

November 9, 2001

Mr. Robert J. Barrett  
Vice President, Operations  
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Indian Point Nuclear Generating Unit 3  
295 Broadway, Suite 3  
Post Office Box 308  
Buchanan, NY 10511-0308

**SUBJECT: INDIAN POINT 3 NUCLEAR POWER PLANT - NRC INSPECTION REPORT  
NO. 50-286/01-08**

Dear Mr. Barrett:

On September 29, 2001, the NRC completed an inspection at the Indian Point 3 Nuclear Power Plant. The enclosed report presents the results of that inspection. The results were discussed on October 24, 2001, with you and members of your staff.

The inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations, and with the conditions of your license. Within these areas, the inspection consisted of a selected examination of procedures and representative records, observations of activities, and interviews with personnel.

No findings of significance were identified.

Since September 11, 2001, Indian Point 3 Nuclear Power Plant has assumed a heightened level of security based on a series of threat advisories issued by the NRC. Although the NRC is not aware of any specific threat against nuclear facilities, the heightened level of security was recommended for all nuclear power plants and is being maintained due to the uncertainty about the possibility of additional terrorist attacks. The steps recommended by the NRC include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with local law enforcement and military authorities, and limited access of personnel and vehicles to the site.

The NRC continues to interact with the Intelligence Community and to communicate information to Entergy Nuclear Northeast. In addition, the NRC has monitored maintenance and other activities which could relate to the site's security posture.

Robert J. Barrett

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Sincerely,

/RA/

Peter W. Eselgroth, Chief  
Projects Branch 2  
Division of Reactor Projects

Docket No.50-286  
License No. DPR-64

Enclosure: Inspection Report No. 50-286/01-08

Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No. 50-286

License No. DPR-64

Report No. 50-286/01-08

Licensee: Entergy Nuclear Northeast

Facility: Indian Point 3 Nuclear Power Plant

Location: 295 Broadway, Suite 3  
P.O. Box 308  
Buchanan, NY 10511-0308

Dates: August 19 - September 29, 2001

Inspectors: P. Drysdale, Senior Resident Inspector  
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Approved by: Peter W. Eselgroth, Chief  
Projects Branch 2  
Division of Reactor Projects

## SUMMARY OF FINDINGS

IR 05000286-01-08, on 08/19-09/29/2001, Entergy Nuclear Northeast, Indian Point 3 Nuclear Power Plant. Resident inspection report, gaseous and liquid effluents, radioactive material processing and transportation

The inspection was conducted by resident and regional inspectors.

A. Inspector Identified Findings

None

B. Licensee Identified Violations

A violation of very low safety significance was identified by the licensee and reviewed by the inspectors. Corrective actions taken or planned by the licensee appeared to be reasonable. This violation is listed in Section 4OA7 of this report.

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## Report Details

### **SUMMARY OF PLANT STATUS**

The reactor operated at full power for most of the inspection period. On August 24, 2001, a planned down power to 92% was performed to conduct a planned surveillance test on the main turbine generator stop and control valves. The plant returned to 100% power following the test and remained there for the rest of the inspection period.

#### **1. REACTOR SAFETY (Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness )**

##### 1R04 Equipment Alignment

###### a. Inspection Scope (71111.04)

On September 6, 2001, the licensee performed quarterly surveillance test 3PT-Q116A, "31 Safety Injection Pump Functional Test," During the test, the inspectors performed a partial walkdown of accessible portions of the 33 safety injection (SI) train using checkoff list COL-SI-1, "Safety Injection System." The purpose of this inspection was to verify equipment alignment and to identify any discrepancies that could impact the function or operability of this mitigating system. The SI system is an important mitigating system that provides emergency core cooling in the event of a loss-of-coolant accident (LOCA), steam generator tube rupture (SGTR), or main steam line break (MSLB) accident.

On September 19, 2001, the licensee performed surveillance test 3PT-Q92B, "32 Service Water Pump Train Operational Test," on the non-essential service water header. During the test, the inspectors performed a partial walkdown of the essential service water (SW) header to verify equipment alignment and to identify any discrepancies that could impact the function or operability of this mitigating system. The essential SW header is an important part of a mitigating system that supplies cooling water to the emergency diesel generators. The inspectors completed portions of COL-RW-2, "Service Water System," to verify component position and indication in the central control room, the intake structure, and the turbine building.

