(Area enclosed by metal fence posts)
11/21/96
Photograph 324274



Appendix D-3
Interim Reactive Waste Treatment Area
(Area enclosed by metal fence posts)
11/21/96
Photograph 324276

APPENDIX E

Radiological Site Survey

RADIOLOGICAL CONTROL ORGANIZATION MONITORING AND SURVEY RESULTS

BUILDING: <i>WEST END BEAR CREEK ROAD</i>	ROOM / AREA <i>NORTH OF GATE 2</i>
DESCRIPTION OF SURFACE <i>Surface of the Ground</i>	DATE / TIME: <i>7-2-97 / 1300</i>

Survey Location Number	DESCRIPTION*	CONTAMINATION READINGS				RADIATION READINGS (1)		
		ALPHA (dpm/100cm ²)		BETA/GAMMA (dpm/100cm ²)		Gamma mrem/hr	Beta mrem/hr	Neutron mrem/hr
		Max. Fixed Plus Removable	Removable (A)	Max. Fixed Plus Removable	Removable (A)			
1	<i>Surface of the ground</i>	<i>4250</i>	<i>4250</i>	<i>43000</i>	<i>4600</i>			
2								
3								
4								
5								
6								
7								
8								
9							<i>N/A</i>	
10								
11								
12								
13								
14								
15								
16								
17								

(A) When performing removable contamination surveys of objects with less than 100cm² of surface area, perform the following steps: (1) Convert results to dpm/100cm² and record in the applicable removable alpha or beta/gamma column (ex. 20 dpm/20 cm² = 100 dpm/100cm²) (2) Footnote recorded number (3) For each footnote record in the comment section the dpm for area swiped (ex. 20 dpm/20cm²).

Comments: *Survey performed at request of E. Burnett. For state closure of site.*

RadCon Instrument Used (I.D.): ALPHA *42104ZE*, *N/A* BETA / GAMMA *423184E*, *N/A* NEUTRON *N/A*

RADCON TECHNICIAN SIGNATURE: *[Signature]* BADGE: *18117*

Y-12 SITE URANIUM SURFACE RADIOACTIVITY GUIDES IN dpm/100cm² :

ALPHA		BETA / GAMMA		
Removable	Max. fixed Plus Removable	Removable	Max. fixed Plus Removable	
≤ 1,000	≤ 5,000	≤ 1,000	≤ 5,000	Classified as uncontaminated
> 1,000	> 5,000	> 1,000	> 5,000	Classified as contaminated

***SEE MAP ON REVERSE
SIDE FOR SURVEY
LOCATIONS**

1. Readings are taken at a distance of 30 cm unless otherwise noted.

REVIEWED AND APPROVED BY:

[Signature]

RCT Supervisor or designee

24720

Badge No.

*2:00
7-2-97*

Date/Time

Reference:

