Progress Energy

Crystal River Nuclear Plant
Docket No. 50-302
Operating License No. DPR-72

Ref: 10 CFR 50.36a(a)(2)
ITS 5.7.1.1(c)

April 30, 2012
3F0412-14

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Subject: Crystal River Unit 3 - Annual Radioactive Effluent Release Report 2011

Dear Sir:

Florida Power Corporation, doing business as Progress Energy Florida, Inc., hereby submits the 2011 Radioactive Effluent Release Report for Crystal River Unit 3 (CR-3) in accordance with 10 CFR 50.36a(a)(2) and the CR-3 Improved Technical Specifications (ITS), Section 5.7.1.1(c). The subject report (Attachment A) includes a summary of the quantities of radioactive liquid and gaseous effluents, and solid waste released from the CR-3 site during 2011. The material provided is consistent with the objectives outlined in the Off-Site Dose Calculation Manual (ODCM) and the Process Control Program (PCP), and is in conformance with 10 CFR 50, Appendix I, Section IV.B.1.

The CR-3 ITS, Section 5.6.2.3, requires submittal of licensee initiated changes to the ODCM as part of the Radioactive Effluent Release Report for the period of the report in which any changes were made. The ODCM was not revised in 2011. The PCP was revised in 2011 and is included in this submittal as Attachment B. The Summary of Changes for the PCP, Revision 7, are delineated in Attachment B, specifically, Page 10.

This letter establishes no new regulatory commitments.

If you have any questions regarding this submittal, please contact Mr. Dan Westcott, Superintendent, Licensing and Regulatory Programs at (352) 563-4796.

Sincerely,

Terry Hobbs
Plant General Manager

TH/ff

Attachment:
A. Annual Radioactive Effluent Release Report 2011
B. Process Control Program (PCP) – Revision 7

xc: NRR Project Manager
Regional Administrator, Region II
Senior Resident Inspector

Progress Energy Florida, Inc.
Crystal River Nuclear Plant
15760 W. Power Line Street
Crystal River, FL 34428

IE48
NRR

FLORIDA POWER CORPORATION

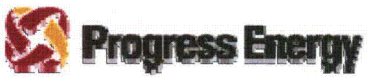
CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50-302 / LICENSE NUMBER DPR-72

ATTACHMENT A

2011 ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT

ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT 2011



PROGRESS ENERGY FLORIDA, INC

CRYSTAL RIVER UNIT 3

Facility Operating License No. DPR-72

Docket No. 50-302

Prepared By: Pinner, Rudolph W.
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Superintendent Environmental & Chemistry

Date: 04/18/ 2012

CONTENTS

INTRODUCTION

This report is submitted as required by the Offsite Dose Calculation Manual, section 6.5, and Technical Specfications 5.6.2.3.3 and 5.7.1.1.c.

The scope of this report includes:

- A summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the plant.
- Quarterly and annual dose summaries.
- A list and description of unplanned releases to unrestricted areas.
- A description of any changes to the:

  Process Control Program (PCP), and
  Offsite Dose Calculation Manual (ODCM).

- Significant changes to any radioactive waste treatment system.
- A list of new dose calculation location changes identified by the annual land-use census.
- Information relating to effluent monitors or required supporting instrumentation being inoperable for 30 or more days.
- Information required to be included in this report per NEI 07-07 Industry Ground Water Protection Initiative-Final Guidance Document issued in August 2007.

TABLE 1

EFFLUENT AND WASTE DISPOSAL REPORT - 2011

GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

	Unit	Quarter 1	Quarter 2	Est. Total Error %
A. Fission and activation gases				
1. Total release	Ci	0.00E+00	0.00E+00	30
2. Average release rate for period	µCi/sec	0.00E+00	0.00E+00	
3. Percent of technical specification limit	%	0.00E+00	0.00E+00	
B. Iodines				
1. Total Iodine-131	Ci	0.00E+00	0.00E+00	30
2. Average release rate for period	µCi/sec	0.00E+00	0.00E+00	
3. Percent of technical specification limit	%	0.00E+00	0.00E+00	
C. Particulates*				
1. Particulates with half-lives > 8 days	Ci	1.29E-07	8.06E-08	30
2. Average release rate for period	µCi/sec	1.66E-08	1.03E-08	
3. Percent of technical specification limit	%	3.29E-03	6.68E-03	
4. Gross alpha radioactivity	Ci	0.00E+00	0.00E+00	
D. Tritium				
1. Total release	Ci	1.00E+00	2.08E+00	30
2. Average release rate for period	µCi/sec	1.29E-01	2.64E-01	
3. Percent of technical specification limit	%	3.29E-03	6.68E-03	

* The sum of the particulates reported on this page may be less than the sum from Table 2, as Table 2 includes all particulates, while this table includes only those with half-lives greater than 8 days.

TABLE 2

EFFLUENT AND WASTE DISPOSAL REPORT – 2011

GASEOUS EFFLUENTS - GROUND LEVEL RELEASES

		CONTINUOUS MODE		BATCH MODE	
Nuclides Released	**Unit**	**Quarter 1**	**Quarter 2**	**Quarter 1**	**Quarter 2**
A. Fission gases					
Argon-41	Ci				
Krypton-85	Ci				
Krypton-85m	Ci				
Krypton-87	Ci				
Krypton-88	Ci				
Xenon-131m	Ci				
Xenon-133	Ci				
Xenon-133m	Ci				
Xenon-135	Ci				
Xenon-135m	Ci				
Xenon-138	Ci				
Total for period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
B. Iodines					
Iodine-131	Ci				
Iodine-132	Ci				
Iodine-133	Ci				
Iodine-135	Ci				
Total for period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C. Particulates					
Manganese-54*	Ci				
Zinc-72	Ci				
Cobalt-58*	Ci				
Cobalt-60*	Ci				
Strontium-89*	Ci				
Strontium-90*	Ci				
Niobium-95m	Ci				
Technicium-99m	Ci				
Tellurium-132	Ci				
Cesium-134*	Ci				
Cesium-137*	Ci	1.29E-07	6.23E-08		1.83E-08
Cesium-138	Ci				
Barium-139	Ci				
Lanthanum-142	Ci				
Cerium-141*	Ci				
Cerium-143	Ci				
Rhenium-188	Ci				
Total for period	Ci	1.29E-07	6.23E-08	0.00E+00	1.83E-08

* > 8 day half-life

TABLE 3

EFFLUENT AND WASTE DISPOSAL REPORT - 2011

GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

	Unit	Quarter 3	Quarter 4	Est. Total Error %
A. Fission and activation gases				
1. Total release	Ci	0.00E+00	0.00E+00	30
2. Average release rate for period	µCi/sec	0.00E+00	0.00E+00	
3. Percent of technical specification limit	%	0.00E+00	0.00E+00	
B. Iodines				
1. Total Iodine-131	Ci	0.00E+00	0.00E+00	30
2. Average release rate for period	µCi/sec	0.00E+00	0.00E+00	
3. Percent of technical specification limit	%	0.00E+00	0.00E+00	
C. Particulates*				
1. Particulates with half-lives > 8 days	Ci	0.00E+00	0.00E+00	30
2. Average release rate for period	µCi/sec	0.00E+00	0.00E+00	
3. Percent of technical specification limit	%	0.00E+00	0.00E+00	
4. Gross alpha radioactivity	Ci	0.00E+00	0.00E+00	
D. Tritium				
1. Total release	Ci	2.47E+00	1.65E+00	30
2. Average release rate for period	µCi/sec	3.10E-01	2.08E-01	
3. Percent of technical specification limit	%	6.88E-03	5.29E-03	

* The sum of the particulates reported on this page may be less than the sum from Table 4, as Table 4 includes all particulates, while this table includes only those with half-lives greater than 8 days.