###### b. Findings

No findings of significance were identified.

##### 1R05 Fire Protection

###### a. Inspection Scope (71111.05Q, 71111.05A)

The inspectors conducted fire protection tours in eight fire zones listed below to verify that the licensee had been controlling transient combustibles in accordance with fire protection procedure FP-9 "Control of Combustibles;" to ensure that the licensee had been controlling ignition sources in accordance with FP-8, "Control of Ignition Sources;" to confirm that the licensee had provided the fire protection equipment as specified in Pre-Fire Plans listed below; and to assess the general material condition of the fire protection equipment and fire protection barriers.



- Safety injection pump room on August 21, 2001, in accordance with Pre-Fire Plan 6, "Safety Injection Pumps/Main Corridor-Primary Auxiliary Building"
- Containment spray pump area on August 27, 2001, in accordance with Pre-Fire Plan 9 "Containment Spray Pumps - Primary Auxiliary Building"
- Central control room air conditioning system (CCRACS) room on August 31, 2001, in accordance with Pre-Fire Plan 26 "A/C Equipment Room - Control Building"
- Atmospheric dump valve area on August 31, 2001, in accordance with Pre-Fire Plan 49, "Atmospheric Steam Dumps-Auxiliary Feedwater Building"
- Lower pipe penetration area on September 4, 2001, in accordance with Pre-Fire Plan 15, "Lower Pipe Penetration Area-Fan House"
- Upper pipe penetration area on September 4, 2001, in accordance with Pre-Fire Plan 16, "Upper Pipe Penetration Area and CAF [Containment Access Facility] Truck Bay Annex - Fan House"
- Appendix R diesel skid on September 28, 2001, in accordance with Pre-Fire Plan 72, "Service Water Backup Pumps/Appendix 'R' Diesel."
- Emergency Diesel Generator (EDG) rooms on September 28, 2001, in accordance with Pre-Fire Plan 29, "Diesel Generators 31, 32, & 33 - Diesel Generator Building."

On August 21, 2001, the inspectors observed the site fire brigade conduct an unannounced drill on a simulated Class "C" electrical fire at the 31 auxiliary boiler feedwater pump. The licensee conducted the drill as part of the annual Quality Assurance Fire Protection Audit (01-081), which was attended by representatives from other nuclear plants. Following the drill, the inspector attended the post-drill critique held with all fire brigade members. The inspector also reviewed the written critique of the drill documented in Memorandum IP-PCE-01-128, and discussed its contents with the site Fire Protection Supervisor.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance

a. Inspection Scope (71111.07B)

The inspectors verified that the licensee's processes and programs were adequate to ensure proper heat exchanger performance for the following heat exchangers:

- Component Cooling Water (CCW) heat exchangers;
- Emergency Diesel Generator (EDG) jacket water and lube oil coolers; and
- Containment Fan Cooling Units (FCUs).

The methods (inspection, cleaning, maintenance and performance monitoring) used to ensure heat removal capabilities for the selected components were reviewed and compared to commitments made in the licensee's response to NRC Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment."

The inspectors reviewed heat exchanger preventive maintenance (PM) activities (i.e., inspection, cleaning, tube bundle replacement) with the responsible engineering and

maintenance personnel to ensure that the PMs were appropriate with the expected degradation trends. The inspectors reviewed completed PM records from January 2000 to the present to verify that the results were adequately recorded and evaluated to ensure proper heat exchanger operation.

Design basis parameters and assumptions, such as tube plugging limits and vendor information, were reviewed to verify that heat exchanger PMs and maintenance procedures incorporated the appropriate information. The inspectors reviewed the system and performance engineers' monitoring and trending of key heat exchanger parameters (temperature, differential pressure, and flow) used to assess heat exchanger performance.

The service water chemical treatment program was reviewed and discussed with chemistry and engineering personnel to verify that 1) potential biofouling mechanisms had been identified, 2) treatments were conducted as scheduled, and 3) results were monitored for effectiveness. The inspectors reviewed a sample of corrective action system deviation reports related to the selected equipment and programs to verify that identified problems were appropriately resolved. The inspectors also conducted a walkdown of the selected heat exchangers in order to assess material condition.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

The inspectors reviewed documentation of operating history since the last requalification program inspection, covering the period from March 2000 through August 2001. Documents reviewed included NRC inspection reports, licensee event reports, and licensee Deviation/Event Reports. The inspectors did not detect any operational events that were indicative of possible training deficiencies.

