Indian Point 2
1Q/2006 Plant Inspection Findings

Initiating Events

Significance: G Mar 01, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
SCAFFOLDING CONTROL ISSUE RESULTS IN REACTOR TRIP
The NRC identified a Green self-revealing NCV of 10 CFR 50.65(a)(4) because Entergy did not adequately assess the risk associated with scaffold construction activities in the cable spreading room. Entergy procedure IP-SMM-WM-100, “Work Management Process,” requires a risk assessment for activities that increase the risk of a plant transient. No risk assessment was completed for this work as part of the work planning process, and as a result, no risk management actions were developed. During scaffold construction, a contractor inadvertently bumped a switch which resulted in 12 dropped control rods and a subsequent manual reactor trip. Entergy entered this issue into the corrective action program and took immediate actions to improve control of scaffold construction activities.

This finding is greater than minor because it was similar to Example 4.b. of IMC 0612, Appendix E, “Examples of Minor Issues,” in that the performance deficiency contributed to an actual reactor trip. This finding is of very low safety significance because while it resulted in a reactor trip, it did not also contribute to the unavailability of mitigating systems. The inspectors determined that this finding had a human performance cross-cutting aspect in that Entergy personnel failed to appropriately incorporate risk insights into planning of work activities in close proximity to trip risk components.
Inspection Report# : 2006002*(pdf)*

Mitigating Systems

Significance: G Mar 01, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO EFFECTIVELY CONTROL THE PERFORMANCE OF THE ROD POSITION INDICATION SYSTEM
The NRC identified a Green NCV of 10 CFR 50.65(a)(2) because Entergy failed to effectively control the performance of the rod position indication system through the use of appropriate preventative maintenance. This resulted in the failure of seven rod bottom lights to illuminate following a reactor trip, creating an additional challenge to plant operators. Entergy entered this issue into their corrective action program and is taking actions to upgrade their surveillance and maintenance procedures relative to the rod position indication system.

The inspectors determined that this finding was greater than minor because it affected the Mitigating Systems cornerstone attribute of Equipment Performance, 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 result in loss of a system or train safety function and did not screen as potentially risk-significant due to seismic, flooding, or severe weather initiating event. The inspectors determined that the finding had a problem identification and resolution cross-cutting aspect because Entergy did not thoroughly evaluate multiple rod position indication bistable failures such that the resolution addressed the causes and extent of condition of problems.
Inspection Report# : 2006002*(pdf)*

Significance: G Feb 22, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
INADEQUATE CORRECTIVE ACTIONS FOR UTILITY TUNNEL DEGRADATION
The NRC identified a Green self-revealing NCV of license condition 2.K. because Entergy did not take adequate corrective actions for degraded fire protection piping in the utility tunnel. This issue contributed to failure of a 10 inch high-pressure fire protection line in the tunnel. Isolation of this leak resulted in loss of high-pressure fire water to three hose stations in the utility tunnel and three fire hydrants on site. Entergy entered this issue into their corrective action program and is evaluating plans to assess and upgrade the utility tunnel.

This finding is greater than minor because if left uncorrected it would become a more significant safety concern. This finding is of very low safety significance because the areas that lost high-pressure fire water did not contain safety-related or post-fire safe shutdown equipment. The inspectors determined that this finding had a problem identification and resolution cross-cutting aspect because Entergy did not implement

timely and effective corrective actions for safety issues associated with degraded piping in the utility tunnel.
Inspection Report# : 2006002*(pdf)*

Significance: G Jan 29, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
DEGRADED RESIDUAL HEAT REMOVAL PUMP FIRE DOOR
The NRC identified a Green NCV of license condition 2.K. because Entergy failed to identify a degraded three-hour rated fire door between the 21 and 22 residual heat removal pump cells. The door, which provides a barrier to fire and hot gases between the two cells, was determined to be inoperable due to a 3/8 inch gap between the door and frame along the lower half of the door. Entergy entered this issue into the corrective action program and realigned the door.