Y70 - 101
Y70 - 117

DISTRIBUTION:
Operations Supervisor
File

BUILDING: N/A

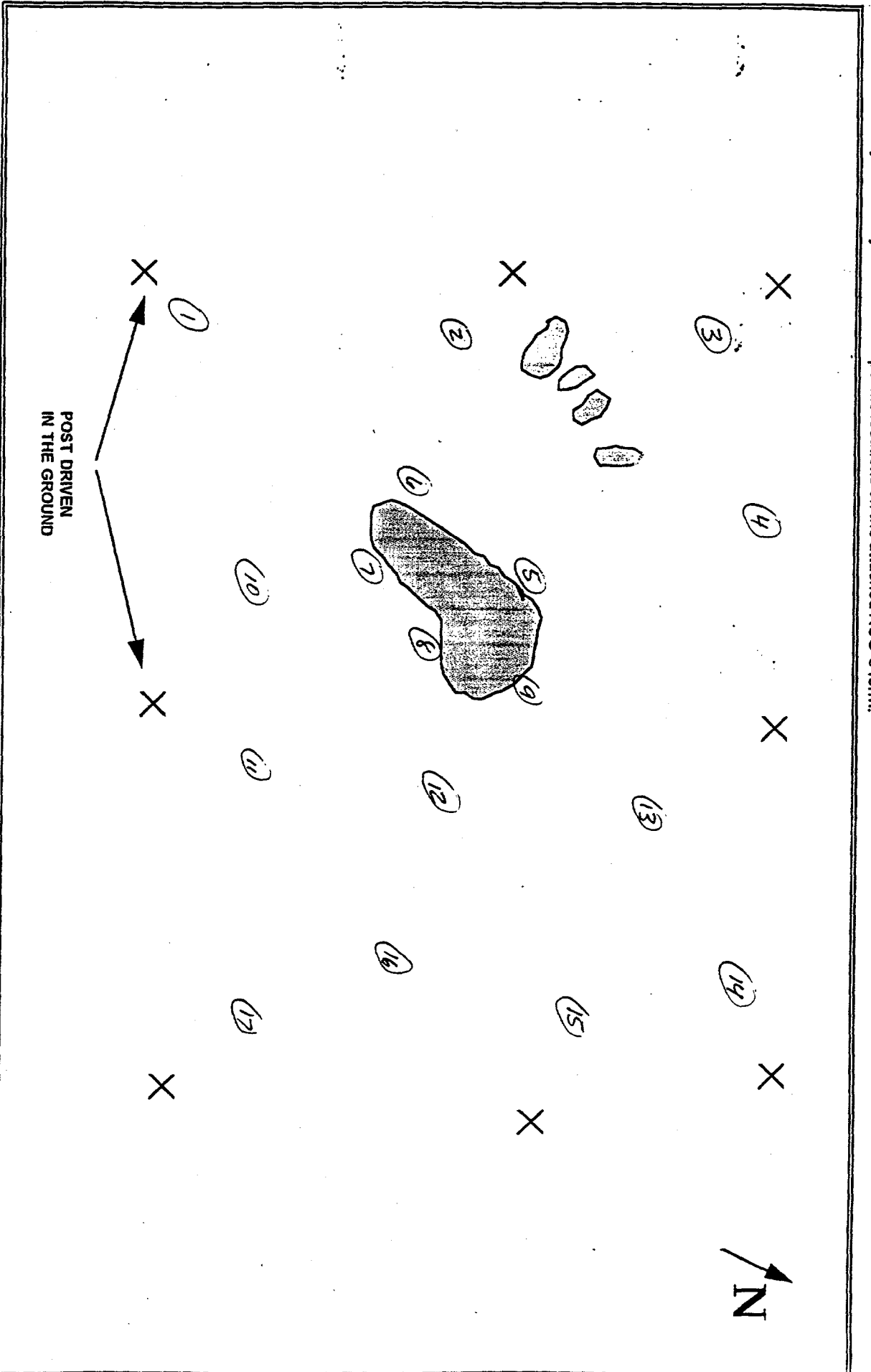
ROOM/AREA N/A

N/A

DATE/TIME

7-2-97 11300

Use the space below to draw a general floor plan using equipment, stairs, walls, rooms etc. in the area as landmarks. Place numbers corresponding with survey locations inside the survey location symbol and list specific locations on the attached RCO-5 form.



COMMENTS:

Shading indicates areas of standing water.

○ Survey Location Symbol

APPENDIX F

Closure Correspondence

IRWTA Correspondence List

Letter Date	Originator to Receiver	Subject
2/92	DOE to TDEC	Submittal of RCRA Part A and Part B Permit Application for IRWTA (Document not included in this report)
9/16/96	Cox to Spence/Butz	NOD regarding 2/92 Submittal (32 pages comments not included in this report)
11/14/96	Butz to Spence	Revised Closure Plan submitted (See Appendix A for Closure Summary)
11/18/96	Riddle to Cox	Revised Closure Plan submitted (See Appendix A for Closure Summary)
12/23/96	Cox to Rathke	Authorization to burn nonhazardous debris on site during closure
1/1/97	Rathke to Cox	Revised Page 8 of Closure Plan provided to correct typographic error Paragraph 5.0, "applicable" changed to "inapplicable"
1/29/97	TDEC to Knoxville News Sentinel	Public notice of intent to approve a closure plan
1/29/97	TDEC to Distribution	Public notice of intent to approve a closure plan
1/31/97		Actual public notice
4/29/97	Tiesler to Riddle	Approval of closure plan

R. J. Spence, Manager, DOE, Oak Ridge Operations Office

M. E. Cox Jr., Manager, TDEC, Hazardous Waste Program, Combustion Section

T. R. Butz, Plant Manager, LMES, Y-12 Plant

S. P. Riddle, Acting Director, DOE, Waste Management and Technology Development Division

S. E. Rathke, Technical Lead, LMES, Solid Waste Compliance Department, Y-12 Plant

Tom Tiesler, Director, TDEC, Division of Solid Waste



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Solid Waste Management
Fifth Floor, L & C Tower
401 Church Street
Nashville, Tennessee 37243 - 1535

April 29, 1997

Ms. Suzanne P. Riddle, Acting Director
Waste Management and Technology
Development Division
U.S. Department of Energy
Oak Ridge Operations Office
P.O. Box 2001
Oak Ridge, Tennessee 37831-8620

Certified Mail No.
P 446 335 879
Return Receipt Requested

RE: Approval of Closure Plan
Interim Reactive Waste Treatment Area (IRWTA)
Y-12 Plant
Oak Ridge, TN
EPA ID No.: TN3 89 009 0001

Dear Ms. Riddle:

The closure plan for the Interim Reactive Waste Treatment Area and any public comments submitted regarding this plan have been reviewed by this Division. Based upon this review, I am hereby approving the closure plan.

