**LER and NRC finding search data related to valve mispositioning events 1998 to 2008**

**LER and NRC Finding data review for valve mis-positioning /configuration control errors - (including three that resulted in white NRC findings that are described below).**

**1)** An LER from a V.C. Summer plant event on 9/21/2000 (ADAMS ML003762384) titled: "Turbine Driven Emergency Feedwater (TDEFW) Pump Discharge Valve Found Isolated" discusses a mispositioned TDEFW pump discharge valve (XVG-1036-EF) that was improperly locked closed between 8/4/2000 and 9/21/2000. It was closed during the performance of Surveillance Test Procedure STP-120.004 to allow testing of the TDEFP suction check valve (XVC-1014). During the system restoration following a successful test, plant operations personnel failed to re-open the valve as required by STP 120.004. The operator performing the restoration placed a locking tab and red chain on the valve signifying it was "locked open." Subsequently, the operator responsible for independent verification could not operate the valve far enough in the closed direction to determine that it was actually open, especially since this is a "knocker type" valve with several degrees of free rotation on the hand wheel. He incorrectly concluded that the valve was open. The locking and independent verification of the valve was not done in accordance with Station Administrative Procedures. Independent verification of a locked valve requires the independent verifier to be present prior to locking the component to allow the verifier to physically check the component in the correct position. The proper technique to check an open valve is to turn the hand wheel in the closed direction until the stem moves in the closed direction then return the valve to the full open position. The failure to open the valve coupled with the inadequate independent verification left the TDEFW pump flow path inoperable.

Corrective actions for this event included the following:
XVG-1036-EF was properly placed in the open position and locked. Locked valves in the emergency feedwater system were verified to be in their correct position. Other locked valves previously positioned by the two operations personnel involved with this event were reviewed and determined to be in the correct position. Crew briefings for operating personnel were conducted to reinforce the procedure requirements and expectations for independent verification. Condition Evaluation Report CER-00-1235 was initiated on discovery and evaluated this condition. A supporting root cause analysis was performed. Further self-assessments were completed under the corrective action program. Additional corrective actions were identified and completed through these programs. Training, procedures and job briefings were restructured, as necessary, to enhance human engineering factors into the locked valve verification program.

NOTE: This event resulted in a "low to moderate" (**WHITE)** level inspection finding due to the duration of the TDEFW pump being inoperable.

**2)** An LER from River Bend Unit-1 event on 9/18/2002 (ADAMS ML023230332) titled: "Automatic Reactor Scram Due to Main Turbine Electro-hydraulic Control Malfunction," discussed a reactor trip with complications that arose due to a valve mispositionng event. The LER states regarding the loss of reactor feedwater pump suction pressure:
The valve that closed in the main condensate pump discharge header, CNM-FCV200 is an air-operated butterfly valve that was installed in May 2002 during a planned outage. The valve will function to bypass the full-flow condensate filtration system that was being installed. In the as-left condition following its installation, the valve handwheel was locked in position after being used to open the valve, and the lever that engages the handwheel to the valve operating mechanism was left in the "disengaged" position. The air supply to the power actuator was not

connected at that time, as remote operation of the valve was not required until the installation of the filtration system was completed.

With the handwheel disengaged, the valve disc was not positively locked in the open position. The disc was dislodged by the system flow transient following the scram, and moved to the closed position, dead-heading the condensate pumps. Condensate discharge header pressure increased rapidly, causing the failure of gaskets in the flanged piping connections to the steam jet air ejector inter-condensers. The RCIC system operated normally to maintain reactor water level throughout the repair and system restoration.

The cause of this mispositioning was that the as-left position of the CNM-FCV200 handwheel disengagement lever prior to the scram was not appropriate for the system configuration, and resulted from ineffective communications between plant departments during installation of the valve and subsequent startup of the condensate system. A detailed Events and Causal Factor analysis was performed by the licensee investigation team which identified numerous broken barriers that could have prevented this aspect of the event. These inappropriate actions can be summarized as follows:
• Engineering and Operations personnel recognized at multiple points during the project that the valve had an unusual design, but inadequate action was taken to assure that the needed information was obtained and distributed.
• The need to positively lock the valve disc in position for system startup was emphasized during management review and approval of the phased implementation of the modification. However, sufficient accountability was not enforced to assure success in locking the valve.

Following manual positioning of a power-operated valve, it is standard practice to prepare the valve for remote operation by disengaging the manual operator. That action was inappropriate for this valve in its unique configuration. Operating instructions developed during the modification installation process were not adequate to guide the operators in positioning the valve, resulting in the handwheel being left disengaged.

NOTE: This event resulted in a “low to moderate” (**WHITE)** level NRC inspection finding because of the combination of: (1) risk associated with a loss of feedwater and (2) external events, such as a fire in conjunction with a loss of the feedwater system, over a period of approximately 126 days that this condition existed.

**3)** An LER event from a Prairie Island-1 event on 7/31/2008 (ADAMS ML082730902) titled, “Loss of AFW Safety Function and Condition Prohibited by Technical Specifications due to Mispositioned Isolation Valve.” This valve mispositioning was not detected by to routine TDAFW pump surveillance testing due to testing configuration which is done in manual mode. Manual start of the TDAFW pump, such as for routine pump surveillance testing, bypasses the protective circuitry triggered by the improperly isolated pressure switch. Therefore, even though the TDAFW pump had successfully passed several surveillance tests it was not available for automatic response when called upon following the reactor trip due to this isolation valve being mispositioned. As corrective action licensee established a configuration control measure to lock wire the pressure switch isolation valve in the correct position.

NOTE: This event resulted in a “low to moderate” (**WHITE**) level inspection finding based on the duration of the condition and impact on TDAFW pump operability. This Prairie Island-1 event is the main subject of the Information Notice (see ADAMS ML091240039) that references to this data search document.

## Additional Configuration Control / Mispositioning Related LERs (1998 to 2008)

Hyperlink ML numbers provide access to each LER that includes cause and corrective actions taken to help prevent recurrence.

| LER ADAMS ML # | DATE | UNIT | Brief title / description |
|---|---|---|---|
| ML082620210 | 07/15/2008 | Cook 1 | Containment Isolation Valve out of Position |
| ML081960085 | 05/05/2008 | Turkey Point 4 | Safety Injection Isolated in Mode 3 due to Inadequate Configuration Control |
| ML081700280 | 04/13/2008 | Millstone 2 | Unplanned LCO Entry - Three Charging Pumps Aligned for Injection With the Reactor Coolant System Temperature Less than 300 Degrees F. |
| ML072260432 | 06/06/2007 | St Lucie 1 | Mispositioned Service Air Containment Isolation Valves |
| ML070090510 | 11/09/2006 | Clinton 1 | Inadequate Configuration Control Risk Assessment Causes Loss of Safety Function |
| ML050180262 | 11/06/2004 | Cook 2 | Failure to Comply with Containment Integrity Requirements Specified in Technical Specifications 3.0.4, 3.6.1.1, 3.6.1.2 and 3.6.3.1 |
| ML032380558 | 03/24/2003 | Quad Cities 2 | Low Pressure Coolant Injection Differential Pressure Instrument Inoperable Due to Misposition of Instrument Valve |
| ML020910218 | 01/26/2002 | Cook 2 | Containment Isolation Valve Alignment Error During Local Leak Rate Testing |
| ML022170564 | 11/30/2000 | Dresden 2 | Reactor Scram Due to a Failure to Close Current Transformer Knife Switches Following Maintenance |
| ML003722828 | 05/06/2000 | Hope Creek | Reactor Scram with Reactor Defueled Due to Scram Discharge Volume High Level |
| ML003710508 | 03/24/2000 | Dresden 3 | Instrument Root Valve Found Closed During Unit 3 LPCI System Pump In-Service Testing |
| ML091530595 | 02/28/1999 | Kewaunee | Inadequate Configuration Controls Cause Personnel to Unknowingly Place Plant In Unanalyzed Condition |
| ML091530583 | 06/26/1998 | Quad Cities 1 | Control Room Emergency Air Conditioning Compressor Tripped on Loss of Cooling Water During Monthly Surveillance Due to Inadequate Configuration Control Due to Miscommunication Between Operators. |
| ML091540200 | 05/10/1998 | LaSalle 1, LaSalle 2 | Emergency Diesel-Generators Not Declared Inoperable During Surveillance Testing Resulting in the Potential for Redundant Safety Systems to be Unavailable Due to Inadequate Method for Establishing Configuration Control |
| ML091540247 | 04/16/1998 | Point Beach 1 , Point Beach 2 | Containment Spray System Discharge Pressure Indicators Not Isolated |

## NRC ROP FINDINGS REVIEW (for mispositioned and mis-positioning)

**Inspection Findings Related to "Mis-positioned" since the ROP began in 1998**

**ROP PIM Reports - Event Dates: 02/01/1998 - 02/17/2009 - Generated on 02/17/09**
**By Types, Cornerstones, Event Dates, Sites**
**Key Word Search on mis-positioned,**
**Significance: All**
**5 *Open/Closed Final* items selected - All Regions**

NonCited Violation - **Green** 5

Cross Cutting Areas:

- SCWE - *Safety Conscious Work Environment*
- HP - *Human Performance*
- PIR - *Problem Identification and Resolution*

| NonCited Violation | | | | | | |
|---|---|---|---|---|---|---|
| **Initiating Events** | 03/31/2006 | MILLSTONE | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: , 05000423 (C) | | | | | | |
| Open: 2006002 ADAMS ML061250262 | | | | | | |
| (PIM) **MISPOSITIONING** OF BORIC ACID VALVES RESULTING IN UNINTENDED POSITIVE REACTIVITY ADDITION | | | | | | |
| A Green self-revealing non-cited violation of Technical Specification 6.8.1, "Procedures", was identified for adequate implementation of procedures which resulted in an unintended positive reactivity addition. On February 17, 2006, Operations personnel **mis-positioned** three valves which isolated the "A" boric acid gravity feed flow path and the "A" boric acid transfer pump. This issue manifested itself the following day during a planned blended makeup to the Volume Control Tank which resulted in small positive reactivity addition. Dominion entered their procedural compliance error into their corrective action program for resolution. This issue involved the cross-cutting aspects of human performance in that operators failed to adequately implement procedures which lead to an unintended reactivity addition. This issue was more than minor because it is associated with the human performance and configuration control attributes of the Initiating Events cornerstone. The finding is associated with an increase in the likelihood of initiating events in that an inadvertent positive reactivity addition actually occurred. The inspectors determined that the self-revealing finding was of very low safety significance because the amount of reactivity added was small (approximately 6 pcm) and did not contribute to both the likelihood of a reactor trip and the unavailability of mitigation equipment or functions. (Section 1R14) | | | | | | |
| **Initiating Events** | 12/31/2004 | DIABLO CANYON | **Green** | *SCWE: N | *HP: Y | *PIR: N |

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|---|---|---|---|---|---|---|
| Docket/Status: , 05000323 (C) | | | | | | |
| Open: 2004005 ADAMS ML050450591 | | | | | | |
| (PIM) Failure to Properly Implement Procedure for Spent Fuel Pool Skimmer Filter Replacement | | | | | | |
| A self-revealing NCV was identified for the failure to appropriately implement the procedure for spent fuel pool skimmer filter replacement, as required by Technical Specification 5.4.1.a. On December 23, 2004, operators cleared the spent fuel pool skimmer system using Section 6.3.1 of Procedure OP B-7:III, "Spent Fuel Pool System - Shutdown and Clearing and Filter Replacement," Revision 15, instead of the appropriate section, which was Section 6.3.2. A human performance cross cutting aspect was identified for the failure on two occasions to address configuration control concerns with the system. This finding impacted the Initiating Events Cornerstone and was considered more than minor using Example 5.a of IMC 0612. Specifically, Valve SFS-2-3 was **mis-positioned** due to the use of the wrong section of Procedure OP B-7:III and then returned to service. Additionally, operators had two opportunities to identify the mis-positioning of Valve SFS-2-3 but failed to identify the condition. The **mis-positioned** valve resulted in a loss of approximately 36,000 gallons of water from the spent fuel pool. Using the SDP Phase 1 screening worksheet of IMC 0609, Appendix A, the finding was evaluated as a transient initiator, and it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. Therefore, the finding was screened as having very low safety significance | | | | | | |
| **Mitigating Systems** | 11/23/2005 | PRAIRE ISLAND | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000282 (C) , 05000306 (C) | | | | | | |
| Open: 2005012 ADAMS ML060200580 | | | | | | |
| (PIM) Configuration Control Event Causes a Loss Fire Suppression to the Relay Room | | | | | | |
| The carbon dioxide suppression system isolation valve for the relay room had been **mis-positioned** in the closed position rendering the suppression system non-functional. This finding was related to the Personnel subcategory of the cross-cutting area of Human Performance. Operators failed to open the valve following a maintenance activity. Operators failed to identify that the valve was **mis-positioned** in the closed position during two subsequent valve position surveillance activities. | | | | | | |
| **Mitigating Systems** | 02/14/2003 | SURRY | **Green** | *SCWE: N | *HP: N | *PIR: N |
| Docket/Status: 05000280 (C) , 05000281 (C) | | | | | | |
| Open: 2003007 ADAMS ML039030560 | | | | | | |