TABLE 4

EFFLUENT AND WASTE DISPOSAL REPORT - 2011

GASEOUS EFFLUENTS - GROUND LEVEL RELEASES

		CONTINUOUS MODE		BATCH MODE	
Nuclides Released	**Unit**	**Quarter 3**	**Quarter 4**	**Quarter 3**	**Quarter 4**
A. Fission gases					
Argon-41	Ci				
Krypton-85	Ci				
Krypton-85m	Ci				
Krypton-87	Ci				
Krypton-88	Ci				
Xenon-131m	Ci				
Xenon-133	Ci				
Xenon-133m	Ci				
Xenon-135	Ci				
Xenon-135m	Ci				
Xenon-138	Ci				
Total for period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
B. Iodines					
Iodine-131	Ci				
Iodine-132	Ci				
Iodine-133	Ci				
Iodine-135	Ci				
Total for period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
C. Particulates					
Manganese-54*	Ci				
Zinc-72	Ci				
Cobalt-58*	Ci				
Cobalt-60*	Ci				
Chromium-51*	Ci				
Strontium-89*	Ci				
Strontium-90*	Ci				
Niobium-95*	Ci				
Tin-113*	Ci				
Zirconium-95*	Ci				
Barium-133m	Ci				
Cesium-137*	Ci				
Barium-139	Ci				
Cerium-141	Ci				
Cerium-143	Ci				
Cerium-144*	Ci				
Ruthenium-103	Ci				
Total for period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00

* > 8 day half-life

TABLE 5

EFFLUENT AND WASTE DISPOSAL REPORT - 2011

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	Unit	Quarter 1	Quarter 2	Est. Total Error %
A. Fission and activation products				
1. Total release (not including tritium, gases, alpha)	Ci	1.15E-03	1.17E-03	25
2. Average diluted concentration during period	µCi/ml	5.85E-12	3.61E-12	
3. Percent of applicable limit	%	4.24E-03	2.72E-04	
B. Tritium				
1. Total release	Ci	1.61E+01	2.25E+00	30
2. Average diluted concentration during period	µCi/ml	8.19E-08	6.94E-09	
3. Percent of applicable limit	%	1.44E-02	2.31E-03	
C. Dissolved and entrained gases				
1. Total release	Ci	0.00E+00	0.00E+00	25
2. Average diluted concentration during period	µCi/ml	0.00E+00	0.00E+00	
3. Percent of applicable limit	%	0.00E+00	0.00E+00	
D. Gross alpha radioactivity				
1. Total release	Ci	0.00E+00	5.54E-05	30
E. Volume of waste released (prior to dilution)				
1. Batch and continuous modes	Liters	4.95E+06	4.46E+06	10
F. Volume of dilution water used during period				
1. Batch and continuous modes	Liters	4.59E+09	3.45E+09	10

TABLE 6
EFFLUENT AND WASTE DISPOSAL REPORT - 2011
LIQUID EFFLUENTS

		CONTINUOUS MODE		BATCH MODE	
Fission and activation products	**Unit**	**Quarter 1**	**Quarter 2**	**Quarter 1**	**Quarter 2**
Sodium-24	Ci				
Chromium-51	Ci				
Manganese-54	Ci			1.09E-05	
Manganese-56	Ci				
Iron-55	Ci			3.81E-04	8.31E-04
Iron-59	Ci				
Cobalt-57	Ci				
Cobalt-58	Ci			1.02E-05	
Cobalt-60	Ci			2.99E-04	1.83E-05
Zinc-69	Ci				
Strontium-85	Ci				
Strontium-89	Ci				
Strontium-90	Ci				
Yttrium-91m	Ci				
Yttrium-92	Ci				
Yttrium-93	Ci				
Niobium-95	Ci				
Niobium-95m	Ci				
Niobium-97	Ci				
Zirconium-95	Ci				
Zirconium-97	Ci				
Molybdinum-99	Ci				
Technetium-99m	Ci				
Technetium-101	Ci				
Ruthenium-103	Ci				
Ruthenium-106	Ci				
Silver-110m	Ci			2.66E-04	
Tin-113	Ci				
Indium-113m	Ci				
Antimony-122	Ci				
Antimony-124	Ci				
Antimony-125	Ci			7.13E-06	4.29E-06
Tellurium-129	Ci				
Tellurium-132	Ci				
Iodine-131	Ci				
Iodine-133	Ci				
Iodine-135	Ci				
Cesium-134	Ci			2.25E-06	1.25E-06
Cesium-137	Ci			6.31E-05	4.24E-05
Cesium-138	Ci				
Barium-133m	Ci				
Barium-140	Ci				
Lanthanum-140	Ci				
Cerium-141	Ci				
Cerium-143	Ci				
Neodymium-147	Ci				
Tungsten-187	Ci				
Neptunium--239	Ci				
Nickle-63	Ci			1.15E-04	2.71E-04
Total for period	Ci	0.00E+00	0.00E+00	1.15E-03	1.17E-03

TABLE 6 (CONTINUED)

EFFLUENT AND WASTE DISPOSAL REPORT - 2011

LIQUID EFFLUENTS

		CONTINUOUS MODE		BATCH MODE	
Dissolved and entrained gases	**Unit**	**Quarter 1**	**Quarter 2**	**Quarter 1**	**Quarter 2**
Argon-41	Ci				
Krypton-85	Ci				
Krypton-85m	Ci				
Krypton-87	Ci				
Krypton-88	Ci				
Xenon-131m	Ci				
Xenon-133	Ci				
Xenon-133m	Ci				
Xenon-135	Ci				
Xenon-135m	Ci				
Total for period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tritium	Ci	0.00E+00	0.00E+00	1.61E+01	2.25E+00