The Department of Energy, Y-12 Plant, may at this time, proceed with the closure of this site in accordance with the activities described in the closure plan and Tennessee Rule Chapter 1200-1-11-.05(7).

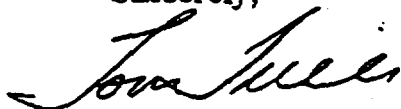
Please note that according to Rule 1200-1-11-.05(7)(f), "Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of completion of final closure, the owner or operator must submit to the Commissioner, by registered mail, at least four (4) copies of a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification must be signed by the owner or operator and by an independent registered professional engineer as defined in Rule 1200-1-11-.01(2)(a). Documentation supporting

Ms. Suzanne P. Riddle, Acting Director
April 29, 1997
Page 2

the independent registered professional engineer's certification must be furnished to the Commissioner upon request until he releases the owner or operator from the financial assurance requirements for closure under part (8)(d)8 of this Rule."

If you have any questions please contact Mr. Edward Cox of my staff at (615) 532-0827.

Sincerely,



Tom Tiesler, Director
Division of Solid Waste Management

JTT/mec/y12irwta.doc

cc:

Kirk Lucius, RCRA Branch, EPA, Region IV
Earl Leming, Director, DOE Oversight Division
Jack Crabtree, DSWM, Manager, Knoxville Field Office
Ed Casey, DSWM, Public Participation Officer
Jacqueline Okoreeh-Baah, DSWM, Chief, Combustion Section
Edward Cox, DSWM, Combustion Section

**NOTICE OF INTENT TO APPROVE
A CLOSURE PLAN FOR A
HAZARDOUS WASTE TREATMENT UNIT**

The Tennessee Department of Environment and Conservation's (TDEC) Division of Solid Waste Management (DSWM) proposes to approve a closure plan submitted by the U.S. Department of Energy (owner and operator) and Lockheed Martin Energy Systems, Inc. (co-operator) for the Y-12 Plant located on Bear Creek Road in Oak Ridge, Anderson County, Tennessee 37831; EPA ID Number: TN3 89 009 0001. The closure plan is for a treatment area located adjacent to the Y-12 Plant boundaries in the Bear Creek Burial Grounds.

The treatment area is identified as the Interim Reactive Waste Treatment Area (IRWTA) and was used to treat a waste stream made up of sodium and potassium (NaK) which is highly reactive with moist air. This area measures 100 ft. by 100 ft. and is located in the controlled area known as Bear Creek Burial Grounds, to the west of the Y-12 Plant, a few hundred feet east of the now closed and capped Area A and just to the north of a local access road. The nearest Y-12 Plant property line is 3,200 feet away.

Interested persons may review the proposed closure plan at the Oak Ridge Public Library, 1401 Oak Ridge Turnpike, Oak Ridge, Tennessee; telephone 423-482-8455 or at the DOE Public Reading Room, 55 South Jefferson Circle, Room 112 in Oak Ridge; telephone 423-241-4780 or during normal office hours at the TDEC Department of Energy Oversight (DOE-O) Division office, 761 Emory Valley Road, Oak Ridge; telephone 423-481-0995 or at the DSWM Knoxville Field Office, 2700 Middlebrook Pike, Suite 220, Knoxville, Tennessee 37921-5602; telephone 423-594-6035. Normal office hours are 8:00 a.m. to 4:30 p.m. on weekdays, excluding legal holidays.

Interested persons may submit written comments on this proposed action or obtain further information by contacting Ms. Jacqueline Okoreeh-Baah, Chief, Combustion Section, Division of Solid Waste Management, 5th Floor, L & C Tower, 401 Church Street, Nashville, Tennessee 37243-1535; Telephone 615-532-0825.

All comments received by the comment deadline of 4:30 p.m., March 3, 1997, will be assured of consideration by the Department in making its final decision.

Persons who wish to be on DSWM's mailing list should request a Mailing List Request form by calling or writing: Public Participation Officers; Division of Solid Waste Management; Tennessee Department of Environment and Conservation; 5th Floor, L & C Tower, 401 Church Street; Nashville, Tennessee 37243-1535; telephone 615-532-0780.

The Tennessee Department of Environment and Conservation is committed to principles of equal opportunity, equal access and affirmative action. Contact the Tennessee Department of Environment and Conservation EEO/AA Coordinator, 615-532-0103 or the ADA Coordinator, Isaac Okoreeh-Baah, 615-532-0059 for further information. Hearing impaired callers may use the Tennessee Relay Service (1-800-848-0298).

