



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

September 22, 2003

Carolina Power & Light Company
ATTN: Mr. J. W. Moyer
Vice President
H. B. Robinson Steam Electric Plant Unit 2
3581 West Entrance Road
Hartsville, SC 29550

SUBJECT: NRC INSPECTION REPORT 05000261/2003010 and 07200003/2003001

Dear Mr. Moyer:

On August 22, 2003, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the Robinson facility. The enclosed report documents the inspection findings, which were discussed on August 22, 2003, with Mr. T. P. Cleary and other members of your staff.

The inspection examined activities conducted under your licensee as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

The report documents one self-revealing finding of very low safety significance (Green). The finding was also determined to involve a violation of NRC requirements. However, because of the very low safety significance and because it is entered into your corrective action program, the NRC is treating the finding as a non-cited violation consistent with Section VI.A of the NRC Enforcement Policy. If you contest the NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN.: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator Region II; Atlanta, GA 30303-3415; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at H. B. Robinson Steam Electric Plant, Unit 2.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Should you have any questions concerning this letter, please contact us.

Sincerely,

/RA/

Anne T. Boland, Chief
Plant Support Branch
Division of Reactor Safety

Docket Nos. 50-261 and 72-03
License No. DPR-23

Enclosure: NRC Inspection Report
w/attached Supplemental Information

cc: See Page 3

cc w/encl:

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(continued on page 4)

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos: 50-261 and 72-03

License No: DPR-23

Report No: 05000261/2003010 and 07200003/2003001

Licensee: Carolina Power & Light (CP&L)

Facility: H. B. Robinson Steam Electric Plant, Unit 2

Location: 3581 West Entrance Road
Hartsville, SC 29550

Dates: August 18 - 22, 2003

Inspectors: Eldan D. Testa, Senior Health Physics Inspector
James L. Kreh, Health Physics Inspector
Adam D. Nielsen, Health Physics Inspector

Approved by: Anne T. Boland, Chief
Plant Support Branch
Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

IR 05000261/2003-010, 07200003/2003-001; 08/18-22/2003; H. B. Robinson Steam Electric Plant, Unit 2; Access Control To Radiologically Significant Areas.

The report covered a one-week period of inspection by three regional health physics inspectors. One Green non-cited violation (NCV) was identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Public Radiation Safety

- Green. A self-revealing non-cited violation of 10 CFR 71.5(a), 10 CFR 71.87(i) and 49 CFR 173.443(b) was identified because the licensee transported a shipment of spent fuel, as exclusive use, to the Harris plant with levels of removable radioactive contamination which were approximately two times the Department of Transportation (DOT) regulatory limit.

This finding is greater than minor because it was associated with the transportation packaging attribute of the Public Radiation Safety Cornerstone and adversely effected the cornerstone objective to ensure adequate protection of the public health and safety from exposure to radioactive materials released into the public domain. The finding is of very low safety significance because the location of the contamination was inaccessible to the public during transport and the contamination found was less than 5 times the regulatory limit. (Section 2OS1)

B. Licensee Identified Violations:

None

Report Details

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety (OS) and Public Radiation Safety (PS)

2OS1 Access Control to Radiologically Significant Areas

a. Inspection Scope

Access Controls. The inspectors evaluated the licensee's procedures for posting, surveying, and controlling access to airborne radioactivity areas, radiation areas, high radiation areas, and very high radiation areas, against the requirements of 10 CFR Part 20 requirements. During tours conducted August 18-21, 2003, the inspectors evaluated radiological postings and barricades against the current radiological surveys in areas of the reactor and auxiliary buildings, and the independent spent fuel storage Installation (ISFSI) to determine the appropriateness of the established radiological controls. In addition, the inspectors independently verified the dose rates recorded on current survey maps at various locations in plant areas, including the spent fuel pool and ISFSI. The inspectors, accompanied by a licensee HP technician, performed independent surveys in the spent fuel pool area and near a contaminated oil tank. General area dose rates and contamination levels were compared to licensee survey records. The inspectors observed HP technician proficiency in performing and documenting the radiation surveys for spent fuel assemblies located at the ISFSI storage facility.