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|---|---|---|---|---|---|---|
| (PIM) Inadequate Control of Diesel Driven Fire Pump Fuel Oil Isolation Valve | | | | | | |
| A failure to properly implement and maintain an adequate fire protection program inspection and valve position control process could have resulted in isolation of the fuel oil supply to the diesel-driven fire pump (DDFP). The position of the DDFP fuel oil supply valve was not being controlled by the licensee. A non-cited violation of 10 CFR 50.48 was identified. This finding is greater than minor because it is associated with fire protection performance and degraded the ability to meet the mitigating systems cornerstone objective. The finding is considered to have very low safety significance because the fuel oil supply valve was in its proper position and it had not been **mis-positioned** in the past. | | | | | | |
| **Barrier Integrity** | 06/30/2005 | SALEM | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000272 (C) | | | | | | |
| Open: 2005003 ADAMS ML052090344 | | | | | | |
| (PIM) 15 CONTAINMENT FAN COIL UNIT INOPERABLE DUE TO CONFIGURATION CONTROL ERROR | | | | | | |
| A self-revealing finding was identified when the 15 containment fan coil unit (CFCU) failed to start in high speed on May 24, 2005. PSEG determined that charging spring toggle switches on the high and low speed CFCU breakers were **mis-positioned** during a surveillance test on May 18, 2005. The configuration control error rendered the CFCU inoperable for 160 hours. The finding was a non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Traditional enforcement does not apply because the issue did not have any actual safety consequences or potential for impacting the NRC's regulatory function and was not the result of any willful violation of NRC requirements. This finding was more than minor because it was associated with the structure, system, or component performance attribute of the barrier integrity cornerstone and affected the cornerstone objective to provide reasonable assurance that containment barriers protect the public from radio nuclide releases caused by accidents or events. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors were directed to IMC 0609, Appendix H, "Containment Integrity Significance Determination Process," because the finding represented an actual loss of defense-in-depth of a system that controls containment pressure. The finding was determined to be of very low safety significance (Green) because the Salem Units include a large, dry containment, and containment fan coil unit failures do not significantly contribute to large early release frequency (LERF). The performance deficiency had a human performance (personnel) cross cutting aspect. | | | | | | |

**Inspection Findings related to "Misposition" since the ROP began in 1998**

**ROP PIM Reports - Event Dates: 02/01/1998 - 02/17/2009 - Generated on 02/17/09**
**By Types, Cornerstones, Event Dates, Sites**
**Key Word Search on misposition,**
**Significance: All**
**30 *Open/Closed Final* items selected - All Regions**

Finding - **Green** 3
Finding - **N/A** 2
NonCited Violation - **Green** 21
NonCited Violation - **SL-IV** 1
Violation - **White** **3**

Cross Cutting Areas:

- SCWE - *Safety Conscious Work Environment*
- HP - *Human Performance*
- PIR - *Problem Identification and Resolution*

| **Finding** | | | | | | |
|---|---|---|---|---|---|---|
| **Mitigating Systems** | 03/31/2005 | GINNA | **Green** | *SCWE: N | *HP: N | *PIR: Y |
| Docket/Status: 05000244 (C) | | | | | | |
| Open: 2005002 ADAMS ML051250004 | | | | | | |
| (PIM) Failure to Implement Effective Corrective Actions Associated with Component **Mispositioning** Events | | | | | | |
| Green. The inspectors identified a finding that Ginna personnel have failed to implement effective corrective actions for conditions adverse to quality associated with component **mispositioning** events. Numerous **mispositioning** events have occurred over the past year and efforts to correct the deficiency have been ongoing since the last quarter of 2004. While many of the events have been minor in nature, two of the events which occurred this quarter had the potential to impact the acceptable operating environment for safety significant equipment. Specifically, the isolation valves on a relay room air conditioner service water strainer were found out-of-position rendering the cooler inoperable and the battery room air conditioning unit power switch was found in the off position rendering it inoperable. This finding is greater than minor because it affects the reactor safety, mitigating systems attribute of equipment performance, and the availability, reliability, and capability objective of the mitigating systems cornerstone. This finding was of very low safety significance because none of the events resulted in the actual loss of a system safety function. The inspectors identified that a contributing cause of this finding was related to the cross-cutting area of problem identification and resolution specifically under the subcategory of effectiveness of corrective actions. | | | | | | |
| **Mitigating Systems** | 09/27/2003 | COOPER | **Green** | *SCWE: N | *HP: N | *PIR: Y |

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|---|---|---|---|---|---|---|
| Docket/Status: 05000298 (C) | | | | | | |
| Open: 2003006 ADAMS ML033040265 | | | | | | |
| (PIM) Failure to adequately control maintenance on condensate storage tank outlet valve. | | | | | | |
| A self-revealing finding was identified regarding the licensee's failure to adequately control maintenance on a condensate storage tank outlet valve, which resulted in lowering of main condenser vacuum on three separate occasions. The valve position indication had been installed backward following maintenance which led to the valve being **mispositioned**. This finding is more than minor since it adversely affected the availability and reliability of the power conversion system (main condenser and bypass valves). This finding is of very low safety significance, since there was no loss of safety function of the main condenser or bypass valves. In addition, it has crosscutting aspects associated with problem identification and resolution based on the number of opportunities to identify the error during and after the maintenance. | | | | | | |
| **Mitigating Systems** | 06/24/2000 | CATAWBA | **Green** | *SCWE: | *HP: | *PIR: |
| Docket/Status: , 05000414 (C) | | | | | | |
| Open: 2000003 ADAMS ML003731138 | | | | | | |
| (PIM) Steam generator power operated relief valve 2SV-19 failed to open on April 15, 2000, due to mispostioned nitrogen pressure regulators | | | | | | |
| Steam generator power operated relief valve 2SV-19 failed to open on April 15, 2000, due to **mispostioned** nitrogen pressure regulators, which are required to function during a design basis event involving the loss of normally available instrument air. The licensee determined the **mispositioned** regulators to be a human performance issue, but were not able to pinpoint when the actual **mispositioning** took place. This issue was determined to have very low safety significance due to the availability of other steam generator power operated relief valves and diverse means of cooling the secondary plant (Section 1R22.2). | | | | | | |
| **Miscellaneous** | 08/27/2004 | BRUNSWICK | **N/A** | *SCWE: N | *HP: N | *PIR: N |
| Docket/Status: 05000325 (C) | | | | | | |
| Open: 2004011 ADAMS ML042710443 | | | | | | |
| (PIM) Results of Brunswick Unit 1 Loss of Offsite Power Special Inspection | | | | | | |
| A special inspection was conducted following a Brunswick Unit 1 Loss of Offsite power on August 14, 2004. The inspectors determined: (1) The cause of the loss-of-offsite power was the internal failure of a switchyard breaker as it responded to a line fault outside the unit's switchyard: that failure led to loss of power on the 1B bus, which caused, in turn, a loss of power to the unit 1 startup transformer, and the loss of both recirculation pumps. (2) The site switchyard design and configuration complied with General Design Criterion 17. The inspectors noted that changes could be made in the switchyard configuration and some switchyard equipment which could significantly reduce the unit's vulnerability to similar events in the future. The licensee initiated efforts to review and evaluate enhancements. (3) A load-shed permissive HGA relay on emergency bus 1 failed when the relay dust cover prevented the relay armature from actuating. Several loads were not shed from the bus before emergency | | | | | | |

diesel generator (EDG)-1 picked up the loads on that bus. Upon identifying the relay problem, the licensee corrected the involved relay problem, completed an adequate operability determination of EDG-1 and also performed the Technical Specifications-required common-cause analysis of the other EDGs. (4)To verify that no other important HGA relays had **mispositioned** dust covers, the licensee examined a larger population of relays in other applications. The initial relay examination identified a number of conditions that needed to be corrected, however, none of those conditions prevented the proper operation of any relay. Because the initial examination had been completed using an informal methodology, the licensee had not developed documentation that was adequate to support an operability determination. Some Operations personnel and management were not aware of how the identified relay conditions had been addressed. The licensee subsequently re-examined the subject relays, using a more formal and approved process. The re-examination was completed and the operability determination was formally documented prior to continuing the unit restart.

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|---|---|---|---|---|---|---|
| **Miscellaneous** | 09/30/2000 | PRAIRE ISLAND | **N/A** | *SCWE: N | *HP: N | *PIR: Y |

Docket/Status: 05000282 (C) , 05000306 (C)

Open: 2000015 ADAMS ML003766994

(PIM) EFFECTIVE CORRECTIVE ACTION PROGRAM.

The inspectors concluded that the licensee's program effectively identified and resolved conditions adverse to quality in that the inspectors did not identify any issues that resulted in the operability of safety-related or risk significant plant equipment being questioned. The problem identification threshold within the condition report process was low. Issues were prioritized and evaluated properly, according to the significance of the problem. Operability and reportability evaluations were typically completed as required. Corrective actions were usually timely and effective in preventing recurrence. The inspectors, however, identified several examples where corrective action due dates were missed or untimely and where documentation of corrective actions was weak. In addition, the inspectors determined that the licensee had not identified a **trend regarding 16 instances where valves or switches were found mispositioned**. Problems with corrective action due dates and corrective action trending, in general, had been identified in licensee self-assessments. The inspectors conducted interviews with plant personnel to ascertain the existence of a safety conscious work environment and concluded that plant personnel communicated an acceptable level of responsibility in identifying and entering safety issues into the corrective action program. The inspectors noted that licensee management was undecided about which of two forms would be the written means for employees to document identified problems and submit to the corrective action program.

**NonCited Violation**

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|---|---|---|---|---|---|---|
| **Initiating Events** | 06/30/2008 | SEABROOK | **Green** | *SCWE: N | *HP: N | *PIR: Y |

Docket/Status: 05000443 (C)

Open: 2008003 ADAMS ML082140855

(PIM) Inadequate Corrective Actions to Prevent Recurrance of **Mispositioned** Stow-Operated

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|---|
| Valves Caused Inadvertant Drain of 2000 Gallons From RCS |
| A self-revealing non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Actions,” was identified because FPLE did not implement corrective actions to prevent recurrence of **mispositioned** valves caused by difficult to operate stow-operator reach rods. Specifically, on April 20, 2008, a **mispositioned** (partially open), stow-operated filter drain valve, CS-V-1190, resulted in the inadvertent draining of 2000 gallons of water from the reactor cavity while operators placed the reactor letdown system into service. The drain valve was partially open because it was difficult to operate when positioned with its stow-operator. The mispositioning of a stow-operated valve in a safety system was a repeat occurrence of a similar event in October 2007. This finding was more than minor because it was associated with the configuration control attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of plant events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the loss of configuration control in the charging system unintentionally drained 2000 gallons from the reactor cavity, which affected the shutdown critical safety function of maintaining adequate reactor inventory. The finding was determined to be of very low safety significance (Green) using the SDP Phase 1 assessment, since the finding did not result in a loss of control of shutdown operations and adequate mitigation capabilities remained available. The finding has a cross-cutting aspect in the area of problem identification and resolution because FPL Energy did not take appropriate corrective actions to address safety issues in a timely manner commensurate with their safety significance and complexity (P.1.d). Specifically FPL Energy did not take adequate corrective actions to assure the correct positioning of stow-operated safety system valves and thereby prevent recurrence of a significant condition adverse to quality. |

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|---|---|---|---|---|---|---|
| **Initiating Events** | 12/31/2006 | POINT BEACH | **Green** | *SCWE: N | *HP: Y | *PIR: N |

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| Docket/Status: 05000266 (C) , 05000301 (C) |
| Open: 2006013 ADAMS ML070260218 |
| (PIM) Inadequate Procedural Controls for Manually Operated Breakers Located in Certain Control Panels |
| A finding and associated non-cited violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” having very low safety significance was self-revealed on October 16, 2006, during the out-of-service tagging of a manually operated breaker (MOB) in the Unit 2 control panel. The reactor was shutdown at the time of the event but at normal operating pressure and temperature. During the tagging, an adjacent breaker was inadvertently repositioned resulting in the opening of the pressurizer power-operated relief valve (PORV). About 63 gallons of reactor coolant were released through the valve to the pressurizer relief tank before operators repositioned the breaker and the valve re-closed. The released was categorized as a Notification of Unusual Event. The mispositioning was caused by a lack of adequate procedural controls for working in the control panels and a lack of knowledge by personnel as to the minimal force required to open the MOBs. As part of corrective actions, the licensee replaced or protected the most risk significant MOBs, trained workers on the operating sensitivity of the breakers, and established controls governing work in the control panels around sensitive equipment. The issue was entered into the corrective action program and the licensee performed a root cause evaluation for this event. This finding is greater than minor because if left uncorrected it would become a more significant safety |

concern in that the inadvertent re-positioning of other similar breakers in the main control room control panels would significantly upset plant stability. In addition, the finding is associated with the procedure quality and human performance attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Because attributes such as core heat removal, inventory control, power availability, containment control, and reactivity guidelines were met, the finding screened as (Green) having very low safety significance. The finding has a cross-cutting aspect in the area of human performance because the licensee's control of work failed to incorporate into planned work activities job site conditions, including environmental conditions which may impact human performance, and the human-system interface, that is, the operator interface with the breakers in the close confines of the control panels.

