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**FINAL REPORT FOR THE UTILITIES LIFE EXTENSION (ULE)  
STEAM CONDENSATE VALVING SUBPROJECT - OCTOBER 1994**

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**FINAL REPORT**

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FINAL REPORT  
FOR THE  
UTILITIES LIFE EXTENSION (ULE) STEAM/CONDENSATE VALVING SUBPROJECT

Fernald Environmental Management Project  
U. S. Department of Energy

October, 1994  
Project Engineering

000001

## Administrative Record Report

FINAL REPORT -  
UTILITIES LIFE EXTENSION (ULE) STEAM/CONDENSATE VALVING SUBPROJECTIntroduction

The Utilities Life Extension (ULE) Steam/Condensate Valving Subproject was completed between February 10, 1994 and September 24, 1994, replacing a number of aging steam and condensate valves in the above ground high line system running throughout the former process area of the FEMP. Many of these valves were in service since the facility began operations in the 1950's. Most valves replaced were outside of the process area buildings. In addition to replacing old valves, a number of new valves were added for improved maintenance and safety in shutting down/working on the system at individual buildings. A list of the specific work completed is given in Attachment 1.

Changed Site Conditions

The Removal Site Evaluation (RSE) indicated that carbon steel metal valves, small sections of pipe, pipe insulation (primarily asbestos), and other non-soil debris (packaging materials, anti-C's, etc.) would be generated as waste from this project. As now completed, the project generated the following wastes:

- (1) 36 rusted metal valves ranging in size from 2" to 12".
- (2) 14 pieces of carbon steel pipe with line sizes from 2" to 12".
- (3) Miscellaneous wood scraps from pallets used for handling new/old valves.
- (4) Leftover, unusable welding rod (30 - 6" x 6" boxes).

These items were placed in Sealand Box Serial No. 268013. This container is being held and will be filled with additional material from the Radiological Checkpoint Awning Project to be started late in 1994. When filled, this container will be shipped to the Nevada Test Site (NTS) for disposal.

