

ENCLOSURE 4 TO ØCANØ484Ø8

SOLID RADIOACTIVE WASTE MANAGEMENT PROCESS CONTROL
PROGRAM FOR ARKANSAS NUCLEAR ONE UNITS 1 AND 2

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ARKANSAS NUCLEAR ONE
Russellville, Arkansas

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PROCESS CONTROL PROGRAM
FOR
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ARKANSAS POWER & LIGHT COMPANY
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GENERAL POLICY STATEMENT

Arkansas Power & Light Company's policy on Solid Radioactive Waste is to conscientiously apply emphasis and attention to those activities involved in the Solid Radioactive Waste Management program at Arkansas Nuclear One to maintain a high level of assurance that radioactive waste products are properly processed, packaged, and shipped in such a manner as to meet or exceed applicable federal and state regulations and Radioactive Waste Burial Site License Criteria.

I. PURPOSE

The purpose of the Process Control Program (PCP) is to define the necessary program guidance used at Arkansas Nuclear One to ensure that Solid Radioactive Waste Management activities result in solid waste products meeting the criteria contained in the Code of Federal Regulations, State Regulations and Radioactive Waste Burial Site License Criteria for Solid Radioactive Waste shipment and disposal.

II. WET WASTE

A. Liquid Wet Waste

Liquid wet wastes at Arkansas Nuclear One are processed by the Radioactive Waste Management program to a condition meeting shipping and disposal criteria on Free Standing Water (FSW). Specific instructions on processing and required FSW limits are contained in plant approved procedures and/or qualified vendor procedures approved by Arkansas Nuclear One.

B. Containers, Shipping Casks and Packaging

Solid Radioactive Waste is processed, packaged, and shipped in accordance with Arkansas Nuclear One approved procedures and/or qualified vendor procedures which have been approved by Arkansas Nuclear One. These procedures provide specific instructions which ensure the containers, shipping casks and packaging methods comply with applicable Code of Federal Regulations, State Regulations and Radioactive Waste Burial Site Criteria.

C. Shipping and Disposal

Solid Radioactive Waste is prepared, loaded and shipped to a Federal and/or State Licensed Radioactive Waste Disposal Facility (Burial Site) in accordance with Arkansas Nuclear One approved procedures and/or qualified vendor procedures which have been approved by Arkansas Nuclear One. These procedures provide specific instructions which ensure the shipments meet the intended Burial Site License Requirements as well as applicable federal and state regulations.

D. Laboratory Mixing of Samples

Qualified vendor procedures approved by Arkansas Nuclear One provide written instructions on sample processing and handling to determine process parameters prior to actual solidification. Included in these procedures is a description of the laboratory mixing method used for these samples.

E. Solidification Process

Qualified vendors utilized by Arkansas Nuclear One for radioactive waste solidification are required to provide a Process Control Program and written procedures approved by the vendor and subsequently approved by Arkansas Nuclear One prior to use. Included in these documents are:

1. A description of the Solidification Process
2. Type of Solidification agent used
3. Process control parameters

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4. Parameter boundary conditions
 5. Proper waste form properties
 6. Specific instructions to ensure the systems are operated within established process parameters

F. Sampling Program for Solidification

Vendors utilized by Arkansas Nuclear One for radioactive waste solidification are required to include in their approved procedures requirements to sample at least every tenth batch to ensure solidification and to provide actions to be taken if a sample fails to verify solidification. These procedures are approved by Arkansas Nuclear One prior to use.

G. Free Standing Water (FSW)

Vendors utilized by Arkansas Nuclear One to process wet wastes are required to include in their approved procedures provisions to verify that the FSW Criteria in federal and state regulations and Burial Site License Criteria are met for the specific type of waste being processed. These procedures are approved by Arkansas Nuclear One prior to use.

H. Corrective Actions for Free Standing Water (FSW)

Vendors utilized by Arkansas Nuclear One to process wet wastes are required to include in their approved procedures provisions for correcting processed waste in which free standing water in excess of FSW Criteria is detected. These procedures are approved by Arkansas Nuclear One prior to use.

I. Exothermic Processes

Vendors utilized by Arkansas Nuclear One for radioactive waste solidification are required to include in their approved procedures specific process control parameters for exothermic solidification methods that must be met before capping the container. These procedures are approved by Arkansas Nuclear One prior to use.

III. OILY WASTE

- A. Oily wastes at Arkansas Nuclear One are processed in accordance with approved plant procedures. These plant procedures specify the proper methods to treat oily waste to comply with the criteria in the Code of Federal Regulations, State Regulations and applicable Burial Site License Requirements.

IV. SKETCHES AND DRAWINGS

Arkansas Nuclear One utilizes vendors for wet waste processing. Vendors are required by Arkansas Nuclear One to provide Topical Reports or equivalent documents sufficient to allow the necessary approvals of their process to the Nuclear Regulatory Commission and Arkansas Nuclear One prior to use of their processing system at Arkansas Nuclear One. Sketches and drawings of the processing systems currently used at Arkansas Nuclear One are contained in Topical Reports previously submitted to the Nuclear Regulatory Commission.

