June 28, 2002

Mr. Robert J. Barrett
Vice President, Operations
Entergy Nuclear Operations, Inc.
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. 50-286/02-03

Dear Mr. Barrett:

On May 18, 2002, 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 June 4, 2002, 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.

Based on the results of this inspection, an issue with on-site accountability was identified that related to an ineffective emergency planning procedure. This issue was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it has been entered into your corrective action program, the NRC is treating the issue as a Non-cited Violation in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny this Non-cited Violation, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Indian Point 3 facility.

Immediately following the terrorist attacks on the World Trade Center and the Pentagon, the NRC issued an advisory recommending that nuclear power plant licensees go to the highest level of security, and all promptly did so. With continued uncertainty about the possibility of additional terrorist activities, the Nation's nuclear power plants remain at the highest level of security and the NRC continues to monitor the situation. This advisory was followed by additional advisories, and although the specific actions are not releasable to the public, they generally include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with law enforcement and military authorities, and more limited access of personnel and vehicles to the sites. The NRC has conducted various audits of your response to these advisories and your ability to respond to terrorist attacks with the capabilities of the current design basis threat. On February 25, 2002, the NRC issued an Order to all nuclear power plant licensees, requiring them to take certain additional interim

compensatory measures to address the generalized high-level threat environment. With the issuance of the Order, we will evaluate Entergy's compliance with these interim requirements.

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 the 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).

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. 50-286/02-03

Attachment: Supplemental Information

cc w/encl: J. Yelverton, Chief Executive Officer
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D. Pace, Vice President - Engineering
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Chairman, Standing Committee on Environmental Conservation, NYS Assembly

Chairman, Committee on Corporations, Authorities, and Commissions
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No. 50-286

License No. DPR-64

Report No. 50-286/02-03

Licensee: Entergy Nuclear Northeast

Facility: Indian Point 3 Nuclear Power Plant

Location: 295 Broadway, Suite 3
Buchanan, NY 10511-0308

Dates: March 31 - May 18, 2002

Inspectors: P. Drysdale, Senior Resident Inspector
L. James, Resident Inspector
R. Lorson, Senior Resident Inspector, Salem
S. Barber, Senior Project Engineer
T. Burns, Reactor Inspector
J. McFadden, Radiation Specialist

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

SUMMARY OF FINDINGS

IR 05000286/02-03, on 03/31- 05/18/2002, Entergy Nuclear Northeast, Indian Point 3 Nuclear Power Plant. Resident inspection report.

The inspection was conducted by resident and regional inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/reactors/operating/oversight.html

A. Inspector Identified Findings

Cornerstone: Emergency Preparedness

No Color. On March 6, 2002, the licensee implemented changes to the accountability process that decreased the effectiveness of the Emergency Plan (E-Plan). This finding was considered more than minor because, if left uncorrected, it could become a more significant safety concern. Changing commitments in the E-Plan without prior approval potentially impacts the NRC's ability to perform its regulatory function, and potentially creates an ineffective response to a radiological emergency. The consequences of this change were minimal because, although delayed, it did not preclude the function of accountability from being performed. The licensee has entered this deficiency into the corrective action system as condition report CR-IP3-2002-00773, has implemented corrective actions, and has since met the timeliness goals. However, the change in the accountability process, which decreased the effectiveness of the E-Plan, was determined to be a violation of 10 CFR 50.54(q), and is being treated as a Non-cited Violation consistent with Section VI.A.1 of the Enforcement Policy, issued May 1, 2000 (65 FR 25388).

B. Licensee Identified Violations

None

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Report Details

SUMMARY OF PLANT STATUS

The reactor operated at full power during the entire inspection period. No significant equipment failures occurred that affected plant operation.

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

1R04 Equipment Alignment

.1 Partial System Walkdowns

a. Inspection Scope (71111.04)

- On April 25, 2002, the inspectors performed a partial system walkdown of the Appendix R Diesel Generator while one of the offsite power circuits was unavailable for maintenance. The purpose of this walkdown was to verify equipment alignment and identify any discrepancies that could impact the function of the Appendix R diesel generator and therefore potentially increase risk. This inspection was also performed to verify that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact mitigating system availability. The inspectors reviewed the status of key Appendix R components based on check-off list COL-EL-6, "Appendix R Diesel Generator." In addition, the inspectors compared the component positions defined in COL-EL-6 to the system operating procedure SOP-EL-013 "Appendix R Diesel Generator Operation," and off-normal operating procedure ONOP-EL-2, "Loss of 13.8 KV Power." One issue regarding the position of the lube oil drain valve was identified and documented in condition report CR-IP3-2002-01464.