Access control for locked high radiation areas were reviewed and discussed with radiation protection management and supervision. The inspectors directly inspected the licensee's designated locked doors locations and reviewed documentation to verify the condition and status of the locked doors. The inspectors also evaluated implementation of key controls and postings for very high radiation areas (VHRAs) and locked high radiation areas.

Problem Identification and Resolution. Issues identified through licensee self-assessments and corrective action program (CAP) documents, and a significant adverse condition investigation report associated with access control and spent fuel shipments were reviewed and discussed with cognizant licensee representatives. The inspectors assessed the licensee's ability to characterize, prioritize, and resolve the issues identified in this radiation protection (RP) program area in accordance with Procedure CAP-NGGC-0200, Corrective Action Program, Rev. 8 and Procedure CAP-NGGC-0205, Significant Adverse Condition Investigations, Rev. 0

In particular, the inspectors reviewed in detail the circumstances surrounding and licensee actions associated with a July 28, 2003, spent fuel shipment to the Harris plant (Shipment Number 03-0031) which, upon receipt, was reported to have removable surface contamination levels on the shipping package in excess of Department of Transportation (DOT) limits. For this shipment, the inspectors reviewed applicable shipping procedures, shipping records, shipment preparation and receipt surveys, shipping personnel training records, calibration records and source check documentation records for the survey instruments used by the licensee to evaluate the contamination and dose rate levels prior to shipment, the history of cask IF-302 used in

the shipment preparation work activities, licensee self-assessments initiated in response to the event, and Significant Adverse Condition Investigation Report No. 100571 which was generated by the licensee for the event.

Various radiological aspects of this event were reviewed, evaluated, and discussed. The inspectors evaluated the gamma analysis for the smear that identified the removable contamination, and compared the nuclide activity ratios to those found by the licensee to evaluate the potential origin of the material. The records were reviewed for 34 prior shipments involving the IF-302 cask or other previously used casks, including receipt and shipping contamination surveys, to evaluate any difference in shipping and receipt procedures, from those used during Shipment 03-0031, and to determine if the shipping casks had any identifiable contamination trends.

In addition, the inspectors interviewed involved shipping and receiving health physics personnel and line supervisors, and assessed their knowledge of transportation requirements and procedural implementation relative to Shipment 03-0031. The inspectors also reviewed control room and health physics logs related to the event, and assessed licensee actions with respect to NRC reportability.

The specific records, procedures, and documentation reviewed with respect to the licensee's problem identification and resolution program and Shipment No 03-0031 are identified in Section 2OS1 of the report Attachment.

b. Findings

Introduction. A Green, self-revealing non-cited violation (NCV) was identified for the failure to comply with 10 CFR 71.5(a), 10 CFR 71.87(i), and 49 CFR 173.443(b) in that the licensee transported a shipment of spent fuel, as exclusive use, to the Shearon Harris plant with levels of removable radioactive contamination which were approximately two times the Department of Transportation (DOT) regulatory limit.

Description. On July 28, 2003, the licensee offered Shipment 03-0031 for shipment which included two spent fuel shipping casks (IF-301, IF-302). The casks were shipped to the Harris plant for interim storage of the spent fuel. Upon receipt of the shipment, Harris health physics personnel performed a required receipt survey on the shipping casks. Based on these survey results, spent fuel shipping cask IF-302 was found to have removable (non-fixed) contamination. The level of this contamination was approximately twice the DOT regulatory shipping limit of 22,000 disintegrations per minute per 100 square centimeters (dpm/100 cm²), for an exclusive use shipment. As required by regulations, Harris reported their findings to the NRC Operations Center (Reference: NRC Event No. 40032 dated 07/29/03 and updated 07/30/03).

