



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION I  
2100 RENAISSANCE BLVD., SUITE 100  
KING OF PRUSSIA, PA 19406-2713

November 5, 2014

Mr. Lawrence Coyle  
Site Vice President  
Entergy Nuclear Northeast  
James A. FitzPatrick Nuclear Power Plant  
P.O. Box 110  
Lycoming, NY 13093

**SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT - NRC INTEGRATED  
INSPECTION REPORT 05000333/2014004**

Dear Mr. Coyle:

On September 30, 2014, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your James A. FitzPatrick Nuclear Power Plant (FitzPatrick). The enclosed inspection report documents the inspection results, which were discussed on October 21, 2014, with Mr. Brian R. Sullivan, General Manager, Plant Operations, and other members of your staff.

The inspection examined 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. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

The report documents one Severity Level IV violation. Additionally, a licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as non-cited violations, consistent with Section 2.3.2.a of the NRC Enforcement Policy. If you contest the non-cited violations 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 I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at FitzPatrick.

In accordance with Title 10 of the *Code of Federal Regulations* (CFR) 2.390 of the NRCs "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly

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Sincerely,

*/RA/*

Arthur L. Burritt, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Docket No. 50-333  
License No. DPR-59

Enclosure: Inspection Report 05000333/2014004  
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION I**

Docket No. 50-333

License No. DPR-59

Report No. 05000333/2014004

Licensee: Entergy Nuclear Northeast (Entergy)

Facility: James A. FitzPatrick Nuclear Power Plant

Location: Scriba, NY

Dates: July 1, 2014 through September 30, 2014

Inspectors: E. Knutson, Senior Resident Inspector  
B. Sienel, Resident Inspector  
J. Ayala, Reactor Engineer  
E. Burket, Emergency Preparedness Specialist  
T. Burns, Reactor Inspector  
T. Dunn, Operations Engineer  
B. Fuller, Senior Operations Engineer  
J. Petch, Project Engineer  
R. Rolph, Health Physicist  
T. Setzer, Senior Project Engineer

Approved by: Arthur L. Burritt, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

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## SUMMARY

IR 05000333/2014004; 07/01/2014 - 09/30/2014; James A. FitzPatrick Nuclear Power Plant (FitzPatrick); Licensed Operator Requalification Program.

This report covered a three-month period of inspection by resident inspectors and announced inspections and in-office reviews performed by regional inspectors. Inspectors identified one Severity Level IV non-cited violation (NCV). The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process (SDP)," dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," dated December 19, 2013. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

### Cornerstone: Initiating Events

- Severity Level IV. The inspectors identified a Severity Level (SL) IV NCV of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.74, "Notification of Change in Operator or Senior Operator Status." Specifically, on three occasions, Entergy staff did not notify the NRC of a change in the medical status of a licensed operator within 30 days of learning of the diagnosis. These issues were entered into the corrective action program (CAP) as condition report (CR)-JAF-2014-02227 and CR-JAF-2014-02304.

The inspectors determined that Entergy's failure to notify the NRC of licensed operator medical status changes as described above within 30 days was a performance deficiency that was within Entergy's ability to foresee and correct and should have been prevented. Because the issue had the potential to affect the NRC's ability to perform its regulatory function, the inspectors evaluated this performance deficiency in accordance with the traditional enforcement process. Using example 6.4.d.1(b) from the NRC Enforcement Policy, the inspectors determined that the violation was a Severity Level IV (more than minor concern that resulted in no or relatively inappreciable potential safety or security consequence) violation because Entergy staff did not communicate licensed operator permanent medical status changes within the 30 day reporting requirement for three licensed operators. In accordance with IMC 0612, "Power Reactor Inspection Reports," traditional enforcement issues are not assigned cross-cutting aspects. (Section 1R11)

### Other Findings

A violation of very low safety significance that was identified by Entergy was reviewed by the inspectors. Corrective actions taken or planned by Entergy have been entered into the CAP. The violation and corrective action tracking number are listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status

FitzPatrick began the inspection period at approximately 85 percent power, limited by turbine/condenser parameters due to operation with only two of three main circulating water pumps in service. This configuration was being used in an attempt to reduce the frequency of main condenser tube leaks and resultant power reductions for repairs. On July 9, 2014, operators reduced power to 65 percent to perform a control rod sequence exchange, channel-control blade interference testing, and turbine valve testing, and restored power to approximately 85 percent. On three occasions (August 14, August 15, and August 18), operators performed short duration power reductions to 50 percent to address main condenser tube leakage, and then restored power to approximately 85 percent. On August 21, 2014, operators again reduced power to 50 percent to address main condenser tube leakage. However, on this occurrence, operators restored power to approximately 70 percent in a further attempt to reduce the frequency of main condenser tube leaks. On August 24, 2014, operators shut down the reactor to commence refueling outage 21 (RO-21) and maintained the plant shut down for the remainder of the inspection period.

### 1. REACTOR SAFETY

#### **Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity**

#### 1R01 Adverse Weather Protection (71111.01 - 1 sample)

##### Readiness for Impending Adverse Weather Conditions

##### a. Inspection Scope

On August 14, 2014, the inspectors reviewed FitzPatrick's response to high winds due to an arriving weather front. The inspectors walked down exterior portions of the plant to identify loose or inadequately protected equipment and materials. The inspectors verified that the circulating water and service water systems were operating in accordance with procedural requirements for high wind conditions. The plant did not experience any significant operational issues as a result of the high wind conditions. Documents reviewed for each section of this inspection report are listed in the Attachment.

##### b. Findings

No findings were identified.

#### 1R04 Equipment Alignment

##### .1 Partial System Walkdown (71111.04 - 3 samples)

##### a. Inspection Scope

The inspectors performed partial walkdowns of the following systems:

- 'B' and 'D' emergency diesel generators (EDGs) during planned maintenance on the 'A' EDG on July 14, 2014

- 'A' and 'C' EDGs due to increased risk significance during the 115 kilovolt (kV) offsite Line 3/reserve station service transformer 71T-2 outage on August 6, 2014
- 'A' 125 volt direct current main station battery after installation of the new battery during the refueling outage on September 23, 2014

The inspectors selected these systems based on their risk-significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors reviewed applicable operating procedures, system diagrams, the Updated Final Safety Analysis Report (UFSAR), technical specifications (TSs), CRs, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have impacted system performance of their intended safety functions. The inspectors performed field walkdowns of accessible portions of the systems to verify system components and support equipment were aligned correctly and were operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no deficiencies. The inspectors also reviewed whether Entergy staff had properly identified equipment issues and entered them into the CAP for resolution with the appropriate significance characterization.

b. Findings

No findings were identified.

1R05 Fire Protection

Resident Inspector Quarterly Walkdowns (71111.05Q - 5 samples)

a. Inspection Scope

The inspectors conducted tours of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that Entergy controlled combustible materials and ignition sources in accordance with administrative procedures. The inspectors verified that fire protection and suppression equipment was available for use as specified in the area pre-fire plan, and passive fire barriers were maintained in good material condition. The inspectors also verified that station personnel implemented compensatory measures for out of service, degraded, or inoperable fire protection equipment, as applicable, in accordance with procedures.

- Safety related pump rooms, fire area/zone XII/SP-1, XIII/SP-2, on July 22, 2014
- Reactor building 326 foot elevation, fire area/zone IX/RB-1A, on August 1, 2014
- Reactor building east crescent area, fire area/zone XVII/RB-1E, on August 6, 2014
- Reactor building 344 foot elevation, fire area/zone IX/RB-1A, on August 11, 2014
- Main control room, fire area/zone VII/CR-1, on September 23, 2014

b. Findings

No findings were identified.



1R07 Heat Sink Performance (71111.07A - 1 sample)

a. Inspection Scope

The inspectors reviewed the 'A' residual heat removal (RHR) system heat exchanger performance to determine its readiness and availability to perform its safety functions. This heat exchanger is cooled by the residual heat removal service water (RHRSW) system. The inspectors reviewed the design basis for the component and verified Entergy's commitments to NRC Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment." The inspectors reviewed and discussed the results of the August 2014 performance testing with engineering staff. The inspectors verified that Entergy staff initiated appropriate corrective actions for identified deficiencies.

b. Findings

No findings were identified.

1R08 Inservice Inspection Activities (71111.08G - 1 sample)

a. Inspection Scope

The inspectors conducted an inspection of the Inservice Inspection (ISI) program activities for monitoring degradation of the reactor coolant system boundary, risk significant piping, components, and containment systems during RO-21.

The samples selected for nondestructive examination (NDE) were based on the inspection procedure objectives and risk priority of those pressure retaining components in systems where degradation would result in a significant increase in risk. The inspectors observed in-process NDEs, reviewed examination documentation, and interviewed Entergy personnel to verify that NDE activities were performed in accordance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI, 2001 Edition with 2003 Addendum.

NDE and Welding Activities

The inspectors performed observations using remote video of NDE activities in progress and reviewed documentation of additional NDEs listed below. Documentation reviews were performed of non-destructive test activities including ultrasonic testing (UT), magnetic particle (MT), liquid penetrant (PT) and visual testing (VT-1 and VT-3) of safety-related components, piping, and structures. The inspectors verified that test examiners observed in the field were appropriately qualified to the requirements specified in ASME Section XI. Also, the inspectors verified that test procedures used by examiners were developed and qualified in accordance with the requirements of ASME Section XI.

The inspectors reviewed work instruction packages, interviewed Entergy personnel, and reviewed welding procedure and welder performance qualification records to verify that welding and examiner NDE activities were performed in accordance with the requirements of the ASME Boiler and Pressure Vessel Code, Section XI.

### ASME Code Required Examinations

The inspectors observed the UT examination of a tee to pipe weld (Work Order (WO) 00341962) in the reactor water recirculation system. The inspectors reviewed instructions provided in the WO, including surface preparation and profile measurement, and viewed portions of the axial and circular examination of the weld. Inspectors observed the performance of the UT using the placement of remote cameras to assure good weld coverage and to reduce personnel exposure.

A record review was performed of the VT-2 inspection of the vessel bottom head penetrations for evidence of leakage. The inspectors reviewed the procedure (EP-VT-116) used for this inspection and verified the examiners were trained and qualified to perform the examination. The inspectors reviewed the test data confirming the absence of leakage of the entire population of reactor pressure vessel (RPV) bottom mounted instrument penetrations.

The inspectors performed a record review of the PT test of an integral attachment to the reactor water recirculation system using NDE procedure CEP-NED-0641. The inspectors reviewed WO 00341882 for the welding of the attachment and reviewed the work scope and material and weld parameters to determine compliance with ASME Section XI Code fabrication requirements.