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|---|---|---|---|---|---|---|
| **Initiating Events** | 06/30/2004 | PALO VERDE | **Green** | *SCWE: N | *HP: Y | *PIR: Y |

Docket/Status: 05000528 (C) , 05000529 (C) , 05000530 (C)

Open: 2004003 ADAMS ML042220267

(PIM) FAILURE TO PREVENT LOSS OF SPENT FUEL POOL INVENTORY EVENTS THROUGH TIMELY CORRECTIVE ACTIONS

A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to identify the root cause of spent fuel pool inventory loss events and implement corrective actions to preclude recurrence. Specifically, the improper positioning of a fuel pool cleanup suction valve and inadequate level monitoring resulted in three losses of spent fuel pool inventory events. This finding involves problem identification and resolution cross-cutting aspects associated with the failure to identify root causes and implement corrective actions. The issue also involved human performance cross-cutting aspects associated with **mispositioned** valves and awareness of plant conditions by operations personnel. This issue was entered into the corrective action program as CRDR 2599869. The finding is greater than minor because it affected the configuration control and human performance attributes of the initiating events cornerstone objective. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool. This finding is determined to be of very low safety significance by management review because radiation shielding was provided by the spent fuel pool water level, the spent fuel pool cooling and fuel building ventilation systems were available, and there were multiple sources of makeup water.

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|---|---|---|---|---|---|---|
| **Initiating Events** | 06/10/2004 | COLUMBIA WNP | **Green** | *SCWE: N | *HP: Y | *PIR: N |

Docket/Status: , 05000397 (C)

Open: 2004003 ADAMS ML042310582

(PIM) Failure to Follow Clearance Order Results in **Mispositioned** Control Rod

A self revealing noncited violation of Technical Specification 5.4.1.a (failure to follow procedure) was identified when the licensee failed to hang a clearance tag in accordance with the

prescribed clearance order. This resulted in an inadvertent rod misposition event and subsequent action by control room operators to lower reactor core flow and power. Energy Northwest appropriately recovered the **mispositioned** control rod and hung the clearance tag in accordance with the prescribed clearance order. The failure to follow the clearance order instruction was also considered to have a cross-cutting element of human performance. This finding was greater than minor because the failure to hang clearance tags in accordance with the Plant Clearance Order procedure was determined to be a performance deficiency which could be reasonable viewed as a precursor to a significant event. The issue was of very low risk significance because although the finding was associated with an increase in the likelihood of an initiating event (i.e. the inadvertent rod insertion resulted in the licensee reducing core flow and reactor power) the finding; 1) did not contribute to the likelihood of primary loss of coolant accident initiator; 2) did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available; and 3) did not increase the likelihood of a fire or internal/external flood.

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| **Mitigating Systems** | 09/30/2006 | DRESDEN | **Green** | *SCWE: N | *HP: Y | *PIR: N |

Docket/Status: , 05000237 (C)

Open: 2006010 ADAMS ML063040553

(PIM) Mispositioning of Control Rod During Single Notch Timing

On July 30, 2006, a performance deficiency involving a non-cited violation of TS 5.4.1 was self revealed when two nuclear station operators (NSOs) failed to exercise appropriate three-way communication and second verification, resulting in the movement of control rod C-9 to an incorrect position during the performance of Dresden Operating Surveillance (DOS) 0300-04, “Control Rod Drive Timing,” Revision 39. The finding was greater than minor because it impacted the human performance attribute of the Reactor Safety Mitigating Systems Cornerstone objective to ensure reliability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because the **mispositioned** rod did not significantly increase reactivity to a point where power limits were challenged. Corrective actions for this event included: 1) all licensed operators were to take part in a dynamic learning activity in the simulator involving control rod operations and communications; 2) the shift manager was required to be in the control room during all non-emergency control rod moves; 3) the unit supervisor was required to provide direct overview in the “horseshoe” area of the control room during all non-emergency control rod movements; 4) each shift manager was required to perform a paired observation with the crew unit supervisors specifically focused on communications and verification techniques. The primary cause of this finding was related to the cross-cutting issue of human performance (work practices) because the human performance prevention techniques provided to the NSOs, such as three-way communication and a second verifier were not effective in preventing this error.

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| **Mitigating Systems** | 09/30/2005 | POINT BEACH | **Green** | *SCWE: N | *HP: Y | *PIR: N |

Docket/Status: 05000266 (C) , 05000301 (C)

Open: 2005010 ADAMS ML053000237

(PIM) Technical Specification Violation for Inoperable Emergency Diesel Generator Because of

| **Mispositioned** Room Exhaust Fan Breaker |
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| The inspectors identified a Green finding with an associated Non-Cited Violation of Technical Specification 3.8.1.E for the self-revealed problem on August 7, 2005, when one of the required room exhaust fans for the G-01 EDG failed to start due to a **mispositioned** breaker. The licensee returned the breaker to the proper position and investigated the cause of the **mispositioning.** The licensee planned and had taken additional corrective actions to provide clarification for aborting a procedure or scheduled activity and for ensuring equipment was appropriately returned to service. The finding was more than minor, in that, it was associated with the configuration control attribute of the Mitigating System cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was determined to be of very low safety significance because it did not involve a design deficiency, there was no actual loss of safety function, no single train loss of safety function for greater than the Technical Specification (TS)-allowed outage time, and no risk due to external events. The inspectors also determined that a primary cause of this finding was related to the cross-cutting area of human performance, because the licensee failed to ensure that the appropriate conditions were established after completion and cancellation of maintenance activities and before re-aligning G-01 to the safeguards bus. |

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| **Mitigating Systems** | 06/30/2005 | THREE MILE ISLAND | **Green** | *SCWE: N | *HP: Y | *PIR: Y |

| Docket/Status: 05000289 (C) |
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| Open: 2005004 ADAMS ML052100047 |
| (PIM) Deficient Procedure and Operator Error Degrade Two-Hour Emergency Air Supply to Emergency Feedwater and Main Steam Systems |
| The inspectors identified a non-cited violation of TS 6.8.1.a in that on March 29, 2005, operators did not properly implement procedural requirements for recharging the two-hour emergency air system, and **mispositioned** valve IA-V-1769. The **mispositioned** valve caused both air banks to partially depressurize and reduced the reliability of the supported mitigating systems (emergency feedwater (EFW) and main steam (MS)) to perform their decay heat removal function. Operators identified and repressurized the air banks, but did not recognize and correct the cause of the degraded condition until the inspectors identified the causes. The finding was more than minor because the degraded two-hour air system pressure affected the reliability of the EFW and MS systems to perform their accident mitigation functions in response to initiating events. The deficiency affected the configuration control, equipment performance, and human performance attributes of the mitigating system cornerstone. The finding is of very low safety significance because bank air pressure did not drop below the value required for operability and, therefore, the system remained capable of performing its safety function. A contributing cause of this finding is related to the cross-cutting area of human performance, because operators did not follow procedural instructions to open IA-V-1769 and procedure quality was deficient in that procedure usage category 3 (informational use only) was insufficient to ensure the procedure was properly followed step-by-step for this important safety-related activity. The finding is also cross-cutting in the area of problem resolution in that AmerGen's initial assessment of the event did not determine or correct the actual causes of the degraded air bank pressure. |

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| **Mitigating Systems** | 03/31/2005 | BRUNSWICK | **Green** | *SCWE: N | *HP: N | *PIR: Y |
| Docket/Status: 05000325 (C) , 05000324 (C) | | | | | | |
| Open: 2005002 ADAMS ML051220216 | | | | | | |
| (PIM) Failure to identify Condition Adverse to Quality on Emergency Bus Relay Covers | | | | | | |
| Green. A self-revealing finding and non-cited violation of 10CFR50, Appendix B, Criterion XVI, was identified for failure to promptly identify a condition adverse to quality associated with **mispositioned** relay covers for several General Electric HGA relays on emergency bus E-1. The finding resulted in relay 1-E1-AE7-CL-B, which provides a confirmatory bus strip signal to the emergency diesel generator (EDG) 1 output breaker, being failed in the operated state. This caused emergency diesel generator EDG 1 to be in an inoperable condition from March 29, 2004 until the condition was discovered on August 16, 2004. The finding is greater than minor because it is associated with equipment performance and affected the functional capability of the system to respond to initiating events. The finding was evaluated using NRC Inspection Manual Chapter 0609 Appendix A. A Phase 3 Significance Determination Process analysis determined this finding to be of very low safety significance based on the limited number of hours the EDG load rating would have been exceeded. The finding is related to the cross-cutting area of problem identification and resolution due to the failure to identify a condition adverse to quality. | | | | | | |
| **Mitigating Systems** | 06/30/2004 | CLINTON | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000461 (C) | | | | | | |
| Open: 2004005 ADAMS ML042150339 | | | | | | |
| (PIM) FAILURE TO IMPLEMENT A LOCKED VALVE PROCEDURE. | | | | | | |
| A finding of very low safety significance was identified by the inspectors for the licensee's failure to implement a procedure to control locked valves. Failing to have a locked valve procedure, combined with a shift supervisor marking the step which verified the position of the standby liquid control (SLC) tank air-sparging valve as "not applicable," based on the valve being a "locked valve" and no work having been done to the valve, allowed the air sparging valve to remain **mispositioned** while transitioning to Mode-2 and during Mode-1 operations. Once identified, the licensee placed the valve in the correct position. This issue was related to the Human Performance corsscutting area, in that, the failure to implement a procedure resulted in a **mispositioned** valve. The finding was more than minor because the open air sparging valve created the potential for air-binding the pumps used to inject boron solution into the reactor, affecting the ability of the SLC system to shut the reactor down from a full power situation in the control rods failed to insert on a scram condition. The finding was of very low safety-significance because the deficiency, once evaluated, did not result in a loss of function per Generic Letter 91-18. The finding was a Non-Cited Violation of Technical Specification 5.4 which required the implementation of written procedures to control the locked valves in the plant. | | | | | | |
| **Mitigating Systems** | 03/31/2004 | CALVERT CLIFFS | **Green** | *SCWE: N | *HP: N | *PIR: Y |