TABLE 7

EFFLUENT AND WASTE DISPOSAL REPORT - 2011

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

	Unit	Quarter 3	Quarter 4	Est. Total Error %
A. Fission and activation products				
1. Total release (not including tritium, gases, alpha)	Ci	4.32E-04	3.07E-04	25
2. Average diluted concentration during period	µCi/ml	1.71E-12	1.44E-12	
3. Percent of applicable limit	%	3.67E-05	5.92E-05	
B. Tritium				
1. Total release	Ci	8.24E-01	3.64E-01	30
2. Average diluted concentration during period	µCi/ml	3.26E-09	1.71E-09	
3. Percent of applicable limit	%	1.41E-03	6.01E-04	
C. Dissolved and entrained gases				
1. Total release	Ci	0.00E+00	0.00E+00	25
2. Average diluted concentration during period	µCi/ml	0.00E+00	0.00E+00	
3. Percent of applicable limit	%	0.00E+00	0.00E+00	
D. Gross alpha radioactivity				
1. Total release	Ci	0.00E+00	0.00E+00	30
E. Volume of waste released (prior to dilution)				
1. Batch and continuous modes	Liters	3.93E+06	3.51E+06	10
F. Volume of dilution water used during period				
1. Batch and continuous modes	Liters	4.55E+09	2.01E+09	10

TABLE 8
EFFLUENT AND WASTE DISPOSAL REPORT - 2011
LIQUID EFFLUENTS

		CONTINUOUS MODE		BATCH MODE	
Fission and activation products	**Unit**	**Quarter 3**	**Quarter 4**	**Quarter 3**	**Quarter 4**
Sodium-24	Ci				
Chromium-51	Ci				
Manganese-54	Ci				
Manganese-56	Ci				
Iron-55	Ci			1.54E-04	
Iron-59	Ci				
Cobalt-57	Ci				
Cobalt-58	Ci				
Cobalt-60	Ci			3.90E-05	5.69E-06
Zinc-69	Ci				
Zinc-72	Ci				
Strontium-85	Ci				
Strontium-89	Ci				
Strontium-90	Ci				
Strontium-92	Ci				
Yttrium-91	Ci				
Yttrium-92	Ci				
Yttrium-93	Ci				
Rubidium-88	Ci				
Niobium-95	Ci				
Niobium-95m	Ci				
Zirconium-95	Ci				
Zirconium-97	Ci				
Molybdinum-99	Ci				
Technetium-99m	Ci				
Technetium-101	Ci				
Ruthenium-106	Ci				
Silver-110m	Ci				
Tin-113	Ci				
Indium-113m	Ci				
Antimony-122	Ci				
Antimony-124	Ci				
Antimony-125	Ci			1.34E-04	2.57E-04
Tellurium-129	Ci				
Tellurium-132	Ci				
Iodine-131	Ci				
Iodine-133	Ci				
Iodine-135	Ci				
Cesium-134	Ci			2.46E-06	
Cesium-137	Ci			3.05E-05	3.60E-05
Barium-133m	Ci				
Barium-139	Ci				
Barium-140	Ci				
Lanthanum-140	Ci				
Cerium-141	Ci				
Cerium-143	Ci				
Praseodymium-144	Ci				
Neodymium-147	Ci				
Neptunium-239	Ci				
Nickel-63	Ci			7.14E-05	8.26E-06
Rhenium-188	Ci				
Total for period	Ci	0.00E+00	0.00E+00	4.34E-04	3.07E-04

TABLE 8 (CONTINUED)

EFFLUENT AND WASTE DISPOSAL REPORT - 2011

LIQUID EFFLUENTS

		CONTINUOUS MODE		BATCH MODE	
Dissolved and entrained gases	**Unit**	**Quarter 3**	**Quarter 4**	**Quarter 3**	**Quarter 4**
Argon-41	Ci				
Krypton-85	Ci				
Krypton-85m	Ci				
Krypton-87	Ci				
Krypton-88	Ci				
Xenon-131m	Ci				
Xenon-133	Ci				
Xenon-133m	Ci				
Xenon-135	Ci				
Xenon-135m	Ci				
Total for period	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tritium	Ci	0.00E+00	0.00E+00	8.24E-01	3.64E-01

TABLE 9

EFFLUENT AND WASTE DISPOSAL REPORT - 2011

SOLID WASTE AND IRRADIATED FUEL SHIPMENTS

A. SOLID WASTE SHIPPED OFFSITE FOR PROCESSING OR BURIAL (Non-irradiated fuel)

1. Type of waste	Unit	12 month period	Est. Total Error %
a. Spent resins, filter sludges, evaporator bottoms, etc.	m3 Ci	1.44E+01 2.25E+02	25
b. Dry compressible waste, contaminated equipment, etc.	m3 Ci	3.34E+02 1.48E-01	25
c. Irradiated components, control rods, etc.	m3 Ci	0.00E+00 0.00E+00	25
d. Other (describe): Combined DAW package	m3 Ci	4.11E+00 3.84E-01	25

2. Estimate of major nuclide composition (by type of waste in %)*			
a.	Fe-55 9.43 Sb-125 0.46 Mn-54 0.69 C-14 1.48	Co-58 0.18 Co-60 12.52 Ni-63 42.88	Cs-134 2.71 Cs-137 28.82 Ag-110m 0.26
b.	C-14 4.95 Fe-55 14.14 Co-60 35.02 Nb-95 3.31 Sb-125 0.84	Ni-63 23.41 Mn-54 4.36 Cs-137 2.96 Zn-65 0.31 Zr-95 1.38	Co-58 7.73 Ce-144 0.64 Cs-134 0.44 Ag-110m 0.304
c.	N/A	N/A	N/A
d.	Fe-55 2.69 Co-60 12.92 Ni-63 40.71 Co-58 1.09 Co-57 0.14	Sb-125 0.81 Cs-134 1.85 Cs-137 34.61 Ce-144 3.18	Mn-54 0.70 C-14 1.11 Ag-110m 0.16

* Curie values and principle radionuclides are estimates based on a combination of direct and indirect methods.

3. Solid Waste Disposition

Number of Shipments	Mode of Transportation	Destination
06	Hittman Transportation Services	Energy Solutions-Bear Creek
02	Tri State Motor Transport Co.	Energy Solutions-Bear Creek
07	Hittman Transportation	Studsvik Processing Facility, LLC

B. IRRADIATED FUEL SHIPMENTS (Disposition)

Number of Shipments	Mode of Transportation	Destination
0	N/A	N/A

Unplanned Releases

There was one unplanned release that occurred in 2011 due to seat leakage of an isolation valve (SDV-70) located within the piping that routes discharges from the station drain tank (SDT-1) to the site settling ponds. This event was evaluated as follows:

Reportability Evaluation of NCR 452489 due to Leakage of SDV-70 to Site Settling Pond