- On May 16, 2002, the inspectors performed a partial system walkdown of the 31 and 33 auxiliary boiler feedwater pumps (ABFPs) and their associated valves, while the 32 ABFP was out of service for the calibration of its turbine speed controller (hand control valve HCV-1118). The inspectors used protective tagging order (PTO) 02-0353 to verify proper isolation of the 32 ABFP, and performed a post-maintenance walkdown to confirm the pump's restoration to service.

b. Findings

No findings of significance were identified.

1R05 Fire Protection

.1 Quarterly Fire Protection Inspections

a. Inspection Scope (71111.05Q)

The inspectors conducted fire protection tours in the fire zones listed below to observe if the licensee was 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, "Controlling of Ignition Sources;" to ensure that the licensee had provided the fire protection equipment as specified in Pre-Fire Plans (PFPs) listed below; and to assess the general material condition of the fire protection equipment and fire protection barriers. These areas were selected for inspection based on their high fire initiation risk and the safe shutdown equipment located in the areas.

- On April 25, 2002, the inspectors performed a fire protection walkdown of the Primary Auxiliary Building (PAB) Elevation 55 ft (Fire Area PAB-2) using PFP-10, "General Floor Plan - Primary Auxiliary Building."

- On April 24 and 26, 2002, the inspectors performed a fire protection walkdown of the Turbine Building Elevation 15 ft (Fire Area TBL-5) using PFP-36, "General Floor Plan - Turbine Building."

- On May 1, 2002, the inspectors performed a fire protection inspection of equipment areas on the 15 ft and 34 ft elevations of the PAB using PFP-05 "General Floor Plan - Primary Auxiliary Building," and PFP-06, "Safety Injection Pumps/Main Corridor - Primary Auxiliary Building."

b. Findings

No findings of significance were identified.

.2 Annual Fire Brigade Drill Observation

a. Inspection Scope (71111.05A)

On April 26, 2002, the inspectors observed an unannounced fire brigade drill in the auxiliary feedwater pump room to evaluate the readiness of the licensee's personnel to fight fires and prevent their spread. The inspectors observed the following aspects of the fire drill.

- The fire brigade members arrived at the fire location in protective clothing/turnout gear and self-contained breather apparatus (SCBA) equipment.
- Fire hose lines were capable of reaching all areas of the auxiliary feedwater pump room, that the lines were laid out without flow constrictions, and the hose was simulated being charged with water.
- The auxiliary feedwater pump room was entered in a controlled manner.
- The fire brigade members brought sufficient fire fighting equipment to the scene to properly perform their firefighting duties.
- The fire brigade members checked for propagation into other plant areas.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope (71111.12)

The inspectors reviewed the emergency diesel generator (EDG) system and its performance issues to assess the effectiveness of the licensee's Maintenance Rule program. Using 10 CFR 50.65, "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 Rule program in accordance with NRC regulations and guidelines; properly classifying equipment failures; and using the appropriate performance criteria for a Maintenance Rule system in 10 CFR 50.65 (a)(2) status. The inspectors reviewed the following EDG deficiencies:

- 32 EDG Lube Oil Heater Failures: The 32 EDG lube oil heaters have had several failures from blown fuses over the past 2 years. Since the EDGs were in Maintenance Rule status (a)(2) during the first quarter of year 2002, the inspectors evaluated recent lube oil heater failures in February and April 2002 to assure that the EDG out-of-service time was accurately tracked for Maintenance Rule unavailability. These deficiencies were documented in CR-IP3-2002-01614 on May 7, 2002, and DER 02-00358 on February 1, 2002.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Control

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, etc.):

- WR 02-01490-00; Minor Maintenance Work Order, hand control valve (HCV)-142 Packing Adjustment

  On May 10, 2002, the licensee identified an increase in total reactor coolant system (RCS) leakage from approximately 0.08 gpm to 0.16 gpm, which is substantially below the Technical Specification limit of 11 gpm. The subsequent investigation identified a potential packing leak on HCV-142 which maintains sufficient back pressure in the charging system header to ensure adequate reactor coolant pump seal injection flow. The licensee developed an action plan and prepared the work request and tagging orders to adjust the packing. The valve packing was successfully adjusted on May 15, 2002 and total RCS leakage was reduced to 0.08 gpm.

- WR 02-01490-00; Minor Maintenance Work Order, 31 Central Control Room Air Conditioning (CCRAC) Troubleshooting.