The inspectors performed a record review of the MT examination of an integral attachment by welding of component support 5A to RHR heat exchanger E-2A using WO 00341888 and drawing MSK-3037R3. The inspectors reviewed the weld procedure and welder and nondestructive test requirements to determine the requirements specified were in accordance with ASME XI Code fabrication requirements.

The inspectors performed a record review of the repair and replacement of component 46SWS-127E. Entergy replaced this valve "in kind" by welding the replacement valve to piping and performing the applicable Code required NDEs (VT-2 and PT). The inspectors determined the required pressure testing was performed after valve replacement to verify system leak tightness.

The inspectors performed a record review of visual examinations of the drywell liner performed per the requirements of the ASME Code Section XI, IWE during the previous refuel outage (RO-20). The areas examined during that inspection included accessible portions of the containment liner surfaces and structures at elevations 256-268 foot, 268-324 foot, and 324-340 foot. The inspectors reviewed the visual examination reports for structural degradation and coating deterioration. Inspection results reported that degraded conditions were minor and limited in size and density such that repair or rework was not required. The reported conditions were evaluated by Entergy engineering staff and the liner was determined to be satisfactory for continued service.

The inspectors sampled NDE examiner qualification certifications, written test examinations, and vision test results. The inspectors verified that test examiners interviewed and observed in the field were appropriately qualified to the requirements specified in ASME Section XI.

### Other Augmented or Industry Initiative Examinations

The inspectors selected a sample of vessel internal components that were examined periodically to assure existing inspection programs provided a service history and confirmed component integrity. These examinations are part of an industry initiative through the Electric Power Research Institute and Boiling Water Reactor Vessel and Internals Project. The inspectors selected and reviewed the remote examination process of jet pump hold down beams, in vessel core spray piping, shroud tie rods, shroud support gusset welds, dryer tie bars, and vibration blocks. The inspectors determined relevant indications were noted by the examiners and were found to have been identified at the same location, size, and characteristics as the previous outage. No growth or change in characteristics was noted. The indications were dispositioned as “acceptable” with continued monitoring for growth or change in characteristics in subsequent outages.

#### b. Findings

No findings were identified.

### 1R11 Licensed Operator Regualification Program and Licensed Operator Performance (71111.11Q – 2 samples, 71111.11B – 1 sample)

#### .1 Quarterly Review of Licensed Operator Regualification Testing and Training

##### a. Inspection Scope

The inspectors observed licensed operator simulator training on July 15, 2014, which included shut down maneuvers in preparation for RO-21. The inspectors evaluated operator performance during the simulated evolutions and verified completion of risk significant operator actions, including the use of abnormal and emergency operating procedures. The inspectors assessed the clarity and effectiveness of communications, implementation of actions in response to alarms and degrading plant conditions, and the oversight and direction provided by the control room supervisor. Additionally, the inspectors assessed the ability of the crew and training staff to identify and document crew performance problems.

##### b. Findings

No findings were identified.

#### .2 Quarterly Review of Licensed Operator Performance in the Main Control Room

##### a. Inspection Scope

On August 24 and 25, 2014, the inspectors observed control room operators during the reactor shutdown for RO-21. Portions of the reactor shutdown and cool down, including placing the RHR system in service for shutdown cooling, were observed. The inspectors observed crew performance to verify that procedure use, crew communications, and coordination of activities between work groups met established expectations and standards.

b. Findings

No findings were identified.

.3 Licensed Operator Requalification (71111.11B - 1 sample)

a. Inspection Scope

The following baseline inspection activities were performed using NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 9, Supplement 1, and Inspection Procedure Attachment 71111.11, "Licensed Operator Requalification Program and Licensed Operator Performance."

Examination Results

On June 9, 2014, the FitzPatrick training staff reported requalification exam results. The inspectors reviewed these results to determine if pass/fail rates were consistent with the guidance of IMC 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process (SDP)." The inspectors verified the following:

- Individual pass rate on the dynamic simulator scenarios was greater than 80 percent (pass rate was 100 percent)
- Individual pass rate on the job performance measures (JPMs) part of the operating exam was greater than 80 percent (pass rate was 100 percent)
- Individual pass rate on the written examination was greater than 80 percent (pass rate was 100 percent)
- More than 80 percent of the individuals passed all portions of the requalification exam (pass rate was 100 percent)
- Crew pass rate was greater than 80 percent (pass rate was 100 percent)

Written Examination Quality

The inspectors reviewed a sample of comprehensive written exams.

Operating Test Quality

The inspectors reviewed a sample of operating tests (scenarios and JPMs).

Licensee Administration of Operating Tests

The inspectors observed facility training staff administer dynamic simulator exams and JPMs during the week of April 28, 2014. These observations included facility evaluations of crew and individual operator performance during the simulator exams and individual performance of JPMs.

Exam Security

The inspectors assessed whether facility staff properly safeguarded exam material, and whether test item repetition guidelines were met.

### Remedial Training and Re-examinations

The inspectors reviewed the remedial training conducted for failures during the training cycle.

### Conformance with License Conditions

License reactivation and license proficiency records were reviewed to ensure that 10 CFR 55.53 license conditions and applicable program requirements were met. The inspectors also reviewed a sample of records for requalification training attendance, and a sample of medical examinations for compliance with license conditions and NRC regulations.

### Simulator Performance

Simulator performance and fidelity were reviewed for conformance to the reference plant control room. A sample of simulator deficiency reports was also reviewed to ensure facility staff addressed identified modeling problems.

### Problem Identification and Resolution

The inspectors reviewed recent operating history documentation found in inspection reports, licensee event reports (LERs), Entergy's CAP, NRC end-of-cycle and mid-cycle reports, and the most recent NRC plant issues matrix. The inspectors focused on events associated with operator errors that may have occurred due to possible training deficiencies.

## b. Findings

Introduction. The inspectors identified a SL IV NCV of 10 CFR 50.74, "Notification of Change in Operator or Senior Operator Status." Specifically, on three occasions, Entergy staff did not notify the NRC of a change in the medical status of a licensed operator within 30 days of learning of the diagnosis.

Description. During the conduct of Licensed Operator Medical records review, the inspectors identified that, between November 2012 and January 2014, three licensed operators developed permanent medical status changes, but none of these permanent medical status changes were reported to the NRC within 30 days as required by 10 CFR 50.74, "Notification of Change in Operator or Senior Operator Status." The following briefly describes the circumstances associated with each of the three permanent status changes:

- Licensed Operator #1: In a memorandum dated January 7, 2014, to the Supervisor, Access Authorization/Fitness for Duty (AA/FFD) Medical - JAF, Entergy's Medical Review Officer (MRO) stated that [licensed operator #1] "Shall use Therapeutic Device as Prescribed to Maintain Medical Qualification." This determination by the MRO invokes a permanent medical status change from the requirements of ANSI/ANS 3.4-1983, Sections 5.2.1, "Capacity," and 5.2.2, "Freedom from Incapacity," dealing with acuity of senses, mental alertness, and free from sources or use of treatments. FitzPatrick AA/FFD staff signed and submitted an NRC Form 396, "Certification of Medical Examination by Facility Licensee," requesting conditioning of the individual's license on February 20, 2014,

44 days after receiving the MRO memorandum. This licensed operator stood watches during this time period.

- Licensed Operator #2: In memoranda dated December 12, 2013, and January 7, 2014, to Supervisor AA/FFD Medical - JAF, the MRO stated that [licensed operator #2] needed to be restricted to working no more than 40 hours per week. This determination by the MRO invokes a permanent medical status change from the requirements of ANSI/ANS 3.4-1983, Section 5.2.1, "Capacity," and 5.2.2, "Freedom from Incapacity," dealing with acuity of senses and mental alertness. This same work hour restriction had been prescribed and signed by the licensed operator's personal physician on November 4, 2013. FitzPatrick AA/FFD staff signed and submitted an NRC Form 396 requesting conditioning of the individual's license on April 11, 2014, 94 days after the most recent MRO memorandum. This licensed operator did not stand watches during this time period.
- Licensed Operator #3: On November 13, 2012, FitzPatrick AA/FFD staff learned that [licensed operator #3] had experienced a myocardial infarction on November 7, 2012, that required the insertion of a drug eluting stent. This condition is identified as a permanent disability or illness specified as a disqualifying condition in ANSI/ANS 3.4-1983, Section 5.3.2, "Cardiovascular." FitzPatrick AA/FFD staff signed and submitted an NRC Form 396 on March 14, 2013, 121 days after information was provided, requesting no-solo conditioning of the individual's license. This licensed operator did not stand watches during this time period.

As immediate corrective action, Entergy staff entered these issues into their CAP as CR-JAF-2014-02227 and CR-JAF-2014-02304.

Analysis. The inspectors determined that Entergy's failure to notify the NRC of licensed operator medical status changes as described above within 30 days was a performance deficiency that was within Entergy's ability to foresee and correct and should have been prevented. Specifically, the inspectors determined that three licensed operators had permanent medical status changes that were not reported to the NRC within 30 days, as required. Because the issue had the potential to affect the NRC's ability to perform its regulatory function, the inspectors evaluated this performance deficiency in accordance with the traditional enforcement process.

The NRC relies upon the licensee to ensure all licensed operators meet the medical conditions of their license. 10 CFR 55.25 requires that if, during the term of the license, the licensed operator develops a permanent physical or mental condition that causes the licensed operator to fail to meet the requirements of 55.21 of this part, the facility licensee shall notify the Commission, within 30 days of learning of the diagnosis, in accordance with 10 CFR 50.74(c). Entergy staff did not communicate licensed operator permanent medical status changes within the 30 day reporting requirement for three licensed operators. Using example 6.4.d.1(b) from the NRC Enforcement Policy, the inspectors determined that the violation was a SL IV (more than minor concern that resulted in no or relatively inappreciable potential safety or security consequence) violation.

This issue was of very low safety significance because only one of the three licensed operators stood watches during the time of medical evaluations. The operator was diagnosed with a mild case of sleep apnea. Sleep apnea alone does not constitute a

disqualifying condition, but it does require that an evaluation for a permanent or mental condition status change be performed and reported to the NRC within 30 days. The MRO completed the evaluation and determined that the use of the therapeutic device as prescribed resulted in no adverse side effects. Additionally, the licensed operator was observed by the inspectors during licensed operator requalification testing and found to exhibit appropriate responsiveness to tested objectives. In accordance with IMC 0612, "Power Reactor Inspection Reports," traditional enforcement issues are not assigned cross-cutting aspects.

Enforcement. 10 CFR 55.3 requires, in part, that a person must be authorized by a license issued by the Commission to perform the function of a licensed operator or a licensed senior operator as defined in Part 55. 10 CFR 50.74(c) requires, in part, that each facility licensee notify the appropriate NRC Regional Administrator within 30 days of a permanent disability or illness as described in 10 CFR 55.25 involving a licensed operator or senior operator.