Through discussions with licensee personnel and review of radiological analysis and historical cask and plant data, the inspectors noted that the radionuclide distribution and ratios found on the contaminated cask upon receipt at the Harris plant were similar to those for the Robinson spent fuel pool. In addition, the inspectors noted no radiological trends indicating specific cask weepage at this location on the IF-302 cask. Discussions with licensee personnel indicated that the fuel removal activities from the spent fuel pool

and shipment preparation activities were conducted similar to prior shipments, although additional work was required to be performed around the cask vent valve. Similarly, based on review of survey documentation and discussions with involved personnel, receipt activities were as normally performed, although the smear which identified the removable contamination was taken in a slightly different location.

Licensee inspection of the shipping cask and rail car contamination surveys confirmed that the contamination was confined and located on the cask in an area that was inaccessible to the public. The cask and the contaminated area were covered by a secure metal grating locked by a tamper proof security lock. The inspectors confirmed this configuration through a review of photographs of a similar, typical shipments. Radiological survey documentation indicated that the contaminated area on the IF-302 cask was located near the top of the cask adjacent to the valve box, was approximately six inches in diameter, and was approximately two times the DOT limit for packages shipped exclusive use of 22,000 dpm/100 cm².

The root cause analysis performed by the licensee identified five possible scenarios which may have caused the excessive contamination. The most likely cause for the shipping cask contamination was that the contamination was present on the cask from being submerged inside the spent fuel pool at Robinson for loading, and the contamination was missed during initial decontamination and was not removed during subsequent wipe downs and final decontaminations of the cask. At the time of the inspection, the licensee had suspended shipments of spent fuel until they had completed their corrective actions.

Analysis. The inspectors determined that the failure to comply with DOT requirements for removable surface contamination on transportation packaging is a performance deficiency, because the licensee is expected to meet the requirements of 10 CFR 71.5(a), 10 CFR 71.87(i), and 49 CFR 173.443(b). The inspectors determined that the finding was associated with the transportation packaging attribute of the Public Radiation Safety Cornerstone and adversely effected the cornerstone objective to ensure adequate protection of the public health and safety from exposure to radioactive materials released into the public domain. Therefore, the finding is greater than minor. This finding was evaluated using the Public Radiation Safety Significance Determination Process and was determined to be of very low safety significance (Green) because the location of the contamination was inaccessible to the public during the transportation and the contamination found was less than 5 times the regulatory limit.

Enforcement. 10 CFR 71.5 (a) requires each licensee who transports licensed material outside the site of usage to comply with the applicable requirements of 49 CFR Parts 170-189. 10 CFR 71.87(i) requires that prior to each shipment of licensed material, the licensee shall ensure that the level of non-fixed radioactive contamination on the external surfaces of each package offered for shipment is as low as reasonably achievable and within the limits specified in DOT regulations in 49 CFR 173.443. 49 CFR 173.443(b) states, in part, that for packages transported as exclusive use shipments by rail or public highway only, the removable radioactive contamination on any package at any time during transport may not exceed 22, 000 dpm/100 cm². Contrary to these requirements, on July 28 and 29, 2003, the licensee transported a

cask containing spent fuel as exclusive use with levels approximately two times the DOT limit. Because this failure to comply with 10 CFR 71.5(a), 10 CFR 71.87(i), and 49 CFR 173.443(b) is of very low safety significance and has been entered into the CAP (Significant Adverse Condition Investigation Report 100571), this violation is being treated as an NCV, consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000261/03010-01, Failure to Comply with DOT Requirements for Non-fixed, External Radioactive Contamination Limits for a Spent Fuel Shipment Package.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment

a. Inspection Scope

Radiation Monitors. The operability, availability, and reliability of area radiation monitors and continuous air monitors were reviewed and evaluated. The inspectors examined material condition, installed configurations, where accessible, and review documentation of performance checks and calibrations for selected monitors.

Licensee program activities in this area were reviewed against requirements specified in applicable procedures and in Chapter 12 of the Updated Final Safety Analysis Report (UFSAR). Licensee procedures, records, data, and other documents reviewed within this inspection area are listed in Section 2OS3 of the Attachment.