The following inspection activities were performed using NUREG-1021, Rev. 8, "Operator Licensing Examination Standards for Power Reactors," and Inspection Procedure Attachment 71111.11, "Licensed Operator Requalification Program," Appendix A, "Checklist for Evaluating Facility Testing Material," Appendix B, "Suggested Interview Topics," and NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process (SDP)," as acceptance criteria.

The operating tests for the week of September 10, 2001, were reviewed for quality. (A review of the biennial written exam was not applicable as those exams are scheduled to be administered September/October 2002.)

The inspectors observed the dynamic simulator exams and the administration of job performance measures (JPMs). These observations included facility evaluations of crew and individual performance on the dynamic simulator exam. The inspectors also interviewed operators for feedback on the licensed operator requalification training (LORT) program and quality of the training they had received.

Simulator performance and fidelity were reviewed for conformance with the Indian Point 3 control room. The inspectors also reviewed simulator deficiency reports covering the period from March 2000 through August 2001. A sample of records for requalification training attendance, license reactivations, and medical examinations were reviewed for compliance with license conditions and NRC regulations.

The inspectors reviewed the results of all operating tests for all licensed operators (53 operators/8 crews) for year 2001 for performance and grading. The final results indicated that all operators and all crews passed the operating tests.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope (71111.12)

The inspectors reviewed the performance history of the systems listed below to assess the effectiveness of the maintenance program. Using 10CFR50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants," and Regulatory Guide 1.1.60, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," the inspectors verified that the licensee was implementing their maintenance program in accordance with NRC regulations and guidelines; properly scoping of the system within the maintenance rule; properly classifying structures, systems, and components (SSCs) equipment failures; properly classifying systems as 10 CFR 50.65 (a)(1) and (a)(2) status; and identifying appropriate performance criteria for (a)(2) systems or improvement plans for (a)(1) systems.

The inspectors verified that scoping tables associated with each system had appropriate performance criteria consistent with the plant configuration, and in accordance with Indian Point 3 Integrated Maintenance Program. In addition, the maintenance rule briefing books for each system were reviewed, a maintenance rule presentation by the Service Water System Engineer to IP3 staff was monitored, and two maintenance rule engineers were interviewed. This review was conducted to verify that identified issues for these systems were correctly evaluated and classified in accordance with the maintenance rule and Indian Point 3 Engineering Department instructions .

The following systems were reviewed:

- 33 Central Control Room Air Conditioning Unit Service Water Leak
- Primary Instrument Air System
- 480 VAC Vital Electrical Distribution System
- Offsite Power System
- Component Cooling Water System
- Instrument Air System
- Service Water System

b. Findings

No findings of significance were identified.

### 1R13 Maintenance Risk Assessment and Emergent Work

#### a. Inspection Scope (71111.13)

The inspectors reviewed the maintenance risk assessments and corrective maintenance work packages for the following emergent work, and discussed the deficient conditions with cognizant personnel (system engineers, maintenance technicians, and work planners). The inspectors evaluated the licensee's revisions to the daily plant risk profile (i.e., changes to the conditional core damage probability) and changes to the scheduled sequence of preplanned activities resulting from the emergent work:

- Microprocessor failure in the Reactor Vessel Level Indication System (RVLIS) Train A which disabled all core exit thermocouple (CET) indications associated with that train (September 19, 2001).
- Converter module failure in Tave Channel III (September 19, 2001).
- Shutdown of the 33 circulating water pump to test motor cooling coils for leakage (September 28, 2001).

#### b. Findings

No findings of significance were identified.

### 1R14 Personnel Performance During Non-Routine Plant Evolutions and Events

#### a. Inspection Scope (71111.14)

On August 24, 2001, the inspectors observed non-licensed operators swap the main feedwater (MFW) lube oil pumps. The licensee considered this to be a special evolution because IP3 has not routinely swapped the MFW lube oil pumps while the unit is operating and a past attempt to swap the lube oil pumps resulted in a plant trip. The inspectors used system operating procedure SOP-LO-002, "Main Boiler Feed Pump Lube Oil System Operation," to observe operator action.

#### b. Findings

No findings of significance were identified.

