

FLORIDA POWER AND LIGHT COMPANY
TURKEY POINT UNITS 3 AND 4
OPERATING PROCEDURE 11550.48
HEALTH PHYSICS PROCEDURE HP-48
FEBRUARY 13, 1990

1.0 Title:

PROCESS CONTROL PROGRAM FOR DEWATERING RADIOACTIVE WASTE LINERS

2.0 Approval and List of Effective Pages:

2.1 Approval:

Change Dated 2/13/90 Reviewed by Plant Nuclear Safety Committee: 90-037
and Approved by Plant Manager - Nuclear: 2/13/90

2.2 List of Effective Pages:

<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>	<u>Page</u>	<u>Date</u>
1	02/13/90	4	02/13/90	7	02/13/90
2	02/13/90	5	02/13/90		
3	02/13/90	6	02/13/90		

3.0 Purpose:

The Turkey Point Process Control Program (PCP) implements requirements of the Turkey Point 3 and 4 Technical Specifications and provides instructions for the removal of free-standing water from liners containing radioactive bead resin, powdex resin, or charcoal.

3.1 Discussion:

The PCP contains provisions to ensure that dewatering of radioactive bead resin, powdex resin and charcoal results in a waste form with characteristics that meet the requirements of 10CFR 61 as implemented by 10CFR 20 and of the low level radioactive waste disposal site. The Process Control Program includes in addition to this procedure, the following related documents:

3.1.1 Westinghouse Radiological Services, Inc. procedure STD-D-03-009, A Users Manual for the Westinghouse RADLOK-200, RADLOK-500, RADLOK-100, RADLOK-179, and RADLOK-195, SDC Controlled Vendor Manual AA693

3.1.2 Westinghouse Radiological Services, Inc. procedure STD-P-03-003, RADLOK Manway Assembly Closure and Sealing Procedure, SDC Controlled Vendor Manual AA693

RTSs 1898, 88-2985, 90-0137P

This procedure may be affected by an O.T.S.C (On The Spot Change) verify information prior to use
Date verified _____ Initials _____

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- 3.1.3 Westinghouse Radiological Services, Inc. procedure STD-P-03-004, Closure of Hittman RADLOK High Integrity Container Fill Port Closure Assembly, SDC Controlled Vendor Manual AA693
- 3.1.4 Westinghouse Radiological Services, Inc. procedure STD-P-03-046, Transfer and Dewatering Ion Exchange Resin and/or Activated Charcoal Filter Media Using the Hittman Rapid Dewatering System, SDC Controlled Vendor Manual AA693
- 3.1.5 Westinghouse Radiological Services, Inc. procedure STD-P-03-052, Transfer and Dewatering Ion Exchange Resin and/or Filter Media Using the Press Pak System, SDC Controlled Vendor Manual AA693
- 3.1.6 Westinghouse Radiological Services, Inc. procedure STD-P-03-010, Transfer and Dewatering Bead Resin in Hittman RADLOK High Integrity Containers With a Single Layer Underdrain Assembly to Less Than 1% Drainable Liquid, SDC Controlled Vendor Manual AA693
- 3.1.7 Westinghouse Radiological Services, Inc. procedure STD-P-03-020, RADLOK Inspection Procedure, SDC Controlled Vendor Manual AA693
- 3.1.8 Westinghouse Radiological Services, Inc. Process Control Program STD-PCP-03-003, Westinghouse Hittman Mobile Incontainer Dewatering and Solidification Systems
- 3.1.9 Duratek Corporation procedure TP# 10-3, Duratek Sluicing Media
- 3.1.10 Duratek Corporation procedure TP# 12-1, Operation of the HED System
- 3.1.11 Duratek Corporation procedure TP# 10-1, Operation of the Duratek EVR System
- 3.1.12 Duratek Corporation Process Control Program 14-2, HED Process Control Program
- 3.1.13 Duratek Corporation Topical Report Number D-EVR/HED-1-NP-"A", Topical Report for EVR/HED System for Treatment of Nuclear Power Reactor Waste Liquids

3.2 Authority:

The authority and responsibility to perform this procedure comes from 10CFR 20, 10CFR 61, Turkey Point Plant Units 3 and 4 Technical Specifications, and disposal site licenses.

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3.3 Definitions:

- 3.3.1 Dewatering: The process of removing "Free-Standing" water from a final disposal package.
- 3.3.2 "Free-Standing Water": Liquid which is not retained by the waste form.
- 3.3.3 Process Control Program (PCP): A program which contains the provisions, based on full scale testing, to ensure that dewatering of radioactive bead resin, powdered resin or charcoal results in a waste form with the properties that meet the requirements of 10CFR 61 (as implemented by 10CFR 20) and of the low level radioactive waste disposal site.