Personnel Survey Instrumentation. Current program guidance, including procedures for calibration and operation, and its implementation to maintain operability and accuracy of selected personnel survey instrument, were reviewed and evaluated. The inspectors reviewed current calibration data for selected portable survey instruments and electronic dosimeters (EDs) and assessed operability of various survey instruments staged or in use by the RP staff. Responsible staff's knowledge and proficiency regarding portable survey instrument calibration activities were evaluated through interviews, record reviews, and observations of plant activities. The accuracy and operability determinations for instrumentation used to perform surveys in high radiation or greater areas were assessed.

Operability and analysis capabilities of the licensee's whole-body counter (WBC), personnel contamination monitor (PCM), and portal monitor (PM) equipment were reviewed and evaluated. For the WBC and selected PCMs and PMs, current calibration and recent operational/performance test surveillance data, as applicable, were observed and evaluated. For selected PMs and PCMs located at the radiologically controlled area (RCA) processing building and RCA turbine building exit, the inspectors directly observed equipment responses to mixed plant-specific radioactive sources (approximately 5000 disintegrations per minute) positioned at varying orientations and distances from the individual detectors to simulate potential worker contamination.

Licensee activities associated with personnel radiation monitoring instrumentation were reviewed against the Technical Specifications (TS), 10 CFR 20.1501, and applicable licensee procedures listed in Section 2OS3 of the Attachment, along with information regarding the instruments which were inspected in detail.

Respiratory Protection Equipment - Self-Contained Breathing Apparatus (SCBA). The licensee's respiratory protection program guidance and its implementation for SCBA equipment use were evaluated. The SCBA units staged for emergency use in the control room and other selected locations were inspected for material condition, air pressure, and number of units available. The inspectors reviewed and evaluated maintenance of SCBA equipment and certification records associated with supplied air quality. Proficiency and knowledge of staff responsible for maintaining SCBA equipment were evaluated through discussions and demonstrations of SCBA functional checks. Control Room operations personnel were interviewed to determine their knowledge of available SCBA equipment locations, including corrective lens inserts if needed, and their training on replacement of air bottles during a period of extended SCBA use.

The inspectors assessed the licensee's arrangements for transporting replacement air bottles from the onsite refill station to the control room and operational support center. In addition, procedural guidance regarding the use of supplied-air bubble suits was reviewed and discussed. Specifically, training and guidance on the availability of standby rescue personnel during use of such suits were reviewed and discussed with licensee representatives.

Licensee activities associated with maintenance and use of SCBA equipment were reviewed against 10 CFR Part 20.1703; Regulatory Guide (RG) 8.15, Acceptable Programs for Respiratory Protection, Revision 1, October 1999; American National Standards Institute (ANSI)-Z88.2-1992, American National Standard Practices for Respiratory Protection; and applicable procedures as listed in Section 2OS3 of the report Attachment.

Problem Identification and Resolution. Issues identified through RP departmental self-assessments and CAP documents associated with radiation monitoring instrumentation and SCBA were reviewed and discussed with cognizant licensee representatives. The inspectors assessed the licensee's ability to characterize, prioritize, and resolve the issues identified in this RP program area in accordance with Procedure CAP-NGGC-0200, Corrective Action Program, Rev. 8.

Specific assessments and Action Request (AR)/Nuclear Condition Report (NCR) documents reviewed and evaluated in detail for this inspection area are identified in Section 2OS3 of the report Attachment.

b. Findings

No findings of significance were identified.

2PS3 Radiological Environmental Monitoring Program (REMP)

a. Inspection Scope

REMP Implementation. Environmental monitoring program guidance and implementing activities were evaluated. The evaluation consisted of direct observation of sample stations and review of environmental records.