## 1R15 Operability Evaluations

### a. Inspection Scope (71111.15)

The inspectors evaluated the following operability determinations (ODs) to ensure that adequate basis existed regarding operability. The inspectors verified that the engineering justification for operability was sound; that compensatory actions, where required, had been implemented; and to what extent other existing degraded systems could have adversely impacted the affected system or compensatory actions. In addition, the inspectors evaluated whether the licensee's corrective measures and operational considerations had appropriately addressed all applicable technical specifications and IP3 design basis requirements. The inspectors also conducted field inspection-tours of some of the areas housing the systems in which the equipment discrepancies had been identified, to determine if the field conditions were consistent with the licensee bases for continued operability that was documented in each OD.

- OD 00-034: Fire Water Tank Valve FP-72
- OD 01-006: Westinghouse Direct Trip Relays
- OD 01-019: Emergency Diesel Generator Start Circuits
- OD 01-036: Seismic Analysis of the 10" pipe Service Water Supply off the Essential Service Water Header to the Turbine Building
- OD 01-037: RCS Flow Measurement Methodology Subject to Bias

### b. Findings

No findings of significance were identified.

## 1R19 Post Maintenance Testing

### a. Inspection Scope (71111.19)

The inspectors reviewed post-maintenance test procedures and associated testing activities to assess whether 1) the effects of testing in the plant had been adequately assessed by control room personnel, 2) testing was adequate for maintenance performed, 3) acceptance criteria were clear and adequately demonstrated operational readiness consistent with design and licensing documents, 4) test instrumentation had current calibrations, range, and accuracy for the application, and 5) test equipment was removed following testing. The following surveillance activities were evaluated:

- Work Request (WR) 00-05122-04: Service Water Leak Repair on the 32 Central Control Room Air Conditioning System (CCRACS) Condenser on September 5, 2001

The inspectors observed the maintenance activity and reviewed the post-maintenance tests (PMTs) for a service water (SW) leak on the 32 CCRACS condenser head to verify operability and functional capability of the 32 CCRACS train. The inspectors verified that the PMT demonstrated functional capability of the 32 CCRACS train as defined by the Technical Specification (TS) 3.7.12 Control Air Conditioning Systems and the design basis document IP3-DBD-315, Central Control Room Heating, Ventilation and Air Conditioning System.

- WR 01-01448-00 & 01-01449-00: Replace Regulator Valve with Isolation Valve on 31 & 32 Atmospheric Dump Valves

The inspectors reviewed the post-maintenance tests (PMTs) for the replacement of the regulator valve with an isolation valve on the instrument air lines to the 31 and 32 atmospheric dump valves, WR 01-01448-00 and WR 01-01449-00, respectively (September 19 and 20, 2001). The regulator valves were replaced (Design Change 96-3-084) because they were redundant with other inline regulator valves. The inspectors verified that the PMTs demonstrated the functional capability of the replacement valves. Technical Specification section 3.7.4, Atmospheric Dump Valves, and IP3-DBD-301, Main Steam System, were reviewed to determine the design basis requirements of the atmospheric dump valves.

- WR 99-01164-01: Post Work Test on Boric Acid Flow Control Valve FCV-110A

The inspectors observed the PMT and reviewed the PMT documentation for the replacement of the solenoid controller on the CH-SOV-110A, boric acid flow control solenoid valve under WR 99-01164-01 (August 23, 2001). The inspectors verified that the PMT demonstrated functional capability of valve CH-SOV-110A as delineated in the design basis document IP3-DBD-311, Chemical and Volume Control System, and specifically exercised the solenoid controller that was replaced.

- WR 97-05644-34; Post-modification installation test and calibration of Tave Channel III temperature converter module TM-432R (September 19, 2001). The inspectors observed the PMT and verified that the as-left calibration data was in accordance with the specifications in the work package. The calibration included a check of the low and high Tave alarm bistable setpoints. Also, when TM-432R was returned to service, the Channel III Tave input to the overpressure delta temperature (OPdT) and overtemperature delta temperature (OTdT) modules remained stable, and the OPdT and OTdT indications for all four channels were in alignment.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope (71111.22)

The inspectors observed portions of the following surveillance tests, and/or reviewed the test procedures and results to assess whether 1) the test preconditioned the component(s), 2) the effects of testing was adequately assessed in the control room, 3) the acceptance criteria demonstrated operational readiness consistent with design calculations and licensing documents, 4) the test equipment range and accuracy was adequate with proper calibration, 5) the test was performed in the proper sequence, and 6) the test equipment was removed following testing. The inspectors independently verified that the results for the applicable surveillance tests satisfied the technical

specification and/or surveillance procedure acceptance criteria, and that the test acceptance criteria were appropriate to demonstrate equipment operability.