Notice Issued: January 31, 1997

*Knoxville N-5
Friday 1/31/97*





STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Solid Waste Management
Fifth Floor, L & C Tower
401 Church Street
Nashville, Tennessee 37243 - 1535

TRANSMITTAL NOTICE

DATE: January 29, 1997
TO: Recipient *ec*
FROM: Ed Casey, Chief of Public Participation
Division of Solid Waste Management
Re: Proposed Closure Plan for
Interim Reactive Waste Treatment Area
Bear Creek Burial Grounds
U.S. DOE/Lockheed Martin Energy Systems, Inc., Y-12 Plant
EPA ID No. TN3 89 009 0001
Oak Ridge, Anderson County

Enclosed for your information is a NOTICE OF INTENT TO APPROVE A CLOSURE PLAN for the above referenced facility.

If you have any questions please contact Ms. Jackie Okoreeh-Baah, Chief, Combustion Section; telephone 615-532-0825.

Enclosure

Recipients:

Ms. Kathleen D. Moore, Mayor, Oak Ridge, Tennessee
Mr. David O. Bolling, County Executive, Anderson County, Tennessee
Mr. Don Woody, Mayor, Kingston, Tennessee
Mr. Ken Yager, County Executive, Roane County, Tennessee
Mr. Charles T. Eblen, Mayor, Lenoir City, Tennessee
Mr. George Miller, County Executive, Loudon County, Tennessee
Mr. Victor H. Ashe, Mayor, Knoxville, Tennessee
Mr. Thomas H. Schumpert, County Executive, Knox County, Tennessee
Applicant, Mr. J.E. Powell, DOE
Ms. Suzanne P. Riddle, DOE
Ms. Stacy Rathke, LMES
Mr. Jack Crabtree, Knoxville Field Office Manager, DSWM
Mr. Ken Bunting, Administrator, Land/RAD Programs, TDEC
Mr. Jim Haynes, Administrator, Air/Water Programs, TDEC
Mr. Lee A. Barclay, U.S. Fish and Wildlife Service
Mr. Don Klima, Advisory Council on Historic Preservation
Mr. Joe Garrison, Tennessee Historical Commission
Mr. Gary T. Myers, Tennessee Wildlife Resources
Mr. John W. Walton, Division of Air Pollution Control, TDEC
Ms. Betty Eaves, Tennessee Emergency Management Agency
Dr. Andrew Barrass, Division of Natural Heritage
Mr. Roy Jensen, Tennessee State Parks
Mr. Narindar Kumar, U.S. EPA, Region 4
Mr. Otis Johnson, U.S. EPA, Region 4
Mr. Dave Hopkins, U.S. EPA, Region 4
Mr. E.C. Leming, DOE-O
Ms. Jacqueline Okoreeh-Baah, Chief, Combustion Permitting Section, DSWM
Mr. Ed Cox, Combustion Permitting Section, DSWM
Mr. Wayne Gregory, Chief, Field Operations Support Section, DSWM
Mr. Chris Lagan, Land TSD Section, DSWM

**NOTICE OF INTENT TO APPROVE A CLOSURE PLAN
FOR A HAZARDOUS WASTE TREATMENT UNIT**

The Tennessee Department of Environment and Conservation's (TDEC) Division of Solid Waste Management (DSWM) proposes to approve a closure plan submitted by the U.S. Department of Energy (owner and operator) and Lockheed Martin Energy Systems, Inc. (co-operator) for the Y-12 Plant located on Bear Creek Road in Oak Ridge, Anderson County, Tennessee 37831; EPA ID Number: TN3 89 009 0001. The closure plan is for a treatment area located adjacent to the Y-12 Plant boundaries in the Bear Creek Burial Grounds.

The treatment area is identified as the Interim Reactive Waste Treatment Area (IRWTA) and was used to treat a waste stream made up of sodium and potassium (NaK) which is highly reactive with moist air. This area measures 100 ft. by 100 ft. and is located in the controlled area known as the Bear Creek Burial Grounds, to the west of the Y-12 Plant, a few hundred feet east of the now closed and capped Area A and just to the north of a local access road. The nearest Y-12 Plant property line is 3,200 feet away.

Interested persons may review the proposed closure plan at the Oak Ridge Public Library, 1401 Oak Ridge Turnpike, Oak Ridge, Tennessee; telephone 423-482-8455 or at the DOE Public Reading Room, 55 South Jefferson Circle, Room 112 in Oak Ridge; telephone 423-241-4780 or during normal office hours at the TDEC Department of Energy Oversight (DOE-O) Division office, 761 Emory Valley Road, Oak Ridge; telephone 423-481-0995 or at the DSWM Knoxville Field Office, 2700 Middlebrook Pike, Suite 220, Knoxville, Tennessee 37921-5602; telephone 423-594-6035. Normal office hours are 8:00 a.m. to 4:30 p.m. on weekdays, excluding legal holidays.