V. SPECIAL CASES

Based on previous industry experience, Arkansas Power & Light foresees the potential for situations arising that may be beyond existing plant capabilities. Anticipating this possibility, provisions are made herein to accommodate such situations in a timely manner by using special techniques or processes. These special cases would be controlled as follows:

- A. Implementing procedures would be developed comparable to those used for normal plant solid waste activities based on the guidance of this PCP and incorporating the applicable provisions for process control and testing.
- B. The implementing procedures would be subjected to reviews by the Plant Safety Committee (PSC).
- C. A recommendation would be made to the Arkansas Nuclear One General Manager for approval of the procedure and approval granted.
- D. Use of this provision and supporting information included in the next Solid Radioactive Waste report described in Section VIID.

VI. ALARA

Solid Radioactive Waste Management activities at Arkansas Nuclear One are conducted in accordance with the plant ALARA Manual and ALARA implementing procedures.

VII. ADMINISTRATIVE CONTROLS

A. Responsibilities

The Arkansas Nuclear One General Manager has overall responsibility for Solid Radioactive Waste activities at Arkansas Nuclear One.

The specific plant personnel responsible for the various activities involved in processing, packaging and shipment of radioactive waste material are identified by job functions in plant administrative procedures.

B. Quality Assurance

Reviews of Solid Radioactive Waste activities at Arkansas Nuclear One are performed annually by Arkansas Nuclear One Quality Assurance. The results of these reviews are evaluated by Arkansas Nuclear One and Arkansas Power & Light management.

C. Records

Solid Radioactive Waste shipment records are developed, reviewed and filed in accordance with Arkansas Nuclear One station procedures. Specific retention periods for these records are addressed in the plant administrative procedures.

D. Reports

Information on Arkansas Nuclear One Solid Radioactive Waste shipped offsite is reported semi-annually to the Nuclear Regulatory Commission. Information reported includes:

1. Container volume
2. Total curie quantity and method of determination (measurement or estimate)
3. Principal radionuclides and method of determination (measurement or estimate)

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4. Type of waste (e.g. spent resin, DAW, etc.)
 5. Type of container (e.g. LSA, Type A, Type B, Large Quantity)
 6. Solidification agent (e.g. cement, envirostone)
 7. Supporting documentation of changes to the Process Control Program, and special cases.

E. Procedures

Procedures are written, approved, and implemented covering the activities and requirements addressed in this Process Control Program.

F. Changes to the Process Control Program

Changes to the Process Control Program are made as follows:

1. The change is properly described in the proposed revision and submitted to the Arkansas Nuclear One Plant Safety Committee for review. Sufficient information is provided with the proposed revision to support the rationale for the change.
2. Upon completion of the review, if the Plant Safety Committee determines that the change does not reduce the overall conformance of the Solid Radioactive Waste program to existing criteria for solid waste, the Plant Safety Committee documents that the change has been reviewed and recommends approval.
3. The change becomes effective upon approval by the Arkansas Nuclear One General Manager.
4. The change to the Process Control Program and the supporting documentation are included in the next Solid Radioactive Waste report to the Nuclear Regulatory Commission described in Section VIID above.

OVERVIEW OF ANO-1 & 2 RETS COMPLIANCE

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OVERVIEW OF ANO-1&2 RETS COMPLIANCE

<u>ANO UNIT #</u>	<u>SPECIFICATION #</u>	<u>DESCRIPTION OF CHANGE</u>	<u>STATUS</u>
1	3.25.1.2A	Reduce the radioactive liquid effluent numerical dose commitment by approximately a factor of three.	Numerical dose commitments reduced as requested.
2	3.11.1.2		
1	3.25.2.1A	Reduce the radioactive gaseous effluent numerical dose rate (varying amounts).	Numerical dose rates reduced as requested.
2	3.11.2.1		
1	4.29.1.3 (Bases)	Additional information was requested to expand the channel test and channel calibration descriptions for the radioactive liquid effluents.	This requested information was put in the appropriate bases sections, rather than included as specifications. NRC agreed to this.
2	3/4 3.3.10 (Bases)		
1	4.29.2.3 (Bases)	Additional information was requested to expand the channel test and channel calibration descriptions for the radioactive gaseous effluents.	This requested information was put in the appropriate bases sections, rather than included as specifications. NRC agreed to this.
2	3/4 3.3.9 (Bases)		
1	6.5.1.6.k	Added review of changes to the Process Control Program to the list of Plant Safety Committee review responsibilities.	This was added to the PSC review responsibilities.
2	6.5.1.6.k		
1	6.5.2.7j	Added review of changes to the Process Control Program to the list of Safety Review Committee review responsibilities.	This was added to the SRC review responsibilities.
2	6.5.2.7j		
1	6.5.2.8k	Required audits per 10CFR50 Appendix "B".	This was added to the SRC audit responsibilities.
1	6.8.1h	Required that procedures be established, implemented and maintained for the PCP.	Requirement added.
2	6.8.1i		

ENCLOSURE 5 (Continued)

<u>ANO</u> <u>UNIT #</u>	<u>SPECIFICATION #</u>	<u>DESCRIPTION OF CHANGE</u>	<u>STATUS</u>
1	6.9.2m	Required records to be maintained on the Radiological Environmental Monitoring Program.	Requirement added.
1	6.12.2.6	Misc. changes to the semiannual	All changes were made except those proposed in item "e" of the "mark-up." The routine reporting of this information was viewed as unnecessary. However, should NRC have a need for any specific information therein, it will be made available for NRC's review on an "as needed" basis.
2	6.9.3	Radioactive Effluent Release Report.	