The leakage of SDV-70 allowed small amounts of the contents of Station Drain Tank (SDT-1) to leak into the discharge pipe that carries this tank's fluid to the site settling ponds. The SDT-1 contains fluids from the secondary plant equipment and floor drains in the turbine building. This is an approved release pathway and is utilized to make discharges of SDT-1 to the site settling ponds whenever there is a challenge to meeting National Pollutant Discharge Elimination System (NPDES) release criteria using approved release procedures. Normally, the contents of SDT-1 are released to the plant discharge canal using approved procedures. All release procedures are designed to implement the CR-3 Offsite Dose Calculation Manual (ODCM) and insure that federal radiological dose and radioactive concentration discharge requirements are met. Note that the settling ponds are within the Progress Energy Owner Controlled Area.
SDV-70 was last utilized to make a release of SDT-1 to the site settling ponds on 2-16-11 utilizing surveillance procedure SP-736F. The release to the settling pond contained only Cs-137 at a concentration of 2.07E-8 µCi/ml. Since then, there have been 3 SDT-1 releases to the plant discharge canal performed per SP-736G. The first release contained only Cs-137 at a concentration of 2.86E-8 µCi/ml. The tritium concentration was less than the lower limit of detection (<LLD). The other 2 releases contained no gamma emitters or tritium. Based on the fill and discharge levels of SDT-1, it appears that the SDV-70 leak began after it was closed on 2-16-11 when the release to the settling pond was terminated. Prior to that date, SDT-1 discharges to the canal were occurring every 5 days. After 2-16-11, SDT-1 discharges are occurring every 6 days, indicating it is taking a bit longer to fill the tank (due to leakage). The mechanic that identified the leak, estimated 0.5 to 1.0 gpm leakage through SDV-70. A conservative leakage amount of 1.0 gpm will be utilized for the radiological calculations. The one SDT-1 with the Cs-137 concentration will be considered the source term for this event as the remaining SDT-1 releases contained no radioactivity.

- 1 gpm X 1440 min/day = 1440 gpd leakage X 6 days = 8640 gallons possible leakage into pipe.
- 8640 gallons X 2.86E-8 µCi/ml X 3785 ml/gal X 1mCi/1E3 µCi = 9.35E-4 mCi leaked into the pipe.
- 2.86E-8 µCi/ml / 2.00E-6 ECL for Cs-137 = 1.43E-2 ECL (10CFR20 app B col II, concentration evaluation).
- 2.86E-8 µCi/ml X 1.20E4 mrem/ml/hr/µCi dose factor Cs-137 X 144 hrs release time X 4.15E-3 dilution factor = 2.05E-4 mrem (dose evaluation).

Note the most non-conservative dose factor was used from ODCM table 4.4-17 to calculate the highest dose.
This leakage does not remotely challenge any radioactive dose or concentration limits prescribed in the ODCM, 10CFR20, or Appendix I, and also does not meet any 10CFR50.72 or 10CFR50.73 reporting thresholds. Therefore, this event is not reportable to the NRC or State officials. It is, however, considered an "unplanned release" (per the ODCM) as liquid was discharged and not accounted for, regarding radioactive components released to the settling pond pathway.
The following documents were reviewed:

AI-151, Reporting Requirement Program
HPP-218, Reportable Events and Reports
CP-151, External Reporting Requirements
Offsite Dose Calculation Manual
SP-736F, SDT-1/Turbine Building Sump/Condensate Release to the Settling Ponds
SP-736G, SDT-1 Release to the discharge Canal
OSI-PI trend data

Radioactive Waste Treatment Systems

There were no significant changes to the radioactive waste treatment systems in 2011. In 2010, a different mixed bed resin with 1:1 cation to anion ratio was added to two of the five waste processing demineralizers to provide added capacity to target removal of Sb-125 in support of plant start up activities. In November of 2011, a demineralized water valve that was found with significant seat leakage, providing input into the liquid radwaste system, was successfully repaired. This repair has significantly reduced the liquid waste processing routine from approximately every 10 to 14 days to approximately 50 to 55 days between processing runs.

Annual Land Use Census

The 2011 land-use census did not identify any new dose calculation locations.

Effluent Monitor Instrument Operability

On September 22, 2011, it was discovered that the auxiliary building ventilation exhaust flow element (AH-32-FE) had failed and was slightly under-indicating the actual auxiliary building ventilation flow rate. When inspected, it was found that the pitot tube array in the ventilation ductwork was damaged due to age and wear. Testing was performed to determine the actual measured flow and compensatory measures were put in place to estimate the flow rate until the assembly could be repaired or replaced. On October 20, 2012, the pitot tube array was replaced with a new unit. Flow measurement testing was performed and determined that the new flow element was now performing satisfactorily. Engineering determined that the incorrect flow condition probably existed from May 2010. From a radiological standpoint the Auxiliary Building continuous release permits were calculated using a slightly lower flow than was actually occurring. This caused the calculated curies released and dose to be slightly lower than actual by a factor of ~1.02. The calculated changes in the curies released and dose values are insignificant. The gaseous dose is mostly due to tritium release from evaporation of the spent fuel pools. Due to the insignificance of the changes, the 2010 data will not be revised. The release data for the first three quarters of 2011 have been corrected in this report. See Condition Report 489567 and Engineering Change 82890R1 for more information.

Gaseous Radiation Monitor Response Issues

NCR 519392 states: "During EAL 1.1 review performed under AR 511445 a potential challenge to the setpoint was identified. RM-A1 and RM-A2 LOW RANGE GAS can only be demonstrated, using VTMA information, to reach a maximum count rate of 600,000 counts per minute (cpm). It cannot be proven without field testing, in-depth analysis or the use of multiple assumptions that these Geiger-Muller (GM) tubes can produce counts (or accurate counts) for values greater than 600,000 cpm. This limit presents challenges to the warning and high alarm setpoints, specifically for RM-A1, and challenges for procedures AP-250, EM-202, EM-204B and EM-219 where there is instruction for manipulating the low, medium, high valve controller (LMHVC) AUTO/MAN switch when RM-A1/A2 approach off-scale."

Recent in-depth review of the RM-A1(G) and RM-A2(G) lead to the discovery of a potential previously unknown limitation on the GM Tube's operating range. A maximum of 600,000 cpm has been determined based on information found in the VTMA 00201-001/00201-002 to be the limit at where RM-A1 and RM-A2 GM tube would saturate. RM-A1(G) and RM-A2(G) were previously believed to have the capability of reading up to 1,000,000 cpm.

Having a 600,000 cpm rather than a 1,000,000 cpm saturation threshold could negatively impact the monitors' ability to reach alarm setpoints. This is a concern for the monitor's ability to perform its function to actuate alarms and interlocks as well as reach the triggers used for EAL determination.

The function of RM-A1(G) and RM-A2(G) low range gas is to monitor gaseous effluents and actuate alarms and interlocks at pre-determined set points calculated in accordance with procedures in the ODCM to insure that the alarm/trip will occur prior to exceeding the limits of 10 CFR part 20. However, these monitors are not safety related SSC's as they are not relied upon to remain functional during and following design basis events to ensure the integrity of the reactor coolant pressure boundary, the capability to shut down the reactor and maintain it in a safe shutdown condition, and the ability to prevent or mitigate the consequences of accidents that could result in potential offsite exposures comparable to the guideline exposures of 10 CFR 50.67. The ODCM calculates setpoints to limit noble gases to less than or equal to 500 mrem/year total body and less than or equal to 3000 mrem/year to the skin, 10 CFR 50.67 is related to limiting the TEDE at the site boundary, outer boundary and control room. Therefore, the safety significance of this condition is minimal in terms of the definition of the monitors' specified safety functions, of which there are none.