Contrary to the above, on three occasions between November 13, 2012, and January 7, 2014, Entergy did not notify the NRC within 30 days of learning of permanent disabilities or illnesses to licensed operators at FitzPatrick. Specifically: (1) on January 7, 2014, Entergy staff learned of a permanent medical status change for a licensed operator which required use of a prescribed therapeutic device, however, Entergy staff did not submit notification to the NRC until February 20, 2014, a period of 44 days after learning of the change; (2) on January 7, 2014, Entergy staff learned of a permanent medical status change for a licensed operator which resulted in placement of a restriction on maximum allowable work hours, however, Entergy staff did not submit notification to the NRC until April 11, 2014, a period of 94 days after learning of the change; and (3) on November 13, 2012, Entergy staff learned of a permanent medical status change for a licensed operator, due to myocardial infarction and resultant treatment, however, Entergy staff did not submit notification to the NRC until March 14, 2013, a period of 121 days after learning of the change. Because this SL IV violation was of very low safety significance, was not repetitive or willful, and was placed in Entergy's CAP as CR-JAF-2014-02227 and CR-JAF-2014-02304, this violation is being treated as an NCV, consistent with Section 2.3.2 of the Enforcement Policy. **(NCV 05000333/2014003-01, Failure to Notify NRC Within 30 Days of Medical Changes for Licensed Operators)**

1R12 Maintenance Effectiveness (71111.12Q - 2 samples)

a. Inspection Scope

The inspectors reviewed the samples listed below to assess the effectiveness of maintenance activities on structure, system, or component (SSC) performance and reliability. The inspectors reviewed system health reports, CAP documents, and maintenance rule basis documents to ensure that Entergy staff was identifying and properly evaluating performance problems within the scope of the maintenance rule. For each sample selected, the inspectors verified that the SSC was properly scoped into the maintenance rule in accordance with 10 CFR 50.65 and verified that the (a)(2) performance criteria established by Entergy staff was reasonable. For SSCs classified as (a)(1), the inspectors assessed the adequacy of goals and corrective actions to return

these SSCs to (a)(2). Additionally, the inspectors ensured that Entergy staff was identifying and addressing common cause failures that occurred within and across maintenance rule system boundaries.

- RHRSW
- Feedwater

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13 - 5 samples)

a. Inspection Scope

The inspectors reviewed maintenance activities to verify that the appropriate risk assessments were performed prior to removing equipment for work. The inspectors reviewed whether risk assessments were performed as required by 10 CFR 50.65(a)(4), and were accurate and complete. When emergent work was performed, the inspectors reviewed whether plant risk was promptly reassessed and managed. The inspectors also walked down selected areas of the plant which became more risk significant because of the maintenance activities to ensure they were appropriately controlled to maintain the expected risk condition. The reviews focused on the following activities:

- Planned power reduction to 65 percent for a control rod sequence exchange, channel-control blade interference testing, main turbine valve testing, and emergent maintenance to address indication of decreasing feedwater flow which was affecting performance of the reactor water level control system the week of July 7, 2014
- Planned maintenance on the 'A' EDG subsystem, 'A' and 'C' EDG monthly surveillance test, 'A' RHR quarterly surveillance test, and emergent maintenance to replace the A-C EDG tie breaker after it failed to operate during surveillance testing the week of July 14, 2014
- A two day maintenance period for the 'A' and 'C' EDGs for troubleshooting of an earlier failure of the A-C EDG tie breaker to operate during surveillance testing the week of July 21, 2014
- 'B' and 'D' EDG monthly surveillance test, 'B' RHR quarterly surveillance test, and emergent maintenance to repair the high pressure coolant injection (HPCI) discharge flow indicating switch after it failed surveillance testing the week of July 28, 2014
- A two day outage of 115 kV offsite Line 3 and a power reduction to 80 percent for a control rod pattern adjustment the week of August 4, 2014

b. Findings

No findings were identified.



1R15 Operability Determinations and Functionality Assessments (71111.15 - 4 samples)

a. Inspection Scope

The inspectors reviewed operability determinations for the following degraded or non-conforming conditions:

- CR-JAF-2014-03396 concerning the effect of feedwater flow instrumentation that was drifting low on the reactor water level control system, including the possible impacts on the reactor thermal power calculation and reactor water recirculation automatic runbacks on July 9, 2014
- CR-JAF-2014-03514 concerning operability of the west crescent unit coolers, given indications of a gradual reduction in service water flow to those coolers on July 15, 2014
- CR-JAF-2014-03534 concerning past operability of the 'A' and 'C' EDGs after the A-C EDG tie breaker failed to close during a monthly surveillance on July 15, 2014
- CR-JAF-2014-03824 concerning operability of HPCI while the HPCI pump discharge flow switch was inoperable following testing on July 30, 2014

The inspectors selected these issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the operability determinations to assess whether TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TSs and UFSAR to Entergy staff's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled by Entergy staff. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19 - 6 samples)

a. Inspection Scope

The inspectors reviewed the post-maintenance tests (PMTs) for the maintenance activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the test procedure to verify that the procedure adequately tested the safety functions that may have been affected by the maintenance activity, that the acceptance criteria in the procedure was consistent with the information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors also witnessed the test or reviewed test data to verify that the test results adequately demonstrated restoration of the affected safety functions.

- WO 00368752 to replace the 'A' EDG rated speed pushbutton switch, on July 14, 2014
- WO 52466353 to perform major preventive maintenance on the 'A' core spray minimum flow valve, 14MOV-5A, on September 4, 2014
- WO 00367544, "Replace 07SRMD-31D ['D' SRM] Detector;" the PMT was IMP-7.13, "SRM and IRM Detector and Drive Tube Replacement\*," and IMP-7.2, "Neutron Monitoring System Source Range Monitor (SRM) Discriminator Instrument Maintenance," on September 16, 2014
- WO 52472734 for multiple control rod blade exchanges during RO-21; of the blades that were worked, specifically observed PMT for 18-19 (new blade), 34-35 (new blade), 18-35 (new blade), 10-39 (blade shuffled), and 34-19 (new blade); the PMT was RAP-7.4.01, "Control Rod Scram Time Evaluation\*\*," on September 18, 2014
- WO 00350766 for multiple control rod drive mechanism replacements and maintenance during RO-21; of the drives that were worked, specifically observed PMT for 30-35 (CRDM [control rod drive mechanism] replaced), 22-35 (CRDM replaced), and 30-19 (other CRD work); the PMT was RAP-7.4.01, "Control Rod Scram Time Evaluation\*\*," on September 18, 2014
- Activity code R6VLTW180B to perform inspections and PMT for multiple completed maintenance activities during ST-39H, "RPV System Leakage Test and CRD Class 2 Piping Inservice Test (ISI [inservice inspection])\*\*," on September 18, 2014

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors reviewed FitzPatrick's work schedule and outage risk plan for RO-21, which commenced on August 24, 2014. The inspectors reviewed FitzPatrick's development and implementation of outage plans and schedules to verify that risk, industry experience, previous site specific problems, and defense-in-depth were considered. During the outage, the inspectors observed portions of the shutdown and cooldown processes and monitored controls associated with the following outage activities:

- Configuration management, including maintenance of defense-in-depth, commensurate with the outage plan for the key safety functions and compliance with the applicable TS when taking equipment out of service
- Installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication and instrument error accounting
- Status and configuration of electrical systems and switchyard activities to ensure that TSs were met
- Monitoring of decay heat removal operations
- Impact of outage work on the ability of the operators to operate the spent fuel pool cooling system
- Reactor water inventory controls, including flow paths, configurations, alternative means for inventory additions, and controls to prevent inventory loss
- Activities that could affect reactivity
- Maintenance of secondary containment as required by TS

- Refueling activities, including fuel handling and full core verification
- Fatigue management
- Containment closeout inspection
- Identification and resolution of problems related to refueling outage activities

The outage was in progress at the end of the inspection period, therefore this sample will be completed during the next inspection period.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22 - 6 samples)

a. Inspection Scope

The inspectors observed performance of surveillance tests and/or reviewed test data of selected risk-significant SSCs to assess whether test results satisfied TSs, the UFSAR, and station procedure requirements. The inspectors verified that test acceptance criteria were clear, tests demonstrated operational readiness and were consistent with design documentation, test instrumentation had current calibrations and the range and accuracy for the application, tests were performed as written, and applicable test prerequisites were satisfied. Upon test completion, the inspectors considered whether the test results supported that equipment was capable of performing the required safety functions. The inspectors reviewed the following surveillance tests:

- ST-1D, "MSIVs [Main Steam Isolation Valves], Main Steam Line Drain Valves, and RWR [reactor water recirculation] Sample Valves Logic System Functional Test\*\*," on July 29, 2014
- ST-9BA, "EDG A and C Full Load Test and ESW [emergency service water] Pump Operability Test," coupled with ESP-22.001, "LOCA [loss of coolant accident] Bypass of EDG A & C Shutdown Logic Functional Test," on August 11, 2014
- ST-1B, "MSIV Fast Closure Test (IST [inservice test])," on August 25, 2014
- ST-39B, "Type B and C LLRT [local leak rate test] of Containment Penetrations (IST)," for valve 23HPI-12, HPCI turbine exhaust check valve on August 26, 2014
- ST-9NA, "EDG Subsystem A Logic System Functional Test," on September 10, 2014
- ST-9CB, "EDG B and D Load Sequencing Test and 4kV Emergency Power System Voltage Relays Instrument Functional Test\*\*," on September 11, 2014

b. Findings

No findings were identified.

**Cornerstone: Emergency Preparedness**1EP2 Alert and Notification System Evaluation (71114.02 - 1 sample)a. Inspection Scope

An onsite review was conducted to assess the maintenance and testing of the alert and notification system (ANS). During this inspection, the inspectors conducted a review of the ANS testing and maintenance programs. The inspectors reviewed the associated ANS procedures and the Federal Emergency Management Agency approved ANS Design Report to ensure compliance with design report commitments for system maintenance and testing. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 2. 10 CFR 50.47(b)(5) and the related requirements of 10 CFR Part 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Staffing and Augmentation System (71114.03 - 1 sample)a. Inspection Scope

The inspectors conducted a review of the Fitzpatrick Emergency Response Organization (ERO) augmentation staffing requirements and the process for notifying and augmenting the ERO. The review was performed to verify the readiness of key Entergy staff to respond to an emergency event and to verify Entergy's ability to activate their emergency response facilities (ERFs) in a timely manner. The inspectors reviewed the Fitzpatrick Emergency Plan for ERF activation and ERO staffing requirements, the ERO duty roster, applicable station procedures, augmentation test reports, the most recent drive-in drill reports, and CRs related to this inspection area. The inspectors also reviewed a sample of ERO responder training records to verify training and qualifications were up to date. The inspection was conducted in accordance with NRC Inspection Procedure 71114, Attachment 3. 10 CFR 50.47(b) (2) and related requirements of 10 CFR Part 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

1EP5 Maintaining Emergency Preparedness (71114.05 - 1 sample)a. Inspection Scope

The inspectors reviewed a number of activities to evaluate the efficacy of Entergy's efforts to maintain the Fitzpatrick emergency preparedness (EP) program. The inspectors reviewed: memorandums of agreement with offsite agencies; the 10 CFR 50.54(q) Emergency Plan change process and practice; Fitzpatrick's maintenance of equipment important to EP; records of evacuation time estimate population evaluation; and provisions

for, and implementation of, primary, backup, and alternate ERF maintenance. The inspectors also verified Entergy's compliance at Fitzpatrick with new NRC EP regulations regarding: emergency action levels for hostile action events; protective actions for on-site personnel during events; emergency declaration timeliness; ERO augmentation and alternate facility capability; evacuation time estimate updates; on-shift ERO staffing analysis; and ANS back-up means.