Interested person may submit written comments on this proposed action or obtain further information by contacting Ms. Jacqueline Okoreeh-Baah, Chief, Combustion Section, Division of Solid Waste Management, 5th Floor, L & C Tower, 401 Church Street, Nashville, Tennessee 37243-1535; Telephone 615-532-0825

All comments received by the comment deadline of 4:30 p.m., March 3, 1997, will be assured of consideration by the Department in making its final decision.

Persons who wish to be on DSWM's mailing list should request a Mailing List Request form by calling or writing: Public Participation Officer; Division of Solid Waste Management; Tennessee Department of Environment and Conservation; 5th Floor, L & C Tower; 401 Church Street; Nashville, Tennessee 37243-1535; telephone 615-532-0780.

The Tennessee Department of Environment and Conservation is committed to principles of equal opportunity, equal access and affirmative action. Contact the Tennessee Department of Environment and Conservation EEO/AA Coordinator, 615-532-0103 or the ADA Coordinator, Isaac Okoreeh-Baah, 615-532-0059 for further information. Hearing impaired callers may use the Tennessee Relay Service (1-800-848-0298).

Notice Issued: January 31, 1997



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Solid Waste Management
Fifth Floor, L & C Tower
401 Church Street
Nashville, Tennessee 37243 - 1535

January 29, 1997

The Knoxville News-Sentinel
Attn: Ms. Mary Brannam
Display Advertising
Knoxville, Tennessee
Telephone: 423-521-1804
FAX: 423-673-3480

Re: Proposed Closure Plan for
Interim Reactive Waste Treatment Area
Bear Creek Burial Grounds
U.S. DOE/Lockheed Martin Energy Systems, Inc., Y-12 Plant
EPA ID No. TN3 89 009 0001
Oak Ridge, Anderson County

Please insert the enclosed Public Notice to form a display ad having a width of at least 2 columns and length as necessary for publication in the main news section.

This advertisement must be published on January 31, 1997 and is not to be placed in your classified advertisement section.

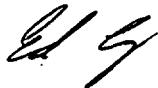
Following publication please send:

- * 3 copies of the bill, and
- * 3 copies of a NOTARIZED certificate of the publication with clippings of the newspaper ads attached

to: Tennessee Department of Environment and Conservation
Division of Solid Waste Management
Attention: Mr. Bill McDuffee
5th Floor, L & C Tower
401 Church Street
Nashville, TN 37243-1535
Phone 615-532-0835

If you have any questions please call me at 615-532-0840 or FAX at 615-532-0886.

Sincerely,



Edward L. Casey
Division of Solid Waste Management

ELC/Paper.doc/me

enclosure

cc: Ken Bunting, BOE
David Bartholomew, PIO
Bill McDuffee, DSWM
Jacqueline Okoreeh-Baah, Chief, Combustion Permitting Section, DSWM
Ed Cox, Combustion Permitting Section, DSWM
E.C. Leming, DOE-O
Narindar Kumar, EPA, Region 4
Otis Johnson, EPA, Region 4
Jack Crabtree, Knoxville Field Office, DSWM
Stacy Rathke, LMES
Suzanne P. Riddle, DOE

Date: Tue, 21 Jan 1997 10:56:07 -0500 (EST)
From: Stacey Elaine Rathke <RATHKESE@ocu.a1.ornl.gov>
Subject: Record of Conversation
To: BURRISMS@ornl.gov, DAILEYNS@COSMAIL1.CTD.ORNL.GOV,
GUILFORDJS@COSMAIL4.CTD.ORNL.GOV, LABORDECM@ornl.gov,
MARKELONISDD@COSMAIL4.CTD.ORNL.GOV, PERRYTP@COSMAIL4.CTD.ORNL.GOV
Cc: HILLCC@ornl.gov, POWELLJE@ornl.gov, STAIRCL@COSMAIL4.CTD.ORNL.GOV,
WILLOUGHBYML@ornl.gov, BEAUCHAMPER@ornl.gov, BURRISMS@ornl.gov,
dmj@COSMAIL3.CTD.ORNL.GOV, HARPGR@COSMAIL3.CTD.ORNL.GOV,
TILLEYRF@COSMAIL3.CTD.ORNL.GOV, WISEPJ@ornl.gov,
COLLINSET@COSMAIL3.CTD.ORNL.GOV
Posting-date: Tue, 21 Jan 1997 11:08:00 -0500 (EST)