This condition of RM-A1(G) and RM-A2(G) was determined to be an unknown limitation of the Geiger Muller tube utilized for the model MD-12C detector. Based on this information the condition is being limited to the GM tubes utilized for the model MD-12C GM detector. VTMA 00201-002 specifies that the atmospheric monitors RM-A1(G-low range), RM-A2(G-low range), RM-A3, RM-A4, RM-A5, RM-A6, RM-A7, RM-A8, RM-A11, and RM-A12 utilize the MD-12C detectors. The MD-12C uses a CATID 63747743 GM-Tube which has an associated Plant Equipment Equivalent Replacement Evaluation (PEERE) which allows the use of an LND 719 GM-TUBE.

A review of previous setpoints for RM-A3(G), RM-A4(G), RM-A5(G), RM-A6(G), RM-A7(G), RM-A8(G), RM-A11(G), and RM-A12(G), found acceptable setpoints for all monitors except for RM-A11(G). RM-A11 warning and high trip setpoints are based on ODCM setpoint specification 1.1-1 and calculated per the ODCM setpoint calculation 1.4-4. The setpoint shall be set to ensure that the total body, noble gas dose rate limit is not exceeded. A review of Gas Release Permits in accordance with SP-731B revealed that RM-A11 setpoints for alarm/trip setpoints were above the monitor's capability as defined by this CR. An addition CR, 522808, was already generated for reportability determination.

Extensive testing was performed with a radioactive source to validate the characteristics of the RM-A1(G) detector. It was discovered that the monitor was designed to drive the indication full scale high after reaching approximately 98,000 cpm. After each fail-safe response, when the source was removed, all indications returned to normal. Additionally, when the monitor indicator would deflect off scale, the high alarm trip setpoint would activate.

Immediate corrective actions were to issue temporary procedure changes to the SP-731 series procedures to administratively control the high alarm setpoints to a maximum of 80,000 cpm. These procedure revisions conservatively protect ODCM limits and will be made permanent changes. Note that a project is underway to replace all of the gaseous radiation monitors. Reference CRs 519392 and 522808 for more discussion on this event.

ODCM & PCP Changes

The ODCM was not revised in 2011. An ODCM revision is planned for 2012. Revision 32, performed in 2009, incorporated the following changes:

1. The replacement of the CR-3 steam generators (SGs) in refuel 16 outage require cutting a sizeable hole in the reactor building wall to facilitate removal and installation of these large components. Verbiage was added to page 97 under the section for representative sampling method 3.1-5 dealing with the reactor building equipment hatch and personnel hatch being in the open position to also include the steam generator replacement access hole.

   Under certain wind flow conditions outside air might flow into the reactor building through one open hatch and out the other open hatch. ODCM sampling specification 3.1-5 was established to provide guidance for controlling these hatches (personal and equipment hatches) to minimize the chances of releasing airborne radioactive material. This guidance is not a commitment and is not a required part of the ODCM.

The SG replacement project requires an opening in the Reactor Building that is equivalent to having another hatch opening. This new opening is not practical to control in the same way the personnel and equipment hatches have been controlled in the past. Consequently, the sampling specification is being revised to recognize this new opening and to provide for flexibility in the application of the guideline.

2. Also on page 97 under the section for representative sampling method 3.1-6 dealing with sampling to support the reactor building integrated leak rate test, verbiage was added that describes use of RM-A6 samples prior to pressurizing the RB or use of RM-A1 samples from the previous RB purge permit as long as the source term has not changed.
3. On page 11 the footnote of table 2-3 for requirements of when the RM-A1 automatic isolation function is required was updated to state that this function is not required during periods of "no mode" due to no gas source term being located in the RB during the "no mode" plant condition.
4. On page 140, the direction for station C14H was changed from NW to N as we moved the collection of surface water slightly east to eliminate dilution effects of units CR 1&2. Also footnote 1 was added to the vegetation collection areas to provide an alternate means of collecting required media if adequate vegetation is not available.

The PCP was revised in 2011. The following is a description of changes.

SUMMARY OF CHANGES

1. Document Revision Request DRR 458865
2. Section Change
3. ALL Reformatted to PRO-NGGC-0201 fleet standard.
4. ALL Removed references to the Barnwell waste disposal facility. CR3 no longer sends waste to Barnwell.
5. Steps 2.12-2.13 Added references (DRR 256911)
6. Step 3.1.7, re-worded as per CORR generated from NCR 461016
7. Step 3.3.1, added PGM responsibility
8. Step 3.3.2, added NOCS 40195
9. Step 3.3.3, first bullet – Added additional SRP responsibility to advise the PGM on technical standards, regulations and requirements as necessary.
10. Step 3.3.4, This step was created from the Limits and Precautions section of the previous revision. The step fits better under the Responsibilities heading.
11. Step 3.4, Major re-write of vendor specifications
12. Step 5.2, added requirement that changes to the PCP are to be included in the REMP annual effluent report. Removed generic information related to requirements to revise a plant procedure.

Emergency Feed Pump 2 & Steam Releases

Emergency Feed Pump 2 (EFP-2) over-speed testing is performed quarterly using steam from CR-3's steam generators. Due to a historical small primary to secondary leak, an evaluation is normally performed to estimate the quantity of radioactive material which would be released during 2011 due to operation of this pump. In addition, radioactive releases due to other steam releases are normally estimated and included. These values normally include any plant trips with associated secondary plant atmosphere steam relief valve initiation. The results are given below in units of Curies/year.

Due to the extended plant shutdown for refueling outage 16, which began in September of 2009, the plant is still shutdown for the containment building wall repair. The emergency feed pump 2 has not operated and there were no secondary plant steam releases during 2010 or 2011.

Xe-133	0.00E+00	I-131	0.00E+0	Cs-137	0.00E+00
Xe-135	0.00E+00	I-133	0.00E+0		
H-3	0.00E+00				

These values are not included in Tables 1 through 4 of this report.

Carbon-14 Evaluation

During the entire year of 2011, Crystal River Unit 3 has been in a cold shutdown mode. The plant was taken off line in September of 2009 for refueling outage 16. The plant was degassed, the reactor building was purged of radioactivity, waste gas decay tanks were released, a construction opening was made in the side of the reactor building containment wall, and both once through steam generators were replaced. All of these activities were completed in 2009. Since the plant has been in cold shutdown for the entire years of 2010 and 2011 due to reactor building containment wall delamination issues, there is no source term generation for carbon-14 production in 2010 or 2011. Once the plant restarts, C-14 source term and resultant dose will be estimated and reported utilizing the methodology discussed in NUREG-0017, Rev 1 "Calculation of Releases of Radioactive Materials in Gaseous and Liquid effluents From Pressurized Reactors, and in Regulatory Guide 1.109, "Calculation of Annual Doses to Man From Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance With 10 CFR Part 50, Appendix I".