This finding is greater than minor because it was associated with the Mitigating Systems cornerstone attribute of Protection Against External Factors, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined that this finding is of very low safety significance because the degradation of the fire barrier was low, based on the gap in the door having minimal impact on its performance and reliability. The inspectors determined that the finding had a problem identification and resolution cross-cutting aspect because operators who routinely traverse through the degraded fire door during performance of their rounds had not identified the condition of the door in the corrective action system.
Inspection Report# : 2006002*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: FIN Finding
Failure to Maintain Design Control of Control Rod Drive Mechanism Fans
The NRC identified a Green finding associated with Entergy's failure to maintain appropriate design control of the control rod drive mechanism fans. A design change to improve the reliability of these fans was incorrectly implemented, impacting lubrication of the fans' motor bearings and resulting in the early failure of one of the fans during plant operation. Entergy entered this issue into their corrective action program and ordered properly configured fans for installation during the next outage.

This finding is greater than minor because it is associated with the Mitigating Systems cornerstone attribute of Equipment Performance, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the reliability of the control rod drive mechanism fans, which are required to cool the control rod drive mechanisms during normal operation and are used in the emergency operating procedures to prevent void formation in the reactor head region during natural circulation cool down, was adversely affected. This finding is of very low safety significance because while equipment reliability was degraded, there was no actual loss of system function, and this issue did not result in a plant transient or reactor trip.
Inspection Report# : 2005005*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedure for Control of Work on Safety-Related Components
The NRC identified a Green NCV of Technical Specification 5.4.1 associated with the Indian Point work control process, which inappropriately allowed implementation of work on safety-related components prior to the approval of work procedures, a modification package, and the associated engineering analysis. Specifically, Indian Point's work control procedure allowed maintenance to be declared "emergency work," which allowed bypassing of the required work review and approval processes, if that work was necessary to avoid a forced shutdown or plant transient. Entergy entered this issue into the corrective action program and took action to revise their work control procedure to modify their definition of emergency work. This finding is associated with the Human Performance cross-cutting area in that the decision to implement a modification in September 2005, without required evaluations, was based on inappropriate procedural guidance.

This finding is greater than minor, because if left uncorrected it would become a more significant safety concern. Failure to complete required evaluations prior to work on safety-related equipment could impact the operability of risk-significant components. On September 27, 2005, Entergy implemented a modification to FCV-447, a safety-related feedwater control valve, using the emergency work provision of the Indian Point work control procedure. This finding is of very low safety significance, because the safety-related work performed without an approved evaluation did not result in the actual loss of safety function of a system and did not impact fire, flooding, seismic, or severe weather initiating events. Because this finding is of very low safety significance and has been entered into Entergy's corrective action program, it is being treated as an NCV.
Inspection Report# : 2005005*(pdf)*

Significance: G Sep 30, 2005
Identified By: NRC
Item Type: NCV NonCited Violation

INCORRECT SETTING OF RELIEF VALVE SI-855 ABOVE SYSTEM DESIGN PRESSURE AND FAILURE TO SUBMIT REQUIRED CHANGES TO THE SAFETY ANALYSIS REPORT
The inspector identified a Green NCV for the licensee's failure to properly implement a design modification involving the Safety Injection (SI) pump discharge relief valve, SI-855. This was determined to be a violation of 10CFR50 Appendix B, Part III, Design Control.

The deficiency was more than minor because it affected the design control attribute of the Mitigating Systems cornerstone objective to ensure availability, reliability and capability of the SI system to prevent undesirable conditions. The issue was a design deficiency that did not result in loss of function per GL 91-18 (rev 1), and was determined to be of very low safety significance (Green) since revised calculations demonstrated the system piping remained capable of performing its specified function.
Inspection Report# : 2005004*(pdf)*

Significance: G Jul 01, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate post work test resulting in a safety related system exceeding its AOT
The inspector identified a Green NCV of 10 CFR 50, App. B, Criterion XI "Test Control" involving an inadequate post work test following maintenance on auxiliary component cooling water discharge check valve 755A. This resulted in the failure to identify a condition which led to one train of the containment recirculation spray system being unavailable for greater than its technical specification (TS) allowed outage time.