  On May 13, 2002, the licensee investigated a leak in the refrigerant system on the "A" train of the 31 CCRAC unit. The investigation was performed as minor maintenance. The refrigerant line connection to the filter dryer was found loose and the leak stopped when this connection was tightened.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope (71111.14)

- On March 22, 2002, the licensee entered the containment building to isolate a minor RCS leak of approximately one drop per three seconds that had developed past the seats of the 34 RCS loop drain valves RC-515A and RC-515B. The leakage had passed out through the packing of valve RC-515A and onto the containment floor and nearby pipe support structures (see Inspection Report 50-286/02-02). During the weeks of April 5 and May 10, 2002, radiological protection (RP) and engineering personnel performed follow-up video inspections inside the containment building to investigate the areas where the leakage had occurred. The videos included close-up views of valves RC-515A & B, and of steel support structures where boron deposits had accumulated. The inspectors reviewed the video tape results and discussed with engineering personnel the effectiveness of the actions taken to isolate the leakage. All video results indicated that the leakage was stopped and that the boron accumulation on support structures in the lower levels of containment was not significant.

- On May 14, 2002, an inappropriate valve line-up for the 31 Cation Bed Demineralizer caused an excess dilution of the chemical and volume control system (CVCS) volume control tank (VCT). This resulted in a low boron concentration in the charging make-up water to the RCS, and a diversion of the normal RCS letdown flow into the CVCS waste hold-up tank (see report section 4AO3). Although the diluted VCT water was initially injected into the RCS, operators took actions to heavily borate the VCT to compensate for the initial dilution, and to avoid a significant change in the average RCS temperature (Tavg). The result was a slight decrease in reactor power (<0.5%). The inspectors attended the debriefing for plant operators following the event to evaluate operator actions, and reviewed plant data recorded during the event to evaluate the plant response.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope (71111.15)

The inspectors reviewed various DERs on degraded or non-conforming conditions that raised questions on equipment operability. The inspectors reviewed the resulting operability determinations (ODs) for technical adequacy, whether or not continued operability was warranted, and to what extent other existing degraded systems adversely impacted the affected system or compensatory actions. The following DERs, calculations, and operability evaluations were evaluated:

- DER 02-01275 (April 4, 2002) documented that the 33 Service Water Pump (SWP) did not meet its Inservice Testing (IST) criteria as defined in surveillance procedure 3PT-Q92C, "33 Service Water Pump Train Operational Test."

  OD 02-13: Evaluation of the 33 SWP. The licensee evaluated continued plant operation with the 33 SWP flow characteristics outside the acceptable range specified by the IST criteria and defined in surveillance procedure 3PT-Q92C. The licensee based the operability determination on hydraulic curves which showed that up to 18% degraded pump flow was acceptable for plant operation. The 33 SWP was found to be approximately 7% degraded on April 4, 2002.

- DER 02-01577 (May 1, 2002) was initiated by the licensee's corporate radiological engineering group, and documented a potential for early post-LOCA leakage through an engineered safety feature (ESF) system outside containment. In the event of a failure of the electrical bus that supplies power to the reactor coolant pump seal water return line isolation valve (CH-MOV-222), the valve would fail open on loss of power to its operator. In that circumstance, a Phase B containment isolation signal would not isolate the CVCS system from containment due to CH-MOV-222 being open, and leakage through the CVCS system would add to the total ESF leakage outside containment. This scenario had potential consequences for operability of the control room ventilation system, which becomes inoperable at 2.0 gallons per hour (gph) total external ESF system leakage.

  OD 02-01: Engineered Safety Feature Leakage. The Operations department evaluated the potential impact of DER 02-01577 on the operability of the control room ventilation system, which is limited to 2.0 gph external ESF leakage for control room habitability. The licensee performed a review of the recent cumulative leakage test data from all ESF systems outside containment (including CVCS) for November 16, 2001 through March 30, 2002. The total average leakage was approximately 0.165 gph, and no individual leakage test exceeded 0.170 gph. This value was significantly below the administrative limit of 1.9 gph for operability of the ventilation system. The licensee continued to investigate potential design issues related to an early post-LOCA leakage path into the CVCS system; however, the OD concluded that the control room ventilation system would be operable during the early post-LOCA period based upon the actual ESF system leakage being well below the maximum allowable.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing

a. Inspection Scope (71111.19)

The inspectors reviewed post-maintenance test (PMT) procedures and associated testing activities to assess whether 1) the effect of testing in the plant had been adequately addressed by control room personnel; 2) testing was adequate for the 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 PMT activities were observed and evaluated:

- WR 01-04433-04; PMT following replacement of the 33 safety injection component cooling water (SICCW) pump casing suction test indication isolation valve (AC-8027). The inspectors reviewed the PMT to determine whether it's scope and acceptance criteria were appropriate for the maintenance performed.