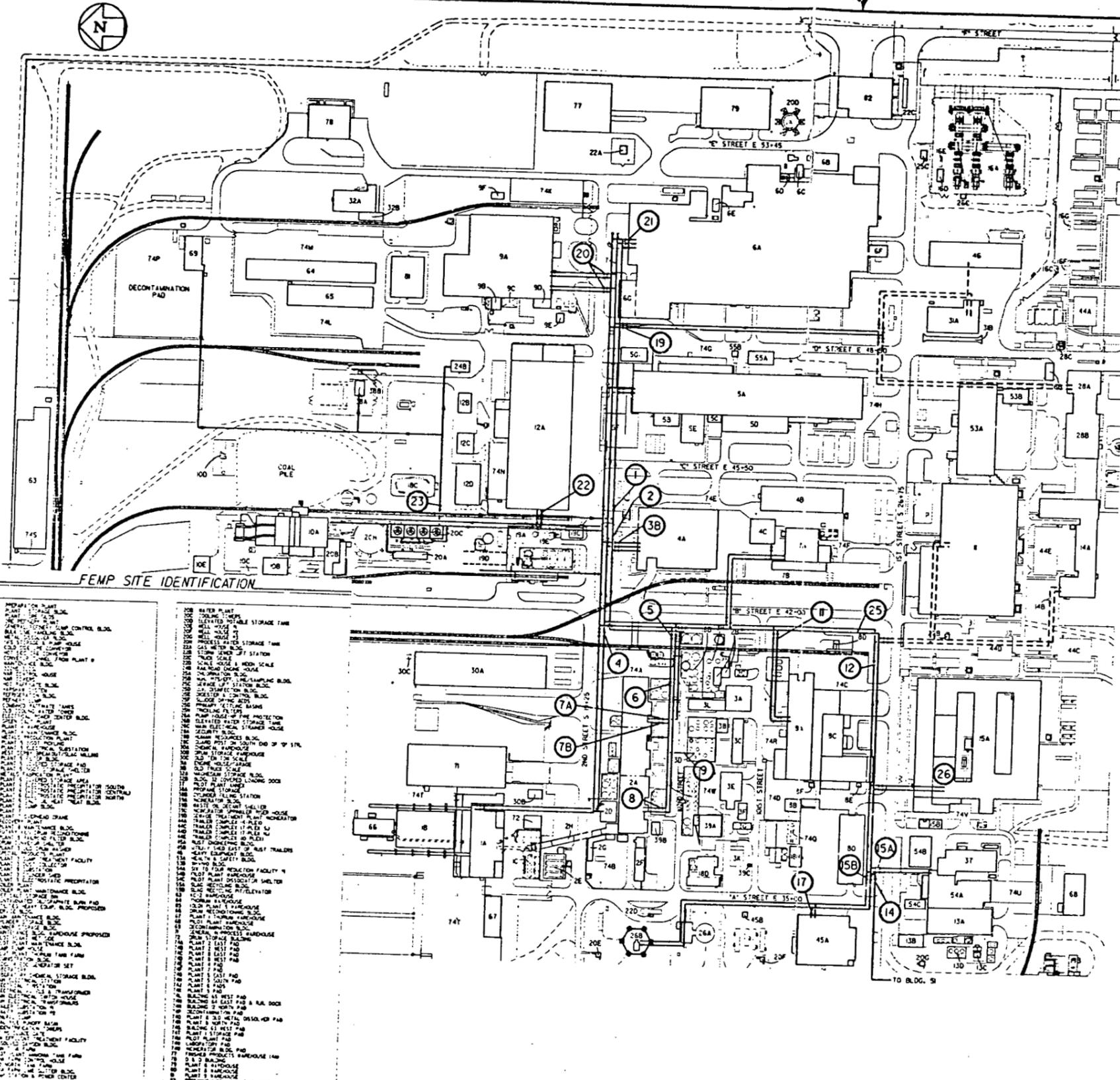
The ULE project also generated approximately 100 lineal feet of asbestos pipe insulation that was placed in Sealand Box Serial No. 264459. This container is being held as well for filling with asbestos insulation from other future projects. A disposition for radiologically contaminated asbestos has not yet been determined for the FEMP. Lastly, protective clothing along with Anti-C's were generated (the Anti-C's from work done in a radiologically controlled area immediately south of Plant 2/3). This clothing was co-mingled and disposed of at NTS with clothing/Anti-C's from other projects according to approved procedures.

Verification Sampling

The Waste Management Division prepared a RCRA determination in support of this project (letter number M:RSO(WM):93-011). After reviewing prior analytical data from all areas of concern, it was determined that the debris generated from this work was RCRA non-hazardous. No other verification sampling other than the radiological monitoring mentioned above was required for this project.

Conclusion

Based on the results of radiological surveys and associated actions taken to properly disposition soil and debris materials, the administrative controls incorporated into this project were adequate to protect human health and the environment as specified in the RSE for this project. No additional actions are required.