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| Docket/Status: 05000317 (C) , 05000318 (C) | | | | | | |
| Open: 2004004 ADAMS ML041250174 | | | | | | |
| (PIM) Failure to Implement Effective Corrective Actions Associated with Component **Mispositioning** Events | | | | | | |
| The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, Corrective Actions, which requires that measures shall be established to assure significant conditions adverse to quality are promptly identified and corrected. Specifically, the licensee failed to implement effective corrective actions for significant conditions adverse to quality associated with component **mispositioning** events. A similar failure was first identified as NCV 05000317; 05000318/2003009-01 and documented in NRC Inspection Report IR-2003-009, issued November 7, 2003. Since then, two additional significant component **mispositioning** events occurred between October 29, 2003, and March 31, 2004 both resulting in actual consequences to safety-related systems. This finding is greater than minor because it affects the Reactor Safety, Mitigating Systems attribute of human performance, and the availability, reliability, and capability objective of the mitigating systems cornerstone. This finding was of very low safety significance because none of the events resulted in the actual loss of a system safety function. The inspectors identified that a contributing cause of this finding was related to the cross-cutting area of Problem Identification and Resolution. | | | | | | |
| **Mitigating Systems** | 03/27/2004 | Turkey Point | **Green** | *SCWE: N | *HP: N | *PIR: N |
| Docket/Status: , 05000250 (C) | | | | | | |
| Open: 2004002 ADAMS ML041170231 | | | | | | |
| (PIM) Operation With Two Charging Pumps Inoperable in Excess of Technical Specifications Allowable Limits | | | | | | |
| A self revealing non-cited violation of Technical Specification 3.1.2.3 was identified for failure to maintain at least two charging pumps operable. This condition occurred when Isolation Valve 3-280H for the 3C Charging Pump interlock pressure control switch PS-3-201C was **mispositioned** closed. The finding was greater than minor because it involved the equipment performance attribute of the mitigating system cornerstone and affected the objective of ensuring that equipment is available and capable to respond to an event. The finding was determined to be of very low safety significance in accordance with the Significance Determination Process (SDP) phase 2, since one charging pump remained operable and available to perform the safety function. (Section 4OA3) | | | | | | |
| **Mitigating Systems** | 11/07/2003 | CALVERT CLIFFS | **Green** | *SCWE: N | *HP: N | *PIR: N |
| Docket/Status: 05000317 (C) , 05000318 (C) | | | | | | |
| Open: 2003009 ADAMS ML033560005 | | | | | | |
| (PIM) Failure to prevent the recurrence of a significant condition adverse to quality involving **mispositioning** events | | | | | | |
| A significant condition adverse to quality involving several component mispositioning events | | | | | | |

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| associated with several safety-related systems occurred between January 2002 and October 2003 and effective measures were not implemented to determine the cause of the problem and to preclude recurrence. | | | | | | |
| **Mitigating Systems** | 09/20/2003 | CALLAWAY | **Green** | *SCWE: N | *HP: N | *PIR: Y |
| Docket/Status: 05000483 (C) | | | | | | |
| Open: 2003005 ADAMS ML032890577 | | | | | | |
| (PIM) Ineffective corrective actions following an EDG rocker arm lube oil valve **mispositioning**. | | | | | | |
| The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action." This violation was related to inadequate corrective actions taken following an emergency diesel generator rocker arm lube oil valve **mispositioning**. The licensee's corrective actions were not adequate to prevent recurrence. This finding was greater than minor because it could reasonably be viewed as a precursor to a significant event and if left uncorrected, would become a more significant safety concern. This finding was of very low safety significance because the condition was not a design or qualification deficiency, did not represent the actual loss of a safety function of a system, did not represent the actual loss of a safety function of a single train for greater than its Technical Specification allowed outage time, did not represent the loss of a non-Technical Specification related train for greater than 24 hours, or did not screen as potentially risk significant due to a seismic, fire, flooding, or severe weather initiating event. | | | | | | |
| **Mitigating Systems** | 06/14/2003 | ROBINSON | **Green** | *SCWE: N | *HP: N | *PIR: N |
| Docket/Status: , 05000261 (C) | | | | | | |
| Open: 2003004 ADAMS ML031950073 | | | | | | |
| (PIM) Failure to Adequately Implement a Safety Injection and Containment Vessel Spray System Operating Procedure | | | | | | |
| Green. A failure to adequately implement an operating procedure resulted in the **mispositioning** of a vent valve in the safety injection (SI) system. A non-cited violation of Technical Specification 5.4.1 was identified. This finding is greater than minor and had credible impact on safety. The finding had the potential for affecting the mitigating systems cornerstone equipment, including, loss of reactor water storage tank level, flooding of the SI pump room and subsequent loss of SI and containment spray pumps due to flooding. The finding is of very low safety significance (Green) because any significant leakage would have caused the auxiliary building sump level to increase, alerting the control room. Further, the pipe cap downstream of the **mispositioned** valve had not exhibited any leakage. | | | | | | |
| **Mitigating Systems** | 12/28/2002 | WATERFORD-3 | **Green** | *SCWE: N | *HP: N | *PIR: N |
| Docket/Status: , 05000382 (C) | | | | | | |
| Open: 2002004 ADAMS ML030220054 | | | | | | |
| (PIM) Failure to follow an operating procedure | | | | | | |

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| The licensee failed to follow Operating Procedure OP-002-003, "Component Cooling Water System," Revision 13, following maintenance activities on Essential Chiller A. The failure to follow procedure resulted in Component Cooling Water Valve CC-305A being **mispositioned** on November 22, 2002, affecting operability of both Component Cooling Water System Train A and Essential Chiller AB. The failure to follow an operating procedure is a violation of Technical Specification 6.8.1(a). This finding is greater than minor because the mitigating systems objective to ensure the availability and capability of the component cooling water and essential chill water systems were affected. The finding is of very low safety significance since the **mispositioned** valve did not result in loss of safety function for a single train for greater than the Technical Specification allowed outage time. The condition was promptly identified and corrected by the licensee approximately 1.5 hours after Valve CC-305A was **mispositioned**. | | | | | | |
| **Mitigating Systems** | 03/26/2002 | COLUMBIA WNP | **Green** | *SCWE: N | *HP: N | *PIR: N |
| Docket/Status: , 05000397 (C) | | | | | | |
| Open: 2001009 ADAMS ML021140214 | | | | | | |
| (PIM) Standby gas treatment charcoal adsorber deluge valve isolated for an extended period due to a human performance error | | | | | | |
| Technical Specification 5.4.1.d required, in part, that written procedures for the fire protection program be implemented. Fire Protection Procedure, 15.1.19, "Fire Protection System Flow Path Valve Exercise," Revision 12, required FP-V-72, standby gas charcoal adsorber deluge isolation valve, be locked open. Contrary to the Technical Specification and the fire protection program, this valve was locked in the closed position between January 12 and March 13, 2002, because of human performance error. An operator failed to correctly reposition the valve during a previous surveillance. This issue had more than minor significance because the **mispositioned** valve resulted in loss of fire suppression capability to one standby gas charcoal absorber. The inspectors determined the issue had very low safety significance (Green) because the charcoal absorber deluge system only provided defense-in-depth fire suppression capability and the standby gas treatment system was not required for postfire plant safe shutdown, as described in FSAR Appendix F, fire protection evaluation. The licensee placed this issue into the corrective action program as Problem Evaluation Request 202-0783. | | | | | | |
| **Mitigating Systems** | 09/29/2001 | TURKEY POINT | **Green** | *SCWE: N | *HP: N | *PIR: N |
| Docket/Status: , 05000250 (C) , 05000251 (C) | | | | | | |
| Open: 2001005 ADAMS ML013030034 | | | | | | |
| (PIM) Control Room Emergency Ventilation System Inoperable | | | | | | |
| TS 3.7.5 requires that the Control Room Emergency Ventilation System shall be operable. The system was found inoperable during surveillance testing due to failure of a backup emergency supply fan to start as a result of a **mispositioned** damper affecting the low flow actuation setting. This issue was described in CR 01-1197. (Green) | | | | | | |
| **Mitigating** | 09/29/2001 | TURKEY POINT | **Green** | *SCWE: N | *HP: | *PIR: |

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| **Systems** | | | | | N | N |
| Docket/Status: , 05000250 (C) | | | | | | |
| Open: 2001005 ADAMS ML013030034 | | | | | | |
| (PIM) Both Trains of AFW Inoperable | | | | | | |
| TS 3.7.1.2 requires two independent auxiliary feedwater trains and associated flow paths be operable. Both trains were determined inoperable due to the flow control valve automatic flow controllers being **mispositioned** and not capable of providing the TS required flow. This issue was described in CR 01-1503. (Green) | | | | | | |
| **Barrier Integrity** | 12/31/2006 | SALEM | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: , 05000311 (C) | | | | | | |
| Open: 2006005 ADAMS ML070320309 | | | | | | |
| (PIM) INCORRECTLY POSITIONED FUEL ASSEMBLY | | | | | | |
| A self-revealing non-cited violation of Salem Technical Specification 6.8.1.b, “Procedures and Programs” was identified when PSEG discovered that an irradiated fuel assembly was incorrectly positioned into the spent fuel pool (SFP) and subsequently transferred without authorization during the reactor core offload of Salem Unit 2's fifteenth refueling outage. Contrary to procedural requirements, PSEG did not ensure that the SFP crane operator used a working copy of the applicable transfer sheets, fuel handling technicians did not properly document a fuel movement irregularity and then transferred a fuel assembly within the SFP without fully apprising the fuel handling senior reactor operator (SRO) or reactor engineer (RE) of the circumstances and, finally, PSEG did not ensure that spent fuel manipulations in the SFP were supervised by a qualified SRO or RE. This finding is more than minor because it affected the configuration control attribute of the barrier integrity cornerstone. Specifically, **mispositioned** fuel in the SFP increases the likelihood of an unanalyzed condition in the SFP and a potential impact on the fuel cladding barrier. An increased likelihood of an unanalyzed condition existed because SFP activities were conducted such that more than one fuel assembly could have been incorrectly positioned. This finding was evaluated by the significance determination process of Inspection Manual Chapter (IMC) 0609, Appendix M, “Significance Determination Process Using Qualitative Criteria” because neither IMC 0609, Appendix A, “Determining the Significance of Reactor Inspection Findings for At-Power Situations”; nor IMC 0609, Appendix G, “Shutdown Operations Significance Determination Process,” apply to the spent fuel pool. NRC management determined the finding was of very low safety significance because the deficiency did not cause actual degradation of plant systems, structures or components. Specifically, PSEG analysis demonstrated that the incorrectly positioned fuel assembly was in an acceptably safe location for each move. This finding has a cross-cutting aspect in the area of human performance because PSEG did not ensure supervisory and management oversight of work activities, including contractors, such that nuclear safety was supported. | | | | | | |
| **Barrier Integrity** | 10/08/2004 | DRESDEN | **Green** | *SCWE: N | *HP: Y | *PIR: N |

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| Docket/Status: , 05000237 (C) | | | | | | |
| Open: 2004013 ADAMS ML050280161 | | | | | | |
| (PIM) Unit 2 Torus to Hotwell Isolation Valve **Mispositioned** | | | | | | |
| A self-revealing event, that operators **mispositioned** a valve in the flow path for draining the Unit 2 torus to the Unit 2 hotwell, was identified on October 8, 2004. Operators failed to return valve 2-1501-35, "U2 Torus to Hotwell Isolation Valve," to its correct position after completion of Clearance Order 30831 on September 17, 2004. This event was a Non-Cited Violation of TS 5.4.1 having very low safety significance. The primary cause of this violation was related to the cross-cutting area of Human Performance. The finding was greater than minor, in that, the failure to follow procedures when returning valves to the correct position after being taken out-of-service, if left uncorrected, could become a more significant safety concern. This finding had very low safety significance because the **mispositioned** valve was identified, returned to the correct position, and the torus level was returned to Technical Specification requirements within the Technical Specification allowed outage time. The involved non-licensed operators were temporarily removed from shift duties. The licensee re-verified a sample of 10 safety related clearance orders; performed a valve lineup on the accessible portions of the high pressure coolant injection, low pressure coolant injection, and core spray systems; and re-verified a sample of the last five clearance orders performed by the individuals involved in this event. No additional issues were identified. (Section 1R04) | | | | | | |
| **Barrier Integrity** | 10/04/2001 | COOPER | **Green** | *SCWE: N | *HP: N | *PIR: N |
| Docket/Status: 05000298 (C) | | | | | | |
| Open: 2001006 ADAMS ML013240075 | | | | | | |
| (PIM) Exceeded Licensed Thermal Power | | | | | | |
| Cooper Nuclear Station License DPR-46, Section 2.C.1, states "The licensee is authorized to operate the facility at steady state reactor core power levels not in excess of 2381 megawatts (thermal)." From 12 p.m. through 8:55 p.m., on August 25, 2001, the licensee averaged between 2381 and 2384 megawatts thermal, due to a **mispositioned** reactor water cleanup filter bypass valve. This is being treated as a noncited violation. The licensee entered the issue into the corrective actions process as Notification 10106705. | | | | | | |
| **Miscellaneous** | 06/16/2000 | LIMERICK | **SL-IV** | *SCWE: | *HP: | *PIR: Y |
| Docket/Status: 05000352 (C) , 05000353 (C) | | | | | | |
| Open: 2000005 ADAMS ML003738994 | | | | | | |
| (PIM) Problem/Issue Cause Analysis | | | | | | |
| NO COLOR. A Non-cited Violation of 10 CFR 50, Appendix B, Criterion V, was identified, associated with five examples of failure to implement the written procedures of the corrective action program, an activity affecting quality. Four examples involved failure to properly classify adverse trend corrective action items as required by the corrective action program procedure LR-CG-10. The adverse trend items were associated with various topics including component **mispositioning**, procedure adherence, and reactor downpower events. The fifth example of | | | | | | |

failure to implement LR-CG-10 involved failure to conduct an operability evaluation of emergency diesel generators (EDGs) in April 2000, when PECO determined that 70 of 88 flex-coupling clamps on the cooling water systems of its EDGs were over-tightened. The failure to implement the procedures of the corrective action program is considered more than a minor violation in that it suggests a programmatic problem that has a credible potential to impact safety and involved more than an isolated occurrence.