  Additionally, the inspectors reviewed the immediate and planned corrective actions performed in response to deviation/event reports (DERs) 02-01130 and 02-01138. These DERs identified that valve AC-749F (isolation for the component cooling water return from the 33 SI pump cooler outlet) had not been properly positioned during an initial post-maintenance restoration valve line-up. The inspectors reviewed the licensee's subsequent actions to re-position this valve and the planned actions to enhance the system check-off list.

- WR 01-01325-01; PMT following maintenance of the 33 ABFP motor to verify alignment of the motor to pump shafts in accordance with procedure PMP-024-BFD, "Inspection and/or Repair of Motor Driven Auxiliary Boiler Feed Pumps #31 and #33."

- WR 02-01107-00; PMT following removal of one ring of packing on the outboard 33 ABFP seal gland and re-adjustment of the packing gland using applicable sections of procedure PMP-024-BFD. DER-02-01252 was initiated to address minor leakage noted at the pump's upper casing studs.

- WR 02-00495-02&03; PMT following scheduled preventive maintenance (PM) to troubleshoot, repair, replace, and calibrate, as necessary, 6.9KV electrical distribution system over-current relays ST5-51/ST5-C, phases "C" and "N" in accordance with the relay data sheet included in the work request.

- WR 02-01384-01; PMT and operability test following replacement of the 480-208/120VAC 15KVA Transformer associated with the auto release of Fire Door FDR-30-CB. The operability test was performed in accordance with procedure 3PT-A42, "Heat Detector Actuation Test for Fire Door FDR-30-CB."

- WR 01-04778-01; PMT following replacement of the 33 SWP. The test was performed in accordance with procedure ENG-259J, "33 Service Water Pump Reference Test," that was used to baseline the new pump's performance.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope (71111.22)

The inspectors reviewed a sample of the periodic surveillance activities performed by Indian Point 3 personnel to verify that structures, systems and components (SSCs) were reliable, available and/or operable. Portions of the following surveillance tests were observed and evaluated to assess whether 1) the test preconditioned the component(s); 2) the effect of testing was adequately addressed 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.

- 3PT-Q120C, "33 ABFP (Motor Driven) Surveillance and IST;" April 11, 2002
- 3PT-Q118A, "RHR Pump Functional Test," (31 RHR pump); April 30, 2002
- 3PT-Q97, "Steam Generator Level Analog Functional;" April 30, 2002

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope (71111.23A)

The inspectors reviewed the installation work package (WR 97-04778-02) for temporary modification TM 97-04778-00, "CCR Intake Structure or Traveling Water Screen Trouble Alarm Defeated." This TM was selected for review due to the high potential for seasonal river debris to enter the intake structure.

Central Control Room (CCR) operators had experienced numerous alarms in the CCR that were caused by a defective charger for the backup battery in the intake structure ventilation system control panel. The TM installed a jumper across a relay (R-13) which defeated the alarm signal from the control panel. The inspectors confirmed that all other alarms for the traveling water screens remained active after relay R-13 was defeated, and that any potential problem from river debris in the intake structure would activate an alarm in the control room. The inspectors also verified that the intake structure and service water pump room remained well ventilated, and that the ventilation fans and louvers functioned in the automatic mode. The licensee planned to remove this TM after procurement of a new microprocessor control panel that was scheduled for installation during the week of July 28, 2002.

b. Findings

No findings of significance were identified.

EMERGENCY PREPAREDNESS

1EP6 Drill Evaluation

a. Inspection Scope (71111.23A)

The inspectors observed the accountability drill on April 10, 2002 that demonstrated the revised Emergency Planning Implementing Procedures (EPIP) were capable of completing site-wide (Units 2 and 3) personnel assembly and accountability when either Indian Point Unit 2 or 3 declares a Site Area emergency. The EPIP procedures were revised on April 10, 2002 as a result of the licensee not meeting the 30 minute accountability commitment during a drill on March 8, 2002.

b. Findings

NO COLOR. On March 6, 2002, the licensee implemented revised accountability procedures that required the Unit 3 Lead Accountability Officer to perform accountability for both Indian Point Units 2 and 3. The revised process and procedures resulted in the licensee exceeding the 30-minute commitment of the Unit 2 Emergency Plan (Section 6.4.1.d, Unit 2 Implementing Procedure 1027 section 5.1.2.f, and Unit 3 Emergency Plan Implementing Procedure 1050) by eight minutes during a drill on March 8, 2002. The licensee initiated condition report CR-IP3-2002-00773 (DER 02-00773) to document this deficiency. Corrective action implemented in response to the CR returned the accountability process to the previous method of the Unit 2 Accountability Clerks completing accountability for Unit 2 and the Unit 3 Lead Accountability Officer completing accountability for Unit 3. The effectiveness of the corrective actions were demonstrated during an April 10 drill, where the licensee demonstrated onsite accountability in less than 30 minutes.