The finding is associated with the cross-cutting issue of problem identification and resolution in that the licensee's evaluation for CR IP2-2005-00252 failed to identify the deficiencies in the post maintenance test therefore no corrective actions were written to address this issue until prompted by the inspectors.

This issue is greater than minor because the performance deficiency adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone objective associated with ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. A Phase 3 SDP analysis was used to assess the deficiency due to modeling limitations of the Phase 2 SDP tools. The Phase 3 evaluation, performed by a Region I Senior Reactor Analyst, confirmed that this issue was of very low safety significance.
Inspection Report# : 2005003*(pdf)*

Significance: G Jul 01, 2005
Identified By: NRC
Item Type: FIN Finding
Inadequate corrective actions associated with training, procedural adequacy and operator knowledge on methods to address degraded grid
The inspectors identified a Green finding involving inadequate corrective actions associated with the adequacy of plant procedures to be utilized during degraded grid voltage conditions and the operators' knowledge of these procedures.

This finding is greater than minor because the performance deficiency adversely impacted the Mitigating Systems Cornerstone objective associated with procedure quality. The inspectors conducted a Phase 1 SDP screening anddetermined that the finding was of very low safety significance. The 138KVsystem voltage had been maintained greater than the minimum operating voltage throughout the year and implementation of the procedure was not required, therefore an actual loss of safety function did not exist during the period in question.
Inspection Report# : 2005003*(pdf)*

Significance: G May 18, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
NON-CONSERVATIVE POST-ACCIDENT RECIRCULATION PUMP MOTOR LOADING CONDITIONS USED TO DETERMINE OVERLOAD TRIP SETTINGS FOR 480 VOLT TYPE DB CIRCUIT BREAKERS
The team identified a finding where Entergy had used non-conservative post-accident recirculation pump motor loading conditions in an analysis that determined overload trip settings for the associated 480 Volt circuit breakers. This finding was determined to be a violation of 10 CFR 50, Appendix B, Criterion III (Design Control).

This finding is greater than minor because it is associated with the Equipment Performance attribute of the Mitigation Systems cornerstone and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. This finding is of very low safety significance because it is a design deficiency that did not result in a loss of function.
Inspection Report# : 2005006*(pdf)*

Significance: W May 17, 2005
Identified By: NRC
Item Type: VIO Violation
FAILURE TO ADEQUATELY EVALUATE AND CORRECT NITROGEN GAS MIGRATION AND ACCUMULATION IN PORTIONS OF THE SAFETY INJECTION SYSTEM
A violation of 10 CFR 50, Appendix B, Criterion XVI (Corrective Action) and station procedures were identified associated with the failure to evaluate and correct a condition adverse to quality. Specifically, the condition adverse to quality involved the leakage of water from the No. 24 safety injection accumulator past several closed valves, allowing water containing absorbed nitrogen to reach other portions of the safety injection emergency core cooling system (including the common suction supply piping for the safety injection pumps and the 23 safety injection pump casing). As the water moved from a higher to lower system pressure, the nitrogen gas was released from the water, thereby challenging the performance of the safety injection pumps. In addition, Entergy's initial evaluation of this condition did not appropriately consider available industry operating experience relative to gas migration into emergency core cooling system piping.