| Violation | | | | | | |
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| **Mitigating Systems** | 10/06/2008 | PRAIRE ISLAND | **White** | *SCWE: N | *HP: Y | *PIR: N |

Docket/Status: 05000282 (O)

Open: 2008008 ADAMS ML083120510

(PIM) 11 TURBINE-DRIVEN AUXILIARY FEEDWATER PUMP INOPERABLE DUE TO FAILURE TO CONTROL POSITION OF VALVE THAT COULD ISOLATE THE DISCHARGE PRESSURE SWITCH

A self-revealing apparent violation of Technical Specifications was associated with the licensee's failure to adequately control the position of a valve that could isolate the 11 TDAFWP's discharge pressure switch. Because of the valve being closed, the 11 TDAFWP failed to run as required, subsequent to a reactor trip. The manifold isolation valve was determined to have been shut for 138 days, rendering the 11 TDAFWP inoperable for a time period that significantly exceeded the Technical Specification allowed outage time for the pump. This issue has potential safety significance greater than very low safety significance for Unit 1, which may change pending completion of the SDP. This issue was entered into the licensee's corrective action program (CAP 01146005). The licensee took prompt corrective actions to restore the **mispositioned** valve to its normal (open) position; perform valve lineups to verify correct equipment configurations for the remaining auxiliary feedwater pumps; and perform appropriate surveillance testing on the 11 TDAFWP to verify the component's operable status. This finding was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," because it impacted the configuration control attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of the systems that respond to initiating events to prevent undesirable consequences. The cause of this finding was related to the cross-cutting element of human performance for resources (H.2.(c)). (Section 4OA3.3) Final significance determination letter issued 1/27/2009 as a White.

| Violation | | | | | | |
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| **Mitigating Systems** | 09/21/2000 | V.C. SUMMER | **White** | *SCWE: N | *HP: N | *PIR: N |

Docket/Status: 05000395 (C)

Open: 2000007 Discussed: 2001007 ADAMS ML011210499 and ML011930097

(PIM) Failure to follow procedures results in the [turbine-driven emergency feedwater] pump being inoperable for approximately 48 days during power operation due to its manual discharge valve being closed

The licensee's **failure to properly position and independently verify the turbine driven emergency feedwater (TDEFW) pump discharge isolation valve** in accordance with procedures required by Technical Specification (TS) 6.8.1 resulted in the failure to comply with TS 3.7.1.2 for TDEFW pump operability. The failure to adhere to these regulatory requirements was cited as one violation in a December 28, 2000, letter to the licensee. The two apparent violations, AV 50-395/000005-01 and 50-395/000005-02 are considered closed. In the December 28, 2000, letter the inspection finding was characterized as White (i.e., an issue with low to moderate increased importance to safety). The NRC determined that the Human Error Probability methodology, using the Technique for Human Error Rate Prediction approach, appropriately estimated the increase in risk associated with the accident sequences containing the TDEFW recovery term. The change in core damage frequency was approximately 4x10-6/year. The violation, characterized as White, was reviewed and closed in NRC Supplemental Inspection Report No. 50-395/01-07, dated July 10, 2001. The supplemental report Summary of Findings state: "Using Inspection Procedure (IP) 95001, "Inspection for One or Two White Inputs In a Strategic Performance Area," the inspector concluded that the licensee's problem identification and root cause analysis was acceptable. The licensee determined the root cause was due to human error, a failure to open the valve coupled with inadequate independent verification. Additionally, the licensee identified four causal factors associated with this event. The completed and proposed corrective actions, including actions to prevent recurrence, adequately addressed the results of the root cause evaluation.

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| **Mitigating Systems** | 11/14/2002 | RIVER BEND | **White** | *SCWE: N | *HP: Y | *PIR: N |

Docket/Status: 05000458 (C)

Open: 2002007 Discussed: 2004011 ADAMS ML030410114 and ML040890102

(PIM) **Failure to properly lock open condensate valve** resulted in loss of feedwater flow following reactor scram

As documented in special inspection report 05000458/2002007, the inspectors identified a violation of Technical Specifications 5.4.1.a. for failure to properly lock open condensate prefilter vessel bypass flow control Valve CNM-FCV200. As a result, when the reactor automatically scrammed the valve closed and feedwater flow was lost to the reactor. The operators were able to provide makeup water to the reactor using the reactor core isolation cooling system. The final significance determination was completed and documented in "Final Significance Determination for a White Finding and Notice of Violation," (EA-03-077) dated December 29, 2003. The finding was determined to be of low to moderate safety significance because of the combination of risk associated with a loss of feedwater and from external events, such as a fire in conjunction with a loss of the feedwater system, over a period of approximately 126 days. The NRC performed a supplemental inspection to assess the licensee's evaluation associated with the failure to properly lock open Condensate Prefilter Vessel Bypass Flow Control Valve CNM-FCV200. Failing to lock open Valve CNM-FCV200 as required by procedures was a violation of Technical Specification 5.4.1.a. This supplemental inspection, performed in accordance with Inspection Procedure 95001, concluded that the licensee performed a comprehensive evaluation of the White finding. The licensee's review was thorough and complete. The corrective actions taken to address the root and contributing causes of the event have been completed with processes and procedures in place to prevent recurrence.

"Configuration Control" findings– 1998 to 2009 - searched for "**valve"** issues

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| **Initiating Events** | 03/31/2008 | DAVIS BESSE | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000346 (C) | | | | | | |
| Open: 2008002 ML081270558 | | | | | | |
| (PIM) UNEXPECTED REACTIVITY EXCURSION DUE TO UNIDENTIFIED **VALVE** POSITION DURING POST REPAIR AIR PRESSURE TESTING | | | | | | |
| A self-revealing finding was identified for the failure of operators to maintain configuration control of **valve**s during an air pressure test of a repair of a feedwater heater. Specifically, the operators left **valve** RD198 open during a pressure test of the extraction steam, or shell side, of feedwater heater 1-5 of the Main Feedwater System. This loss of configuration control gave testing air a path to the main condensers and led to degradation of the condenser vacuum, which then caused the Integrated Control System to raise reactor power unexpectedly. No violation occurred. Once the issue was identified, the licensee stopped the air pressure test and entered the finding into their corrective action program. The finding is greater than minor since it was associated with the configuration control-operating equipment lineup attribute of the Initiating Events Cornerstone and because it affected the associated cornerstone objective to limit the likelihood of those events that upset plant stability during power operations. The finding is of very low safety significance since it did not contribute to the likelihood of a primary or secondary system loss of coolant accident, did not contribute to both the likelihood of a reactor trip and the likelihood that mitigating equipment or functions would not be available, and did not increase the likelihood of a fire or internal/external flood. The finding was associated with the cross-cutting area of human performance in that work control and specifically the coordination of work activities did not properly record or assess the status of a **valve** in the test boundary and created a condition that had an operational impact (H.3(b)). | | | | | | |

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| **Initiating Events** | 12/27/2003 | SEQUOYAH | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000327 (C) | | | | | | |
| Open: 2003006 ADAMS ML040270032 | | | | | | |
| (PIM) Failure to Maintain Configuration Control of Turbine Oil **Valve**s Resulted in Reactor Trip | | | | | | |
| The inspectors identified a finding for a self-revealing failure to follow the plant configuration control process on non-safety related equipment. An instrument isolation **valve** on the Unit 1 turbine front standard was inappropriately left closed following a refueling outage and resulted in a generator load rejection and reactor trip. This finding is more than minor because it affected the configuration control attribute of the initiating event cornerstone and challenged the ability of operators and the reactor protection system to safely shut down the plant. With the isolation **valve** to Pressure Switch 1-PS-47-76 inappropriately closed, a generator load rejection and subsequent reactor trip were assured when the turbine thrust bearing trip test was performed. This finding is of very low safety significance because no mitigating system was affected. The cause of the finding is related to the cross-cutting element of human performance. | | | | | | |

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| **Initiating Events** | 09/30/2003 | POINT BEACH | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: , 05000301 (C) | | | | | | |
| Open: 2003004 ADAMS ML033030540 | | | | | | |
| (PIM) Unit 2 SI During Start-up | | | | | | |
| A finding of very low safety significance was self-revealed when Unit 2 operators failed to identify that the main feedwater regulating **valve**s (MFRVs) were in the automatic mode with a signal to open when the reactor trip breakers were closed during a reactor startup. The resultant flow of lower temperature water into the steam generators reduced reactor coolant system (RCS) temperatures causing pressurizer level to decrease to the point that operators initiated a manual safety injection (SI) and reactor trip signal. The primary cause of this finding was related to the cross-cutting area of human performance. Despite at least four licensed reactor operators having discussed the abnormality of leaving the MFRVs in the automatic mode with senior reactor operators prior to the reactor startup attempt, no changes were made. In addition, the entire operations crew on the evening of July 11, 2003, failed to recognize the expected system responses when closing the reactor trip breakers. The inspectors determined that the finding was more than minor because it: (1) involved the configuration control and human performance attributes of the Initiating Events cornerstone; and (2) affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. The finding was of very low safety significance because it did not contribute to the likelihood of a primary or secondary system loss-of-coolant accident (LOCA), did not contribute to both the likelihood of a reactor trip and mitigating equipment unavailability, and did not increase the likelihood of a fire or flooding event. No violation of NRC requirements occurred. | | | | | | |

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| **Initiating Events** | 11/03/2008 | MONTICELLO | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000263 (C) | | | | | | |
| Open: 2008009 ML083510254 | | | | | | |
| (PIM) FAILURE TO CORRECTLY IMPLEMENT THE POST SCRAM CHECKLIST. | | | | | | |
| A self-revealed finding of very low safety significance, associated with a NCV of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was identified following a loss of shutdown cooling on September 20, 2008. Specifically, operators failed to complete the shutdown checklist following the scram on September 11, 2008, and did not close the reference leg fill valve from the control rod drive system. When the control rod drive pump was started on September 20, the reference leg experienced a pressure spike and the resulting full RPS actuation and Group 2 isolation signals resulted in a loss of shutdown cooling. Additionally, the finding was determined to be cross-cutting in the area of Human Performance, Work Practices, in that the licensee failed to ensure supervisory and management oversight of work activities such that nuclear safety is supported. In this instance, operations shift management did not track implementation of the shutdown checklist to ensure completion (H.4(c)). This finding was determined to be more than minor in accordance with IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” because it impacted the Initiating Events Cornerstone | | | | | | |

attribute of configuration control with the objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown. Inspectors determined that this finding was of very low safety significance using IMC 0609, “Significance Determination Process,” Appendix G, Attachment 3, “Phase 2 Significance Determination Process Template for BWR during Shutdown.”