10 CFR 50.54(q), states, in part, that changes made to the Emergency Plan (E-Plan) that decrease its effectiveness require prior NRC approval. The changes made to the accountability process on March 6, 2002, decreased the effectiveness of the E-Plan such that the licensee was not able to perform site-wide accountability within the time limit prescribed in the E-Plan and its implementing procedures, and prior NRC approval was not obtained. This issue was determined to be a violation of 10 CFR 50.54(q) and was entered into the corrective action system as CR-IP3-2002-00773 (DER 02-00773).

Following the guidance of Inspection Manual Chapter 0610*, Appendix B, the finding was considered more than minor because, if left uncorrected, it could become a more significant safety concern. Significantly, changing commitments in the E-Plan without prior approval potentially impacts the NRC's ability to perform its regulatory function, and potentially creates an ineffective response to a radiological emergency. The consequences of this change were minimal because, although delayed, it did not preclude the function of accountability from being performed. The licensee has implemented the corrective actions stated above and has since met the timeliness goal. This change, which decreased the effectiveness of the E-Plan, is being treated as a Non-cited Violation consistent with Section VI.A of the Enforcement Policy, issued May 1, 2000 (65 FR 25388). (**NCV 50-286/02-03-02**).

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety (OS)

2OS1 Access Control To Radiologically Significant Areas

a. Inspection Scope (71121.01)

The inspectors reviewed the effectiveness of access controls to radiologically significant areas. The inspectors toured the radiologically-controlled areas (RCAs) including: the health-physics (HP) access-control point, the HP counting facilities, and various elevations of the primary auxiliary, radioactive waste handling, and fuel storage buildings. The inspectors reviewed the adequacy of the labeling, posting, and barricading of radioactive material areas, radioactive contamination areas, and radiation and high radiation areas. The status of locked high radiation areas was also reviewed. The inspectors observed activities at the main RCA-access-control point to verify compliance with requirements for RCA entry and exit, wearing of record dosimetry, and issuance and use of alarming electronic radiation dosimeters.

During a review of the following radiation-work permits (RWPs), procedures, and documents, the inspectors evaluated the adequacy of the licensee's controls for access to radiologically-controlled areas.

- RWP 02-0009, "Assessments in the RCA - Routine," Rev. 0
- RWP 02-0018, "Work on Valves, Flanges, Fittings, and Pumps - Routine" Rev. 0 (used for work on the spent fuel pool skimmer pump during the week of April 8, 2002)
- RWP 02-0028, "Containment Entry-Reactor Critical-Work Outside the Crane Wall," Rev. 15 (used for replacement of air valves for 200A/B/C during the period of March 15 - 23, 2002)
- RWP 02-0030, "Special Evolution on RC-515A & B," Rev. 1 (work in containment at fullpower inside the crane wall during the period of March 29, 2002 to April 5, 2002)
- Procedure AP 19.1, "Infrequently Performed Tests and Evolutions," Rev. 8
- Procedure RE-REA-4-1, "Radiation Work Permit (RWP)," Rev. 17
- Procedure RE-REA-4-6, Containment Entry at Power or Initially After Shutdown, Rev. 13
- Procedure RE-SUR-6-6, "Health Physics Periodic Task Scheduling," Rev. 13
- Procedure RE-SUR-6-7, "Personnel Monitoring Instrument Functional Checks," Rev. 7
- RE-SUR-6-6, Attachment 2, Sheet 4 of 4, "Health Physics Daily Routines," records for April 1 through April 10, 2002
- IP-RES-2002-019, "Radioactive Material and Contamination Control Review," dated April 1, 2002
- RCA Assessment Check List used by health physics technicians
- IP-WMD-2002-001, Waste Management On-going Self-assessment for Fourth Quarter of 2001, dated January 23, 2002
- IP-WMD-2002-004, Waste Management 2001 Shipping File Self-assessment; dated January 31, 2002

The inspectors reviewed the following eight DERs and their associated Action Commitment Tracking System (ACTS) items for appropriateness of categorization,

immediate correction actions, and corrective actions to prevent recurrence, and for the timeliness and effectiveness of corrective actions: DERs 02-00313, 00466, 00549, 00553, 00590, 00623, 00829, and 01225. These DERs were generated during the reviewed period of early January 2002 to early April 2002.