The inspectors observed the material condition and flowmeter functionality of airborne particulate filter and iodine cartridge sample stations at monitoring locations 1, 2, and 3. Environmental thermoluminescent dosimeters (TLDs) 1 - 5, were checked for material condition and appropriate identification. The inspectors compared the location of the air samplers and TLDs with Offsite Dose Calculation Manual (ODCM) requirements using NRC global positioning satellite instrumentation. Land use census results and air sample collection/processing were discussed with Environmental & Radiation Control (E&RC) technicians and staff.

The inspectors reviewed the most recent calibration for environmental air samplers 1, 2, and 3 and compared the records with procedural requirements. Two procedures for environmental sample collection, processing, and documentation were evaluated for adequacy and ODCM compliance. Selected environmental measurements, included in the 2001 and 2002 Environmental Operating Reports, were compared to licensee effluent calculations and evaluated for radionuclide concentration trends.

Procedural guidance, program implementation, and environmental monitoring results were reviewed against: TS Section 5.0; 10 CFR Part 20; Appendix I to 10 CFR Part 50; the ODCM, Rev. 22; RG 4.15, Quality Assurance for Radiological Monitoring Programs (Normal Operation) - Effluent Streams and the Environment; and the Branch Technical Position, An Acceptable Radiological Environmental Monitoring Program - 1979. Licensee environmental monitoring related procedures, reports, and records reviewed are listed in Section 2PS3 of the report Attachment.

Meteorological Monitoring Program. The inspectors evaluated the licensee's meteorological monitoring program. Inspection activities included direct observation of meteorological monitoring instrumentation material condition and operation, and review of meteorological data.

The inspectors walked down the meteorological tower and associated instrumentation. The inspectors observed the physical condition of the tower and discussed equipment functionality and maintenance history with the system engineer. The inspectors compared local meteorological data with information received by control room operators.

The inspectors reviewed calibration records for meteorological instruments and evaluated the associated procedures used. In addition, selected meteorological data was reviewed including comparison wind frequency data for the years 1978 and 2002 and measurement data recovery for the period January 1998 through May 2003.

Licensee procedures and activities related to meteorological monitoring were evaluated for consistency with the ODCM, Rev. 22; UFSAR Section 2.3; ANSI/ANS-2.5-1984, Standard for Determining Meteorological Information at Nuclear Power Sites; and Safety Guide 23, Onsite Meteorological Programs. Licensee meteorological monitoring related procedures, reports, and records reviewed during the inspection are listed in Section 2PS3 of the report Attachment.

Unrestricted Release of Materials from the Radiologically Controlled Area. Radiation protection activities associated with radioactive material control and the unconditional release of materials from the RCA were reviewed and evaluated. The inspectors directly observed release activities and reviewed associated licensee records. The inspectors observed surveys of material being released from the RCA and functional source checks using the small article monitor (SAM) equipment. The inspectors also observed the release of personnel using personnel contamination monitors and gamma-sensitive portal monitors.

To evaluate the appropriateness and accuracy of release survey instrumentation, radionuclides identified within recent waste stream analyses were compared against the radionuclides used in current calibration and performance check-sources. The most recent calibration record for 3 SAM-9 monitors and the associated calibration procedure were reviewed and discussed with knowledgeable health physics staff.

Licensee programs for monitoring materials and personnel released from the RCA were evaluated against 10 CFR Part 20; UFSAR Section 12; and IE Circular 81-07, Control of Radioactively Contaminated Material, April 14, 1981. Licensee radioactive material control procedures and records reviewed are listed in Section 2PS3 of the report Attachment.

Problem Identification and Resolution. The inspectors reviewed four corrective action program documents and two self-assessments involving environmental monitoring, meteorological monitoring, and release of radioactive materials. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with Procedure CAP-NGGC-0200, Corrective Action Program, Rev. 8. Documents reviewed are listed in Section 2PS3 of the Attachment.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

Occupational Radiation Safety Performance Indicator (PI)

a. Inspection Scope

The inspectors sampled licensee submittals for the PI indicated below for the period from October 2002 through July 2003. To verify the accuracy of the PI data reported during that period, PI definitions and guidance contained in NEI 99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 2, were used to verify the basis in reporting for each data element.