The inspectors further evaluated Entergy's ability to maintain Fitzpatrick's EP program through their identification and correction of EP weaknesses, by reviewing a sample of drill reports, an actual event report, self-assessments, and 10 CFR 50.54(t) reviews. Also, the inspectors reviewed a sample of EP-related CRs initiated at Fitzpatrick from May 2012 through July 2014. The inspection was conducted in accordance with NRC Inspection Procedure 71114.05. 10 CFR 50.47(b) and the related requirements of 10 CFR Part 50, Appendix E, were used as reference criteria.

b. Findings

No findings were identified.

**2. RADIATION SAFETY**

**Cornerstone: Public Radiation Safety and Occupational Radiation Safety**

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

a. Inspection Scope

The inspectors reviewed Entergy staff's performance in assessing radiological hazards and exposure controls. The inspectors used the requirements in 10 CFR 20 and guidance in Regulatory Guide (RG) 8.38, "Control of Access to High and Very High Radiation Areas for Nuclear Plants," TSs, and Entergy procedures required by TSs as criteria for determining compliance.

Inspection Planning

The inspectors reviewed reports of operational occurrences related to occupational radiation safety since the last inspection.

Radiological Hazard Assessment

The inspectors reviewed the following:

- Changes to plant operations since the last inspection that impacted radiological safety
- Placement of continuous air monitors (CAMs)

The inspectors reviewed the survey adequacy of the following radiological work activities:

- Reactor disassembly/reassembly
- Condenser re-tube project
- RO-21 drywell ISI/flow accelerated corrosion (FAC)

### Instructions to Workers

The inspectors reviewed the adequacy of the following radiation work permits (RWP):

- 20140701, Reactor Disassembly/Reassembly Activities
- 20140929, Reactor Water Cleanup Work
- 20140512, RO-21 Drywell ISI/FAC
- 20140518, Drywell Scaffold Support

### Contamination and Radioactive Material Control

The inspectors reviewed survey and release practices at four locations of egress from the radiological controlled area.

### Radiation Worker Performance

The inspectors observed the performance of radiation workers with respect to radiation protection work requirements.

#### b. Findings

No findings were identified.

### 2RS2 Occupational ALARA Planning and Controls (71124.02)

#### a. Inspection Scope

The inspectors assessed performance with respect to maintaining occupational individual and collective radiation exposures as low as is reasonably achievable (ALARA). The inspectors used the requirements in 10 CFR 20, RG 8.8, RG 8.10, TSs, and Entergy procedures required by TSs as criteria for determining compliance.

#### Inspection Planning

The inspectors reviewed site-specific procedures associated with ALARA.

#### Radiological Work Planning

The inspectors reviewed the following radiological work activities for the adequacy of their ALARA planning and dose reduction controls:

- Reactor Disassembly/Reassembly Activities
- Reactor Water Cleanup Work
- RO-21 Drywell ISI/FAC
- Drywell Scaffold Support
- Condenser Re-tube Project

### Verification of Dose Estimates and Exposure Tracking Systems

The inspectors reviewed the basis for the current annual collective dose estimate for FitzPatrick.

### Radiation Worker Performance

The inspectors observed radiation worker and radiation protection technician ALARA performance of work activities during the inspection period.

#### b. Findings

No findings were identified.

### 2RS3 In-Plant Airborne Radioactivity Control and Mitigation (71124.03)

#### a. Inspection Scope

The inspectors verified in-plant airborne radioactivity is being controlled and respiratory protection devices are effectively utilized. The inspectors used the requirements in 10 CFR Part 20, RG 8.15, RG 8.25, NUREG-0041, TSs, and Entergy procedures required by TSs as criteria for determining compliance.

### Engineering Controls

The inspectors reviewed the following:

- Use of ventilation systems to control airborne radioactivity
- Walkdowns of one permanent ventilation system and two temporary ventilation systems
- CAM alarms and setpoints

#### b. Findings

No findings were identified.

### 2RS5 Radiation Monitoring Instrumentation (71124.05)

#### a. Inspection Scope

The inspectors verified that Entergy staff has been assuring the accuracy and operability of radiation monitoring instruments that are used to protect occupational workers and to protect the public from nuclear power plant operations. The inspectors used the requirements in 10 CFR 20; 10 CFR 50, Appendix A, Criterion 60 and Criterion 64; 10 CFR 50, Appendix I; 40 CFR 190; NUREG 0737; TSs; Offsite Dose Calculation Manual; applicable industry standards; and Entergy's procedures required by TSs as criteria for determining compliance.

### Inspection Planning

The inspectors reviewed a list of in-service survey instrumentation including: air samplers, small article monitors (SAMs), radiation monitoring instruments, personnel contamination monitors, portal monitors, and whole-body counters. The inspectors reviewed procedures that govern instrument source checks and calibrations including instruments used for underwater surveys. The inspectors reviewed the area radiation monitor (ARM) alarm setpoint values and bases as provided in the TSs and the UFSAR.

### Walkdowns and Observations

The inspectors selected five portable survey instruments in use or available for issuance and assessed calibration and source check stickers for currency, as well as instrument material condition and operability.

The inspectors observed Entergy staff performance as the staff demonstrated source checks for three different types of portable survey instruments. The inspectors assessed whether high-range instruments are source checked on all appropriate scales.

The inspectors walked down two ARMs and five CAMs to determine whether they were appropriately positioned relative to the radiation sources or areas they were intended to monitor. The inspectors compared monitor response via local readout with actual area radiological conditions for consistency.

The inspectors selected three personnel contamination monitors, two portal monitors, and one SAM and evaluated whether the periodic source checks were performed in accordance with the manufacturer's recommendations and Entergy's procedures.

### Calibration and Testing Program

#### Laboratory Instrumentation

The inspectors assessed laboratory analytical instruments used for radiological analyses to determine whether daily performance checks and calibration data indicate that the frequency of the calibrations is adequate and there were no indications of degraded performance. The inspectors assessed whether appropriate corrective actions would be implemented in response to indications of degraded performance.

#### Whole Body Counter (WBC)

The inspectors reviewed calibration records for the WBC and the methods and sources used to perform functional checks on the WBC before daily use and assessed whether calibration and check sources were appropriate and aligned with the plant's radionuclide mix and that appropriate calibration phantom(s) were used. The inspectors looked for anomalous results or other indications of instrument performance problems.

#### Portal Monitors, Personnel Contamination Monitors, and SAMs

The inspectors selected one of each type of these instruments and verified that the alarm setpoint values are reasonable under the circumstances to ensure that licensed material is not released from the site. The inspectors reviewed calibration documentation for each



instrument selected and reviewed the calibration methods to determine consistency with the manufacturer's recommendations.

#### Portable Survey Instruments, ARMs, Electronic Dosimetry, and Air Samplers/CAMs

The inspectors reviewed calibration documentation for at least one of each type of portable instrument in use. For portable survey instruments and ARMs, the inspectors reviewed detector measurement geometry and calibration methods and reviewed the use of its instrument calibrator as applicable.

There was no opportunity for the inspectors to observe survey instruments that did not meet acceptance criteria by greater than 50 percent during calibration or source checks to assess whether Entergy had taken appropriate corrective action.

#### Instrument Calibrator

The inspectors reviewed the current radiation output values for Entergy's portable survey and ARM instrument calibrator unit(s). The inspectors assessed whether Entergy periodically verifies calibrator output over the range of the exposure rates/dose rates using an ion chamber/electrometer.

The inspectors assessed whether the measuring devices had been calibrated by a facility using National Institute of Standards and Technology traceable sources and whether decay corrective factors for these measuring devices were properly applied by the licensee in its output verification.

#### Calibration and Check Sources

The inspectors reviewed Entergy's waste stream characterization per 10 CFR Part 61, "Licensing Requirements for Land Disposal of Radioactive Waste," to assess whether calibration sources used were representative of the types and energies of radiation encountered in the plant.

#### b. Findings

No findings were identified.

#### 4. OTHER ACTIVITIES

##### 4OA1 Performance Indicator Verification (71151 - 10 samples)

###### .1 Mitigating Systems Performance Index

###### a. Inspection Scope

The inspectors reviewed FitzPatrick staff's submittal of the Mitigating Systems Performance Index (MSPI) for the following systems for the period of July 1, 2013, through June 30, 2014:

- Emergency alternating current power system
- High pressure injection system
- Heat removal system
- Residual heat removal system
- Cooling water systems

To determine the accuracy of the performance indicator (PI) data reported during this period, the inspectors used definitions and guidance contained in Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, and discussed specific questions with the responsible system engineer. The inspectors also reviewed FitzPatrick operator narrative logs, CRs, NRC integrated inspection reports, and the FitzPatrick MSPI bases document to validate the accuracy of the submittals.

###### b. Findings

No findings were identified.

###### .2 Unplanned Scrams and Unplanned Scrams with Complications

###### a. Inspection Scope

The inspectors reviewed Entergy's submittals for the following Initiating Events cornerstone PIs for the period July 1, 2013 through June 30, 2014:

- Unplanned Scrams
- Unplanned Scrams with Complications

To determine the accuracy of the PI data reported during this period, inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, and NUREG-1022, "Event Reporting Guidelines 10 CFR 50.72 and 10 CFR 50.73." The inspectors reviewed LERs and NRC integrated inspection reports to validate the accuracy of the submittals.

###### b. Findings

No findings were identified.