The review of the above documents and activities was against the criteria contained in: 10 CFR Parts 20.1201 (Occupational dose limits for adults), 20.1204 (Determination of internal exposure), 20.1208 (Dose equivalent to an embryo/fetus), Subpart F (Surveys and monitoring), 20.1601 (Control of access to high radiation areas), Subpart H (Respiratory protection and controls to restrict internal exposures in restricted areas), 20.1902 (Posting requirements), site Technical Specification 6.12 (High Radiation Area), and the site procedures identified above in this section.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning and Control

a. Inspection Scope (71121.02)

The inspectors reviewed the effectiveness of ALARA (As Low As Reasonably Achievable) planning and control. The final cumulative personnel radiation exposure total for the year 2001 refueling-outage (RO-11) was 118.160 person-rem. The licensee estimated eleven person-rem for the cumulative personnel radiation exposure for the year 2002 and established a site goal of nine person-rem. The inspectors reviewed the departmental breakdown for the estimate for the current year and the actual versus projected person-rem at the time of the inspection. The inspectors also reviewed the planning and preparation, the dose estimate, and the dose results for the work done in containment at full power under RWP 02-0030 which was performed in accordance with procedure AP 19.1, “Infrequently Performed Tests and Evolutions.”

The inspectors reviewed the following procedures, records, and documents for regulatory compliance, and for adequacy of control of radiation exposure:

- Procedure AP 19.1, “Infrequently Performed Tests and Evolutions,” Rev. 8
- Procedure RE-ALA-2-3, “Temporary Shielding Control,” Rev. 7
- Procedure RE-REA-4-1, “Radiation Work Permit (RWP),” Rev. 17
- ALARA dose estimate/budget for RWP 02-0028 (replacement of air valves CH-200A/B/C)
- ALARA Dose Estimate/Budget for RWP 02-0030, Special Evolution on RC-515A & B (work in containment at full power inside the crane wall during the period of March 29, 2002 to April 5, 2002), Rev. 01
- Agenda and Minutes for the Site ALARA Committee Meeting on February 28, 2002
- IRES-APL-01-003, “Outage Dose Reduction Project”
- IRES-APL-02-001, “2002 Radiological Exposure Goal Action Plan,” Rev. 0, February 1, 2002
- Temporary Shielding Log Audit and Temporary Shielding Inspection; dated March 22, 2002
- Corrections for temporary-shielding-inspection and temporary-shielding-log audit; dated March 29, 2002

The review of the above documents was against the criteria contained in 10 CFR 20.1101 (Radiation protection programs), in 10 CFR 20.1701 (Use of process or other engineering controls), and in site procedures identified above in this section.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation

a. Inspection Scope (71121.03)

The inspectors reviewed the licensee's program for health physics instrumentation to determine the accuracy and operability of the instrumentation. During plant tours, the inspectors reviewed field instrumentation utilized by health physics technicians and plant workers to measure radioactivity and radiation levels, including portable field survey instruments, hand-held contamination frisking instruments, and continuous air monitors. The inspectors verified current calibrations, appropriate source checks, and proper instrument functions.

The inspectors also evaluated the following procedures and records for regulatory compliance and adequacy.

- Procedure RE-DOS-8-16, "Dosimetry Discrepancy Evaluation," Rev. 9
- Procedure RE-INS-7CE-8, "Calibration of the N.N.C. Gamma 60 Portal Radiation Monitors," Rev. 7
- Procedure RE-INS-7UE-8, "Use of the National Nuclear Corporation Gamma 60 Portal Radiation Monitor," Rev. 1
- Procedure RE-INS-7UF-13, "Use of the Whole-Body-Counting System," Rev. 10
- Procedure RE-RP-10-4, "Respirator Maintenance Program," Rev. 8
- Calibration Report for the Canberra Fastscan Whole-Body-Counting System; dated March 7, 2001
- Energy and efficiency calibration records for the Canberra Fastscan Whole-Body-Counting System; completed on March 27, 2002
- Certificate of Calibration for standard radionuclide source No. 63203-121 with calibration date of January 1, 2002 and used for whole-body-counter calibration on March 27, 2002
- Daily quality control source count and background count records for the whole-body-counting system from March 26 to April 10, 2002
- Calibration records for N.N.C. Gamma 60 Portal Radiation Monitor Nos. 11252, 11455, 11456, 11483, and 11566 on November 28, 2001, November 29, 2001, November 29, 2001, March 20, 2001, and November 26, 2001, respectively.

The review of the above documents was against the criteria contained in 10 CFR 20.1501, 10 CFR 20 Subpart H, site Technical Specifications, and site procedures.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA2 Identification and Resolution of Problems

a. Inspection Scope (71152)

- The inspectors conducted a problem identification and resolution (PI&R) sample inspection to review a series of mis-positioning events that occurred early in 2001 (DER 01-0842). This review also included an evaluation of the identified root causes and the corrective actions taken. The inspectors reviewed the performance history in this area for the remainder of 2001 and for 2002 until the end of April. The inspectors questioned Entergy operations personnel on the scope of the actions taken in the DER, the schedule for completing corrective actions, and the categorization of various system status control events as mis-positioning events.

