

SAXTON NUCLEAR

Saxton Nuclear Experimental Corporation
Facility Policy and Procedure Manual

Number

6575-PLN-4542.09

Title

Revision No.

SNEC Facility Process Control Program

Applicability/Scope

This procedure applies to all SNEC Facility Radioactive Processing Activities Personnel

Responsible Office

6575

Effective Date

This document is within QA plan scope
Safety Reviews Required

<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No
<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No

List of Effective Pages

Page	Revision	Page	Revision	Page	Revision	Page	Revision
1	0						
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6	0						

	Signature	Date
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1.0 PURPOSE

The purpose of the Process Control Program (PCP) is to provide a program which will assure a product with no free standing liquid prior to transportation for disposal and which meets the requirements of 10 CFR 61.56, Waste Characteristics.

The appropriate portions of this document shall be considered complete only when used with an approved vendor/SNEC Facility procedure. This program description provides the waste-to-equipment set-up, the vendor equipment operation and the methodology for determining if 10 CFR 61.56 will be satisfied/met by using High Integrity Containers (HIC's) that are approved by the NRC or an agreement state.

2.0 REFERENCES

- 2.1 Westinghouse - Whitman STD-R-05-011, Topical Report Mobile Incontainer Dewatering and Solidification System (MDSS).
- 2.2 NRC Letter from Charles E. Rossi, Assistant Director, Division of PWR Licensing-A to R.J. Leduc, Director of Engineering Westinghouse Hittman - "Acceptance of Referencing of Licensing Topical Report STD-R-05-011, Hittman Mobile Incontainer Dewatering and Solidification System (MDSS)", Dated Oct. 31, 1986
- 2.3 GPU Nuclear Operational Quality Assurance Plan
- 2.4 SNEC Facility Radiation Protection Plan
- 2.5 Waste Form Technical Position, Final BTP, Dated January 17, 1995
- 2.6 Generic Letter 91-02, Reporting Mishaps Involving LLW Forms Prepared for Disposal, dated December 28, 1990
- 2.7 SNEC Facility Decommissioning Quality Assurance Plan

3.0 DEFINITIONS

3.1 Process Control Program

The PROCESS CONTROL PROGRAM (PCP) consists of this plan and procedures which shall contain the current formulas, instructions (i.e., sampling, analysis and tests) and determinations to ensure that processing and packaging of solid radioactive wastes and reporting requirements will be accomplished in such a way as to assure compliance with 10 CFR Parts 20, 61, and 71, State regulations, burial ground requirements, and other requirements governing the disposal of solid radioactive waste.

3.2 Dewatering

Dewatering is a process to remove liquid from wet radioactive waste containers in order to meet applicable burial site and Federal Regulations.

3.3 Vendor Supplied Radwaste Processing Equipment

Equipment supplied from a qualified vendor who has NRC approval to process radwaste in accordance with NRC regulations and can meet burial site requirements.

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3.4 Approved Vendor/SNEC Facility Operating Procedure

A procedure approved by the vendor to operate their supplied processing equipment. It has SNEC Facility specific prerequisites/precautions/interfacing equipment added to it and has gone through the standard SNEC Facility Safety Review/Approval Process and complies with the GPU Nuclear Operational Quality Assurance Plan.

3.5 GPU Nuclear Operational Quality Assurance Plan

The SNEC Facility Decommissioning Quality Assurance Plan invokes the GPU Nuclear Operational Quality Assurance Plan for radwaste processing and shipping at Saxton. The GPU Nuclear Operational Quality Assurance Plan is an NRC approved plan used at both of GPU Nuclear's operating plants (TMI and Oyster Creek) to meet 10 CFR 71 subpart H.

4.0 REPORTING REQUIREMENTS

4.1 Annual Effluent Report

4.1.1 Process Control Program

- A. Changes to the PCP shall be submitted to the NRC in the Annual Radioactive Effluent Release Report for the period in which the changes were made. This submittal shall contain:
1. Sufficiently detailed information to justify the changes without benefit of additional or supplemental information.
 2. A determination that the changes did not reduce the overall conformity of the solid waste product to existing requirements of federal, state, or other applicable regulations.
 3. Documentation that the changes have been reviewed and approved pursuant to Tech. Spec. Section 3.6.2.3.1.
- B. Changes shall become effective upon review and approval by the Program Director, SNEC Facility.