RECORD OF CONVERSATION

ORIGINATING PARTY: Ms. Stacey Rathke, Y-12 Plant Environmental Compliance

OTHER PARTY: Mr. Ed Cox, TDEC

DATE: January 15, 1997

SUBJECT: NaK Closure Plan

DISCUSSION: Ms. Rathke contacted Mr. Cox to find out about the progress of the NaK Closure Plan. Mr. Cox stated that he found a typographical error on the last page of the closure plan and asked Ms. Rathke to fix the error and send him a new page. Ms. Rathke agreed. Mr. Cox stated that he planned on getting the closure plan to Ed Casey by January 22, 1997. Mr. Casey is responsible for placing notice of the closure plan into the paper. Mr. Cox stated that there is a 30-day comment period and that he expects to have the approved closure plan by mid-March. He also stated that he and Mr. Lagan had reviewed the closure and had no problem with the plan. He expects to issue it without change, unless the comment period surfaced issues from the public.

Ms. Rathke thanked Mr. Cox for his prompt actions on the closure plan and stated that she would get the revised page in the mail that day. Mr. Cox stated that he would contact Ms. Rathke with the progress within a week or two. Ms. Rathke agreed.

AGREEMENTS AND UNDERSTANDINGS: Ms. Rathke will send Mr. Cox a revised page for the closure plan.

If you have any questions please contact me at 4-9394.

Stacey Rathke
Y-12 Plant Solid Waste Compliance
Environmental Compliance Organization

Stacey Elaine Rathk, 09:25 AM 12/23/96, Record of Conversation

Date: Mon, 23 Dec 1996 09:25:08 -0500 (EST)

From: Stacey Elaine Rathke <RATHKESE@ocu.a1.ornl.gov>

Subject: Record of Conversation

To: BURRISMS@ornl.gov, DAILEYNS@COSMAIL1.CTD.ORNL.GOV,
GUILFORDJS@COSMAIL4.CTD.ORNL.GOV, LABORDECM@ornl.gov,
MARKELONISDD@COSMAIL4.CTD.ORNL.GOV, PERRYTP@COSMAIL4.CTD.ORNL.GOV,
ESTESCHIII@ornl.gov

Cc: HILLCC@ornl.gov, POWELLJE@ornl.gov, STAIRCL@COSMAIL4.CTD.ORNL.GOV,
BEAUCHAMPER@ornl.gov, BURRISMS@ornl.gov, dmj@COSMAIL3.CTD.ORNL.GOV,
HARPGR@COSMAIL3.CTD.ORNL.GOV, TILLEYRF@COSMAIL3.CTD.ORNL.GOV,
WISEPJ@ornl.gov, WILLOUGHBYML@ornl.gov, DELIUSKD@ornl.gov,
BARNETTEJ@ornl.gov, STONEJE@ornl.gov, COLLINSET@COSMAIL3.CTD.ORNL.GOV

Posting-date: Mon, 23 Dec 1996 09:41:00 -0500 (EST)

RECORD OF CONVERSATION

ORIGINATING PARTY: Mr. Ed Cox, TDEC

OTHER PARTY: Ms. Stacey Rathke, Y-12 Plant Environmental Compliance

DATE: December 18, 1996

SUBJECT: Notice of Deficiency Response, NaK Burn Area

DISCUSSION: Mr. Cox returned Ms. Rathke's telephone call from the previous week. Ms. Rathke explained that the reason for the call was to discuss the closure of the NaK Burn Area, the response to the Notice of Deficiency for the Part B Permit Application for that area. Ms. Rathke asked if Mr. Cox had received and read the response. Mr. Cox stated that he had received the response and had skimmed it. Ms. Rathke stated that the main reason for the call was to verify that it was acceptable to continue to burn trees/stumps/etc. from the Lower East Fork Poplar Creek (LEFPC) project at the NaK burn site. Mr. Cox asked if the LEFPC debris was hazardous. Ms. Rathke stated that it was not hazardous. Mr. Cox stated that it was not a problem to burn non-hazardous debris at the NaK burn area through the RCRA closure of the site. He equated the NaK burn area to the 9206 incinerator closure. He said that the incinerator continued to burn rad contaminated waste while going through RCRA closure. He continued to say that if anyone had any concerns with this process to have them contact him and he would explain his position.

AGREEMENTS AND UNDERSTANDINGS: The burning of LEFPC debris can continue at the NaK burn area throughout the RCRA closure of the site.

If you have any questions please contact me at 4-9394.