4.0 Precautions:

- 4.1 Instructions used for the dewatering of liners which establish the conditions to be met, shall be based on full scale testing. This is to provide reasonable assurance that the dewatering will result in volumes of free-standing water, at the time of disposal, within the limits of 10CFR, Part 61 as implemented by 10CFR 20 and of the low level radioactive waste disposal site.
- 4.2 Class "B" and "C" radioactive waste (as determined by 10CFR 61 and O-HPA-040, Shipping and Receiving Radioactive Material) may be transferred to the disposal site in a High Integrity Container (HIC) approved for disposal by the licensing agency for the disposal site. No other containers may be used without PNSC approval.
- 4.3 Do not use High Integrity Containers for radioactive material that could chemically or physically damage or otherwise exceed the allowable limits of the HIC.
- 4.4 Changes to the Turkey Point Plant Process Control Program shall be reviewed and approved by the PNSC before they become effective.
- 4.5 Changes to the Turkey Point Plant Process Control Program shall be submitted to the NRC in the Semiannual Radioactive Effluent Release Report for the period in which the change(s) was made. This submittal shall contain the following:
 - 4.5.1 Sufficiently detailed information to support the rationale for the change.
 - 4.5.2 A determination that the change did not reduce the overall conformance of the dewatered waste to existing criteria for stabilized waste form.
 - 4.5.3 Documentation of the fact that the change has been reviewed and found acceptable by the PNSC.

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- 4.6 Disposal of radioactive bead resin which is Class B or Class C, or which is Class A and has a concentration of radionuclides with half-lives greater than five years and exceeding one microcurie per cubic centimeter, is limited to HICs with an approved certificate of compliance issued by the licensing agency for the disposal site.
- 4.7 Radioactive bead resin which is Class A, and which has a concentration of radionuclides with half-lives greater than five years but not exceeding one microcurie per cubic centimeter, may be packaged in HICs or disposable carbon steel cask liners.
- 4.8 Disposal of radioactive charcoal filter media which is Class B or Class C, or which has a concentration of radionuclides with half-lives greater than five years and exceeding one microcurie per cubic centimeter, is limited to HICs with an approved certificate of compliance issued by the licensing agency for the disposal site.
- 4.9 Radioactive charcoal filter media which is Class A, and which has a concentration of radionuclides with half-lives greater than five years but not exceeding one microcurie per cubic centimeter, may be packaged in HICs or disposable carbon steel cask liners.
- 4.10 Disposal of condensate polishing resin is permitted in HICs or disposable carbon steel cask liners.
- 4.11 Personnel performing the dewatering procedure should be aware that strong oxidizing agents such as nitric acid, when in contact with organic ion-exchange material and in the presence of air, may produce a slightly degraded resin in an exothermic reaction, up to an explosion. The first indication of an exothermic reaction due to the presence of oxidizing agents is some fuming and a slight rise in temperature on the outside of the container. If this condition is found when dewatering a vessel, immediately refill the vessel with water. This will eliminate one of the ingredients necessary for the reaction (air) and will dissipate the majority of the heat, returning the temperature of the vessel to ambient. When the condition has stabilized, notify the immediate supervisor.

5.0 Responsibilities:

- 5.1 It is the responsibility of the Plant Manager to assure that necessary procedures, equipment and support are provided to properly implement the PCP.
- 5.2 It is the responsibility of the Health Physics Supervisor, or designee, to ensure that all liners will be dewatered in accordance with the PCP.