  In addition to DER 01-0842, the inspectors noted that a root cause team investigated 21 DERS from year 2000 and 11 DERs from year 2001. All of the DERs were attributed to either weak or inadequate barriers and were screened into six categories: human performance, procedure quality, corrective action, procedure use, unclear expectations, and process weakness. To address these weak or inadequate barriers, the team implemented a number of comprehensive corrective actions and improvements that have reduced the frequency and significance of these events.

- The inspectors reviewed the planned and completed corrective actions for events that involved the removal or altering of protective tagging orders (PTOs) without notifying all the clearance holders. These events were documented in DER 01-2904, “Inappropriate Change of PTO for WR 99-04311-00,” DER 01-2142, “PTO Not Maintained for an I&C Task,” and DER 01-04016, “Removal of PTO Protective Tags While Work Still In Progress.” The alteration and/or removal of a PTO without notification of all clearance holders could potentially affect both industrial and nuclear safety and result in injury to a worker, an initiating event, and/or damage to a mitigating system.

The inspectors reviewed the following documents:

1) The Category 1 Root Cause Report prepared to investigate the DER 01-2142 event;
2) Administrative Procedure, AP-10.1, "Protective Tagging;"
3) The self-assessment and corrective action section of a corporate self-assessment report dated March 11-15, 2002;
4) Operations Department Protective Tagging Self-Assessment Report, dated January 14 - 18, 2002;
5) Selected DER summary reports related to PTO problems identified during the past year.

Additionally, the inspectors interviewed the Operations and Assistant Operations Manger to identify the planned and in-progress corrective actions designed to correct recent PTO preparation errors identified during the review of the DER summary reports.

The licensee's planned and completed corrective actions for the premature PTO removal events included: a safety stand-down for personnel involved in PTO activities to heighten awareness to problems associated with premature PTO removal, the planned development of a PTO practical factors training simulator, and the revision of the AP 10.1 procedure to require that each job supervisor receive a tagging clearance when multiple jobs are covered under one PTO. To address the issues associated with PTO errors, the licensee removed the responsibility for PTO preparation from the work week managers and assigned it to a dedicated licensed operator. The inspectors determined that the actions to prevent recurrence of the premature PTO removal problem appeared appropriate. The actions to reduce the PTO preparation errors were only recently implemented and the effectiveness of these actions had not yet been demonstrated.

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up

a. Inspection Scope (71153)

On May 14, 2002, the licensee prepared to rinse the 31 Cation Bed Demineralizer into the Spent Resin Storage Tank (SRST) in advance of a planned resin discharge to the SRST. During the preparation valve line-up, a nuclear plant operator (NPO) mistakenly left open the demineralizer outlet isolation valve (CH-391) instead of verifying the valve closed as required by procedure SOP-CVCS-009A, "Resin Replacement-CVCS Demineralizers." When a second NPO pressurized the cation bed with primary water (PW) for the rinse, the open CH-391 valve allowed PW to flow from the demineralizer into the charging and volume control system (CVCS) volume control tank (VCT). An unexpected addition of approximately 120 gallons of PW to the VCT occurred, which raised the water level from approximately 32% to 40% and diluted the VCT boron concentration. This resulted in a lower boron concentration in the charging make-up water to the RCS. When the NPO then opened the demineralizer drain valve to begin the rinse, most of the normal RCS letdown flow was diverted into the CVCS waste hold-

up tank through the demineralizer. With continuous charging to the RCS ongoing, the diversion of RCS letdown flow caused the VCT level to decrease to less than 25% before the NPO closed the demineralizer drain valve. The control room supervisor directed reactor operators to perform a manual makeup to the VCT with a heavier than normal boron concentration to prevent further dilution of the RCS.

The inspectors reviewed the plant system data records from the plant computer; discussed the reactivity implications of the event with operations management; and observed the post-event debriefings attended by the operators, NPOs, and health physics personnel associated with the event.

b. Findings

During the system transient, control room operators noted an overall slight decrease (0.2°F) in average RCS temperature (Tavg). There was no perceptible change in reactor power from the nuclear instrumentation; however, the plant computer recorded a slight decrease in power of less than 0.5%. Although the diluted VCT water was initially injected into the RCS, operator actions to heavily borate the VCT avoided a significant change in Tavg and an increase in reactor power.