2011 Appendix I Dose Summary

Maximum Hypothetical Individual

Liquid Effluent Dose Limits

Total Body:	1.5 mrem/quarter, 3 mrem/year
Any Organ:	5 mrem/quarter, 10 mrem/year

Liquid Effluent Dose Summary

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Annual Total
Total Body Dose (mrem)	6.36E-05	2.20E-06	3.96E-07	8.88E-07	6.71E-05
Maximum Organ Dose (mrem)	1.09E-04	1.36E-05	3.35E-04	1.83E-06	4.59E-04
Maximum Organ was GI					

Gaseous Effluent Dose Limits

Gamma Air Dose:	5 mrad/quarter, 10 mrad/year
Beta Air Dose:	10 mrad/quarter, 20 mrad/year
Any Organ:	7.5 mrem/quarter, 15 mrem/year

Gaseous Release Dose Summary

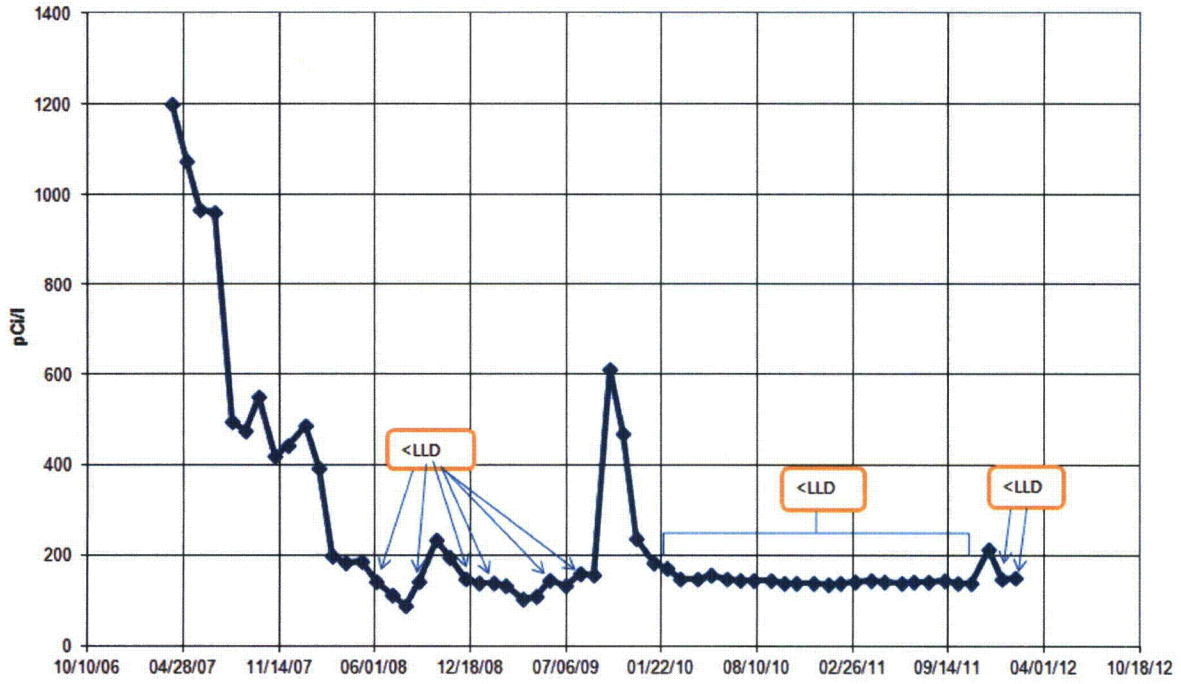
Note: There were no noble gases released in 2011 due to the extended plant shutdown from refueling outage 16 that began in September 2009. The plant is still shutdown in mode 7 (defueled) for all of 2010 and 2011 due to reactor building containment concrete wall delamination issues.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Annual Total
Gamma Air Dose (mrad)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Beta Air Dose (mrad)	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total Body Dose (mrem)	2.42E-04	4.99E-04	5.92E-04	4.07E-04	1.74E-03
Maximum Organ Dose (mrem)	2.47E-04	5.02E-04	5.93E-04	4.08E-04	1.75E-03
Maximum Organ was Liver					

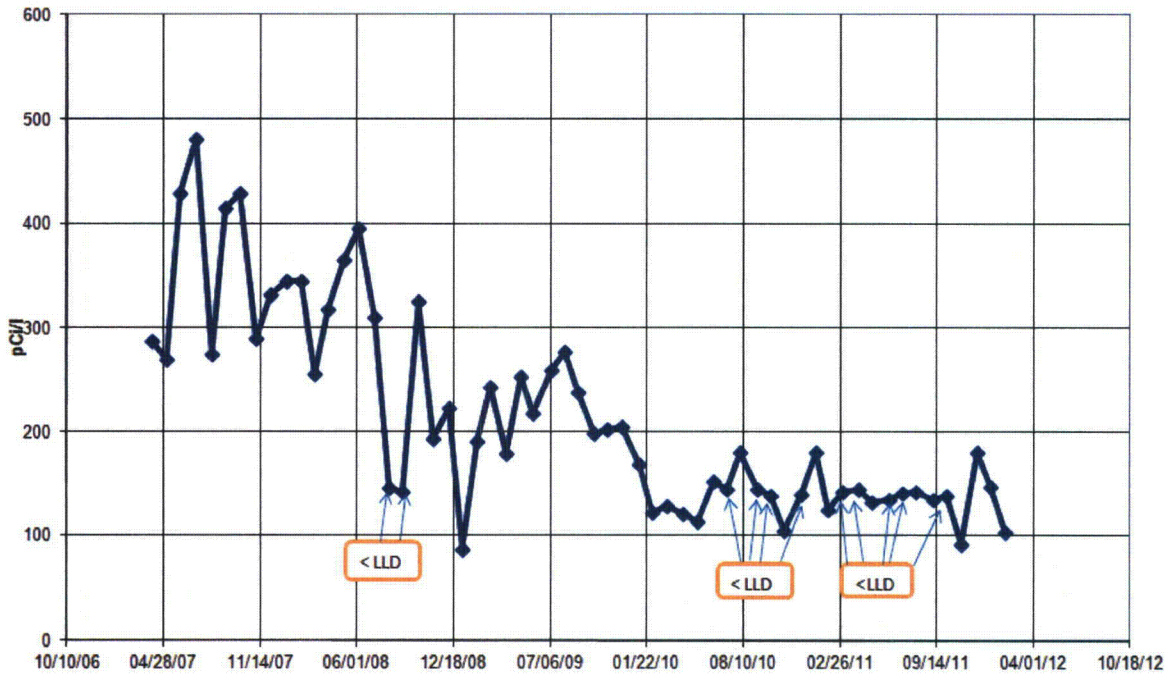
Nuclear Electric Institute (NEI) Required Information

The following environmental data is being included in this report per objective 2.4.b.i and 2.4.b.ii of NEI 07-07 Industry Ground Water Protection Initiative, as this groundwater well data is used to evaluate groundwater at the site, but is not officially included in the Radiological Environmental Monitoring Program (REMP) or the Offsite Dose Calculation Manual (ODCM). These 2 graphs are of tritium measurements in units of pCi/l, taken from groundwater monitoring wells located west of CR-3 on either side (north and south) of the settling ponds. There are many other groundwater monitoring wells included in the REMP that are used for evaluating the groundwater in the vicinity of the CR-3 site. These 2 wells are providing supplemental information. The LLD for tritium measurement of these environmental well samples is ~150 pCi/l.

