CPS No. 1888.00
CLASS CODE: SNQN

ILLINOIS POWER COMPANY
CLINTON POWER STATION

STATION OPERATING MANUAL

ADMINISTRATIVE PROCEDURE

TITLE: PROCESS CONTROL PROGRAM

APPROVED: Not Required
Department Head — Date

APPROVED:
Manager - Clinton Power Station — Date: 3-7-86

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1.0 PURPOSE

The purpose of the Process Control Program (PCP) is to define the necessary program guidance used at Clinton Power Station (CPS) to ensure that solid radioactive waste management activities, in packaging radioactive waste for disposal, conform to the Code of Federal and State Regulations and the Waste Burial Site License Criteria. This procedure fulfills requirements of the CPS Technical Specifications, Sections 3.11.3, 4.11.3 and 6.5.1.6.n and 6.13.

2.0 DISCUSSION/DEFINITIONS

2.1 Discussion

2.1.1 A large portion of the waste produced at Clinton Power Station is in a form which is either liquid or in a wet solid form (e.g., resins, filter sludge, evaporator bottoms) and requires processing to obtain an acceptable, solid, monolithic form for burial. The solidification of these wastes is to be performed by Associated Technologies Incorporated (ATI) of Charlotte, N.C. utilizing a NRC approved mobile solidification system (ATI System). The ATI system is described in ATI Topical Report, ATI-VR-001-P-A and Supplement No. 1. A management review of the vendor's topical report is necessary to assure vendor operation and requirements are compatible with plant operation and plant responsibility.

2.1.2 Radioactive wet solids may also be processed by dewatering utilizing NRC approved dewatering procedures. Compliance with 49CFR, 10CFR20, 10CFR61, 10CFR71 and other applicable regulations shall be assured by adherence to approved procedures and instructions.

2.1.3 The Clinton Power Station Process Control Program shall be in accordance with ATI Process Control Program, ATI-TVR-III, Procedure No. 191-DOC-002, Revision C, dated October 15, 1985.

2.1.4 The Clinton waste classification program for solidified radwaste products is described in Clinton Power Station Operating Procedure, CPS No. 1913.00, RADIOACTIVE MATERIALS SHIPPING MANUAL. The classification program meets the requirements set forth in Section 56.55 of 10 CFR Part 61.

2.1.5 The Clinton Power Station shall utilize the ATI Topical Report, ATI-VR-001-P-A, Supplement No. 2, "Bitumen as a Radwaste Solidification Agent" dated October 25, 1985 to demonstrate that the Clinton solid waste product meets the requirements set forth in Section 61.56 of 10 CFR Part 61.

2.1.6 The Clinton's methods of assuring complete solidification and/or dewatering of wet solid waste shall meet NRC Branch Technical Position ETSB 11-3, Revision 2 (July 1981).

2.1.7 The Clinton solidified waste product will be prepared, packaged, manifested, and transferred to a land disposal facility in accordance with Section 20.311 of 10 CFR Part 20.

2.2 Definitions

None

3.0 RESPONSIBILITY

3.1 The Clinton Power Station Manager has the overall responsibility for the Solid Radioactive Waste activities at CPS.

3.2 The Supervisor - Radwaste is responsible for the implementation of the requirements of this procedure.

3.3 The Supervisor - Solid Waste is responsible for the review of this procedure and the development and implementation of procedures relating to the requirements of this procedure.

3.4 The Director - Plant Radiation Protection is responsible for submitting the Semi-Annual Radioactive Effluent Release Report to which Solid Radwaste Group provides information regarding Solid Radioactive Waste.

4.0 PRECAUTIONS

None

c 5.0 PREREQUISITES

This procedure and any changes thereto requires review by the FRG and submission to the U.S. N. R. C. in the Semi-Annual Radioactive Effluent Release Report for the period in which the changes were made.

6.0 LIMITATIONS

None

7.0 MATERIALS AND/OR TEST EQUIPMENT

None

8.0 PROCEDURE

8.1 Wet Waste

c 8.1.1 Liquid Wet Waste

Liquid wet wastes at CPS are processed by approved procedures 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 ATI procedures approved by CPS.

c 8.1.2 Containers, Shipping Casks and Packaging

Solid Radioactive Waste is processed, packaged, and shipped in accordance with CPS approved procedures and/or ATI procedures approved by CPS. 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.

8.1.3 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 CPS approved procedures and/or ATI procedures approved by CPS. These procedures shall provide specific instructions to ensure the shipments meet the intended Burial Site License Requirements as well as applicable federal and state regulations.