DESCRIPTION OF WORK

- 1. - REPLACE EXISTING (UN-INSULATED) 12 IN. STEAM VALVE. RE-INSULATE VALVE (BODY, STEM, FLANGES). SEE DWG. #22X-5500-P-00767
- 2. - REMOVE -10 LINEAR FT. OF EXISTING INSULATION ON 1/2 IN. PIPE CONTAINING A 1/2 IN. BLEED LINE WITH 1/2 IN. VALVE. RE-INSULATE ALL PIPING AND VALVES (BODIES, STEMS, FLANGES). (2 IN. x 1/2 IN. REDUCERS WERE USED TO DOWN SIZE LINE, ONE AT EACH END). SEE DWG. #22X-5500-P-00767
- 3A. DELETED FROM ORIGINAL SCOPE OF WORK; VALVE REPLACED BY FERMCO MAINTENANCE.
- 3B. - REPLACE EXISTING (UN-INSULATED) 3 IN. CONDENSATE VALVE ON RETURN LINE FROM PLANT 4. RE-INSULATE VALVE (BODY, STEM, FLANGES). SEE DWG. #22X-5500-P-00768
- 4A. - REMOVE -7 LINEAR FT. OF EXISTING INSULATION IS FT. ON 4 IN. PIPE AND 1 FT. ON EXISTING STEAM VALVE. REPLACE EXISTING 4 IN. STEAM VALVE AND ADD 2 NEW 4 IN. BLOCK VALVES CONNECT BY A NEW SPOOL PIECE CONTAINING 1/2 IN. BLEED LINE WITH 1/2 IN. VALVE. RE-INSULATE ALL VALVES (BODIES, STEMS, FLANGES) ALONG WITH PIPING. SEE DWG. #22X-5500-P-00769
- 4B. - REMOVE -1 LINEAR FT. OF EXISTING INSULATION (4 FT. ON PIPE AND 1 FT. ON EXISTING CONDENSATE VALVE). REPLACE THE EXISTING 2 IN. VALVE WITH A BRASS VALVE. REPLACE 1/2 IN. DRAIN NIPPLE AND VALVE. RE-INSULATE ALL VALVES (BODIES, STEMS, FLANGES). SEE DWG. #22X-5500-P-00769
- 5. - REMOVE -4 LINEAR FT. OF EXISTING INSULATION ON (2 IN. PIPING). REPLACE EXISTING (UN-INSULATED) 2 IN. STEAM VALVE AND ADD 2 NEW (2 IN. VALVES). CONNECT THESE 2 NEW VALVES WITH A NEW SPOOL PIECE CONTAINING A 1/2 IN. BLEED LINE WITH 1/2 IN. VALVE. RE-INSULATE ALL VALVES (BODIES, STEMS, FLANGES). SEE DWG. #22X-5500-P-00770
- 6. - REPLACE EXISTING (UN-INSULATED) 3 IN. VALVE ON STEAM LINE TO GENERAL SUMP. RE-INSULATE VALVE (BODY, STEM, FLANGES) AND 10 FT. OF PIPING NOW EXPOSED. SEE DWG. #22X-5500-P-00770
- 7A. - REPLACE EXISTING (UN-INSULATED) 8 IN. STEAM VALVE TO PLANT 3 (LOCATED 5 FT. TO 8 FT. FROM BLDG.). RE-INSULATE VALVE (BODY, STEM, FLANGES). SEE DWG. #22X-5500-P-00771
- 7B. - EXISTING (UN-INSULATED) 6 IN. STEAM VALVE TO PLANT 3 (LOCATED 5 FT. TO 8 FT. FROM BLDG.) IS TO BE REPLACED WITH 8 IN. VALVE WITH A 6 IN. x 8 IN. REDUCER EACH SIDE OF VALVE. RE-INSULATE VALVE (BODY, STEM, FLANGES). SEE DWG. #22X-5500-P-00771
- 8. - EXISTING (UN-INSULATED) 4 IN. VALVE TO PLANT 2 (DGESTION IS TO BE REPLACED WITH A 6 IN. VALVE WITH A 4 IN. x 6 IN. REDUCER EACH SIDE OF VALVE). RE-INSULATE VALVE (BODY, STEM, FLANGES). SEE DWG. #22X-5500-P-00771
- 9. - REMOVE -5 LINEAR FT. OF EXISTING INSULATION ON 8 IN. PIPE LEADING TO YARD/BOOD AREA. ADD NEW 8 IN. VALVE (VALVE STEM TO BE POSITIONED HORIZONTALLY THROUGH HO-LINE SUPPORT FRAME). REPLACE THIS VALVE (BODY, STEM, FLANGES) AND PIPING. SEE DWG. #22X-5500-P-00772