Tritium Measurements GW Well # MWC-27



Tritium Measurements GW Well # MWC-IF2



Progress Energy EMS Database Crystal River Unit3
Batch Release Summary of All Releases

Starting: 1-Jan-2011 Ending: 1-Jul-2011

LIQUID RELEASES

NUMBER OF RELEASES:	103	
TOTAL TIME FOR ALL RELEASES:	16702.00	MINUTES
MAXIMUM TIME FOR A RELEASE	420.00	MINUTES
AVERAGE TIME FOR A RELEASE	162.16	MINUTES
MINIMUM TIME FOR A RELEASE	47.00	MINUTES
AVERAGE STREAM FLOW	138.86	MINUTES

GASEOUS RELEASES

NUMBER OF RELEASES:	1	
TOTAL TIME FOR ALL RELEASES:	67.00	MINUTES
MAXIMUM TIME FOR A RELEASE	67.00	MINUTES
AVERAGE TIME FOR A RELEASE	67.00	MINUTES
MINIMUM TIME FOR A RELEASE	67.00	MINUTES

Starting: 1-Jul-2011 Ending: 1-Jan-2012

LIQUID RELEASES

NUMBER OF RELEASES:	61	
TOTAL TIME FOR ALL RELEASES:	11590.00	MINUTES
MAXIMUM TIME FOR A RELEASE	432.00	MINUTES
AVERAGE TIME FOR A RELEASE	190.00	MINUTES
MINIMUM TIME FOR A RELEASE	49.00	MINUTES
AVERAGE STREAM FLOW	153.63	MINUTES

GASEOUS RELEASES

NUMBER OF RELEASES:	0	
TOTAL TIME FOR ALL RELEASES:	0.00	MINUTES
MAXIMUM TIME FOR A RELEASE	0.00	MINUTES
AVERAGE TIME FOR A RELEASE	0.00	MINUTES
MINIMUM TIME FOR A RELEASE	0.00	MINUTES

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50-302 / LICENSE NUMBER DPR-72

ATTACHMENT B

PROCESS CONTROL PROGRAM (PCP) – REVISION 7

Progress Energy

PROGRESS ENERGY

CRYSTAL RIVER NUCLEAR POWER PLANT

Process Control Program (PCP)

Miscellaneous General Manual (MGM)

VOLUME 1
PART 1
REVISION 7

Reviewed and Accepted by PNSC: _____ Date: 6/13/11
PNSC Chairperson
PNSC meeting 2011-11

TABLE OF CONTENTS

1.0 PURPOSE

The purpose of the Process Control Program (PCP) is to describe the envelope within which processing and packaging of low-level radioactive wastes will be accomplished to provide reasonable assurance of compliance for low-level waste disposal requirements.

2.0 REFERENCES

1. 10 CFR 61, Licensing Requirements for Land Disposal of Radioactive Waste
2. U.S. Nuclear Regulatory Commission Generic Letter 91-02, "Reporting Mishaps Involving LLW Forms Prepared for Disposal
3. U.S. Nuclear Regulatory Commission, Technical Position on Waste Form, Revision 1, January 1991
4. NUREG 0472, Radiological Effluent Technical Specifications for PWR's
5. FSAR Chapter 1 Table 1-3 FPC Quality Program Commitments item 29 Paragraph C.1
6. Crystal River Unit 3 Improved Technical Specifications
7. CAP-NGGC-0200, Corrective Action Program
8. HPS-NGGC-0001, Radioactive Material Receipt and Shipping Procedure
9. OP-407 (A through S) is a series of procedures detailing the operation of the liquid radwaste systems.
10. WP-204, Condensate Resin Dewatering
11. WP-204A, Dewatering High Integrity Containers
12. Studsvik Processing Facility LLC, License Number R-86011-E17
13. Energy Solutions License Number # UT 2300249

3.0 PERSONNEL INDOCTRINATION

3.1 Description

1. The purpose of the PCP at Crystal River Unit 3 is to establish an acceptable method to demonstrate waste stability to assure that waste streams are processed into an acceptable waste form for off-site disposal using plant procedures for the following waste streams:

   - radioactive liquid wastes
   - dewatered bead resin wastes
   - dewatered activated carbon wastes
   - filter cartridge wastes

2. An objective of the PCP is to use qualified vendors to perform the solidification of various low-level radioactive waste liquids and slurries (including oily wastes) for disposal using vendor PCP solidification and testing procedure(s). The quality of the solidified and or dewatered product shall meet or exceed regulatory requirements and the disposal site criteria.

3. The qualified vendor will perform the solidification of various low-level radioactive waste liquids and slurries (including oily wastes) for disposal. The quality of the solidified or dewatered product shall meet or exceed regulatory requirements and the disposal site criteria.

4. Bead Resin Waste

   Three different bead resin waste streams are generated at CR3. Primary and Secondary resin as well as NUS waste which consists of bead resins and charcoal.

   a. Primary Resin

      Primary resins are dewatered in High Integrity Containers (HIC). Primary resin will meet applicable Department of Transportation (DOT) regulations for the following:

      - Shipment to a vendor for further processing or waste reduction based on available options, or
      - Shipment to a burial site for disposal and shall meet the burial site criteria, or
      - Stored on-site.

   b. Due to the present disposal options, primary bead resin solidification is not performed at CR3.

   c. WP-204A, Dewatering High Integrity Containers will be used for dewatering Primary Bead resin wastes. WP-204A contains the acceptance criteria for dewatered primary bead resin wastes.

   d. HPS-NGGC-0001, Radioactive Material Receipt and Shipping Procedure will be used to package, store, and ship radioactive material.

3.1 Description (Cont.)

5. Waste Processing Resin and Charcoal Waste

a. NUS waste processing resin and charcoal waste is dewatered in HIC's. Waste processing resin will meet applicable DOT regulations for the following:

- Shipment to a vendor for further processing or waste reduction based on available options, or
- Shipment to a burial site for disposal and shall meet burial site criteria, or
- Stored on-site.

b. Due to processing and disposal options, processing NUS resin waste and charcoal waste solidification is not performed at CR3.

c. WP-204A, Dewatering High Integrity Containers will be used for dewatering processing bead resin waste and charcoal waste. WP-204A contains the acceptance criteria for dewatered processing bead resin waste and charcoal waste.

d. HPS-NGGC-0001, Radioactive Material Receipt and Shipping Procedure will be used to package, store, and ship radioactive material.

6. Secondary Resin Waste

a. Secondary resin is dewatered and will be disposed of in approved waste containers and shall meet applicable DOT regulations to a:

- Vendor for further processing or waste reduction based on available options, or
- A burial site for disposal and shall meet burial site criteria, or
- Stored on-site.

b. Due to processing and disposal options, secondary resin solidification is not performed at CR3.

c. WP-204, Condensate Resin Dewatering will be used for dewatering secondary bead resin waste. WP-204 contains the acceptance criteria for dewatered Secondary Bead resin waste.

d. HPS-NGGC-0001, Radioactive Material Receipt and Shipping Procedure will be used to package, store, and ship radioactive material.