.3 EP Drill and Exercise Performance, ERO Drill Participation, and ANS Reliability

a. Inspection Scope

The inspectors reviewed data for the following EP PIs:

- Drill and exercise performance
- ERO drill participation
- ANS reliability

The last NRC EP inspection at Fitzpatrick was conducted in the third calendar quarter of 2013. Therefore, the inspectors reviewed supporting documentation from EP drills and equipment tests from the third calendar quarter of 2013 through the second calendar quarter of 2014 to verify the accuracy of the reported PI data. The review of the PIs was conducted in accordance with NRC Inspection Procedure 71151. The acceptance criteria documented in NEI 99-02, "Regulatory Assessment Performance Indicator Guidelines," Revision 7, was used as reference criteria.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152 - 3 samples)

.1 Routine Review of Problem Identification and Resolution Activities

a. Inspection Scope

As required by Inspection Procedure 71152, "Problem Identification and Resolution," the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that Entergy staff entered issues into the CAP at an appropriate threshold, gave adequate attention to timely corrective actions, and identified and addressed adverse trends. In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the CAP and periodically attended CR screening meetings.

The inspectors also reviewed problems associated with radiation monitoring, exposure control, ALARA, and radiation monitoring instrumentation to determine whether they were being identified at an appropriate threshold and were properly addressed for resolution in FitzPatrick's CAP. The inspectors assessed the appropriateness of the corrective actions for a selected sample of problems documented by Entergy that involved radiation monitoring instrumentation.

In addition, the inspectors reviewed a sample of CRs which identified NDE indications and other nonconforming conditions issued since the previous refuel outage and during the current outage. The inspectors verified the conditions were properly identified, characterized, and evaluated for disposition within the CAP.

b. Findings

No findings were identified.

.2 Annual Sample: EDG Performance in Isochronous Mode

a. Inspection Scope

The inspectors performed an in-depth review of Entergy's evaluations and the effectiveness of the corrective actions associated with CR-JAF-2012-06900 and CR-JAF-2012-06901 concerning EDG test performance. Specifically, during the performance of a two year surveillance test on October 2, 2012, FitzPatrick's Division 1 ['A' and 'C'] EDGs experienced unbalanced reactive loading during parallel operation. Additionally, three days later, FitzPatrick's Division 2 ['B' and 'D'] EDGs experienced similar unbalanced reactive loading when the site experienced a loss of offsite power. This inspection was performed to evaluate whether Entergy was appropriately identifying and evaluating EDG performance issues and taking appropriate corrective actions to ensure the EDGs remained capable of performing their intended function.

The inspectors assessed Entergy's problem identification threshold, evaluations, and extent-of-condition reviews, along with the prioritization and timeliness of actions to determine whether the corrective actions were appropriate. The inspectors reviewed completed surveillance testing to verify that FitzPatrick was appropriately testing for the requirements identified in the design basis documents, TS, UFSAR, and design calculations. The inspectors reviewed the applicable CRs and associated documents, including WOs, maintenance procedures, and as-found test results. The inspectors interviewed operators and engineering personnel to assess their understanding of the test results and reactive loading limitations imposed by the vendor. Finally, the inspectors walked down the EDGs and associated emergency buses to assess material condition.

b. Findings and Observations

No findings were identified.

The inspectors determined that Entergy appropriately captured the anomalous diesel reactive loading issue in the CAP. Entergy determined that the two separate diesel loading anomalies may have been attributed to as-left voltage regulator settings from the previous diesel run and different grid conditions while performing the test. The automatic voltage regulator varies reactive loads to maintain rated voltage and frequency, and has the potential to have both positive and negative reactive loading on the diesel. Entergy determined that operators have the ability to adjust the voltage regulator to change reactive loading, and operators would adjust the reactive loading for large discrepancies in accordance with operating and surveillance procedures.

The EDGs must start and load within the time assumed in the accident analyses. TS require each EDG to start and achieve its rated voltage and frequency within 10 seconds following an emergency core cooling system initiation signal or upon a loss of offsite power. The inspectors noted that testing results included voltage, frequency, real power, and reactive power. EDG test results demonstrated that the EDGs were able to achieve TS requirements. However, FitzPatrick did not recognize the potential of operating the EDGs outside the vendor recommended curves for reactive power. Entergy wrote a CR to

update and enhance operating procedure OP-22, "Diesel Generator Emergency Power," to include vendor reactive loading limit requirements and to provide additional guidance for operators.

Based on the documents reviewed and discussions with engineering and operations personnel, the inspectors determined that Entergy's response to the issue was commensurate with the safety significance and that actions planned are reasonable to address the issues identified. The inspectors found Entergy's conclusion to be reasonable, in part, because the EDG successfully demonstrated that it can achieve its design and TS requirements, and operators are trained to adjust EDG reactive loading in accordance with OP-22 and surveillance procedures ST-9CA, "EDG A and C Load Sequencing Test and 4KV Emergency Power System Voltage Relays Instrument Functional Test," and ST-9CB, "EDG B and D Load Sequencing Test and 4KV Emergency Power System Voltage Relays Instrument Functional Test."

.3 Annual Sample: Inability to Reinstall the 'C' EDG Output Breaker Resulted in Additional Unavailability

a. Inspection Scope

The inspectors performed an in-depth review of Entergy's cause analysis and corrective actions associated with CR-JAF-2013-02237 concerning operators' inability to reinstall the 'C' EDG output breaker, 71-10512, into its cubicle in the 10500 safety related bus. Specifically, following maintenance on the 'C' EDG on April 2, 2013, operators attempted to rack in breaker 71-10512 but found that the breaker would not go to the full in position. Troubleshooting identified that the cause was that the jack nut mounting plate was bent out approximately 3/4-inch, which corresponded to the distance that the breaker had been away from the full in position. The bent mounting plate was replaced and the breaker was successfully racked in; however, this issue resulted in accrual of an additional 26 hours of EDG unavailability time.

The inspectors assessed Entergy's problem identification threshold, cause analyses, extent-of-condition reviews, compensatory actions, and the prioritization and timeliness of Entergy's corrective actions to determine whether Entergy staff was appropriately identifying, characterizing, and correcting problems associated with this issue and whether the planned or completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of Entergy's CAP and 10 CFR 50, Appendix B.

b. Findings and Observations

No findings were identified.

Entergy staff's investigation determined that the cause of this event was insufficient operator training on racking 4160 volt breakers. In this case, the operator that initially attempted to rack in the 71-10512 breaker was a nuclear plant operator under instruction (NPOI), accompanied by a qualified nuclear plant operator (NPO) and a reactor operator. The NPOI had not racked 4160 volt breakers in or out as a part of his training in the breaker lab. Before or during the rack in operation, the breaker position indicating mechanism became damaged such that, when the breaker reached the "test" position, the position indication still indicated "disconnect." As a result, the NPOI continued to rotate the jacking handle in an attempt to further insert the breaker, while the breaker was

restrained in the test position by the stop pin. The resulting tension on the jack nut caused the jack nut mounting plate to bend outward and produced the 3/4-inch offset from the breaker being fully inserted that was later encountered. Since the continuing attempt to rack in the breaker was only causing the jacking handle to become increasingly difficult to turn, the breaker was racked back out in an attempt to achieve better alignment. After another attempt to rack in the breaker ended with the same result, the operators sought assistance.

Entergy staff concluded that the root cause of this event was that operators were not sufficiently trained to perform racking evolutions on 4160 volt breakers without damaging components, and that the training program failed to ensure operators were sufficiently focused on understanding the technical aspects of the task to complement the use of human performance techniques. Contributing causes were that electricians and operators did not document feedback on 4160 volt breaker locations, such as the 10500 and 10600 safety related busses that were substantially more difficult to install than other 4160 volt breaker locations, and weaknesses in procedural guidance for breaker racking operations. Corrective actions included revision of initial and continuing operator training programs regarding 4160 volt and 600 volt breaker insertion and racking techniques, and briefings for operations and maintenance department personnel on the need to include feedback on equipment and performance deficiencies to supervision.

The inspector concluded that the root cause analysis for CR-JAF-2013-02237 concerning operators' inability to reinstall the 'C' EDG output breaker into its cubicle accurately identified the root cause of the event and developed appropriate corrective actions to prevent recurrence. The inspectors identified no violations of regulatory requirements.

.4 Annual Sample: While Attempting to Transfer 'B' Reactor Protection System (RPS) to RPS Motor Generator (MG), Power was Lost to the RPS Bus

a. Inspection Scope

The inspectors performed an in-depth review of Entergy's cause analysis and corrective actions associated with CR-JAF-2013-00398 concerning an unintended loss of power to the 'B' RPS bus while attempting to transfer from the alternate power source to the 'B' RPS MG. Specifically, on January 23, 2013, power for the 'B' RPS bus was transferred from the MG set to the alternate power supply to support routine testing of the MG electrical protection assemblies. Upon completion of this testing, operators attempted to restore power to the 'B' RPS bus from the 'B' RPS MG, however this was not successful and the bus remained deenergized. This is an undesirable condition because it results in a 'B' RPS half scram, thereby increasing the plant's susceptibility to initiating events caused by 'A' RPS failures. This same issue had previously occurred on March 14, 2012.

The inspectors assessed Entergy's problem identification threshold, cause analyses, extent-of-condition reviews, compensatory actions, and the prioritization and timeliness of Entergy's corrective actions to determine whether Entergy staff was appropriately identifying, characterizing, and correcting problems associated with this issue and whether the planned or completed corrective actions were appropriate. The inspectors compared the actions taken to the requirements of Entergy's CAP and 10 CFR 50, Appendix B.

b. Findings and Observations

No findings were identified.

Entergy staff's investigation determined that the most probable causes of this event were setpoint drift of the overvoltage relay such that a voltage spike that occurred during the RPS power transfer was greater than the trip setpoint, and a loose connection that was identified on the MG output breaker load side that could have caused a momentary high voltage condition during the transfer and tripped the overvoltage relay. As corrective action, the overvoltage relay was replaced and monitoring of the transfer circuit was initiated for subsequent transfers to record timing and MG set response. Also, the loose breaker terminal was tightened. There have been no further occurrences of this issue.

The inspectors concluded that FitzPatrick staff's apparent cause determination for CR-JAF-2013-00398 adequately addressed the 'B' RPS power transfer issue and developed appropriate corrective actions to prevent recurrence. The inspectors identified no violations of regulatory requirements.

40A3 Follow Up of Events and Notices of Enforcement Discretion (71153 - 2 samples)

.1 (Closed) LER 05000333/2013-004-00: RCIC Condensate Storage Tank Level Switch Inoperable due to Misalignment

On November 4, 2013, one of the reactor core isolation cooling (RCIC) water level switches for the 'B' condensate storage tank (CST), 13LS-76B, failed to trip during its functional test due to a misalignment of the microswitch assembly. The misalignment occurred when it was replaced on September 17, 2013. As a result, one of the RCIC level switches for the 'B' CST was inoperable from September 17, 2013 until November 4, 2013, and FitzPatrick did not place the channel in trip or declare RCIC inoperable in accordance with TS. The enforcement aspects of this issue are discussed in Section 40A7. The inspectors did not identify any new issues during the review of this LER. This LER is closed.