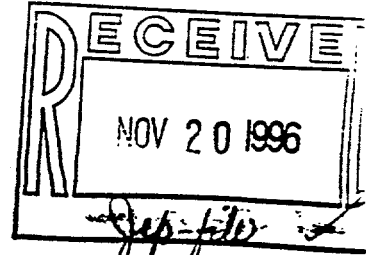
Stacey Rathke
Y-12 Plant Solid Waste Compliance
Environmental Compliance Organization



Department of Energy

Oak Ridge Operations Office
P.O. Box 2001
Oak Ridge, Tennessee 37831— 8620

November 18, 1996



Mr. M. Edward Cox, Jr.
Mr. Wayne Gregory
Tennessee Department of Environment
and Conservation
Division of Solid Waste Management
Fifth Floor L&C Tower, 401 Church Street
Nashville, Tennessee 37243-1535

Dear Mr. Cox and Mr. Gregory:

**NOTICE OF DEFICIENCY: RESOURCE CONSERVATION AND RECOVERY ACT
PART A AND PART B PERMIT APPLICATION FOR THE INTERIM REACTIVE
WASTE TREATMENT AREA**

The subject Notice of Deficiency (NOD) issued by your office on September 16, 1996, has been reviewed. The Department of Energy and Lockheed Martin Energy Systems have decided that the Interim Reactive Waste Treatment Area, which is currently under Resource Conservation and Recovery Act Interim Status, will be permanently closed, rather than permitted. The waste sodium/potassium which was disposed at the facility is no longer being produced by the Y-12 Plant, and if further production is expected, alternative means of disposal will be pursued. Therefore, in lieu of responding to the NOD, we are hereby submitting a revised closure plan for your review and approval.

If you have any questions, please contact Bill McMillan of my staff at (423) 241-6426.

Sincerely,

Suzanne P. Riddle, Acting Director
Waste Management and Technology
Development Division

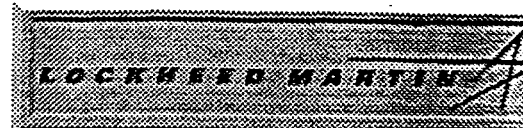
Enclosure:

cc w/enclosure:

E.C. Leming, TDEC, Oak Ridge
R.J. Spence, DP-81

cc w/o enclosure:

T.W. Morris, K-25, Bldg. K-1037, MS-7357
J.E. Heiskell, Y-12, Bldg. 9624, MS-8222
J.E. Powell, Y-12, Bldg. 9116, MS-8098



LOCKHEED MARTIN ENERGY SYSTEMS, INC.

Post Office Box 2009
Oak Ridge, Tennessee 37831

November 14, 1996

Mr. R. J. Spence
Department of Energy, Oak Ridge Operations
Post Office Box 2001
Oak Ridge, Tennessee 37831

Dear Mr. Spence:

Contract DE-AC05-84OR21400, Notice of Deficiency (NOD)--Resource Conservation and Recovery Act (RCRA) Part A and Part B Permit Application for Interim Reactive Waste Treatment Area (IRWTA)

The subject NOD issued by personnel from the Tennessee Department of Environment and Conservation (TDEC) on September 16, 1996, has been reviewed; and it has been decided that the IRWTA, currently under RCRA interim status, will be permanently closed rather than pursue permitting. Comments made by personnel from the TDEC on the previously submitted permit application clearly indicate that successfully completing the permitting process would be very lengthy and costly. Alternative means of sodium/potassium (NaK) disposal are being investigated.

A revised closure plan is enclosed for your review and transmittal to the TDEC staff by November 19, 1996, for their approval. The transmittal should be made to:

Tennessee Department of Environment and Conservation
Division of Solid Waste Management
Attn: Mr. M. Edward Cox Jr. and Mr. Wayne Gregory
Fifth Floor L & C Tower
401 Church Street
Nashville, Tennessee 37243-1535

A copy of this transmittal should be forwarded to Mr. Earl C. Leming, TDEC, DOE-Oversight.

If you have any further questions, please contact S. E. Rathke at 4-9394.

Very truly yours,

T. R. Butz
Y-12 Plant Manager

TRB:rf

Enclosure: As Stated

Mr. R. J. Spence, DOE-ORO
Page 2

November 14, 1996

c/enc: ~~F. J. Collins~~

J. E. Heiskell/J. E. Stone

C. C. Hill

S. E. Rathke

File-EMD-RC

c: D. P. Bryant

T. R. Butz

J. M. Eaton

F. P. Gustavson

R. M. Keyser/J. E. Powell

T. P. A. Perry

C. L. Stair

Note: See Appendix A for Closure Plan.

9/20



To: Keyser/Powell - Please handle!