This issue is greater than minor because it is associated with the Equipment Performance attribute of the Mitigation Systems cornerstone and affected the cornerstone's objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The Significance Determination Process (SDP) Phase 1, Phase 2, and Phase 3 were used to determine that this issue represented a finding with preliminarily low to moderate safety significance. The analysis used the NRC's best functionality estimates for the three safety injection pumps over a 17-day period when it was judged that adverse gas accumulation conditions existed. Specifically, the 23 safety injection pump was not functional due to the pump casing being filled with gas. The team concluded that the 21 and 22 pumps, given the accumulated gas in the pump suction piping, would not have functioned 75% of the time (assigned a 75% failure probability) for high flowrate and low discharge pressure conditions in response to a medium break loss of coolant accident; and 25% of the time for low flowrate and high discharge pressure conditions in response to other initiating events. The Phase 1 screening identified that a Phase 2 analysis was needed because the 23 safety injection pump train was not functional for longer than the technical specification allowed outage time of 72 hours. Given the uncertainty in the Phase 2 analysis, a Phase 3 analysis was necessary to improve the accuracy of the result. The Phase 3 analysis for internal and external initiating events, using the above assumptions and licensee risk information, identified an increase in core damage frequency of approximately 1 in 900,000 years of operation (low E-6 per year range); and an increase in large early release frequency of approximately 1 in 3,000,000 years of operation (low E-7 per year range).

This deficiency was indicative of cross-cutting weaknesses in the area of problem identification and resolution (evaluation and corrective action).

Inspection Report# : 2005006*(pdf)*
Inspection Report# : 2005013*(pdf)*

Significance: G Apr 02, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT ADEQUATE INTERIM COMPENSATORY MEASURES FOR FIRE BARRIER IMPAIRMENTS
The inspectors identified a Green non-cited violation of license condition 2.K between November 26, 2004 - March 9, 2005, due to inadequate compensatory actions for a degraded 3-hour rated fire barrier (3M Interam) for penetration H20 concurrent with a degraded hose station nearest to the fire barrier H20. Penetration H20 houses electrical cables needed for the Alternate Safe Shutdown System.

The finding is more than minor since, if left uncorrected, the finding would become a more significant safety concern. The finding affects the Mitigating Systems cornerstone, and its objective of ensuring availability, reliability and capability of systems that respond to initiating events, since both deficiencies contributed to plant risk by decreasing the endurance of the fire barrier and affecting the ability to manually (no automatic suppression capability) fight fires in the electrical penetration room. This issue was of very low risk significance (Green) using phase 1 of the Fire Protection SDP, MC 0612 Appendix F because the barrier was judged to afford greater than 20 minutes of fire endurance protection and low combustible loading was found in the fire area. This finding is associated with the cross-cutting area of human performance (personnel) in that fire protection engineering did not document or implement adequate compensatory measures for the degraded fire barrier and inoperable hose station.

Inspection Report# : 2005002*(pdf)*

Significance: G Apr 02, 2005
Identified By: NRC
Item Type: FIN Finding
FAILURE TO PERIODICALLY VERIFY THE CAPABILITY OF CITY WATER BACKUP COOLING SAFETY FUNCTION
The inspectors identified a Green finding associated with a loss of city water to the primary auxiliary building on January 26, 2005. Specifically, Entergy failed to periodically verify the capability of a backup cooling water supply for the charging pumps, safety injection pumps and the residual heat removal pumps.

The finding is greater than minor since it affected the Mitigating Systems cornerstone objective of availability of backup cooling to safety

pumps in response to a loss of all component cooling water and/or loss of service water event. This finding impacted the procedural quality attribute since no periodic verification existed since 2003 to verify the availability of backup cooling water source, city water. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the Region I Senior Reactor Analyst (SRA) performed a Phase 3 analysis and determined that this finding was of very low risk significance (Green). No violations of NRC requirements were identified.
Inspection Report# : 2005002*(pdf)*

Barrier Integrity

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Procedural Requirements During Modification of a Safety-Related Valve
The NRC identified a Green NCV of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for a failure to follow procedures during implementation of a temporary alteration to FCV-447, the safety-related feedwater flow control valve to the 24 steam generator. Specifically, while implementing a modification to grind material from the valve actuator cap screw heads, maintenance personnel removed more material than allowed by the modification package. This error was not identified by the maintenance workers or engineering personnel upon completion of the modification. Entergy entered this issue into the corrective action program and completed an operability assessment to show that FCV-447 remained operable. This finding is associated with the Human Performance cross-cutting area because the failure to follow procedures was the result of a personnel error during implementation of the modification.