.2 (Closed) LER 05000333/2014-001-00: Inoperable 'A' EDG Subsystem and Concurrent Trip of the 'B' Safety Pump Room Ventilation Fan

On March 31, 2014, the 'A' EDG subsystem, which consists of the 'A' and 'C' EDGs, was declared inoperable after the A-C EDG tie breaker failed to automatically operate as required during monthly surveillance testing. At 6:30 a.m. on April 1, 2014, the normally operating 'B' division safety pump room exhaust fan tripped due to actuation of its 'B' phase thermal overload. The 'B' division safety pump room ventilation system supports operability of the 'B' ESW pump. With one ESW subsystem inoperable, TS 3.7.2 Condition A requires operators to enter TS 3.8.1, "AC Source - Operating," for the EDG subsystem made inoperable by ESW. Since the 'A' EDG subsystem was already inoperable, this required operators to enter Condition E, "Two EDG Subsystems Inoperable," with a completion time of two hours. At 7:04 a.m. operators reset the 'B' division safety pump room exhaust fan 'B' phase thermal overload and the fan restarted. Subsequent on-line monitoring of the thermal overloads did not identify any material problems. The 'B' division safety pump room ventilation system had been non-functional for 34 minutes, therefore, the completion time for TS 3.8.1 Condition E had been satisfied and no violation of TS occurred. However, the condition was reportable under 10 CFR

50.73(a)(2)(v) as a condition that could have prevented the fulfillment of a safety function because both EDG subsystems had been inoperable.

The inspectors reviewed this issue when it occurred, as documented in NRC Integrated Inspection Report 05000333/2014003, Section 1R15. No violation of regulatory requirements occurred and the inspectors identified no licensee performance deficiencies. The inspectors did not identify any new issues during the review of the LER. This LER is closed.

#### 40A5 Other Activities

##### Institute of Nuclear Power Operations (INPO) Accreditation Report Review

###### a. Inspection Scope

The inspectors reviewed the final report for the INPO accreditation team evaluation of the FitzPatrick operations watch stander (Non-Licensed Operators, Reactor Operators, Senior Reactor Operators, Shift Managers, and Shift Technical Advisors) technical training programs, conducted in March 2014, and presented to the National Nuclear Accrediting Board. The inspectors evaluated the report to determine whether INPO identified any significant safety issues that required further NRC follow-up.

###### b. Findings

No findings were identified.

#### 40A6 Meetings, Including Exit

##### Exit Meeting

On October 21, 2014, the inspectors presented the inspection results to Mr. Brian R. Sullivan, General Manager, Plant Operations, and other members of the FitzPatrick staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

#### 40A7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by FitzPatrick and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as an NCV.

- TS 3.3.5.2, "Reactor Core Isolation Cooling System Instrumentation," requires that the RCIC system instrumentation for all four channels of low CST water level be operable while in Modes 1, 2, or 3 with reactor steam dome pressure greater than 150 psig. With one level switch inoperable, Condition D requires that the channel be placed in trip. When this condition is not met, Condition E requires that RCIC be declared inoperable. TS 3.5.3, "RCIC System," further requires that RCIC be restored to operable status within 14 days or be in Mode 3. Contrary to TS 3.3.5.2, with one RCIC CST level switch, 13LS-76B, inoperable from September 17, 2013 until November 4, 2013, Entergy did not place the channel in trip or declare RCIC inoperable, or place the reactor in Mode 3 per TS 3.5.3. The cause of the inoperability was the failure to



align the microswitch in accordance with vendor manual instructions when the switch was replaced in September. Entergy entered this issue into the CAP as CR-JAF-2013-5576. The inspectors determined that the finding was of very low safety significance (Green) in accordance with IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at Power," because the finding was not a design or qualification deficiency, did not involve the actual loss of safety function, did not represent the actual loss of a safety function of a single train for greater than its TS allowed outage time, and did not screen to potentially risk significant due to a seismic, flooding, or severe weather initiating event.

**ATTACHMENT: SUPPLEMENTARY INFORMATION**

**SUPPLEMENTARY INFORMATION****KEY POINTS OF CONTACT**Licensee Personnel

L. Coyle, Site Vice President  
 C. Adner, Manager, Licensing  
 R. Brown, Manager, Radiation Protection  
 B. Burnham, System Engineer  
 B. Finn, Director, Nuclear Safety Assurance  
 K. Irving, Manager, Programs and Components Engineering  
 S. McAllister, Director, Engineering  
 D. Poulin, Manager, Operations  
 T. Redfearn, Manager, Security  
 M. Reno, Manager, Maintenance  
 B. Sullivan, General Manager, Plant Operations  
 S. Woolf, ISI Program Engineer

**LIST OF ITEMS OPENED, CLOSED, DISCUSSED, AND UPDATED**Open/Closed

05000333/2014004-01	NCV	Failure to Notify NRC Within 30 Days of Medical Changes for Licensed Operators (Section 1R11)
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Closed

05000333/2013-004-00	LER	RCIC Condensate Storage Tank Level Switch Inoperable due to Misalignment (Section 4OA3)
05000333/2014-001-00	LER	Inoperable "A" EDG Subsystem and Concurrent Trip of the "B" Safety Pump Room Ventilation Fan (Section 4OA3)

**LIST OF DOCUMENTS REVIEWED LIST OF ACRONYMS**

**Section 1R01: Adverse Weather Protection**

Procedures

AOP-56, "High Traveling Screen or Trash Rack Differential Level," Revision 10  
OP-4, "Circulating Water System," Revision 73  
OP-42, "Service Water System," Revision 48

**Section 1R04: Equipment Alignment**

Procedures

OP-22, "Diesel Generator Emergency Power," Revision 59  
OP-43A, "125 VDC Power System," Revision 29  
OP-60, "Diesel Generator Room Ventilation," Revision 8

Condition Reports

CR-JAF-2014-03523  
CR-JAF-2014-03981

**Section 1R05: Fire Protection**

Documents

JAF-RPT-04-00478, "JAF Fire Hazards Analysis," Revision 1

Procedures

PFP-PWR13, "Main Control Room & Control Room HVAC Equipment Rooms / Elev. 300' Fire Area / Zone VII/CR-1," Revision 6  
PFP-PWR14, "Crescent Area-east / Elev. 227', 242' Fire Area / Zone XVII/RB-1E," Revision 3  
PFP-PWR26, "Reactor Building / Elev. 326' Fire Area / Zone IX/RB-1A," Revision 3  
PFP-PWR27, "Reactor Building / Elev. 344' Fire Area / Zone IX/RB-1A, Revision 4  
PFP-PWR33, "Pump House (Screenwell) / Elev. 255' Fire Area / Zone XII/SP-1, XIII/SP-2, IB/FP-1, FP-3," Revision 1

Condition Reports

CR-JAF-2014-03703  
CR-JAF-2014-03713  
CR-JAF-2014-03901

**Section 1R07: Heat Sink Performance**

Documents

ST-2YA, "RHR Heat Exchanger A Performance Test," completed September 18, 2012  
ST-2YA, "RHR Heat Exchanger A Performance Test," completed August 26, 2014

Condition Reports

CR-JAF-2012-05538  
CR-JAF-2014-04388  
CR-JAF-2014-04416

**Section 1R08: Inservice Inspection Activities**

Documents

BWRVIP-18 EVT VT-1 Core Spray Piping Brackets  
BWRVIP-38 EVT VT-1 Shroud Support H9 Weld  
BWRVIP-48 VT3 Steam Dryer Hold Down Brackets, Support Brackets, Guide Rod  
JAF-UT-057A thru D Cross to Ring Header, Weld 22-02-2-86 Inspection Results  
PT-Liquid Penetrant Exam Report ISI-PT-14-005 Integral Attachment of Gusset to Recirc Pump  
MT-Magnetic Particle Exam of Struct Support, Residual Heat Removal (RHR), WO 341888  
ST-15B, Suppression Chamber and Drywell Deterioration Inspection - Report  
UT-Ultrasonic Test Calibration and Examination of Recirc Weld 12-02-2-67, WO 341962  
VT- Visual Examination, RHR Integral Attachment Component PFSK-1967-ATT  
VT-3 Visual Exam of Pumps/Valves, Main Steam, 29AOV-86C,  
VT-3 Visual Exam Valve Internals and Valve Bonnet, Main Steam, 29AOV-86C  
VT-3 Visual Exam of Pipe Hanger, Restraint VT-3 Component 29AOV-86C  
VT-3 Visual Exam of Pipe Hanger, Recirc System, Component 02-2-1B-AN-21 Support  
WDI-STD-1137 Rev 0, Jet Pump (Hold Down) Beam Examination, Beams 1 thru 20

Procedures

CEP-NDE-0400, "Ultrasonic Examination," Revision 5  
CEP-NDE-0505, "Ultrasonic Thickness Examination," Revision 4  
CEP-NDE-0641, "Liquid Penetrant Examination (PT) for ASME Section XI," Revision 7  
CEP-NDE-0731, "Magnetic Particle Examination (MT) for ASME Section XI," Revision 3  
CEP-NDE-0901, "VT-1 Examination," Revision 4  
CEP-NDE-0902, "VT-2 Examination," Revision 7  
CEP-NDE-0903, "VT-3 Examination," Revision 5  
CEP-WP-002, "Qualification, Development, and Control of Welding Procedure Specifications,"  
Revision 1, for WPS-CS-1/1-B  
PQR 015, 029, 330, and 331, "Procedure Qualification Records"  
ST-15B, "Suppression Chamber and Drywell Deterioration Inspection," Revision 10  
WDI-STD-1137, "Ultrasonic Exam of BWR Jet Pump Beams Utilizing the Intraspect System,"  
Revision 0

Condition Reports

CR-JAF-2012-06616  
CR-JAF-2014-04752  
CR-JAF-2014-04949  
CR-JAF-2014-05227

**Section 1R11: Licensed Operator Regualification Program and Licensed Operator Performance**

Documents

JJPM-LOR-14AN-1  
JSES-LOR-14AN-2  
JJPM-LOR-14AN-3  
JSES-LOR-14AN-1  
JSES-LOR-14AN-2

Procedures

OP-13D, "RHR - Shutdown Cooling," Revision 27

OP-65, "Startup and Shutdown Procedure," Revision 118  
ST-26J, "Heatup and Cooldown Temperature Checks," Revision 23  
EN-TQ-114, "Licensed Operator Requalification Training Program Description," Revision 9  
EN-TQ-202, "Simulator Configuration Control," Revision 9