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| **Initiating Events** | 06/30/2008 | PALO VERDE | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: , 05000529 (C) | | | | | | |
| Open: 2008003 ML082270708 | | | | | | |
| (PIM) Inadvertent Decrease in Reactor Water Level Due to Personnel Error | | | | | | |
| A self-revealing noncited violation of Technical Specification 5.4.1, "Procedures," was identified for the failure of operations personnel to adequately implement Procedure 40DP-9OP19, "Locked **Valve**, Breaker, and Component Tracking." Specifically, on May 14, 2008, **Valve** SIA-V421 was found out of its locked closed position one and one-half turns open resulting in approximately 930 gallons of water being inadvertently transferred from the reactor coolant system to the refueling storage water tank. This issue has been entered into the licensee's corrective action program as Palo Verde Action Request 3174527. The failure to ensure the valve was properly closed resulted in an inadvertent reactor vessel level decrease. The finding is more than minor because it is associated with the configuration control attribute of the initiating events cornerstone and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. A Phase 2 analysis was required because using Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process," Attachment 1, the inspectors determined that the finding actually resulted in a loss of reactor coolant system inventory. Using the Phase 2 worksheets in Attachment 2, this was determined to be a loss of level control precursor event. The initiating event likelihood for this finding was determined from Table 1 of the worksheet and the resultant core damage frequency was determined to be 1E-8, therefore the finding screened as having very low safety significance. The finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee failed to use human error prevention techniques such as self-checking [H.4(a)]. | | | | | | |

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| **Initiating Events** | 06/30/2008 | SEABROOK | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000443 (C) | | | | | | |
| Open: 2008003 ML082140855 | | | | | | |
| (PIM) Failure to Follow Tagging Procedure Caused Inadvertant Drain of 200 Gallons From RCS | | | | | | |
| A self-revealing non-cited violation of Technical Specification 6.7.1.a was identified for the failure to implement written procedures governing safety-related activities. Specifically, on April 20, 2008, FPLE failed to implement tagging and configuration control procedures, resulting in the loss of configuration control during shutdown operations when flow was established through a partially disassembled charging system **valve**. This resulted in a 200 gallon leak of reactor cavity water onto the floor of the Primary Auxiliary Building (PAB). The letdown flow path was | | | | | | |

established while work was in progress on **valve** CS-V-299. A clearance boundary was modified with the incorrect assumption that CS-V-299 was intact. This finding was more than minor because it was associated with the configuration control attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of plant events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the loss of configuration control in the charging system unintentionally drained 200 gallons from the reactor cavity, which affected the shutdown critical safety function of maintaining adequate reactor inventory, and caused an uncontrolled leak of radioactively contaminated water to a work area. The finding was determined to be of very low safety significance (Green) using the SDP Appendix G assessment, since the finding did not result in a loss of control of shutdown operations and adequate mitigation capabilities remained available. The finding has a cross-cutting aspect in the area of human performance, work control, since FPL Energy did not plan and coordinate work activities consistent with nuclear safety (H.3(b)). Specifically, FPLE revised a clearance tagging boundary without verifying the status of affected work activities in accordance with site procedures.

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| **Initiating Events** | 06/30/2008 | SEABROOK | **Green** | *SCWE: N | *HP: N | *PIR: Y |
| Docket/Status: 05000443 (C) | | | | | | |
| Open: 2008003 ML082140855 | | | | | | |
| (PIM) Inadequate Corrective Actions to Prevent Recurrance of Mispositioned Stow-Operated **Valve**s Caused Inadvertant Drain of 2000 Gallons From RCS | | | | | | |
| A self-revealing non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, “Corrective Actions,” was identified because FPLE did not implement corrective actions to prevent recurrence of mispositioned **valve**s caused by difficult to operate stow-operator reach rods. Specifically, on April 20, 2008, a mispositioned (partially open), stow-operated filter drain **valve**, CS-V-1190, resulted in the inadvertent draining of 2000 gallons of water from the reactor cavity while operators placed the reactor letdown system into service. The drain **valve** was partially open because it was difficult to operate when positioned with its stow-operator. The mispositioning of a stow-operated **valve** in a safety system was a repeat occurrence of a similar event in October 2007. This finding was more than minor because it was associated with the configuration control attribute of the Initiating Events cornerstone and adversely affected the cornerstone objective to limit the likelihood of plant events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the loss of configuration control in the charging system unintentionally drained 2000 gallons from the reactor cavity, which affected the shutdown critical safety function of maintaining adequate reactor inventory. The finding was determined to be of very low safety significance (Green) using the SDP Phase 1 assessment, since the finding did not result in a loss of control of shutdown operations and adequate mitigation capabilities remained available. The finding has a cross-cutting aspect in the area of problem identification and resolution because FPL Energy did not take appropriate corrective actions to address safety issues in a timely manner commensurate with their safety significance and complexity (P.1.d). Specifically FPL Energy did not take adequate corrective actions to assure the correct positioning of stow-operated safety system **valve**s and thereby prevent recurrence of a significant condition adverse to quality. | | | | | | |

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| **Initiating Events** | 06/30/2007 | PILGRIM | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000293 (C) | | | | | | |
| Open: 2007003 ML072140621 | | | | | | |
| (PIM) Inadvertent decrease in reactor vessel level due to personnel error. | | | | | | |
| A self-revealing non-cited violation of very low safety significance was identified for Entergy's failure to properly implement procedure EN-OP-102, "Protective and Caution Tagging," as required by Pilgrim Technical Specification 5.4.1, "Procedures." Specifically, on May 3, 2007, a senior reactor operator approved the removal of a danger tag from 4-HO-50 without ensuring the appropriateness of the component's specified restoration position. As a result, the **valve**, which was serving as a single point of isolation between the reactor coolant system and the drywell equipment sump, was opened, and approximately six inches of reactor coolant drained from the reactor vessel before the drain path was identified and isolated. Entergy entered this issue into their corrective action program and initiated additional controls and oversight for tagout operations with the potential to interface with the reactor vessel fluid boundary. The failure to specify the appropriate restoration position constituted a performance deficiency that resulted in an inadvertent decrease of the reactor vessel level totaling six inches. The finding is more than minor because it is associated with the configuration control attribute of the Initiating Events cornerstone, and it affected the associated cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. Because this event involved a six inch loss of level, the finding screened to very low safety significance (Green) in accordance with Table 1 of IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process." The finding had a cross-cutting aspect in the area of Human Performance, Work Control, in that Entergy made a change to a planned work activity, the restoration of 4-HO-50, without fully evaluating the impact of this change on the plant [H.3(b)]. (Section 1R20) | | | | | | |

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| **Initiating Events** | 06/28/2007 | CALVERT CLIFFS | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: , 05000318 (C) | | | | | | |
| Open: 2007003 ML072180482 | | | | | | |
| (PIM) Failure to Follow Procedures and maintain Configuration Control during Reactor Fill | | | | | | |
| The inspectors identified a NCV of Technical Specifications (TS) 5.4.1.a, Administrative Controls, because Constellation did not maintain equipment alignment in accordance with site procedures during drain and fill of the reactor coolant system (RCS). Specifically, operations personnel did not verify a reactor level instrument inlet **valve** shut prior to the vacuum fill of the RCS contrary to Operating Procedure (OP)-7, Shutdown Operations, and Operating Instruction (OI)-1A, Reactor Coolant System and Pump Operation. This allowed air to enter the in-service RCS level instrumentation lines causing a loss of all level indication for a period of approximately five hours while in reduced inventory. Constellation entered this issue into their CAP as IRE-021-661 and IRE-022-119. The immediate corrective actions included restoration of RCS level from a reduced inventory condition and a prompt investigation to determine the cause of the loss of all level indication. This finding is greater than minor because it is | | | | | | |

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| associated with the Initiating Event cornerstone attribute of configuration control and affects the likelihood of a loss of shutdown cooling event. The inspectors evaluated the significance of the finding using IMC 0609, Appendix G, "Shutdown Operations SDP" and Appendix H, "Containment Integrity SDP," because it represented an actual loss of level indication. Based on the results of the Phase 3 analysis, this finding is determined to have very low safety significance (Green). This finding has a cross-cutting aspect in the area of human performance because Constellation did not define and effectively communicate expectations regarding procedural compliance such that personnel follow procedures (H.4.b). |

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| **Initiating Events** | 12/31/2006 | ANO | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: , 05000368 (C) | | | | | | |
| Open: 2006005 ML070450249 | | | | | | |
| (PIM) INADVERTENT REACTOR COOLANT SYSTEM DRAINING WHILE IN MODE 5 | | | | | | |
| A self-revealing noncited violation of Unit 2 Technical Specification 6.4.1.a, "Procedures," was identified when an operator failed to close **Valve** 2DCH-11, resin sluice header drain **valve**, when securing from a resin transfer as required by procedure. One week later, while aligning the plant for alternate purification, with **Valve** 2DCH-11 being out of position, an unanticipated loss of approximately 230 gallons of reactor coolant system inventory occurred. This issue was entered into the licensee's corrective action program as Condition Report ANO-2-2006-1464. The finding was determined to be more than minor because it affected the configuration control attribute of the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Using the shutdown operations significance determination process, the finding was determined to have very low safety significance because the finding did not result in a loss of two feet or more of reactor coolant system inventory and did not result in a loss of reactor coolant system inventory while in reduced inventory. The cause of the finding is related to the cross cutting element of human performance because an operator failed to follow a procedure. | | | | | | |

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| **Initiating Events** | 03/31/2006 | MILLSTONE-3 | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: , 05000423 (C) | | | | | | |
| Open: 2006002 ADAMS ML061250262 | | | | | | |
| (PIM) MISPOSITIONING OF BORIC ACID **VALVE**S RESULTING IN UNINTENDED POSITIVE REACTIVITY ADDITION | | | | | | |
| A Green self-revealing non-cited violation of Technical Specification 6.8.1, "Procedures", was identified for adequate implementation of procedures which resulted in an unintended positive reactivity addition. On February 17, 2006, Operations personnel mis-positioned three **valve**s which isolated the "A" boric acid gravity feed flow path and the "A" boric acid transfer pump. This issue manifested itself the following day during a planned blended makeup to the Volume Control Tank which resulted in small positive reactivity addition. Dominion entered their procedural compliance error into their corrective action program for resolution. This issue involved the cross-cutting aspects of human performance in that operators failed to adequately implement procedures which lead to an unintended reactivity addition. This issue was more | | | | | | |

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| than minor because it is associated with the human performance and configuration control attributes of the Initiating Events cornerstone. The finding is associated with an increase in the likelihood of initiating events in that an inadvertent positive reactivity addition actually occurred. The inspectors determined that the self-revealing finding was of very low safety significance because the amount of reactivity added was small (approximately 6 pcm) and did not contribute to both the likelihood of a reactor trip and the unavailability of mitigation equipment or functions. (Section 1R14) |

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| **Initiating Events** | 12/31/2005 | ST. LUCIE UNIT- 1 | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000335 (C) | | | | | | |
| Open: 2005005 ADAMS ML060300593 | | | | | | |
| (PIM) Failure to Accomplish Prescribed Procedure Steps Resulting in Starting the 1B LPSI Pump With its Suction **Valve** Closed | | | | | | |
| A self-revealing NCV of Technical Specification 6.8.1.b, "Refueling Operations," was identified when the licensee failed to properly implement system operating procedure NOP-03.05, "Placing the 1B SDC System in Operation" while attempting to restore reactor plant shutdown cooling (SDC) flow. As a result a low pressure safety injection (LPSI) pump was started with its suction **valve** closed which caused the pump to cavitate. This finding had human performance cross-cutting aspects in that an operator failed to comply with procedural requirements. This finding is greater than minor because it is associated with the configuration control and human performance attributes of the Initiating Events cornerstone and adversely impacted the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown operations. In addition, if left uncorrected, this finding would result in a more significant safety concern. The inspectors evaluated the finding using Inspection Manual Chapter (IMC) 0609, Appendix G, Attachment 1, Checklist 3, "Pressurized Water Reactor (PWR) Refueling Operations with RCS Open and Refueling Cavity Level < 23 feet." The finding affected one train of decay heat removal (DHR) which was required to be operable; therefore, the finding did not screen out in Phase 1. Subsequently, the Region II SRA evaluated the finding using the IMC 609, Appendix G, Attachment 2, Phase 2 Significance Determination Process Template for PWR During Shutdown. This finding was a precursor finding that has the potential to cause a loss of the operating train of DHR. The Phase 2 SDP evaluation determined the finding to be of very low safety significance (Green) because the required operating SDC train was only briefly interrupted; the standby SDC train was promptly placed in service; and the affected train was quickly restored. The licensee took prompt action to enter the item into their corrective action program and implement interim corrective actions. The cause of the finding is related to the cross-cutting element of human performance. (Section 1R20) | | | | | | |

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| **Initiating Events** | 04/23/2005 | PALO VERDE | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000528 (C) | | | | | | |
| Open: 2005003 ML052140567 | | | | | | |

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| (PIM) FAILURE TO FOLLOW PROCEDURES RESULTING IN SPENT FUEL POOL DRAINDOWN |
| A self-revealing noncited violation of Technical Specification 5.4.1.a was identified for the failure to follow procedures which resulted in an inadvertent reduction of spent fuel pool water level. Specifically, approximately 1800 gallons of water was unknowingly directed to the transfer canal when operations personnel failed to follow Procedure 40OP-9PC06, "Fuel Pool Clean Up and Transfer." The initial auxiliary operator opened a valve when the step required the **valve** to be closed and did not open another **valve** as required by the procedure. A second auxiliary operator performed an inadequate independent verification of the position of the **valve**s. This issue involved human performance crosscutting aspects associated with procedure implementation and operator attention to detail. This issue was entered into the corrective action program as Condition Report/Disposition Request 2793816. The finding is greater than minor because it affects the configuration control and human performance attributes of the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool. This finding is determined to be of very low safety significance by NRC management review because radiation shielding was provided by the spent fuel pool water level, the spent fuel pool cooling and fuel building ventilation systems were available, and there were multiple sources of makeup water. |