6.0 References/Commitment Documents:

6.1 References

- 6.1.1 Turkey Point Units 3 and 4 Technical Specifications No. 3.9.3

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- 6.1.2 Westinghouse Radiological Services, Inc. procedure STD-D-03-009, A Users Manual for the Westinghouse RADLOK-200, RADLOK-500, RADLOK-100, RADLOK-179, and RADLOK-195, SDC Controlled Vendor Manual AA693
- 6.1.3 Westinghouse Radiological Services, Inc. procedure STD-P-03-003, RADLOK Manway Assembly Closure and Sealing Procedure, SDC Controlled Vendor Manual AA693
- 6.1.4 Westinghouse Radiological Services, Inc. procedure STD-P-03-004, Closure of Hittman RADLOK High Integrity Container Fill Port Closure Assembly, SDC Controlled Vendor Manual AA693
- 6.1.5 Westinghouse Radiological Services, Inc. procedure STD-P-03-046, Transfer and Dewatering Ion Exchange Resin and/or Activated Charcoal Filter Media Using the Hittman Rapid Dewatering System, SDC Controlled Vendor Manual AA693
- 6.1.6 Westinghouse Radiological Services, Inc. procedure STD-P-03-052, Transfer and Dewatering Ion Exchange Resin and/or Filter Media Using the Press Pak System, SDC Controlled Vendor Manual AA693
- 6.1.7 Westinghouse Radiological Services, Inc. procedure STD-P-03-010, Transfer and Dewatering Bead Resin in Hittman RADLOK High Integrity Containers With A Single Layer Underdrain Assembly to Less Than 1% Drainable Liquid, SDC Controlled Vendor Manual AA693
- 6.1.8 Westinghouse Radiological Services, Inc. procedure STD-P-03-020, RADLOK Inspection Procedure, SDC Controlled Vendor Manual AA693
- 6.1.9 Westinghouse Radiological Services, Inc. Process Control Program STD-PCP-03-003, Westinghouse Hittman Mobile Incontainer Dewatering and Solidification Systems
- 6.1.10 Duratek Corp. procedure TP# 10-3, Slucing Media
- 6.1.11 Duratek Corp. procedure TP# 12-1, Operation of the HED System
- 6.1.12 Duratek Corp. Process Control Program 14-2, HED Process Control Program
- 6.1.13 Duratek Corp. procedure TP# 10-1, Operation of the Duratek EVR System
- 6.1.14 Duratek Corp., Topical Report Number D-EVR/HED-1-NP-"A", Topical Report for the EVR/HED System for Treatment of Nuclear Power Reactor Waste Liquids.
- 6.1.15 Health Physics Administrative Procedure, O-HPA-040 "Shipping and Receiving Radioactive Material."

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6.1.16 49CFR

6.1.17 10CFR 61

6.1.18 OP-5333.1 "WDS - Transferring Spent Storage Tank To Shielded Shipping Cask"

6.2 Commitment Documents

6.2.1 Quality Assurance Audit QAO-PTN-89-996

7.0 Records and Notifications:

7.1 If it is suspected that the free-standing water requirements have not been met for any container shipped to a disposal site, the Plant Manager and the Health Physics Supervisor shall be notified.

7.2 If the Process Control Procedures have not been followed or if free standing water is suspected in the final shipping container in amounts greater than allowed by regulations, the Radwaste Supervisor shall be notified.

7.3 Completed copies of the below listed item(s) constitute Quality Assurance Records and shall be transmitted to Site Document Control QA Records Section for retention in accordance with Quality Assurance Records Program requirements:

7.3.1 Form HP-72C, Specification Container Shipping Release

7.3.2 Form HP-72-L, Powdex Resin Liner Shipping Release Form

8.0 Instructions:

8.1 Dewatering shall be performed in accordance with the applicable vendor procedure for each liner or High Integrity Container (HIC).

8.2 If the dewatering is not performed in accordance with the vendor procedure, the process shall be terminated. The package shall not be shipped for disposal until it is dewatered in accordance with the vendor procedure.

8.3 If the final waste form is found to be unacceptable (freestanding liquid in excess of 0.5% of the waste volume for steel liners or 1.0% for high integrity containers) processing and shipping shall be stopped until the procedures and/or dewatering equipment are corrected to prevent recurrence.

8.4 Dewatering of Westinghouse RADLOK HICs

8.4.1 Westinghouse RADLOK HICs containing bead type ion exchange resin shall be dewatered in accordance with Westinghouse Radiological Services, Inc. procedures STD-P-03-046 (reference 6.1.5), STD-P-03-052 (reference 6.6), or STD-P-03-010 (reference 6.1.7)

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- 8.4.2 HICs shall be dewatered to less than one percent free-standing liquid.
- 8.5 Dewatering of NuPak 210 HICs fitted with Duratek Dewatering Internals which contain bead resin and Charcoal Filter Media
 - 8.5.1 NuPak 210 HICs fitted with Duratek dewatering internals shall be dewatered using Duratek Corp procedures TP# 10-3 (reference 6.1.10), TP# 12-1 (reference 6.11), and TP# 10-1 (reference 6.1.13).
- 8.5 Dewatering of Westinghouse RADLOK HICs or carbon steel liners containing Powdered Ion Exchange Resin
 - 8.6.1 Westinghouse RADLOK HICs and carbon steel cask liners containing powdered ion exchange resin intended for direct disposal shall be dewatered in accordance with Westinghouse Radiological Services, Inc. procedure STD-P-03-046 (reference 6.1.5).
 - 8.6.2 The above containers shall be dewatered to less than one half of one percent free-standing water (carbon steel liners) or one percent free-standing water (HICs).

Please note that due to an administrative error this letter was sent without the complete set of attachments.

Please replace your file copy of L-90-305 with the attached complete letter and attachments.

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