This finding is greater than minor because it is associated with the Barrier Integrity cornerstone attribute of Barrier Performance, and affected the cornerstone objective of ensuring the availability and reliability of components used for containment isolation. Improper implementation of this modification could have resulted in the inability of this valve to perform its safety function. This finding is of very low safety significance because while the modification was incorrectly implemented, subsequent analysis showed that the valve remained operable. Because this finding is of very low safety significance and has been entered into Entergy’s corrective action program, it is being treated as an NCV.
Inspection Report# : 2005005*(pdf)*

Significance: G Apr 02, 2005
Identified By: NRC
Item Type: FIN Finding
INEFFECTIVE CAUSAL ANALYSIS ASSOCIATED WITH A ROD CONTROL FAILURE
The inspectors identified a Green finding associated with ineffective causal analysis for a rod control system problem which resulted in the unexpected insertion of control rod H-8, and power reductions to less than 75 percent, on February 9 and 10. The inspectors determined that the causal analysis was ineffective since it failed to identify that the current traces taken during troubleshooting were ten to fifteen percent below the expected values, even after short-term action to install the original style regulation cards.

The finding is more than minor since it affected the Barrier Integrity cornerstone objective (fuel cladding). The barrier integrity cornerstone objective provides reasonable assurance that physical design barriers protect the public from radionuclide release caused by accidents or events. This finding impacted the configuration control attribute since it led to the licensee's inability to maintain the rod alignment criteria prescribed in the Technical Specifications (TS). A Phase 1 SDP screening determined that the inadequate causal analysis and subsequent rod drops were of very low risk significance (Green) since the required actions for rod misalignments prescribed by the TS were performed within the allowed time and in-core flux maps verified that local power limits were met. No violations of NRC requirements were identified. This finding is associated with the cross-cutting area of problem identification and resolution, specifically, an ineffective evaluation of rod control system problems resulted in the unexpected insertion of control rod H-8 and power reductions to less than 75 percent, on February 9 and 10.
Inspection Report# : 2005002*(pdf)*

Emergency Preparedness

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Facilities and Equipment to Determine Threshold for Emergency Action Level
A Green NCV associated with emergency planning standard 10 CFR 50.47(b)(4) was identified by the inspectors, because no established means of indication or procedures were readily available for operators to determine if the service water bay level met the threshold for declaration of an Unusual Event (UE) described in EAL 8.4.3. Entergy installed temporary level indication and entered this issue into its

corrective action program for further evaluation and implementation of long term corrective actions

This finding is greater than minor because it is associated with the Emergency Preparedness cornerstone attribute of Facilities and Equipment, and affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. The deficiency is not greater than Green because it did not result in the Risk-Significant Planning Standard Function being lost or degraded. Section 4.4 of Manual Chapter 0609, Appendix B, provides examples for use in assessing emergency preparedness related findings. One example of a Green finding states, "The EAL classification process would not declare any Alert or Notification of Unusual Event that should be declared." Since the declaration of an UE based on low service water bay level could have been missed or delayed, this finding was considered consistent with the example provided and was therefore determined to be of very low safety significance (Green). Because this issue is of very low safety significance and has been entered into Entergy's corrective action program, it is being treated as an NCV.
Inspection Report# : 2005005*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: FIN Finding
Inadequate Corrective Actions for Frame Relay System Problems
The inspectors identified a Green finding for a failure to implement timely corrective actions for multiple frame relay system problems dating back to 2003. Specifically, for issues related to the reliability of the frame relay system, adequate actions to prevent recurrence were not implemented in a timely manner. Entergy's corrective actions in response to the August 2005 frame relay failures resulted in a more thorough assessment of this issue and reasonable actions to prevent recurrence. This finding was associated with the Problem Identification and Resolution cross-cutting area because it was related to Entergy's failure to implement timely corrective actions for reliability issues with the frame relay system.