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| **Initiating Events** | 12/31/2004 | DIABLO CANYON | **Green** | *SCWE: N | *HP: Y | *PIR: N |

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| Docket/Status: , 05000323 (C) |
| Open: 2004005 ML060260012 |
| (PIM) Failure to Properly Implement Procedure for Spent Fuel Pool Skimmer Filter Replacement |
| A self-revealing NCV was identified for the failure to appropriately implement the procedure for spent fuel pool skimmer filter replacement, as required by Technical Specification 5.4.1.a. On December 23, 2004, operators cleared the spent fuel pool skimmer system using Section 6.3.1 of Procedure OP B-7:III, "Spent Fuel Pool System - Shutdown and Clearing and Filter Replacement," Revision 15, instead of the appropriate section, which was Section 6.3.2. A human performance cross cutting aspect was identified for the failure on two occasions to address configuration control concerns with the system. This finding impacted the Initiating Events Cornerstone and was considered more than minor using Example 5.a of IMC 0612. Specifically, **Valve** SFS-2-3 was mis-positioned due to the use of the wrong section of Procedure OP B-7:III and then returned to service. Additionally, operators had two opportunities to identify the mis-positioning of **Valve** SFS-2-3 but failed to identify the condition. The mis-positioned **valve** resulted in a loss of approximately 3600 gallons of water from the spent fuel pool. Using the SDP Phase 1 screening worksheet of IMC 0609, Appendix A, the finding was evaluated as a transient initiator, and it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. Therefore, the finding was screened as having very low safety significance |

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| **Initiating Events** | 06/30/2004 | PALO VERDE | **Green** | *SCWE: N | *HP: Y | *PIR: Y |
| Docket/Status: 05000528 (C) , 05000529 (C) , 05000530 (C) | | | | | | |
| Open: 2004003 ML042220267 | | | | | | |
| (PIM) FAILURE TO PREVENT LOSS OF SPENT FUEL POOL INVENTORY EVENTS THROUGH TIMELY CORRECTIVE ACTIONS | | | | | | |
| A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to identify the root cause of spent fuel pool inventory loss events and implement corrective actions to preclude recurrence. Specifically, the improper positioning of a fuel pool cleanup suction **valve** and inadequate level monitoring resulted in three losses of spent fuel pool inventory events. This finding involves problem identification and resolution cross-cutting aspects associated with the failure to identify root causes and implement corrective actions. The issue also involved human performance cross-cutting aspects associated with mispositioned **valve**s and awareness of plant conditions by operations personnel. This issue was entered into the corrective action program as CRDR 2599869. The finding is greater than minor because it affected the configuration control and human performance attributes of the initiating events cornerstone objective. This finding cannot be evaluated by the significance determination process because Manual Chapter 0609, "Significance Determination Process," Appendix A, "Significance Determination of reactor Inspection Findings for At-Power Situations," and Appendix G, "Shutdown Operations Significance Determination Process," do not apply to the spent fuel pool. This finding is determined to be of very low safety significance by management review because radiation shielding was provided by the spent fuel pool water level, the spent fuel pool cooling and fuel building ventilation systems were available, and there were multiple sources of makeup water. | | | | | | |
| **Initiating Events** | 06/30/2003 | DAVIS BESSE | **Green** | *SCWE: N | *HP: N | *PIR: N |
| Docket/Status: 05000346 (C) | | | | | | |
| Open: 2003015 ADAMS ML032120360 | | | | | | |
| (PIM) FAILURE TO PROPERLY IMPLEMENT SYSTEM PROCEDURES DURING THE FILLING OF THE CIRCULATING WATER SYSTEM | | | | | | |
| A self-revealing Non-Cited Violation of Technical Specification 6.8.1.a was identified for failing to properly implement system procedures during the filling of the circulating water system. Since three drain **valve**s were improperly left open during the fill, approximately three inches of water flooded the 565' elevation of the turbine building. The finding is greater than minor because it: (1) involves the configuration control attribute of the Initiating Event Cornerstone; and (2) affects the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding is of very low safety significance because the event was terminated prior to actual loss of a equipment important to plant safety. | | | | | | |

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| **Initiating Events** | 02/10/2001 | OYSTER CREEK | **Green** | *SCWE: N | *HP: N | *PIR: N |

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| Docket/Status: 05000219 (C) |
| Open: 2000010 ML010670063 |
| (PIM) Equipment Alignment |
| The inspectors identified a Non-cited violation (Technical Specification 6.8.1) for failure to follow Procedure 322, "Service Water System," Attachment 1, requiring a service water vent **valve** be open. The service water pump failed to develop discharge pressure because the normally open pump casing vent **valve** was found closed. The inspector identified that the licensee failed to, promptly identify this issue in a corrective action document, verify positive configuration control of that specific **valve** and ensure that the appropriate configuration control had been maintained on that system. In response, the licensee documented the issue in their corrective action system (CAP 2001-0011) and performed an extent of condition review on all service water pumps in the intake area. This service water pump is used to provide cooling water for the turbine building and reactor building closed cooling systems. Loss of service water is modeled as a reactor trip initiating event if the circulating water system is not available. The failure of the service water pump to develop discharge pressure was considered to have very low safety significance (Green) using the Significance Determination Process (SDP) phase 1 evaluation for initiating event because the alternate service water pump and the circulating water pumps were available. (Section 1R04) This NCV was closed in IR 2000-010. |

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| **Mitigating Systems** | 06/30/2004 | DIABLO CANYON | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000275 (C) | | | | | | |
| Open: 2004003 ML042250352 | | | | | | |
| (PIM) Violation of T.S. 3.0.4 for changing modes with an AFW pump inoperable | | | | | | |
| A self-revealing (Green) noncited violation of Technical Specification 3.0.4, was reviewed for entry into Mode 3 when the specified condition in the Technical Specification APPLICABILITY section was not met. Specifically, a transition from Mode 4 (Hot Shutdown) to Mode 3 (Hot Standby) was conducted with the Turbine-Driven auxiliary feedwater Pump 1-1 inoperable. Operators closed **Valve**s LCV [level control **valve**s]-106, -107, -108, and -109, the remote-manual isolation **valve**s for auxiliary feedwater Pump 1-1 when entering Mode 5 on May 27, 2004. The **valve**s were not reopened prior to entering Mode 3 on May 30. This condition existed for 21 hours. The **valve**s were immediately opened when the condition was identified. A primary contributor to this issue involved human performance crosscutting aspects related to configuration control and control board awareness. Operators failed to track the status of these **valve**s, and failed to perform an adequate review of system status during mode transition (Mode 4 to Mode 3) and shift turnovers. This issue affects the mitigating systems cornerstone and is more than minor because it adversely affects the cornerstone objective of availability and reliability of a risk significant system auxiliary feedwater. Using the Phase 1 Significance Determination Process screening worksheet, the inspectors determined that the issue was of very low safety-significance (Green) because the time of inoperability (21 hours) was less than the 72 hours allowed in Technical Specification 3.7.5. Although auxiliary feedwater Pump 1-1 was inoperable per the Technical Specification, the pump was available for operators to manually initiate auxiliary feedwater if needed during a transient or accident. In addition, both 100 percent capacity motor-driven auxiliary feedwater pumps were also available if needed. | | | | | | |

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| **Mitigating Systems** | 06/30/2004 | GRAND GULF | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000416 (C) | | | | | | |
| Open: 2004003 ML042190340 | | | | | | |
| (PIM) Improper Valve Lineup Results in Isolation of RHR Pump Minimum Flow Line | | | | | | |
| A self-revealing Green noncited violation of Technical Specification 5.4.1.a involved the failure of operators to comply with a **valve** lineup procedure prior to restoring the residual heat removal system to operation. This failure resulted in the isolation of the minimum flow line for the Train B residual heat removal pump, rendering one low pressure emergency core cooling system inoperable for 14 days, which violated the requirements of Technical Specification 3.5.1 prohibiting power operation with one low pressure emergency core cooling system out of service for greater than 7 days. This finding is greater than minor because it affected the configuration control and human performance attributes of the Mitigating Systems Cornerstone and affected the cornerstone objective to ensure the availability of systems that respond to initiating events. Using the Inspection Manual Chapter 0609 Significance Determination Process Phase 1 screening worksheet, this performance deficiency required a Phase 2 evaluation since it resulted in the actual loss of a single train for longer than its Technical Specification Allowed Outage Time. The Phase 2 and Phase 3 evaluations determined this finding to result in a core damage frequency change of less than 1.0E-6 and a change in Large Early Release Fraction of less than 1.0E-7. Therefore, the finding was considered to be of very low safety significance. | | | | | | |

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| **Mitigating Systems** | 12/27/2003 | SEQUOYAH | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: , 05000328 (C) | | | | | | |
| Open: 2003006 ADAMS ML040270032 | | | | | | |
| (PIM) Failure to Comply with Procedure for Draining to Mid-loop | | | | | | |
| The inspectors identified a non-cited violation of Technical Specification 6.8.1 for a self-revealing failure to comply with plant general operating procedures. While draining Unit 2 to mid-loop conditions, the licensee failed to open a head vent **valve** required by the draining procedure. This caused the level monitoring system to indicate a lower level than was actually present. This finding is more than minor because configuration control errors, while in reduced inventory or mid-loop conditions where safety margins are small, can result in a loss of decay heat removal capability. This finding is of very low safety significance because decay heat removal capability was not lost and the unit did not enter mid-loop conditions with the **valve** closed. The cause of the finding is related to the cross-cutting element of human performance. | | | | | | |

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| **Mitigating Systems** | 12/20/2003 | BRUNSWICK | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: , 05000324 (C) | | | | | | |

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| Open: 2003006 ADAMS ML040160461 |
| (PIM) Failure to Position HPCI System **Valve** in Accordance with Clearance Order |
| A self-revealing non-cited violation was identified for the licensee's failure to position the Unit 2 high pressure coolant injection (HPCI) system turbine exhaust stop check **valve** in the open position following system maintenance, in accordance with plant procedures. This resulted in failure of the exhaust line rupture discs during testing, a primary containment isolation of the system, and activation of the HPCI room fire protection system. This finding is greater than minor because it is associated with system configuration control and affected the mitigating availability of the HPCI system. This finding was determined to be of very low safety significance (Green) because the HPCI system was returned to an operable status within the Technical Specification allowed outage time. The finding was related to the cross-cutting aspect of Human Performance because the cause was determined to be due to plant operators using improper techniques in verifying the **valve**'s position. Other contributing causes including operator knowledge deficiencies of **valve** operation, failure to perform an independent check of **valve** position, and the pre-job brief's limited scope were also related to Human Performance. |

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| **Mitigating Systems** | 06/28/2003 | SALEM | **Green** | *SCWE: N | *HP: Y | *PIR: Y |
| Docket/Status: 05000272 (C) | | | | | | |
| Open: 2003005 ADAMS ML032240699 | | | | | | |
| (PIM) FAILURE TO TIMELY IDENTIFY A CONFIGURATION CONTROL ERROR THAT DEGRADED AN AUXILIARY FEEDWATER FLOW CONTROL **VALVE** | | | | | | |
| A self-revealing finding made apparent a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for failure to timely identify and correct an auxiliary feedwater flow control **valve** (12AF11) deficient condition. Control air to the **valve** actuator was throttled from February 28, 2003, to April 9, 2003, and affected the **valve** stroke time. The configuration control error occurred when maintenance activities were not properly restored. This finding is greater than minor because it had an impact on the auxiliary feedwater system and increased the time required to isolate the 12 steam generator for tube rupture mitigation. The finding is of very low safety significance because remote operation of 12AF11 remained available and the increase in stroke time was not significant, about a 12 second increase. | | | | | | |

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| **Mitigating Systems** | 12/16/2002 | HOPE CREEK | **Green** | *SCWE: N | *HP: N | *PIR: N |
| Docket/Status: 05000354 (C) | | | | | | |
| Open: 2003002 ML030310443 | | | | | | |
| (PIM) INCOMPLETE HIGH PRESSURE COOLANT INJECTION TECHNICAL SPECIFICATION **VALVE** LINE-UP | | | | | | |
| NRC Team identified a TS violation dispositioned as an NCV for failure to demonstrate the HPCI system operability by, at least once per 31 days, verifying that each **valve**, manual or automatic, in the system flow path that is not locked, sealed or otherwise secured in position is | | | | | | |