3.1 Description (Cont.)

7. Filter Wastes

a. Filters are generated from the Make Up & Purification System, Spent Fuel Cooling System, Underwater Vacuum Filters and Waste Processing filters. They are processed to meet disposal vendor requirements and shipped to meet applicable DOT regulations.

b. Due to processing and disposal options, spent filter waste is not solidified at CR3.

c. OP-407 (A through S) is a series of procedures detailing the operation of the Liquid Radwaste systems and will be used to replace spent filter(s).

d. HPS-NGGC-0001, Radioactive Material Receipt and Shipping Procedure will be used to package, store, and ship radioactive material.

3.2 **Definitions**

1. Batch – For the purpose of this PCP relating to solidification, sampling or processing, a batch is defined as any quantity of waste stream feed material that is from a single homogeneous source (e.g., a holding tank), that is processed as a single batch (even though it may be subdivided in more than one unit waste form, and that, therefore, possesses unvaried, single operation, batch characteristics.

2. Process Control Program (PCP) – A program that contains the methodology and controls to ensure that radioactive liquid wastes, dewatered bead resin wastes, dewatered carbon wastes, filter wastes are processed into an acceptable waste form that meets regulatory and disposal requirements using plant procedures.

3.3 **Responsibilities**

1. The Plant General Manager is responsible for

- Ensuring that waste is shipped in accordance with the appropriate state and federal regulations.
- Approving revisions to the CR3 PCP.

2. The Radiation Control Specialist or designee is responsible for:

- Revisions to the CR3 PCP.
- Ensuring that revisions to the PCP are submitted to the Nuclear Regulatory Commission in the Radioactive Effluent Release Report covering the period of time the PCP was modified.
- Evaluating the adequacy of vendor proposed contractual agreements for waste solidification.
- Evaluating the adequacy of vendor solidification procedures to ensure there are provisions for each specific type of waste to be solidified. [NOCS 040183, 040195]
- Evaluating the adequacy of vendor quality assurance validation testing method for the solidification media to be used for each type of waste to be solidified to eliminate the possibility or potential of using deteriorated media for waste solidification. [NOCS 040183]

3.3 Responsibilities (Cont.)

- Approving vendor proposed contractual agreements for waste solidification.
- Review and approval of vendor process control program solidification procedure(s) prior to commencement of solidification or dewatering activities to ensure compliance with burial site criteria requirements and regulations.
- Obtaining concurrent approval from the Superintendent, Radiation Protection for vendor to perform solidification/dewatering activities.
- Ensuring vendor compliance with solidification procedure. If not, suspend shipments of defectively processed or defectively packaged solid radioactive waste from the site.
- Retaining vendor-supplied documentation for NRC inspection and review. Shipping solidified and dewatered wastes.
- Maintain shipping and vendor documentation.

3. The Superintendent of Radiation Protection (SRP) is responsible for:

- Advising the Plant General Manager (PGM) on the appropriate technical standards, regulations and requirements as related to solidification, dewatering and shipping.
- Final review and approval of vendor PCP solidification or dewatering procedure(s) prior to commencement of solidification or dewatering activities to ensure compliance with burial site criteria requirements and regulations.

4. Specifications for qualified Solidification/ Dewatering Vendors

a. The qualified solidification and/or dewatering vendor will:

1) Provide a qualified PCP or program approved by:
   - NRC
   - Disposal site licensee
2) The vendor will perform tests described in the PCP.
3) The vendor will supply the SRP or designee with all documentation required to demonstrate compliance with dewatering and/or solidification requirements.
4) The SRP or designee will retain documentation required to demonstrate compliance with solidification requirements and standards.

3.4 Prerequisites

1. Acceptance criteria for waste processing for radioactive liquid wastes, dewatered resin wastes, dewatered activated carbon wastes, and filter cartridge wastes is provided in plant procedures.

2. Acceptance criteria for waste solidification will be provided in applicable sections of this PCP, and in the vendor's solidification and testing procedure.

3. Solidification test specimens will only be considered acceptable if they meet the free standing liquid requirements of 10 CFR 61 and applicable disposal vendor requirements.

   - If any specimen fails to pass the Acceptance Criteria, the applicable actions of section 3.4.4 must be met.

4. If the initial test specimens from a batch of waste fail to verify solidification, additional test specimens shall be collected. The process and/or additives shall be modified as required until an acceptable test specimen solidification is documented.

   If any test specimen fails to verify solidification, the solidification of the batch under test shall be suspended until such time as additional test specimens can be obtained. Alternate solidification parameters can be determined in accordance with the Vendor's PCP solidification procedures, and a subsequent test verifies solidification. Solidification of the batch may then be resumed using the alternative solidification parameters.

5. The following commitments have been relocated from the Radiological Effluent Technical Specifications (RETS) Section 3.7.13.4 by Amendment #141 to the PCP and shall apply:

   a. Specification – The solid waste processing system shall be used at all times in accordance with a Process Control Program to process wet radioactive wastes to meet shipping and burial ground requirements. [NOCS 009715]

   b. Action - With the provisions of the PCP not satisfied, suspend shipments of defectively processed or defectively packaged solid radioactive wastes from the site. [NOCS 009715]

   c. Surveillance – If solidification is performed, at least one representative test specimen from at least every tenth batch of each type of wet radioactive waste (e.g., filter sludges, spent resins, and boric acid solutions) shall be verified for solidification. [NOCS 009716]

4.0 INSTRUCTIONS

The PCP is not intended to be used as an operating waste procedure. Actual plant procedures are referenced where applicable.

1. Dewatering and solidification may be performed by a qualified vendor or qualified Progress Energy personnel in accordance with a qualified PCP or a program approved by the NRC or burial site facility.

5.0 FOLLOW-UP ACTIONS

5.1 Reporting of Non-conformance

1. Reporting of nonconformance under the PCP is to be done in accordance with CAP-NGGC-0200, Corrective Action Program.
2. Waste form mishaps should be reported to the NRC's Director of the Division of Low-Level Waste Management and Decommissioning and the designated State disposal site regulatory authority within 30 days of knowledge of the incident.

5.2 Revisions

1. Changes to the CR3 PCP document must be included in the annual REMP effluent report.
2. Records of reviews and changes to the PCP shall be documented and those records shall be retained.

5.3 Record Retention

1. Records Management shall maintain vendor solidification and vendor PCP dewatering procedures for the life of plant.
2. Vendor solidification, PCP dewatering procedures, data sheets, and enclosures shall be routed to Records Management after the waste(s) has been solidified.

SUMMARY OF CHANGES

DRR 458865

Section	Change
ALL	Reformatted to PRO-NGGC-0201 fleet standard.
ALL	Removed references to the Barnwell waste disposal facility. CR3 no longer sends waste to Barnwell.
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