The licensee's preliminary analysis indicated that the pre-job briefing conducted prior to the resin discharge evolution was inadequate. No operations supervision was present during the briefing, or during the actual evolution. The evolution was also not treated as a potential reactivity management issue, or something that could have potential reactivity consequences. The NPO who left valve CH-391 open had read procedure SOP-CVCS-009A prior to manipulating demineralizer valves, but did not adhere to the procedure when performing the initial line-up. Since the initial valve manipulations were inside a high radiation area, the NPO did not have the procedure in hand. In addition, the NPOs did not practice normal self-checking, and did not perform an independent verification of valve positions. The licensee entered this event into the corrective action system as CR-IP3-2002-01710, and planned to perform a full root cause analysis to determine the corrective actions needed to prevent a recurrence. At the conclusion of this inspection, the analysis was not complete. Pending NRC review of the completed analysis, and subsequent evaluation of the risk significance associated with the event, this item will remain unresolved **(URI 50-286/02-04-02)**.

4OA6 Meetings

Exit Meeting Summary

NRC and Entergy management met for the IP3 annual performance assessment meeting at 2:00 p.m., April 11, 2002, in Verplanck, NY. The meeting was open to the public. The purpose was to review IP3 performance for the period April 1, 2001 through December 31, 2001. During the meeting, Entergy's management discussed their plant performance related activities. The meeting provided a useful exchange of information about Entergy's IP3 performance.

On June 4, 2002, 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.

ATTACHMENT 1

SUPPLEMENTAL INFORMATION

a. Keys Points of Contact

R. Barrett	Vice President, Operations - IP3
R. Cavalieri	Site Planning and Outage Services Manager
J. Comiotes	Director, Nuclear Safety Assurance
J. DeRoy	General Manager of Plant Operations
J. Donnelly	Licensing Manager
M. Gillman	Operations Manager
J. Perrotta	Quality Assurance Manager
K. Peters	Corrective Actions and Assessment Manager
M. Smith	Director, IP-3 Engineering
A. Vitale	Maintenance Manager
C. Welling	Radiation Protection/Chemistry Dept. Manager
J. Wheeler	Training Manager

b. List of Items Opened, Closed, and Discussed

Opened

50-286/02-03-02	URI	Inadequate procedure adherence and an incorrect valve line-up caused a CVCS system transient that resulted in an inadvertent dilution of the VCT and unplanned over-boration of make-up water to the RCS.

Closed

50-286/01-06-01	FIN	(Administrative Closure) Increased risk and credible impact on safety associated with how and when the backup spent fuel pool cooling system was utilized; support system unreliability; and associated management oversight. This item was left open from IR 50-286/01-06.
50-286/99-01-02	URI	(Administrative Closure) URI 50-286/1999-01-02 was incorrectly closed in IR 50-286/02-02 as 50-286/1999-01-01.

Opened/Closed

50-286/02-03-01	NCV	Violation of 10 CFR 50.54(q) for a decrease in the effectiveness of the site emergency plan.

c. List of Acronyms

ABFP	Auxiliary Boiler Feedwater Pump
ACTS	Action Commitment Tracking System
AP	Administrative Procedure
CCR	Central Control Room
CCRAC	Central Control Room Air Conditioning System
CFR	Code of Federal Regulations
COL	Checkoff List
CR	Condition Report
CVCS	Chemical and Volume Control System
DBT	Design Basis Threat
DER	Deviation/Event Report
EDG	Emergency Diesel Generator
E-Plan	Emergency Plan
EPIP	Emergency Plan Implementing Procedure
ESF	Engineered Safety Feature
FIN	Finding
FP	Fire Protection
HCV	Hand Control Valve
I&C	Instrumentation and Control
IR	inspection report
IST	inservice test
HP	Health Physics
LOCA	Loss of Coolant Accident
NCV	Non-cited Violation
NPO	Nuclear Plant Operator
NRC	Nuclear Regulatory Commission
OD	Operability Determination
PAB	Primary Auxiliary Building
PFP	Pre-Fire Plan
PMT	Post-Maintenance Test
PTO	Protective Tagging Order
PW	Primary Water
QA	Quality Assurance
RCA	Radiologically Controlled Area
RCS	Reactor Coolant System
RHR	Residual Heat Removal
RWP	Radiological Work Permit
SCBA	Self-contained Breathing Apparatus
SI	Safety Injection
SICCW	Safety Injection Component Cooling Water
SOP	System Operating Procedure
SSCs	Structures, Systems, and Components
SWP	Service Water Pump
Tavg	Average Reactor Coolant System Temperature
TM	Temporary Modification
TS	Technical Specifications
URI	Unresolved Item
VCT	Volume Control Tank
WR	Work Request