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| in its correct position. The team identified that manual **valve** BJ-048 was not accounted for in the HPCI system **valve** lineup. The finding is more than minor because a TS required **valve** position verification was not performed (Question 1.c in Appendix E Manual Chapter 0612), which had the potential to impact HPCI availability and reliability in reference to the configuration control attribute for operating equipment. Mis-positioning of this **valve** could result in damage due to inadequate LO cooling. The risk of this finding is determined to be of very low safety significance because there was no loss of safety function, and the **valve** was found to be in the proper positions during a subsequent **valve** line-up. |

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| **Barrier Integrity** | 09/27/2008 | WOLF CREEK | **Green** | *SCWE: N | *HP: N | *PIR: Y |
| Docket/Status: 05000482 (C) | | | | | | |
| Open: 2008004 ML083120336 | | | | | | |
| (PIM) Failure to completely close the SFP **valve** resulted in a loss of SFP water inventory | | | | | | |
| A self-revealing green noncited violation of Technical Specification 5.4.1.a was identified for the failure to close **Valve** EC-V025 during a lineup to recirculate the refueling water storage tank through the spent fuel pool cleanup system. These two systems were cross-connected for approximately 5 minutes on July 26, 2008, which resulted in approximately 1500 gallons of spent fuel pool water being inadvertently transferred to the refueling water storage tank. The licensee entered this issue into their corrective action program as Condition Report 2008-003663. The failure to completely close **Valve** EC-V025 was a performance deficiency. This finding is more than minor because it is associated with the Barrier Integrity Cornerstone attribute of configuration control and affected the cornerstone objective to maintain functionality of the spent fuel pool system. Using Inspection Manual Chapter 0609, “Significance Determination Process,” Phase 1 worksheets, the inspectors determined that the finding is of very low significance because the finding affected only the barrier function of the spent fuel pool. The inspectors also determined that the cause of the finding has a crosscutting aspect in the problem identification and resolution area associated with the corrective action program because Wolf Creek did not take appropriate corrective actions to address the adverse trend in manual **valve** stem friction in a timely manner, commensurate with its safety significance and complexity | | | | | | |

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| **Barrier Integrity** | 06/30/2008 | POINT BEACH | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000266 (C) , 05000301 (C) | | | | | | |
| Open: 2008003 ML082210495 | | | | | | |
| (PIM) Failure to Maintain Control of Containment Penetration Status | | | | | | |
| A finding of very low safety significance and associated Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was identified by the inspectors for the failure to maintain adequate control over the status of containment penetrations during the Unit 2 core reload evolution. Specifically, the licensee failed to adequately track the open and closed status of two isolation **valve**s, such that an unexpected pathway from containment to the atmosphere existed. The containment closure checklist | | | | | | |

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| indicated that the **valve**s were closed and secured; however, they were in fact open during a period of fuel movement inside containment. At the end of the inspection period, the licensee continued to perform a causal evaluation and develop additional long-term corrective actions. The finding was determined to be more than minor because the failure to maintain the accuracy of the containment closure checklist affected the Barrier Integrity Cornerstone attribute of configuration control and affected the cornerstone objective of providing reasonable assurance that physical design barriers, such as containment, protect the public from radionuclide releases caused by accidents. Specifically, in the event of a fuel handling accident inside containment, the unknown position of these two vent **valve**s could have resulted in the inability to restore containment closure in a timely manor. The finding is of very low safety significance (Green) because the finding did not meet the criteria for a Phase 2 or Phase 3 Analysis, as specified in Inspection Manual Chapter 0609 Appendix G, Attachment 1, Checklist 4. Additionally, the inspectors determined that the finding had a cross-cutting aspect in the area of human performance in that the licensee failed to use conservative assumptions in decision-making [H.1(b)]. |

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| **Barrier Integrity** | 04/04/2008 | ANO | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: , 05000368 (C) | | | | | | |
| Open: 2008002 ML081230680 | | | | | | |
| (PIM) SCAFFOLDING RENDERED CONTAINMENT ISOLATION **VALVE** INOPERABLE | | | | | | |
| Green. The inspectors documented a self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for the failure to follow a site scaffolding procedure, in that operators and the scaffolding certifying official failed to identify that scaffolding impeded the operation of the outboard chill water return containment isolation **valve**. The **valve** could not close to perform its safety function. This issue was entered into the licensee's corrective action program as Condition Report CR ANO 2 2008 0473. The finding was more than minor because it was similar to nonminor Example 4.a in NRC Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues." Specifically, the scaffolding had an adverse impact on a safety related containment isolation **valve**. In addition, this finding was associated with the configuration control attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radio nuclide releases caused by accidents or events. Using the Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding had very low safety significance because the condition did not represent a degradation of the barrier functions of the control room or auxiliary building; did not represent an actual open pathway in the physical integrity of reactor containment; and did not involve an actual reduction in the function of hydrogen ignitors in the reactor containment. The finding had a crosscutting aspect in the human performance area, work practices component [H.4(c)], because the licensee failed to ensure supervisory and management oversight of work activities such that nuclear safety was supported. | | | | | | |

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| **Barrier Integrity** | 03/31/2008 | PALO VERDE | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: , 05000530 (C) | | | | | | |

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| Open: 2008002 ML081300387 |
| (PIM) Failure to Follow Procedures Resulted in Water Transfer from the Spent Fuel Pool |
| A self-revealing non-cited violation of Technical Specification 5.4.1.a was identified for the failure of operations personnel to follow procedures. Specifically, on January 13, 2008, operations personnel failed to properly implement Procedure 40OP-9PC06, "Fuel Pool Cleanup and Transfer," Revision 41, for operating the pool cooling cleanup system, resulting in pool cooling cleanup Filter PCN-F01B bypass **Valve** PCN-V061 being improperly aligned. This resulted in the inadvertent transfer of 300 gallons of spent fuel pool water to the refueling water tank. This issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 3121713. The finding is greater than minor because it is associated with the configuration control and human performance attributes of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is determined to have very low safety significance because the finding did not result in loss of cooling to the spent fuel pool; the finding did not result from fuel handling errors that caused damage to the fuel clad integrity or a dropped assembly; and the finding did not result in a loss of spent fuel pool inventory greater than ten percent of the spent fuel pool volume. This finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee failed to use adequate human error prevention techniques, such as pre-job briefings, to ensure that the pool cooling cleanup system activity was performed safely [H.4(a)]. |

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| **Barrier Integrity** | 12/31/2007 | SUMMER | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000395 (C) | | | | | | |
| Open: 2007005 ML080240280 | | | | | | |
| (PIM) Failure to implement TS required administrative controls when opening containment isolation **valve**s 8767-DN and 8768-DN | | | | | | |
| Green. A Green non-cited violation (NCV) of Technical Specifications (TS) Limiting Condition for Operation (LCO) 3.6.4, “Containment Isolation **Valve**s”, was identified by the inspectors for the failure to implement required administrative controls when opening the normally locked closed inner and outer manual containment isolation **valve**s (CIVs) 8767-DN and 8768-DN, in containment penetration XRP0231. The licensee drained the penetration, returned the **valve**s to their locked closed positions, and documented this violation in their corrective action program as CR-07-02894. The failure to implement TS required administrative controls when opening normally locked closed CIVs 8767-DN and 8768-DN constituted a performance deficiency and a finding. This finding is more than minor because it affected the containment boundary configuration control attribute of the barrier integrity cornerstone and affected the cornerstone objective of providing reasonable assurance that the containment physical design barrier protects the public from radionuclide releases caused by accidents or events. The finding was evaluated using Inspection Manual Chapter 0609, “Significance Determination Process,” Appendix H, “Containment Integrity Significance Determination Process.” This finding is of very low safety significance (Green) because of the short duration both **valve**s were open and the small size of the piping (one-inch) penetrating containment. The finding directly involves the | | | | | | | |

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| cross-cutting area of Human Performance under the “Work Planning” aspect of the “Work Control” component, in that, appropriate work plans were not implemented to ensure that operators were stationed locally to close both **valve**s in the event of a design bases accident resulting in a violation of TS 3.6.4 (H.3.a). |

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| **Barrier Integrity** | 10/07/2006 | WOLF CREEK | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000482 (C) | | | | | | |
| Open: 2006004 ML063130383 | | | | | | |
| (PIM) Failure to completely close SFP **valve**s resulted in a loss of SFP water inventory | | | | | | |
| A self-revealing noncited violation of Technical Specification 5.4.1.a was identified for the failure to close **Valve**s EC-V025 and -V033 during a lineup to recirculate the refueling water storage tank through the spent fuel pool cleanup system. These two systems were cross- connected for approximately 26 hours, which resulted in approximately 1200 gallons of spent fuel pool water being inadvertently transferred to the refueling water storage tank. The licensee entered this issue into their corrective action program as Condition Report 2006-000589. The failure to completely close **Valve**s EC-V025 and -V033 was a performance deficiency. This finding is more than minor because it is associated with the barrier integrity cornerstone attribute of configuration control and affected the cornerstone objective to maintain functionality of the spent fuel pool system. Using Manual Chapter 0609, “Significance Determination Process,” Phase 1 worksheets, the inspectors determined that the finding is only of very low significance because the finding only affected the barrier function of the spent fuel pool. The inspectors also determined that the finding has crosscutting aspects in the area of human performance associated with work practices because the operators failed to use appropriate human error prevention techniques, such as peer-checking and not proceeding in the face of uncertainty. This led to 1200 gallons of spent fuel pool water being inadvertently transferred to the refueling water storage tank. | | | | | | |

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| **Barrier Integrity** | 09/30/2005 | OYSTER CREEK | **Green** | *SCWE: N | *HP: Y | *PIR: N |
| Docket/Status: 05000219 (C) | | | | | | |
| Open: 2005004 ADAMS ML053110028 | | | | | | |
| (PIM) Failure to Maintain Primary Containment Penetration Integrity | | | | | | |
| A self-revealing non-cited violation (NCV) of Technical Specification (TS) 3.5.A.3 was identified for AmerGen's failure to maintain primary containment penetration integrity. On July 12, 2005, while conducting a primary containment isolation **valve** surveillance for the nitrogen supply system, the operators failed to adequately evaluate an unexpected indication on the drywell makeup flow recorder. Without pursuing other potential causes, AmerGen concluded that the nitrogen supply system inboard containment isolation **valve** was leaking by its closed seat and declared the inboard containment isolation valve inoperable. However, on July 13, 2005, AmerGen found that the local leak rate test (LLRT) connection cap located between the two isolation **valve**s was missing. This condition resulted in the outboard containment isolation **valve** being rendered functionally operable. Amergen's failure to adequately access the plant | | | | | | |

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| indications resulted in the primary containment penetration not being properly isolated for a period of time greater than the TS action statement (after discovery). This finding is considered more than minor because it was associated with the configuration control attribute of the barrier integrity cornerstone and affected the cornerstone objective to provide reasonable assurance that containment will protect the public from radionuclide releases caused by accidents or events. The condition of concern is a failure of the inboard **valve** to isolate during a design basis accident. This violation has been determined to have a very low safety significance since there was not an actual open pathway in the physical integrity of reactor containment. This finding is related to the cross-cutting area of Human Performance. (Section 1R22) |

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| **Barrier Integrity** | 11/09/2004 | PALO VERDE | **Green** | *SCWE: N | *HP: N | *PIR: N |
| Docket/Status: 05000528 (C) , 05000529 (C) , 05000530 (C) | | | | | | |
| Open: 2004005 ML050390475 | | | | | | |
| (PIM) FAILURE TO INCLUDE VENTS AND DRAINS INTO LOCKED **VALVE** PROGRAM | | | | | | |
| A noncited violation of Technical Specification Surveillance Requirement 3.6.3.3 was identified for failure to perform the required position verification for vent and drain **valve**s associated with eight safety injection system penetrations per unit. The issue was entered into the licensee's corrective action program as Condition Report/Disposition Request 2753335. This finding is greater than minor since it is associated with the configuration control attribute of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that the containment physical design barrier is preserved to protect the public from radio nuclide releases caused by accidents or events. Using the Phase 1 Worksheet in Manual Chapter 0609, "Significance Determination Process," the finding is determined to have very low safety significance because it only affected the barrier integrity cornerstone, all the **valve**s were found closed, and did not result in an actual open pathway out of the reactor containment. | | | | | | |