- 3PT-Q125 “Full Length Rods Movement Exercise” (August 23, 2001).
- 3PT-Q118A “RHR Pump Functional Test” (August 23, 2001).
- 3PT-Q107 “Main Turbine Stop and Control Valve Exercise and Vibration Monitoring Test” (August 24, 2001). The inspectors reviewed the valves’ intended functions defined in the Technical Requirements Manual (TRM) Section 3.7.B, “Appendix R Alternate Safe Shutdown Equipment” and the surveillance requirements of TRM Section 3.8.A, “Turbine-Generator Electrical Output Limitations/Overspeed Protection.”
- 3PT-Q120A “31 ABFP (Motor Driven) Surveillance and IST” (August 27, 2001)
- 3 PC-Q109 “Nuclear Power Range Channels Axial Offset Calibration” (August 29, 2001).
- 3PT-Q031 “Inservice Inspection Test, Liquid Waste Disposal Containment Isolation Valves” (September 17, 2001).
- 3PT-Q92B “32 Service Water Pump Train Operational Test” (September 19, 2001). The inspectors compared the test acceptance criteria to the safety function requirements as outlined in Technical Specification section 3.7.9, “Service Water System, Final Safety Analysis Report section 9.6.1, “Service Water System,” and the Design Basis Document IP3-DBD-304, “Service Water System.” The inspectors also reviewed the surveillance against NUREG 1482, “Guidelines for Inservice Testing at Nuclear Power Plants,” and Generic Letter (GL) 89-04, “Guidance On Developing Acceptable Inservice Testing Programs.”
- 3PT-SA40 “Instrument Air System” (April 8, 2001).
- 3PT-M62 “480V Undervoltage/Degraded Grid Protection System Functional” (September 19, 2001)
- 3 PT-D005 “Reactor Thermal Power Calculation” (September 28, 2001)

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope (71111.23A)

The inspectors reviewed the work package for temporary modification TM 01-03002-01, “Patch on Unisolable Through-Wall Leak on the 20” Service Water Cross-tie between

Valves SWN-33-2 and SWN-31.” The leak was in ASME Section XI Class 3 piping (Lines #407 and #411), and closing these valves would have isolated service water flow to both component cooling water heat exchangers (DER 01-02751). The TM allowed the installation of a sealant to maintain the piping boundary, but was not intended to compensate for the structural integrity of the pipe. The licensee evaluated this leak under criteria contained in ASME Code Case N-513, “Evaluation Criteria for Temporary Acceptance of Flaws in Class 3 Piping,” and concluded that this TM could remain installed until plant conditions permitted a leak repair. The inspector observed the TM after it was installed and evaluated its effectiveness as determined by post installation testing contained in WR 01-03002-01, and by operability determination OD#01-0125, which concluded that the structural integrity of the piping was not affected by this leak

b. Findings

No findings of significance were identified.

**2. RADIATION SAFETY  
(Cornerstones: Public Radiation Safety )**

2PS1 Gaseous and Liquid Effluents

a. Inspection Scope (71122.01)

The inspectors reviewed the following documents to evaluate the effectiveness of the licensee’s radioactive gaseous and liquid effluent control programs.

- Technical Specifications/Offsite Dose Calculation Manual (TS/ODCM)
- 2000 Radiological Annual Effluent Release Report and Radiation Dose Assessment Report, dated April 19, 2001;
- Radioactive liquid (batch) release permits for 2001 including quantification techniques and projected dose calculation results to the public
- Radioactive gas releases (both batch and continuous) including quantification techniques and projected dose calculation results to the public
- Associated effluent control procedures, including analytical laboratory procedures
- Calibration records for laboratory measurements equipment (gamma spectrometry systems and liquid scintillation counter)
- Self-assessments, including: Assessment of Radiological Practices (May 2001); Updating the Turbine Hall Drains Quantification Trigger Level (August 2001); Primary to Secondary Leak Assessment (March 2001); Refueling Water Storage Tank (RWST) Vent Quantification from Volume Control Tank (VCT) Water to RWST (August 2001); and, 2000 Quality Assurance (QA) Radiochemistry Review (August 2001)
- QA audit for the radiological effluent control/ODCM implementations (Audit # A00-15 I)
- Ventilation filter testing program (VFTP) results [both high energy particulate and charcoal] for: 1) Fuel storage building emergency ventilation system; 2) Control room ventilation system; 3) Containment fan cooler units; and 4) Containment purge system.