Occupational Radiation Safety Cornerstone

- Occupational Exposure Control Effectiveness PI

The inspectors reviewed the licensee's procedure for reporting PI data to the NRC, Regulatory Nuclear Generation Group Corporate Procedure - 0009. NRC Performance Indicators, Rev. 2 as well as records relevant to this PI. Specifically, the inspectors reviewed selected corrective action issues and individual RCA exit transactions with ED readings exceeding 100 millirem to assess reporting data for potential unplanned exposures.

b. Findings

No findings of significance were identified.

4OA6 Meetings

On August 22, 2003, the inspectors presented the inspection results to Mr. T. P. Cleary and other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

T. Cleary	Plant General Manager
G. Cheatham	Superintendent, E&RC
W. Brand	Supervisor, HP Operations
R. Bach	Supervisor, Environmental & Chemistry
J. Valentino	Licensing

NRC:

D. Jones	NRC Resident Inspector, Robinson
G. MacDonald	NRC Project Engineer Branch 4

LIST OF ITEMS OPENED AND CLOSED

Opened and Closed

05000261/2003010	NCV	Failure to Comply with DOT Requirements for Non-fixed, External Radioactive Contamination Limits for a Spent Fuel Shipment Package (Section 2OS1)
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PARTIAL LIST OF DOCUMENTS REVIEWED

Section 2OS1: Access Control to Radiologically Significant Areas

Procedures and Reference Documents:

Health Physics Procedure (HPP) HPP-880 Spent Nuclear Fuel Shipping and Receipt, Revision (Rev.) 23
Common Environmental and Rad Control (0E&RC) 0E&RC -0580 Shipping and Receiving the IF-300 Cask, Rev. 28
HPP-225 Shipping and Receiving the IF-300 Cask, Rev. 22
HPP-318 Decon of the IF-300 Cask, Rev. 4
HPP-SFS-001, IF-300 Shipping Cask Operations, Rev. 33
HPP-309, Use of Pressure Washers, Rev. 7
Radiological Surveillance Test (RST) RST-025 Surveillance of the Independent Spent Fuel Storage Installation, Rev. 11
Chemistry Procedure (CP) CP-001 Chemistry Monitoring Program, Rev. 66
Administrative Instruction (AI) AI-81 Water Chemistry Guidelines, Rev. 36
Corrective Action Program (CAP) Nuclear Generation Group Corporate (NGGC) Procedure CAP-NGGC-0205 Significant Adverse Condition Investigations, Rev. 0

Records

Spent Fuel Cask Shipping Records:

From Harris Nuclear Plant To Brunswick Nuclear Plant:

Shipment # 02-065 dated 8/12/02; Shipment # 02-069 dated 7/24/02; Shipment # 02-083 dated 10/02/02; Shipment # 02-090 dated 10/22/02; Shipment # 02-094 dated 11/12/02; Shipment # 02-097 dated 12/10/02; Shipment # 03-002 dated 1/06/03; Shipment # 03-022 dated 4/21/03; Shipment # 03-046 dated 7/01/03; and Shipment # 03-057 dated 7/28/03

From Brunswick Nuclear Plant to Harris Nuclear Plant:

Shipment # 02-066 dated 8/01/02; Shipment # 02-067 dated 8/12/02; Shipment # 02-068 dated 10/16/02; Shipment # 02-069 dated 10/30/02; Shipment # 02-115 dated 11/21/02; Shipment # 02-116 dated 12/19/02; Shipment # 03-001 dated 1/16/03; Shipment # 03-002 dated 5/01/03; Shipment # 03-005 dated 7/16/03;

From Harris Nuclear Plant To Robinson Nuclear Plant:

Shipment # 02-025 dated 2/05/02; Shipment # 02-037 dated 3/19/02; Shipment # 02-045 dated 4/10/02; Shipment # 02-066 dated 8/01/02; Shipment # 02-049 dated 5/08/02; Shipment # 02-052 dated 5/29/02; Shipment # 02-066 dated 8/01/02; Shipment # 03-049 dated 6/19/03; Shipment # 03-054 dated 7/14/03;