TRButz:jan - 9/20/96

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Solid Waste Management

Fifth Floor, L & C Tower
401 Church Street
Nashville, TN 37243-1531

NOTE TO JOHN POWELL:

Please stop by and review this NOD
me. My concern is why this one rest
in 32 pages of questions.
Todd

September 16, 1996

Mr. R.J. Spence
U.S. Department of Energy
Oak Ridge Operations
P.O. Box 2001
Oak Ridge, Tennessee 37831-8555

Certified Mail # Z 018 758 157
Return Receipt Requested

Mr. T.R. Butz
Y-12 Site Manager
Lockheed Martin Energy Systems, Inc.
P.O. Box 2009
Oak Ridge, Tennessee 37831-8010

Certified Mail # Z 018 758 158
Return Receipt Requested

Re: NOTICE OF DEFICIENCY
RCRA PART A AND PART B SUBPART X PERMIT APPLICATIONS (SUBPART X)
Y-12 Plant
Oak Ridge, TN 37831
EPA ID Number: TN3 89 009 0001

Dear Sirs:

The Tennessee Department of Environment and Conservation has completed its review of your Resource Conservation and Recovery Act (RCRA) Part A and Part B Permit Applications dated February, 1992, for the thermal treatment of reactive wastes. Based on this review which is authorized pursuant to Tennessee Rule 1200-1-11-.07(7)(b)1, your application has been determined to be incomplete and additional data and information will be required. It should be noted that the processing of your Part A and Part B Permit Applications cannot be initiated until all application requirements (including the application fees) have been met. (Reference Tennessee Rule 1200-1-11-.07.)

The revised Part A and Part B Applications must be submitted on or before November 19, 1996. Please be advised that pursuant to Rule 1200-1-11-.07(2)(b)6, "Failure to furnish a requested Part B application on time, or to furnish in full the information required by the Part B application, is grounds for permit denial."

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Consequently, you should ensure that your revised permit application adequately addresses the deficiencies described in the enclosed comments. Note that Rule 1200-1-11-.07(5) allows that if owners and operators can demonstrate to the satisfaction of the Commissioner that any information prescribed under the Rule cannot be provided to the extent required, or is unnecessary, inapplicable, or otherwise irrelevant to his facility, the Commissioner may make allowances for submission of such information on a case-by-case basis.

At least the following items in your Part B Permit Application may be made attachments to your RCRA Permit as permit conditions, if issued. Therefore, we recommend that you review these sections to eliminate any unnecessary reference to brand names (including contractual agreements with other companies), employee's names (except for emergency coordinator names), etc. If anything in these sections is beyond what is specifically required in the regulations, and you are unwilling to continue these practices for the life of the permit, normally 10 years, you should submit the appropriate revisions and/or deletions as part of the revised application.

Waste Analysis Plan
Security Plan
Inspection Schedule
Training Outline
Post-Closure Plan
Facility Blueprints/Design Drawings
Process Information

Your response to our comments may be in the form of a totally revised complete Part A and Part B Permit Applications or revised pages to be inserted into the original submission. If you choose to submit revised pages, please provide the following information on the revised items:

- (1) Page, map, or drawing number should be shown;
- (2) For each item submitted, indicate if it is a revision to another item in the original application or a new item not contained in the original application; and
- (3) Date or code each item; for example, 32 (R5/10/90) would be page number 32, revised 5/10/90.

The revisions to your Part A and Part B Permit Applications must include a certification as required by Rule 1200-1-11-.07(2)(a) of the Rules Governing Hazardous Waste Management in Tennessee.

Please submit four (4) copies of your revisions to:

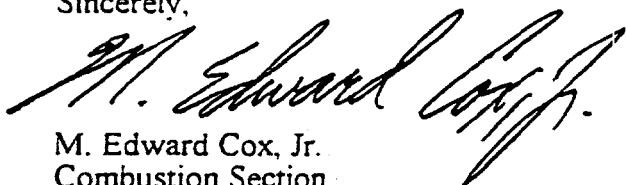
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Tennessee Department of Environment and Conservation
Division of Solid Waste Management
5th Floor, L & C Tower
401 Church Street
Nashville, TN 37243-1535

Together with the revisions, please submit the revised application for the Part B Permit on computer disk, preferably in Microsoft Word.

If you have any questions concerning the enclosed comments, except for the portion on groundwater, please contact me at (615) 532-0827. If you have any questions on the groundwater portion, please contact Mr. Chris Lagan at (615) 532-0857.

Sincerely,



M. Edward Cox, Jr.
Combustion Section
Hazardous Waste Program

Enclosure

cc: G. Alan Farmer, Chief RCRA Branch, EPA, Region IV
Brian M. Kaplan, EPA, Region IV
Jacqueline Okoreeh-Baah, DSWM, Nashville Central Office
Chris Lagan, DSWM, Nashville Central Office
Mark Burris, LMES, Y-12 Plant
Earl Leming, DOE-O

Note: The 32 pages of originally attached comments are not included.

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Y-12 Plant Records Services