The inspectors also conducted system walk-downs to determine the availability of radioactive liquid/gaseous effluent radiation monitoring system (RMS) and air cleaning systems and for determining the equipment material condition. The inspectors also reviewed the following system component records for appropriate calibration and functional testing, as required under the ODCM:

- Liquid Radwaste Effluent Line (R-18 and R-61)
- Steam Generator Blowdown Effluent Line (R-19)
- Service Water System Effluent Line (R-16A, R-16B and R-23)
- Waste Gas Holdup System Noble Gas Activity Monitor (R-20)
- Condenser Air Ejector Noble Gas Activity Monitor (R-15)
- Environmental Release Points Noble Gas Activity Monitors (R-27, R-46 and R-59)
- Containment Noble Gas Activity Monitor (R-12)
- Liquid Radwaste Effluent Line Flow Rate Measurement Device
- Steam Generator Blowdown Effluent Line Flow Rate Measurement Device

The inspectors reviewed the DERs, related to the radiological effluents program for the period January 1, 2001 to August 29, 2001, to ensure that the licensee's problems were being identified, characterized, prioritized, entered to a corrective action system, and resolved.

b. Findings

No findings of significance were identified.

2PS2 Radioactive Material Processing and Transportation

a. Inspection Scope (71122.02)

The inspectors reviewed the radioactive material processing and transportation work activities and practices during tours of the facilities and inspected procedures, procedural implementation, records, and other program documents to evaluate the effectiveness of the licensee's performance in this area.

The inspection included a walk-down of accessible portions of the station's radioactive liquid and solid waste collection, processing, and storage systems/locations to verify that the current system configuration and operation agreed with descriptions contained in the Final Safety Analysis Report (FSAR) and in the Process Control Program (PCP). The areas reviewed during the walk-down included buildings within the protected area (including the primary auxiliary building, fuel storage building, the waste hold-up tank area, and the radioactive machine shop building) and buildings and fenced areas outside the protected area (including the interim radioactive waste storage facility (IRWSF) and the old steam generator mausoleum).

The inspection included a selective review of the waste characterization and classification program for regulatory compliance, including the following items and procedures:

- The radiochemical sample analysis results for radioactive waste streams,

- The development of scaling factors for difficult to detect and measure radionuclides,
- The methods and practices to detect changes in waste streams as described in the PCP, and
- The methods and practices to determine waste classification (10 CFR 61.55) and to determine DOT shipment subtype (49 CFR 473).
- RE-PCP, Revision 7, Solid radioactive waste process control program
- RE-RWM-12-03, Revision 07, Waste classification compliance program
- RE-RWM-12-39, Revision 01, 10 CFR 61 Sampling

The inspection included a review of shipment preparation procedures and activities for regulatory compliance, including the following:

- Verification that training was provided to personnel involved in accordance with NRC Bulletin 79-19 and 49 CFR Part 172 Subpart H
- AP 7.1, Revision 6, Radioactive waste reduction program
- RE-RWM-12-02, Revision 13, Demineralizer liquid waste processing system
- RE-RWM-12-06, Revision 07, Radioactive waste handling and packaging
- RE-RWM-12-19, Revision 06, Use of WMG, Inc. shipping software
- RE-RWM-12-20, Revision 12, Radioactive material shipments
- RE-RWM-12-28, Revision 08, Interim radwaste storage facility and outside radioactive material storage areas
- RE-RWM-12-35, Revision 10, Spent resin transfer
- RE-RWM-12-38, Revision 00, Handling of the CNS 8-120B shipping cask
- Certificate of compliance No. 9168, Revision 12, Model No. CNS 8-120B package, June 25, 2001
- Inventory for the interim radwaste storage facility and outside radioactive material storage areas, July 30, 2001

The inspection involved a review of the following five non-exempted package shipment records for compliance with NRC and DOT requirements: Shipment nos. 01-003, 01-004, 01-020, 01-046, and 01-064.