This finding was determined to be more than minor because it is associated with the Emergency Preparedness cornerstone attribute of Facilities and Equipment. It affected the cornerstone objective of ensuring that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. This finding is not suitable for Significance Determination Process evaluation but has been reviewed by NRC management and is determined to be a finding of very low safety significance. This issue is not greater than Green, because of the short periods that the frame relay system was unavailable and, because the alert and notification system design included a secondary method (i.e., back-up radio system) to actuate the sirens.
Inspection Report# : 2005005*(pdf)*

Significance: SL-IV Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Make a 10 CFR 50.72(b)(3)(xiii) Notification
A Severity Level IV violation of 10 CFR 50.72(b)(3)(xiii) was identified for not formally reporting a siren system problem that occurred on August 5, 2005. The inspectors noted that the duration of the siren system problem was short, the NRC was informally notified, the process for back-up route alerting was available, and the capability to actuate the sirens via a manual siren initiation method was not lost. Subsequent to this event, Entergy implemented corrective actions to formalize the manual siren system actuation method. Notwithstanding these circumstances, a formal notification to the NRC was required, because the normal processes for actuation of the sirens were not available and Entergy did not have formal procedures for, and had limited experience with, the manual siren initiation method.

This deficiency was evaluated using the traditional enforcement process since the failure to make a required report could adversely impact the NRC's ability to carry out its regulatory mission. Because this finding is of very low safety significance and has been entered into the corrective action program, it is being treated as an NCV.
Inspection Report# : 2005005*(pdf)*

Occupational Radiation Safety

Public Radiation Safety

Significance: G Apr 02, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
ENTERGY IP2 DID NOT PROPERLY PACKAGE RADIOACTIVE WASTE FOR DISPOSAL TO CONFORM WITH THE WASTE DISPOSAL FACILITY LICENSE
A Green self-revealing non-cited violation of 10 CFR 20.2001 was identified associated with the transfer of waste, by Entergy's Indian Point

Energy Center, for disposal, that did not meet Barnwell Low-Level Waste Disposal facility license requirements as required by 10 CFR 30.41. Specifically, a shipment (0205-12578) of low-level radioactive waste, from the Indian Point Energy Center, was identified on February 11, 2005, at the Barnwell Low-level Waste Disposal Facility, to have loose radioactive waste material inside the shipping cask (and outside of the waste disposal container) contrary to the disposal facility's site operating license (License No. 097, Amendment 47, Condition 61).

This finding is considered to be more than minor because Entergy failed to meet a waste disposal facility license requirement that was reasonably within its ability to foresee, correct, and prevent. This radioactive material control transportation finding was evaluated against criteria specified in NRC Manual Chapter 0609, Appendix D, and determined to be of very low safety significance (Green) because: 1) no external radiation or contamination limits were exceeded; 2) no package breach was involved; 3) no failure to make a notification was involved; and 4) although a low-level burial ground non-conformance was involved, burial ground access was not denied and no 10 CFR 61.55 waste classification issue was involved. In addition, although the finding did involve a certificate of compliance issue; the finding was a minor contents deficiency with low risk significance relative to causing a radioactive release to the public or public or occupational exposure. The small quantity of waste material was contained within the NRC approved shipping cask. Entergy temporarily suspended this type of shipment from the Indian Point Energy Center and placed the issue in the corrective action program.
Inspection Report# : 2005002*(pdf)*

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : May 25, 2006