4.1.2 Solid Waste Shipments

- A. The Radioactive Effluent Release Reports shall include the following information for each type of solid waste shipped off-site during the report period:
1. Type of waste
 - a. Spent resins, filter sludges
 - b. Dry compressible waste, contaminated equipment, etc.
 - c. Components, piping, valves, etc.
 - d. other

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2. Total volume (cubic meters)
3. Total curie quantity
4. Principal radionuclides (specify whether determined by measurement or estimate)
5. Disposition of Solid Waste Shipments (i.e., number of shipments to burial, mode of transportation, destination)

4.2 Annual Report**4.2.1 Major changes to Radioactive Waste Treatment Systems****A. SPU Nuclear Inc. initiated safety related changes to the Solid Radioactive Waste System:**

1. Shall be reported to the Commission in the Annual Report (Tech. Spec. Section 3.8.2) for the period in which the evaluation was reviewed. The discussion of each change shall contain:
 - a. A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR 50.59.
 - b. Sufficient detailed information to totally support the reason for the change without benefit of additional or supplemental information.
 - c. A detailed description the equipment, components and processes involved and the interfaces with other plant systems.
 - d. An evaluation of the change which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the license application and amendments thereto.
 - e. An evaluation of the change which shows the expected maximum exposures to individuals sin the unrestricted area and to the general population that differ from those previously estimated in the licnse application and amendments thereto.
 - f. A comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period prior to when the changes are to be made.
 - g. An estimate of the exposure to plant personnel as a result of the change.
 - h. Documentation of the fact that the change was reviewed and approved.

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2. Shall become effective upon review and approval in accordance with Tech. Spec. Section 3.6.2.3.

4.3 Waste Processing Mishaps

1. Nuclear Safety & Licensing (TMI) shall be notified within 10 working days of any mishaps regarding the processing of Class B or C waste forms as follows:

The production of a Class B or C waste form that has any of the following characteristics:

- Contains free liquid in quantities exceeding 0.5 percent of the volume of the waste.
- Contains chemical ingredients prohibited by the package's Certificate of Compliance in sufficient quantities to unacceptably degrade the waste product or package.
- Evidence of processing phenomena that exceed the limiting processing conditions identified in applicable topical reports on process control plans, e.g., foaming, temperature extremes and production of volatile material.

2. Licensing shall review each event for determination of voluntary reporting to the NRC within 30 days of the incident.

5.0 LIMITS AND PRECAUTIONS:

5.1 Vendor Supplied Dewatering System

- 5.1.1 The Vendor Supplied Dewatering System shall be used in accordance with the PCP to process wet radioactive wastes to meet shipping and burial ground requirements.
- 5.1.2 With the provision of the PCP not satisfied, suspend shipments of defectively processed or defectively packaged solid radioactive wastes from the site.

- 5.2 For high activity wastes, such as spent resin ($> 1\mu\text{Ci/cc}$) where handling of samples could result in personnel radiation exposures which are inconsistent with the ALARA principle, representative non-radioactive samples will be tested. These samples should be as close to the actual waste physical and chemical properties as possible. Typical expended mixed bed resin shall be used to simulate the spent bead resin.

6.0 PROCESS CONTROLS:

6.1 Wet Waste Processing

- 6.1.1 Wet waste may be packaged and processed either on-site or at an off-site processing facility.
- 6.1.2 Wet waste will be dewatered to meet regulatory requirements vendor waste acceptance criterion and disposal site acceptance criteria.
- 6.1.3 Prior to contracting an on-site radwaste processor, ensure that the vendor is on the Qualified Supplier List (QCL) and has an approved NRC Topical Report for the process to be used.

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6.2 Dry Waste Processing

6.2.1 Dry Waste may be packaged and processed either on-site or at an off-site processing facility.

6.2.2 Packaged dry waste will meet applicable regulatory requirements, vendor waste acceptance criteria.

6.2.3 Dry waste processing may include but is not limited to compaction, incineration, bulk processing, encapsulation or any other technologies available.

6.3 Administrative Controls

6.3.1 Information on solid radioactive waste shipped off-site is reported annually to NRC.

6.3.2 Changes in the PCP and supporting documentation is included in the next annual Radiological Effluent Release Report to the NRC.

7.0 ACCEPTANCE CRITERIA:

7.1 Stability

7.1.1 For wet or dry waste that are classified as Class B or C, only approved HIC's will be used.

7.1.2 Records will be maintained documenting that all requirements of the HIC's Certificate of Compliance (C of C) have been met.

7.2 Free Standing Water

7.2.1 All waste sent for final disposal will meet the disposal site's acceptance criteria.