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CRUTCHFIELD,D. Operating Reactors Branch 5.

SUBJECT: "Rev 0 to "Process Control Program," W/831227 ltr.

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REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8601060115 DOC.DATE: 85/12/27 NOTARIZED: NO DOCKET #
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CRUTCHFIELD,D.	Operating Reactors Branch 5

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INTERNAL:	ELD/HDS4	1	0	NRR/DE/MTEB	1	1
	NRR/DL DIR	1	1	NRR/DL/ORAB	1	0
	NRR/DSI/METB	1	1	NRR/DSI/RAB	1	1
	REG FILE 04	1	1	RGN1	1	1
EXTERNAL:	ACRS 09	6	6	LPDR 03	1	1
	NRC PDR 02	1	1	NSIC 05	1	1
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Process Control Program

for

Ginna Station

Rochester Gas and Electric Corporation
Revision Ø

A000 1

I. Introduction

The Radiological Effluent Technical Specifications require the establishment of a Process Control Program (PCP). The PCP herein is a manual outlining the method for processing wet solid wastes and for solidification of liquid wastes. It includes applicable process parameters and evaluation methods used at Ginna Station to assure compliance with the requirements of 10 CFR Part 71 prior to shipment of containers of radioactive waste from the site.

The Ginna PCP encompasses four types of solid wastes:

a. Cemented Evaporator Bottoms
b. Cemented Ultrafiltration Sludge
c. Dewatered Bead Resin
d. Filters

Two of these waste categories (a and b) are by-products of the same waste drumming system.

At Ginna, we also have instituted a sampling program which complies with the requirements of 10CFR61. This program is outlined in RD-10.4.1, RD-10.8 and A-1.

II. Cemented Evaporator Bottoms

A. General Description

The waste holdup tank, located in the auxiliary building, accepts liquid waste from all floor drains, regeneration wastes, certain system drains, resin sluice water, laundry and shower waste and the chemical drain tank.

The liquid from the waste holdup tank is processed through either the ultrafiltration system or woven cuno type filters to the waste evaporator.

The waste evaporator processes all liquid waste from the waste holdup tank.

The other evaporator system which can be used as a backup system to process waste from the waste holdup tank or as normal "clean" CVCS drains, is the "Boric Acid Evaporator". The concentrates from this evaporator can be transferred to the waste evaporator feed tanks for disposal through the solidification system or to the concentrates holding tank for reuse.

The operation of the evaporators is controlled by several operating procedures, S-3.4C, D, E, and F for the boric acid evaporator and S-4.1A, B, and C for the waste evaporator operation. The parameters used to control the batch operations are boric acid concentration and gross degassed activity. These concentrations are limited by procedure although activity may be further limited by burial ground dose rate limits.

The drumming process is currently controlled by procedure ST-81.1. The only chemical parameter which is controlled for solidification is the solution pH. A pH between 5.5 and 7.5 is required to insure that the cement will properly solidify in the least amount of time. If waste is to be drummed with the pH of the waste outside of these parameters a solidification test is performed to insure proper solidification may be achieved.

The drum filling is controlled by weight and/or level indication to control the amounts of liquid and cement to a predetermined ratio. This ratio is determined by performing a solidification test. For normal waste evaporator bottoms within the above pH requirements approximately 1 gal. of evaporator bottoms is solidified with 20 pounds of masonary cement.

The quality control section is notified prior to solidification and also prior to shipping so they may perform periodic surveillance on these processes. Drums are checked by the QC section at least once per calendar quarter prior to shipment. QC also periodically survey the drum loading and shipping to insure compliance with all shipping and burial regulations. After the drumming process has been completed, the drums are weighed, surveyed, serialized and stored in one of the drum storage areas. Prior to shipment the drums are cleaned, resurveyed, and smeared. Low Specific Activity (LSA) labels are affixed to the drums prior to shipment to a burial facility in accordance with the RD-10 series procedures.

III. Cemented Ultrafiltration Sludge

A. General Description

The ultrafiltration unit removes suspended solids from the waste stream and concentrates this material to a liquid sludge. This material is periodically drummed. Procedures S-4.1.23 and S-4.1.24 control the operation and drumming of the ultrafiltration system.

This process in general is the same as described for cemented waste evaporator bottoms.

IV. Spent Bead Resin

A. General Description

Bead resin is used to remove chemical impurities and radioactive contamination from the reactor coolant, the chemical and volume control system, the spent fuel pool, and the liquid waste processing system.

When the resin is exhausted or reaches a radiation limit, the spent resin is sluiced to one of two 150 cubic foot spent resin storage tanks. After sufficient resin has been collected in one of the storage tanks, a QA order is initiated for use of a transport cask certified by the NRC for transporting greater than Type A quantities of radioactive material. Upon arrival on site, the transport cask is inspected using a Quality Control Inspection Procedure (QCIP) specific for each type of cask to ensure the cask meets all the requirements of the Certificate of Compliance and 10 CFR 71. A steel liner, which contains internal piping to completely dewater the resin, is installed in the cask. The cask is handled, loaded and unloaded using an M-18 series procedure specific for the model cask used. Piping is run from the drumming station to the manway in the top of the liner. Using procedure S-4.4, spent resin is then slurried from the spent resin storage into the liner with water used for sparging and mixing the resin and nitrogen gas pressure used to move the resin. A representative sample of the resin is obtained and the concentration of each radioisotope is calculated. After the resin is dewatered or cemented, the liner is capped and sealed and the top is put back on the cask. The cask is surveyed for radiation and contamination and properly labeled and marked as specified in a RD-10 series procedure for packaging shipment of radioactive materials. The RD-10 series includes instructions on any special requirements of the burial site to which the shipment is being sent. A radioactive shipment record is prepared and all necessary shipping papers and instructions are given to the carrier. The vehicle is placarded, the cask sealed with security seals, and the Quality Control inspection is complete. The resin is then transported to the burial site.

V. Filters

When filters become saturated or have a high dose rate, they are dewatered and then replaced. The spent filters are placed in a High Integrity Container or solidified in an approved media and shipped in accordance with 10CFR71, 10CFR61 and burial site licenses. The maximum dose rate allowed depends on the cask chosen to ship the materials into. They are shipped per M-18.6 series procedures.

ROCHESTER GAS AND ELECTRIC CORPORATION • 89 EAST AVENUE, ROCHESTER, N.Y. 14649

JOHN E. MAIER
Vice President

TELEPHONE
AREA CODE 716 546-2700

December 27, 1983

Director of Nuclear Reactor Regulation
Attention: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch No. 5
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Process Control Program
R. E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Crutchfield:

In accordance with our letter dated September 23, 1983, enclosed are three copies of the Ginna Process Control Program.

Very truly yours,

John E. Maier

Enclosures

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1/1