From Robinson Nuclear Plant To Harris Nuclear Plant:

Shipment # 02-006 dated 3/05/02; Shipment # 02-011 dated 4/20/02; Shipment # 02-014 dated 4/29/02; Shipment # 02-020 dated 5/22/02; Shipment # 02-021 dated 6/07/02; Shipment # 03-006 dated 7/20/02;

Harris Receipt Cask Survey Numbers

0725-009, dated 7/25/02; 0731-007, dated 7/31/02; 0820-005, dated 8/20/02; 1014-007, dated 10/15/02; 1028-004, dated 1028/02; 1119-007, dated 11/19/02; 1217-011, dated 12/17/02; 0114-009, dated 1/14/03; 0429-013, dated 4/29/03; 0714-007, dated 7/14/03; 0805-013, dated 8/05/03; 031303-2, dated 3/11/03

Gamma Scan, Smear Number (No.) 031721, dated 7/29/03, Spent Fuel Shipping Cask Contamination Smear

Harris Nuclear Plant Control Room Log Event Time Line 7/29/03 from 1720 to 2000 Hours

Self Assessments

Assessment No. 15334, dated 02/14-18/00

Assessment No. 26945, dated 11/12-16/01

Regulatory Nuclear Program (RNP) Radiation Protection Assessment R-RP-03-01, dated 4/02/03

RNP Radiation Protection Assessment R-NF-01-01, dated 12/17/01

Assessment R-SF-03-01 RNP Spent Fuel Shipping Readiness Assessment, dated 2/20/03

Assessment R-ISFSI-03-01RNP, Independent Spent Fuel Storage Installation Assessment, dated 7/03/03

Action Request (AR) 100571, Significant Adverse Condition Investigation Report

Section 20S3: Radiation Monitoring Instrumentation and Protective Equipment

Procedures and Reference Documents:

Dosimetry (DOS) DOS-NGGC-0020, Whole Body Counter System Calibration, Rev. 6
RST-008, Calibration of Radiation Monitor System, Monitors R1 through R8, Rev. 25
RST-020, Verification of Electronic Calibration of RMS Monitors R-32A & B, Rev. 16
RST-023, Routine Respirator Maintenance, Rev. 20
Health Physics (HPS)-NGGC-0005, Calibration of Portable Radiation/Contamination Survey Instruments, Rev. 3
HPS-NGGC-0015, Managing Respirators, Rev. 3
Survey Instrument Calibration (SIC) Procedure SIC-001, Administrative Controls for Survey Instruments, Portable Air Samplers, and CAMs, Rev. 34
HPP-004, Radiological Control of Tools and Equipment, Rev. 44
HPP-104, Verification and Operation of Breathing Air Supplies, Rev. 18
HPP-105, Airborne Radioactivity Surveillance, Rev. 28
HPP-110, Inspection and Maintenance of Respiratory Equipment, Rev. 27
HPP-111, Control and Use of Respiratory Protection Equipment, Rev. 29
Updated Final Safety Analysis Report (UFSAR) Section 12.3.3.1, Area Radiation Monitoring System, Rev. 18

Area Radiation Monitors (ARM) and Calibration Date:

ARM-1, Control Room, 04/21/2003
ARM-4, Charging Pump Room, 04/22/2003
ARM-5, Spent Fuel Building, 07/24/2002
ARM-7, In-core Instrumentation Cubicle, 01/30/2003
ARM-32A & R-32B, Containment, 10/08/2002

Portable Continuous Air Monitors: Equipment Location and Calibration Date

Containment Exit, 08/14/2003
Postaccident Sampling System Panel, 08/18/2003
Outside Emergency Diesel Generator Rooms, 10/17/2002
Auxiliary Building - Upper Level Hallway, 10/11/2002
Waste Gas Compressors, 04/24/2003

Other Instruments/Equipment and Associated Records/Data:

Canberra FastScan Stand-up Whole-Body Counter, Serial Nuclear (SN) 2, calibrated 08/11/2003
Calibration data (past 2 years) for the following EDs: SNs 193304, 195426, 212671
Eberline RO-2, UTC No. 777970, calibrated 03/17/2003
Eberline RO-2A, UTC No. 778155, calibrated 10/04/2002
Canberra APTEC PMW-3 PCMs, SNs 9512027, 9512028, 9512029
Eberline PCM-1B, SN 193
Eberline Gamma-60 PMs, SNs 910279, 910283

National Compressed Air Certification of Grade D Air Standard (Required Quarterly) for Air Samples Taken in July 2002, October 2002, January 2003, April 2003, July 2003
RST-023, Monthly and Quarterly Surveillances of Emergency-Use SCBA, from August 2002 through August 2003

Corrective Action Program Documents and Special Reports:

AR 75805, Unauthorized Entry into the Top of the Cavity Spiral Staircase, 10/30/2002
AR 77040, Most Survey Meters Were Left Behind or at Step-off Pads in the RCA during the past Four Consecutive Day Shifts, 11/12/2002
AR 84349, Various Semi-portable Survey Instruments were Found to Have Burned-out Indicator Lights, 02/10/2003
AR 102514, Failed Challenge on the Whole-body Contamination Monitors [PCMs], 08/20/2003
Improvement AR 86726, Improvements Should Be Made in RCA and RA Exit Point Processes In Order to Reduce the Risk of Releasing Contaminated Equipment and/or Personnel (Unspecified Initiation Date)
Improvement AR 91785, Annual Calibrations for Counting Instrumentation are Not Scheduled (Unspecified Initiation Date)
Self-assessment Report No. 54037, Ensure Robinson Plant has the Appropriate Instrumentation and Evaluate the Harris Central Calibration Facility, 05/16/2002

Section 2PS3: Radiological Environmental Monitoring Program

Procedures and Reference Documents:

Environmental Procedure (EMP)-001, Environmental Sampling, Rev. 33
EMP-004, Environmental Air Sampler Calibration, Rev. 13
EMP-010, Effluent and Waste Disposal Report, Rev. 15
HPP-010, Control of Radioactive Materials Outside of the Primary Radiation Control Area, Rev. 14
HPP-004, Radiological Control of Tools and Equipment, Rev. 44
SIC-008, Calibration and Operation of the Small Article Monitor (SAM)-9 Small Articles Monitor, Rev. 10
Program Manual (PM)-180, Meteorology Tower Equipment Calibration, Rev. 2
CAP-NGGC-0200, Corrective Action Program, Rev. 8
H.B. Robinson, UFSAR, Amendment 11
H.B. Robinson, ODCM, Rev. 22

Instrument Calibration and Environmental Data Records:

Meteorological Data Recovery Summary, January 1998 - May 2003
Meteorological Tower Instrument Calibration Record, 8/1/03
Meteorological Tower Work Order Summary, January 2001 - May 2003
Environmental Air Sampler Calibration Records, Sites 1, 2, and 3, April 2003
SAM-9, Serial Number (SN) 134 (RCA Processing Building) Calibration Record, 04/07/2003
SAM-9, SN 146 (RCA Processing Building), Calibration Record, 03/17/2003
SAM-9, SN 180 (RCA Turbine Building Exit), Calibration Record, 03/20/2003
2001 & 2002 Radiological Environmental Operating Reports

Corrective Action Program Documents:

Performance Evaluation Support Assessment Report 01-20-SP-C, Material Dedication & Laboratory Services, 12/7/01
Self-Assessment 77878, Material Release Program, 2/17/03 - 2/28/03
AR 00102300, Expired Charcoal Cartridges Found, 8/18/03
AR 00102680, Environmental Air Sampler Intake and Exhaust Located in Same Housing, 8/22/03
AR 00044640, Repetitive failure of Met Tower, 7/6/01
AR 00102677, Met tower Data Recovery Less than 90 Percent, 8/25/03