In the area of identification and resolution of problems, the inspectors selected for review the following surveillance reports, self-assessments, and DERs. These items were related to the radioactive material and transportation programs and were initiated since the previous inspection in this area. The inspectors determined if the identified problems were entered into the licensee's corrective action program for resolution:

- Surveillance Report No. 00-09, April 14, 2000, Spent resin transfer and transport to Barnwell site
- Surveillance Report No. 00-19, July 27, 2000, Spent resin transfer
- Radiological and environmental services department's annual self-assessment report, July 2000 to July 2001
- Primary resin transfer/shipment post-job review July 23, 2001
- Radioactive waste management self-assessment observation third quarter 1999
- Radioactive waste management self-assessment observation first quarter 2000
- DERs 01-00313, -02215, -02330, -02640, -02892, -02899, -03147, and -03150

The review in this section was performed against criteria contained in 10 CFR 20, Subpart F (Surveys and monitoring), 20.1902 (Posting requirements), Subpart I

(Storage and control of licensed material), Subpart K (Waste disposal), Appendix G to Part 20 (Requirements for transfers of low-level radioactive waste intended for disposal at licensed land disposal facilities and manifests), 10 CFR 61.55 Waste classification, 61.56 Waste characteristics, 61.57 Labeling, 10 CFR 71 Packaging and transportation of radioactive material, 49 CFR Part 172 (Hazardous materials table, special provisions, hazardous materials communications, emergency response information, and training requirements), Part 173 (Shippers-general requirements for shipments and packagings), Subpart I (Class 7 (radioactive materials)), Part 177 (Carriage by public highway), NRC Bulletin 79-19, and site procedures (cited above in this section).

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES (OA)**

4OA1 Performance Indicator Verification

a. Inspection Scope (71151)

Radiological Effluents Technical Specification (RETS)/Offsite Dose Calculation Manual (ODCM) Radiological Effluent Occurrences

The inspectors reviewed a listing of all licensee DERs for the period January 1, 2001, through August 29, 2001, for issues related to the public radiation safety performance indicator, which measures radioactive gaseous and liquid releases that were above Technical Specification and/or Offsite Dose Calculation Manual limits.

The information contained in these records was compared against the criteria contained in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 1, to verify that all conditions that met the NEI criteria were recognized, identified, and reported as part of the Effluents Performance Indicator.

Transients per 7000 Critical Hours

The inspectors performed a periodic review of the 1<sup>st</sup> and 2<sup>nd</sup> quarters of 2001 performance indicator data submitted by the licensee for the unplanned power changes greater than 20% over 7000 critical hours to determine its accuracy and completeness. The inspectors researched the control room operating logs and the DER database, and did not identify any unplanned power reductions greater than 20% during the 1<sup>st</sup> and 2<sup>nd</sup> quarter 2001. The inspectors used the "Regulatory Assessment Performance Indicator Guidance," Nuclear Energy Institute (NEI) Report 99-02, Revision 1, to calculate the ratio of unplanned power changes per 7000 critical hours.

Safety System Unavailability - Residual Heat Removal and High Head Safety Injection

The inspectors performed a periodic review of 1<sup>st</sup> and 2<sup>nd</sup> quarters of 2001 performance indicator data submitted by the licensee for the safety system unavailability of the residual heat removal (RHR) and high head safety injection (HHSI) systems to determine its accuracy and completeness. The inspectors researched the control room operating logs, the DER database, and the work request (WR) database to identify

when the RHR and HHSI systems were out of service during the 1<sup>st</sup> and 2<sup>nd</sup> quarter 2001. The control room operating logs were also reviewed to determine the number of hours the two systems were required to be operational. The inspectors used the “Regulatory Assessment Performance Indicator Guidance,” NEI Report 99-02, Revision 1, to calculate the ratio of the number of hours the systems were unavailable to the number of hours the systems were required.

Drill and Exercise Performance, Emergency Response Organization Participation, and Alert and Notification System Reliability.

The inspectors reviewed the licensee’s process for identifying the data that is utilized to determine the values for the three emergency preparedness performance indicators which are: 1) Drill and Exercise Performance (DEP), 2) Emergency Response Organization Participation, and 3) Alert and Notification System (ANS) Reliability. The inspectors reviewed data from the third quarter of 2000 through the second quarter of 2001 using the criteria of NEI 99-02, Revision 1, “Regulatory Assessment Performance Indicator Guideline.” The inspectors reviewed attendance records for drill and exercise participation, selected drill scenarios to confirm DEP opportunities, and ANS test data for completeness and accuracy.

b. Findings

No findings of significance were identified.