8.1.4 Laboratory Analysis of Samples

CPS approved procedures and/or ATI procedures approved by CPS shall provide written instructions on sample processing and handling to determine process parameters prior to actual solidification. Included in these procedures shall be a description of the laboratory method used for these samples.

c 8.1.5 Solidification Process

ATI is required to provide a Process Control Program and written procedures approved by the vendor and subsequently approved by CPS 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
4. Parameter boundary conditions
5. Proper waste form properties
6. Specific instructions to ensure the systems are operated within established process parameters.

c 8.1.6 Sampling Program for Solidification

ATI is required to include in their approved procedures requirements to sample at least every tenth batch of each type of wet radioactive wastes (e.g., filter sludges, spent resins, evaporator bottoms, boric acid solutions and sodium sulfate solutions) to ensure solidification and to provide actions to be taken if a sample fails to verify solidification in accordance with CPS Technical Specification 4.11.3a and b. These procedures shall be approved by CPS prior to use.

c 8.1.7 Free Standing Water (FSW)

ATI is 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 shall be approved by CPS prior to use.

c 8.1.8 Corrective Actions for Free Standing Water (FSW)

ATI is 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 shall be approved by CPS prior to use.

c 8.2 Oily Waste

Oily wastes at CPS are processed in accordance with approved CPS procedures and/or vendor procedures approved by CPS. These procedures shall 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.

8.3 Special Cases

8.3.1 CPS may utilize other vendors in the future to process wet wastes in which case qualified vendors shall provide CPS with, among other things:

8.3.1.1 Process Control Program and,

8.3.1.2 Compliance Program to meet the requirements in 10 CFR Part 61.

8.3.2 CPS will submit these programs to the NRC for review and approval prior to operation of such system.

8.4 ALARA

Solid Radioactive Waste Management activities at CPS shall be conducted in accordance with CPS 1024.65, ALARA PROGRAM.

8.5 Administrative Controls

8.5.1 Directions for extensive or complex jobs where reliance on memory cannot be trusted shall require the appropriate written procedure to be present and referred to directly.

8.5.2 Directives shall include appropriate quantitative and/or qualitative criteria for verifying that the specified activities have been satisfactorily accomplished.

c 8.5.3 To ensure compliance with the applicable portions of the PCP, the ATI PCP shall be reviewed by the Supervisor-Solid Waste and approved by the FRG.

8.5.4 Documentation shall be maintained on each batch of processed waste indicating source of waste, date processed, processing parameters, physical and chemical characteristics, radiation levels, activity levels, contamination levels, and other pertinent data required to classify the waste. This documentation shall be retained in accordance with CPS No. 1977.01, Radwaste Records or 7017.01, Radiation Protection Records for documentation involving Radiological Surveys.

8.5.5 Information on CPS Solid Radioactive Waste shipped offsite shall be reported in the Semi-Annual Radioactive Effluent Release Report 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).
4. Type of waste (e.g., spent resin, DAW, etc.).
5. Type of container (e.g., STP, Type A, Type B).
6. Solidification agent (e.g., asphalt, cement, Dow media).
7. Supporting documentation of changes to the Process Control Program, and special cases.

9.0 ACCEPTANCE CRITERIA

None

10.0 FINAL CONDITIONS

None

11.0 REFERENCES

11.1 Title 10 and 49 Code of Federal Regulations

11.2 NUREG 0800 U.S. Standard Review Plan Section 11.4 Solid Waste Management Systems

c11.3 CPS Technical Specifications Section 6.5.1.6.n, 6.13, 3.11.3, and 4.11.3 (8.1.6, 8.5.3 & 5.0)

c11.4 CPS Final Safety Analysis Report Chapter 11 Section 11.4.2.4 (8.1.1, 8.1.2, 8.1.5, 8.1.7, 8.1.8 & 8.2)

11.5 CPS No. 1977.01, RADWASTE RECORDS

11.6 CPS No. 7017.01, RADIATION PROTECTION RECORDS

11.7 CPS No. 1913.00, RADIOACTIVE MATERIALS SHIPPING MANUAL

11.8 CPS No. 1024.65, ALARA PROGRAM

11.9 ATI Topical Report, ATI-VR-001-P-A

11.10 Supplement No. 1 to ATI Topical Report, ATI-VR-001-P-A.

11.11 Supplement No. 2 to ATI Topical Report, ATI-VR-001-P-A.

11.12 ATI PROCESS CONTROL PROGRAM, ATI-TVR-III, Procedure No. 191-DOC-002.

c11.13 NRC Branch Technical Position ETSB 11-3, Revision 2, July 1981. (8.1.1, 8.1.2, 8.1.5, 8.1.7, 8.1.8 & 8.2)

12.0 APPENDICES

None

13.0 DOCUMENTS

None

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ILLINOIS POWER COMPANY

CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

March 21, 1986

Docket No. 50-461

Director of Nuclear Reactor Regulation
Attention: Dr. W. R. Butler, Director
BWR Project Directorate No. 4
Division of BWR Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Clinton Power Station
Technical Specifications
Process Control Program for
Solid Radioactive Waste Management

Dear Dr. Butler:

Illinois Power (IP) provided Revision 1 of CPS Procedure No. 1888.00 in Letter U-600229 dated September 5, 1985, to describe the Process Control Program (PCP). Enclosed for your Staff's review is CPS Procedure No. 1888.00 Revision 2, which was revised to incorporate comments from your Staff concerning the PCP.

Please contact us if you have any questions regarding this information.

Sincerely yours,

D. W. Hattenhauer for

F. A. Spangenberg
Manager - Licensing and Safety

DWW/ckc

Attachment

cc: B. L. Siegel, NRC Clinton Licensing Project Manager
NRC Resident Office
Regional Administrator, Region III, USNRC
Illinois Department of Nuclear Safety

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