- 10. - REPLACE EXISTING (UN-INSULATED) 4 IN. STEAM VALVE LEADING TO PLANT 8. RE-INSULATE THE VALVE (BODY, STEM, FLANGES) ALONG WITH 12 FT. OF EXISTING 4 IN. PIPING THAT IS NOW EXPOSED. SEE DWG. #22X-5500-P-00773
- 11. - REPLACE EXISTING (UN-INSULATED) 2 IN. CONDENSATE RETURN VALVE; RE-INSULATE VALVE (BODY, STEM, FLANGES) ONLY. SEE DWG. #22X-5500-P-00773
- 12A. - REMOVE -6 LINEAR FT. OF EXISTING INSULATION FROM 6 IN. STEAM PIPING. CONNECT VALVES WITH A SPOOL PIECE HAVING A 1/2 IN. BLEED VALVE. RE-INSULATE ALL VALVES (BODIES, STEMS, FLANGES) AND PIPING. SEE DWG. #22X-5500-P-00773
- 12B. - REMOVE -4 LINEAR FT. OF EXISTING INSULATION. ADD NEW 3 IN. CONDENSATE VALVE WITH 4 IN. x 3 IN. REDUCER EACH SIDE OF VALVE. RE-INSULATE VALVE (BODY, STEM, FLANGES) AND PIPING. SEE DWG. #22X-5500-P-00773
- 13. DELETED FROM ORIGINAL SCOPE OF WORK; VALVE REPLACEMENT/ADDITIONS NOT NEEDED HERE PER FERMCO UTILITIES.
- 14. - REMOVE -4 LINEAR FT. OF EXISTING INSULATION (3 FT. ON 6 IN. PIPING AND 1 FT. ON EXISTING VALVE). REPLACE EXISTING 2 IN. STEAM VALVE TO PLANT BLDG. 54. RE-INSULATE VALVE (BODY, STEM, FLANGES) AND ALL EXPOSED PIPING. SEE DWG. #22X-5500-P-00774
- 15A. - REMOVE -4 LINEAR FT. OF EXISTING INSULATION (3 FT. ON 6 IN. PIPING AND 1 FT. ON VALVE). REPLACE EXISTING 6 IN. STEAM VALVE. RE-INSULATE VALVE (BODY, STEM, FLANGES) AND ALL EXPOSED PIPING. SEE DWG. #22X-5500-P-00774
- 15B. - REPLACE EXISTING (UN-INSULATED) 2 IN. CONDENSATE VALVE. RE-INSULATE VALVE (BODY, STEM, FLANGES) ONLY. SEE DWG. #22X-5500-P-00774
- 16. DELETED FROM ORIGINAL SCOPE OF WORK; REPLACEMENT OF EXISTING VALVE NOT NEEDED PER FERMCO UTILITIES.
- 17A. - REMOVE -4 LINEAR FT. OF EXISTING INSULATION (3 FT. ON EXISTING 3 IN. PIPE AND 1 FT. ON VALVE). REPLACE EXISTING 3 IN. STEAM VALVE IN LEG TO FIRE PUMP HOUSE. RE-INSULATE VALVE (BODY, STEM, FLANGES) AND PIPING. SEE DWG. #22X-5500-P-00775
- 17B. - REMOVE -4 LINEAR FT. OF INSULATION IN 4 IN. STEAM LINE GOING INTO BLDG. 45. ADD NEW 4 IN. STEAM VALVE. RE-INSULATE VALVE (BODY, STEM, FLANGES) AND SURROUNDING PIPING. SEE DWG. #22X-5500-P-00775
- 18. DELETED FROM ORIGINAL SCOPE OF WORK; REPLACEMENT OF EXISTING VALVE NOT NEEDED PER FERMCO UTILITIES.
- 19A. - REMOVE -7 LINEAR FT. OF EXISTING INSULATION (6 FT. ON 6 IN. PIPE AND 1 FT. ON STEAM VALVE). REPLACE EXISTING 6 IN. STEAM VALVE AND ADD NEW 6 IN. BLOCK VALVE CONNECTED BY A SPOOL PIECE HAVING 1/2 IN. BLEED LINE WITH 1/2 IN. VALVE. RE-INSULATE ALL VALVES (BODIES, STEMS, FLANGES) AND PIPING. SEE DWG. #22X-5500-P-00775
- 19B. - REMOVE -4 LINEAR FT. OF EXISTING INSULATION (3 FT. ON 3 IN. PIPING AND 1 FT. ON CONDENSATE VALVE). REPLACE EXISTING 3 IN. CONDENSATE VALVE. RE-INSULATE VALVE (BODY, STEM, FLANGES) AND PIPING. SEE DWG. #22X-5500-P-00775