40A6 Meetings

Exit Meeting Summary

On October 24, 2001, the inspectors presented the inspection results to Mr. R. Barrett and Entergy staff members who acknowledged the inspection results presented. The inspectors asked Entergy personnel whether any materials evaluated during the inspection were considered proprietary. No proprietary information was identified.

40A7 Licensee-Identified Violations

The following finding is of very low safety significance (Green), and was identified by the licensee. It was a violation of NRC requirements which meets Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a Non-Cited Violation (NCV).

NCV Tracking Number

Requirement the Licensee Failed to Meet

50-286/01-008-01

10 CFR 20.1501 requires, in part, that surveys be conducted, as necessary, to comply with the requirements of 10 CFR 20, including 10 CFR 20.1301 and 10 CFR 20.1802. On May 10, 2001, the licensee did not conduct adequate surveys to detect a discrete particle of radioactive contamination lodged on a worker’s garment as he exited the radiologically-controlled area. The particle was later detected and recovered onsite on May 17, 2001. The issue involving this matter was addressed by various

corrective actions and entered into the corrective action process as DER 01-02215. This issue is being treated as a Non-Cited Violation.

**ATTACHMENT 1****SUPPLEMENTAL INFORMATION**a. Key Points of Contact

K. Baumbach	Site Surveillance Coordinator
R. Barrett	Vice President, Operations - IP3
J. Barry	Sr. Radiological Engineer
C. Bristol	Maintenance Components Engineer
R. Burroni	I&C Manager
R. Cavaliere	Outage and Planning Manager
J. Comiotes	Director, Safety Assurance
E. Danko	Licensing Engineer
J. DeRoy	General Manager of Plant Operations
R. Deschamps	Radiation Protection Manager/RES Dept. Manager
J. Donnelly	Licensing Manager
J. Kayani	Systems Engineer
R. LaVera	Sr. Radiological Engineer
R. Lee	Mechanical Design Engineer
J. LePere	Waste Management General Supervisor
M. Licitra	Manager, Engineering Support
D. Mayer	Health Physics/Chemistry Manager
G. Moshier	Systems Engineer
J. Perrotta	Quality Assurance Manager
K. Peters	Corrective Actions and Assessment Manager
E. Reagan	Waste Management Operator
P. Rubin	Operations Manager
J. Russell	Special Projects Manager
S. Sandike	Plant Chemistry
M. Smith	Director, IP-3 Engineering
A. Stewart	Licensing Engineer
R. Tagliamonte	Waste Management Supervisor
A. Vitale	Maintenance Manager
J. Wheeler	Training Manager

b. List of Items Opened, Closed, and DiscussedOpened

None

Closed

None

Opened/Closed

50-286/01-008-01    NCV    Failure to control licensed radioactive material in accordance with 10 CFR 20.1802 (Section 40A7)

c. List of Acronyms

ANS	Alert and Notification System
CAF	containment access facility
CCRACS	central control room air conditioning system
CCW	closed cooling water
CET	core exit thermocouple
CFR	Code of Federal Regulations
COL	checkoff list
DBD	design basis document
DEP	drill and exercise performance
DER	Deviation/Event Report
EDG	emergency diesel generator
FCV	flow control valve
FP	fire protection
FCU	fan cooler unit
GL	Generic Letter
IR	inspection report
IRWSF	interim radioactive waste storage facility
HHSI	high head safety injection
JPMs	job performance measures
LOCA	loss of coolant accident
LORT	licensed operator requalification training
MFW	main feedwater
MSLB	main steam line break
NCV	non-cited violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
OD	operability determination
ODCM	offsite dose calculation manual
PCP	Process control program
PI	performance indicator
PM	preventive maintenance
PMT	post maintenance test
QA	quality assurance
RETS	radiological effluents technical specification
RMS	radiation monitoring system
RHR	residual heat removal
RVLIS	reactor vessel level indication system
RWST	reactor water storage tank
SDP	Safety Determination Process
SGTR	steam generator tube rupture
SI	safety injection
SOP	system operating procedure
SSCs	structures, systems and components
SW	service water

TRM	technical requirement manual
TS	technical specifications
VCT	volume control tank
VFTP	ventilation filter testing program
FSAR	Final Safety Analysis Report
WR	work request