Exams

2013 Biennial Written exam  
Simulator Scenario Based Testing Results 2012-2014

Condition Reports

CR-JAF-2014-02227  
CR-JAF-2014-02304  
CR-JAF-2013-02319  
CR-JAF-2014-02489

**Section 1R12: Maintenance Effectiveness**

Documents

DBD-046, "Design Basis Document for the Normal Service Water, Emergency Service Water, RHR Service Water," Revision 18  
FM-34A, "Flow Diagram Feedwater System 34," Revision 70  
Functional Failure Determination for CR-JAF-2014-04326  
JAF-RPT-FWS-03079, "Maintenance Rule Basis Document System 34 Feedwater," Revision 4  
JAF-RPT-MULTI-02294, "Maintenance Rule Basis Document for Service Water Systems Including System 10 (RHR SW), 46 (Normal SW), and 46-ESW (Emergency SW)," Revision 10  
System Health Reports for Feedwater, first and second quarter 2014  
System Health Reports for RHR and RHRSW, third quarter 2013 through second quarter 2014

Procedures

EN-DC-203, "Maintenance Rule Program," Revision 2  
EN-DC-204, "Maintenance Rule Scope and Basis," Revision 3  
EN-DC-205, "Maintenance Rule Monitoring," Revision 5  
EN-DC-206, "Maintenance Rule (a)(1) Process," Revision 3

Condition Reports

CR-JAF-2012-04963	CR-JAF-2013-05080	CR-JAF-2014-00544
CR-JAF-2012-07282	CR-JAF-2013-05130	CR-JAF-2014-00652
CR-JAF-2012-07456	CR-JAF-2013-05875	CR-JAF-2014-00735
CR-JAF-2012-07800	CR-JAF-2013-05876	CR-JAF-2014-02389
CR-JAF-2012-08610	CR-JAF-2013-06086	CR-JAF-2014-03128
CR-JAF-2012-08878	CR-JAF-2013-06335	CR-JAF-2014-03316
CR-JAF-2012-08885	CR-JAF-2014-00222	CR-JAF-2014-03397
CR-JAF-2012-08898	CR-JAF-2014-00378	CR-JAF-2014-04326
CR-JAF-2013-04247	CR-JAF-2014-00522	CR-JAF-2014-04967

Work Orders

WO 00393235

**Section 1R13: Maintenance Risk Assessments and Emergent Work Control**

Procedures

AP-10.10, "On-Line Risk Assessment," Revision 9  
EN-OP-119, "Protected Equipment Postings," Revision 6  
EN-WM-104, "On Line Risk Assessment," Revision 9

**Section 1R15: Operability Determinations and Functionality Assessments**

Documents

DBD-023, "Design Basis Document for the High Pressure Coolant Injection System," Revision 12  
Operations Shift Standing Order 14-003, "Feed Flow Signal Degradation"

Procedures

EN-OP-104, "Operability Determination Process," Revision 7  
ISP-22-2, "High Pressure Coolant Injection (HPCI) System Loop Low Flow Bypass Valve Instruments," performed July 29, 2014 and July 31, 2014

Condition Reports

CR-JAF-2014-03396  
CR-JAF-2014-03514  
CR-JAF-2014-03534  
CR-JAF-2014-03824

**Section 1R19: Post-Maintenance Testing**

Documents

DBD-093, "Design Basis Document for Emergency Diesel Generator," Revision 12  
R6VLTW180B, "ST-39H: Required Inspections and PWT while RPV at Test Pressure (1050 to 1080 psig)"

Procedures

EN-WM-107, "Post Maintenance Testing," Revision 4  
IMP-7.13, SRM and IRM Detector and Drive Tube Replacement\*\*" Revision 33  
IMP-7.2, "Neutron Monitoring System Source Range Monitor (SRM) Discriminator Instrument Maintenance," Revision 7  
MP-059.51, "Limitorque Actuators Inspection and Lubrication," Revision 35  
RAP-7.4.01, "Control Rod Scram Time Evaluation\*\*," Revision 27  
ST-3PA, "Core Spray Loop A Quarterly Operability Test (IST)," performed September 2, 2014  
ST-39H, "RPV System Leakage Test and CRD Class 2 Piping Inservice Test (ISI)\*\*," Revision 32  
ST-9BA, "EDG A and C Full Load Test and ESW Pump Operability Test," performed July 14, 2014 and July 15, 2014

Condition Reports

CR-JAF-2013-06042  
CR-JAF-2013-06048  
CR-JAF-2014-03530  
CR-JAF-2014-03532

Work Orders

WO 00367544

WO 52472734

WO 00350766

WO 00368752

WO 00387475

WO 00109447

WO 52466353

WO 00393293

WO 00388425

**Section 1R20: Refueling and Other Outage Activities**Procedures

AP-10.09, "Outage Risk Assessment," Revision 33

EN-OM-123, "Fatigue Management Program," Revision 9

OP-13D, "RHR - Shutdown Cooling," Revision 27

OP-30A, "Refueling Water Level Control," Revision 18

ST-26J, "Heatup and Cooldown Temperature Checks," Revision 23

Documents

FM-20A, "Flow Diagram Residual Heat Removal System 10," Revision 72

"R21 Rev 0 Risk Assessment Based on Schedule Issued 7/11/14," dated July 18, 2014

"R21 Rev 1 Risk Assessment Based on Schedule Issued 8/15/14," dated August 20, 2014

**Section 1R22: Surveillance Testing**Procedures

ESP-22.001, "LOCA Bypass of EDG A &amp; C Shutdown Logic Functional Test," Revision 0

ST-1B, "MSIV [Main Steam Isolation Valve] Fast Closure Test (IST)," Revision 25

ST-1D, "MSIVs, Main Steam Line Drain Valves, and RWR Sample Valves Logic System Functional Test\*\*," Revision 38

ST-9BA, "EDG A and C Full Load Test and ESW Pump Operability Test," Revision 15

ST-9CB, "EDG B and D Load Sequencing Test and 4kV Emergency Power System Voltage Relays Instrument Functional Test\*\*," Revision 2

ST-9NA, "EDG Subsystem A Logic System Functional Test," Revision 2

ST-39B, "Type B and C LLRT of Containment Penetrations (IST)," Revision 35

Condition Reports

CR-JAF-2014-04335

**Section 1EP2: Alert and Notification System Evaluation**Documents

Alert and Notification System (ANS) Design Report, James A. Fitzpatrick Nuclear Power Plant, dated December 10, 2012

James A. Fitzpatrick Nuclear Power Plant Emergency Plan

Letter from FEMA Region II to New York State Division of Homeland Security and Emergency Services, re: Backup Alert and Notification System for J. A. Fitzpatrick Power Station Emergency Planning Zone, dated December 6, 2012

Procedures

EPMP-EPP-08, "Maintenance, Testing and Operation of the Oswego County Prompt Notification System," Revision 02100

SAP-8, "Prompt Notification System Failure/Siren System False Activation," Revision 17

### **Section 1EP3: Emergency Response Organization Staffing and Augmentation System**

#### Documents

JEP-12-0021, "Evaluation of the 9/5/12 EP Qtrly Off Hours Call in Test," dated September 12, 2012  
JEP-13-0017, "Evaluation of the 6/10/13 EP Qtrly Off Hours Call in Test," dated June 12, 2013  
JEP-13-035, "TSC EP Focused Drills on 11/8/13," dated November 13, 2013  
JEP-13-036, "EOF EP Focused Drills on 11/8/13," dated November 13, 2013  
JEP-14-0008, "TSC EP Focused Mini Drills on 1/31/14," dated February 27, 2014  
JEP-14-0009, "EOF EP Focused Drills on 1/31/14," dated February 27, 2014  
JEP-14-0012, "Evaluation of the 2/18/14 EP Qtrly Off Hours Call in Test," dated March 10, 2014  
JAF On-Shift Staffing Analysis Report, Revision 1, dated October 8, 2013  
James A. Fitzpatrick Nuclear Power Plant Emergency Plan

#### Procedures

EAP-17, "Emergency Organization Staffing," Revision 123  
SAP-7, "Surveillance Procedure for On-Call Employees," Revision 41

#### Condition Reports

CR-JAF-2013-00933  
CR-JAF-2013-02386

### **Section 1EP5: Maintenance of Emergency Preparedness**

#### Documents

James A. Fitzpatrick Nuclear Power Plant Emergency Plan  
QA-7-2014-JAF-1, "Emergency Plan Audit," dated June 18, 2014  
QA-7-2013-JAF-1, "Emergency Plan Audit," dated July 2, 2013  
QS-2014-JAF-001, "Emergency Planning Surveillance," dated February 13, 2014  
QS-2012-JAF-013, "Emergency Planning Surveillance," dated April 27, 2012  
LO-JAFLO-2013-092, "JAF Pre NRC Inspection Assessment," dated April 11, 2014  
LO-JAFLO-2012-00046, "JAF's Pre NRC Assessment," dated May 10, 2012  
JEP-12-0026, "Evaluation of the November 11, 2012 ERONS Activation Response," dated December 17, 2012  
JEP-13-0040, "2013 Licensee, Oswego County and New York State Review of EALs," dated December 17, 2013  
KLD TR-568, "Nine Mile Point Nuclear Station and James A. Fitzpatrick Nuclear Power Plant 2013 Population Update Analysis," dated September 13, 2013

#### Procedures

AOP-70, "Security Threat," Revision 16  
EN-EP-202, "Equipment Important to Emergency Preparedness," Revision 1  
EN-EP-305, "Emergency Planning 10CFR50.54(q) Review Program," Revision 3  
SAP-1, "Maintaining Emergency Preparedness," Revision 23  
SAP-2, "Emergency Equipment Inventory," Revision 52  
SAP-23, "Equipment Important to Emergency Preparedness," Revision 0  
SAP-2, Attachment 5, "EOF Emergency Plan Inventory," performed November 12, 2012  
SAP-2, Attachment 11, "Technical Support Center Inventory," performed March 5, 2013  
SAP-2, Attachment 20, "TSC/OSC Walkdown Inspection," performed October 26, 2012



Condition Reports

CR-JAF-2012-02823	CR-JAF-2013-02433	CR-JAF-2014-01791
CR-JAF-2012-08542	CR-JAF-2013-02472	CR-JAF-2014-01813
CR-JAF-2012-08715	CR-JAF-2013-04396	CR-JAF-2014-01876
CR-JAF-2013-02170	CR-JAF-2013-04429	CR-JAF-2014-01901
CR-JAF-2013-02253	CR-JAF-2013-05764	CR-JAF-2014-02135
CR-JAF-2013-02422	CR-JAF-2014-00260	CR-JAF-2014-02275
CR-JAF-2013-02424	CR-JAF-2014-00593	CR-JAF-2014-02333
CR-JAF-2013-02430	CR-JAF-2014-00932	CR-JAF-2014-02439
CR-JAF-2013-02431	CR-JAF-2014-01790	CR-JAF-2014-02698

**Section 2RS1, 2, and 3: Radiation Safety - Public and Occupational**Documents

LO-JAFLO-2013-00070 CA-1, "Control of Work Involving Radiation Protection," dated June 10, 2014