- 20A. - EXISTING (UN-INSULATED) 3 IN. STEAM VALVE GOING TO PLANT 9 IS TO BE REPLACED WITH 4 IN. VALVE WITH 4 IN. x 3 IN. REDUCER EACH SIDE OF VALVE. RE-INSULATE VALVE (BODY, STEM, FLANGES) ONLY. SEE DWG. #22X-5500-P-00776
- 20B. - REPLACE EXISTING (UN-INSULATED) 6 IN. STEAM VALVE. RE-INSULATE VALVE (BODY, STEM, FLANGES) ONLY. SEE DWG. #22X-5500-P-00776
- 20C/0. - REMOVE -3 LINEAR FT. OF EXISTING INSULATION (2 FT. ON 2 IN. PIPE AND 1 FT. ON VALVE). REPLACE EXISTING 2 IN. CONDENSATE VALVE ON RETURN LINE FROM PLANT 9. RE-INSULATE VALVE (BODY, STEM, FLANGES) AND SURROUNDING PIPING. SEE DWG. #22X-5500-P-00776
- 21. - REMOVE -4 LINEAR FT. OF EXISTING INSULATION (3 FT. ON 6 IN. PIPING AND 1 FT. ON EXISTING STEAM VALVE). REPLACE EXISTING 6 IN. VALVE LEADING TO PLANT 8. RE-INSULATE VALVE (BODY, STEM, FLANGES) AND SURROUNDING PIPING. SEE DWG. #22X-5500-P-00777
- 22. - EXISTING 4 IN. (UN-INSULATED) STEAM VALVE LEADING TO BLDG. 45 IS TO BE REPLACED WITH 3 IN. VALVE WITH 4 IN. x 3 IN. REDUCER EACH SIDE OF VALVE. RE-INSULATE VALVE (BODY, STEM, FLANGES) AND EXPOSED PIPING (1-3 FT.). SEE DWG. #22X-5500-P-00777
- 23. - REMOVE -7 LINEAR FT. OF EXISTING INSULATION (6 FT. ON 4 IN. PIPE AND 1 FT. ON VALVE). REPLACE EXISTING 4 IN. VALVE AND INSTALL NEW 4 IN. STEAM PIPING AND 1/2 IN. BLEED LINE AND 1/2 IN. VALVE. RE-INSULATE ALL VALVES (BODIES, STEMS, FLANGES) AND PIPING. SEE DWG. #22X-5500-P-00778
- 24. - NEW LOCATION ADDED TO SCOPE OF WORK. - REMOVE -8 LINEAR FT. EXISTING INSULATION (5 FT. ON EXISTING 8 IN. PIPING AND 3 FT. ON VALVE). REPLACE EXISTING 8 IN. STEAM VALVE AT 7TH AND 10TH STREETS. RE-INSULATE VALVE (BODY, STEM, FLANGES) AND EXPOSED PIPING. SEE DWG. #22X-5500-P-00778
- 25. - NEW LOCATION ADDED TO SCOPE OF WORK. - WORK AREA LOCATED INSIDE LABORATORY BLDG. 15. SEE DWG. #22X-5500-P-00779

FEMP SITE IDENTIFICATION

PREPARED BY: J. L. ...	DATE: ...	
DESIGNED BY: ...	DATE: ...	
CHECKED BY: ...	DATE: ...	
APPROVED BY: ...	DATE: ...	
PROJECT NO.: ...	DATE: ...	
CLIENT: ...	DATE: ...	
LOCATION: ...	DATE: ...	
SCOPE: ...	DATE: ...	
REVISIONS:	DATE: ...	
NO.	DESCRIPTION	DATE
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NOTE: FERMCO C.A.G. DRAWING NOT TO BE REVISED MANUALLY

PROJECT NO.	22X-5500-P-00536
DATE	22X-7000-P-00069
REF. DWG. NO.	
DATE	
BY	
CHECKED	
APPROVED	

**FERNALD ENVIRONMENTAL RESTORATION MANAGEMENT CORPORATION**

Environmental Management Project

**U.S. DEPARTMENT OF ENERGY**

**U.L.E. STEAM & CONDENSATE DISTRIBUTION VALVE REPLACEMENT LOCATION PLAN**

REV. 2/83  
DATE 2/8/93  
BY SLS/MOOR

22X-5500-P-00766 |

OCT 6 '94

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