Procedures

EN-RP-100, "Radiation Worker Expectations," Revision 8  
 EN-RP-101, "Access Control for Radiologically Controlled Areas," Revision 9  
 EN-RP-108, "Radiation Protection Posting," Revision 14  
 EN-RP-110, "ALARA Program," Revision 12  
 EN-RP-110-01, "ALARA Initiative Deferrals," Revision 1  
 EN-RP-110-03, "Collective Radiation Exposure (CRE) Reduction Guidelines," Revision 3  
 EN-RP-110-04, "Radiation Protection Risk Assessment Process," Revision 5  
 EN-RP-110-05, "ALARA planning and Controls," Revision 2  
 EN-RP-110-06, "Outage Dose Estimating and Tracking," Revision 1  
 EN-RP-121, "Radioactive Material Control," Revision 9  
 EN-RP-131, "Air Sampling," Revision 11

RWPs and ALARA Reviews

<u>RWP #</u>	<u>Description</u>	<u>ALARA Plan/Review #</u>
20140929	Reactor Water Cleanup Work	14-929
20140952	Condenser Re-tube Project	2014-0952-0
20140512	RO-21 Drywell ISI/FAC	140512
20140518	Drywell Scaffold Support	140518
20140701	Reactor Disassembly/Reassembly Activities	2014-0701

Surveys

<u>Survey #</u>	<u>Description</u>	<u>Date / Time</u>
JAF-1408-0691	23MOV-15 & 12MOV-15	August 30, 2014 / 0100
JAF-1408-0693	RB 300' (RWCPU Pump B)	August 31, 2014 / 2313
JAF-1408-0690	RB 300' (RWCPU Pump A)	August 31, 2014 / 1804
JAF-1408-0692	RB 286' (10-MOV-25A)	August 31, 2014 / 2225
JAF-1409-0007	DW 268' (B MSIV)	September 1, 2014 / 0400
JAF-1408-0687	RB 300' (RWCPU Pump B)	August 31, 2014 / 1645
JAF-1408-0661	DW 267' (Carousel)	August 30, 2014 / 2000
JAF-1408-0645	DW 268' GA	August 30, 2014 / 1110
JAF-1408-0650	RB 244' (Torus)	August 30, 2014 / 1230
JAF-1408-0658	Condenser Water Boxes	August 30, 2014 / 1630
JAF-1408-0660	Condenser Water Boxes	August 30, 2014 / 2217

JAF-1408-0666	HB 252' (Heater Bay)	August 31, 2014 / 0111
JAF-1408-0680	RB 369'	August 31, 2014 / 1244
JAF-1408-0688	RB 311'	August 31, 2014 / 1641
JAF-1408-0631	DW 268' (10AOV-68A)	August 30, 2014 / 0300

Condition Reports

CR-JAF-2014-03431	CR-JAF-2014-03995	CR-JAF-2014-04324
CR-JAF-2014-03716	CR-JAF-2014-03997	CR-JAF-2014-04338
CR-JAF-2014-03773	CR-JAF-2014-04072	CR-JAF-2014-04418
CR-JAF-2014-03911	CR-JAF-2014-04091	CR-JAF-2014-04527
CR-JAF-2014-03933	CR-JAF-2014-04210	

**Section 2RS5: Radiation Monitoring Instrumentation**Procedures

EN-RP-301, "Radiation Protection Instrument Control," Revision 6  
 EN-RP-303, "Source Checking of Radiation Protection Instrumentation," Revision 3  
 RP-INST-02.04, "Count Rate Meter, Ludlum Model 177," Revision 6  
 RP-INST-02.06, "Dose Rate Meter, BICRON Micro-Rem," Revision 4  
 RP-INST-02.07, "Neutron Survey Instruments," Revision 5  
 RP-INST-02.08, "Ion Chamber Dose Rate Meter," Revision 5  
 RP-INST-02.09, "Calibration of Mini-Scaler MS-2 and MS-3," Revision 4  
 RP-INST-02.10, "Scintillation Alpha Counter, Eberline Model SAC-4," Revision 3  
 RP-INST-04.02, "Calibration of the Whole Body Contamination Monitor IPM," Revision 6  
 RP-RESP-04.02, "Calibration of Portable Air Samplers," Revision 4  
 RP-INST-04.08, "MGPI Telepole WR Extendable GM Survey Meter," Revision 4  
 RP-RESP-04.10, "Constant Air Monitor, Eberline Model AMS-4," Revision 9  
 RP-INST-04.12, "Operation and Calibration of the SAM-12," Revision 0  
 RP-INST-05.03, "Calibrator, J.L. Shepherd Model 89," Revision 2

Instrument Calibrations

<u>Model</u>	<u>Serial/Equipment ID</u>	<u>Calibration Date</u>
AMS-4	1331	May 8, 2014
Ludlum-177	369	February 25, 2014
Ludlum-177	355	July 11, 2013
Radeco H809V-1	1106	June 13, 2014
Radeco H809V-1	1160	January 8, 2014
IPM-9	702	March 21, 2014
Ludlum-9-3	12009	December 18, 2013
MS-2	406	July 7, 2014
MS-2	434	September 12, 2013
MS-3	428	September 10, 2013
RM-14	12109	September 22, 2012
RSO-50E	668	August 28, 2013
SAC-4	442	April 2, 2014
SAC-4	443	April 4, 2014
SAC-4	3-2541	July 15, 2014
Bicron micro-R	546	July 24, 2013
E-600	213	May 29, 2013
SAM-12	1203	June 18, 2014

Telepole	11003	September 25, 2013
RO-20	28	August 20, 2013
RO-20	12015	September 17, 2013

Condition Reports

CR-JAF-2014-00643	CR-JAF-2014-02101	CR-JAF-2014-02888
CR-JAF-2014-00701	CR-JAF-2014-02234	CR-JAF-2014-03391
CR-JAF-2014-01914	CR-JAF-2014-02395	
CR-JAF-2014-02081	CR-JAF-2014-02853	

**Section 40A1: Performance Indicator Verification**

Documents

NEI-99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7  
 JAF-RPT-05-00047, "Mitigating System Performance Index (MSPI) Basis Document," Revision 4

**Section 40A2: Problem Identification and Resolution**

Documents

System Health Report, System 93 - EDG, first quarter 2014  
 DBD-093, "Design Basis Document for Emergency Diesel Generator (EDG)," Revision 12  
 IEEE Std 387-1995, "IEEE Standard Criteria for Diesel-Generator Units Applied as Standby  
 Power Supplies for Nuclear Power Generating Stations"  
 EC 40222, "OP Input for Load Sharing KVAR Variations CR-JAF-2012-06901 & 06900,"  
 Revision 0  
 JAF-RPT-EDG-02303, "Maintenance Rule Basis Document System 93 Emergency Diesel  
 Generator," Revision 11  
 JAF-CALC-EDG-03358, "JAF Single EDG Loading," Revision 0  
 JAF-CALC-ELEC-01488, "4KV Emergency Bus Loss of Voltage, Degraded Voltage and Time  
 Delay Relay Uncertainty and Set-point Calculation," Revision 6

Procedures

EN-DC-203, "Maintenance Rule Program," Revision 2  
 EN-DC-204, "Maintenance Rule Scope and Basis," Revision 3  
 EN-DC-206, "Maintenance Rule (a)(1) Process," Revision 3  
 EN-LI-102, "Corrective Action Process," Revision 23  
 EN-OP-104, "Operability Determination Process," Revision 7  
 OP-22, "Diesel Generator Emergency Power," Revision 59  
 ST-9CA, "EDG A and C Load Sequencing Test and 4KV Emergency Power System Voltage  
 Relays Instrument Functional Test\*\*," performed on September 27, 2010 and October 3,  
 2012

Drawings

FE-1B, "Main One Line Diagram Sh. 2 Station Service Transformers," Revision 14

Condition Reports

CR-JAF-2012-06900	CR-JAF-2014-03449	CR-JAF-2014-03826
CR-JAF-2012-06901	CR-JAF-2014-03456	CR-JAF-2014-03847
CR-JAF-2014-03128	CR-JAF-2014-03514	CR-JAF-2014-03873
CR-JAF-2014-03316	CR-JAF-2014-03534	CR-JAF-2014-03927
CR-JAF-2014-03396	CR-JAF-2014-03740	CR-JAF-2014-03959

CR-JAF-2014-03998	CR-JAF-2014-04973	CR-JAF-2014-05512
CR-JAF-2014-04001	CR-JAF-2014-05090	CR-JAF-2014-05543
CR-JAF-2014-04069	CR-JAF-2014-05216	CR-JAF-2014-05595
CR-JAF-2014-04773	CR-JAF-2014-05268	CR-JAF-2014-05678
CR-JAF-2014-04842	CR-JAF-2014-05321	CR-JAF-2014-05753
CR-JAF-2014-04943	CR-JAF-2014-05493	CR-JAF-2014-05762

### **Section 40A5: Other Activities**

#### Condition Reports

CR-JAF-2013-05576

#### Work Orders

WO 00357076

### **LIST OF ACRONYMS**

10 CFR	Title 10 of the <i>Code of Federal Regulations</i>
AA	access authorization
ALARA	as low as is reasonably achievable
ANS	alert and notification system
ARM	area radiation monitor
ASME	American Society of Mechanical Engineers
CAM	continuous air monitor
CAP	corrective action program
CR	condition report
CRDM	control rod drive mechanism
CST	condensate storage tank
EDG	emergency diesel generator
Entergy	Entergy Nuclear Northeast
EP	emergency preparedness
ERF	emergency response facility
ERO	emergency response organization
ESW	emergency service water
FAC	flow accelerated corrosion
FFD	fitness for duty
FitzPatrick	James A. FitzPatrick Nuclear Power Plant
HPCI	high pressure coolant injection
IMC	Inspection Manual Chapter
ISI	inservice inspection
JPM	job performance measure
kV	kilovolt
LER	licensee event report
MG	motor generator
MRO	medical review officer
MSIV	main steam isolation valve
MSPI	mitigating systems performance index
MT	magnetic particle test
NDE	nondestructive examination
NEI	Nuclear Energy Institute

NCV	non-cited violation
NRC	Nuclear Regulatory Commission
PI	performance indicator
PMT	post maintenance test
PT	penetrant test
RCIC	reactor core isolation cooling
RG	regulatory guide
RHR	residual heat removal
RHRSW	residual heat removal service water
RO-21	refueling outage 21
RPS	reactor protection system
RPV	reactor pressure vessel
RWP	radiation work permit
SAM	small article monitor
SDP	significance determination process
SL	severity level
SRM	source range monitor
SSC	structure, system, and component
TS	technical specification
UFSAR	Updated Final Safety Analysis Report
UT	ultrasonic testing
VT	visual testing (Visual Examination)
WBC	whole body counter
WO	work order