

## Kewaunee 1Q/2006 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 31, 2006

Identified By: NRC

Item Type: FIN Finding

#### **Failure to Control Loose Materials Within the Protected Area in Response to Adverse Weather Conditions**

A finding of very low safety significance was identified by the inspectors for the licensee's failure to control loose materials within the protected area south of the transformer bays in response to adverse weather conditions. The material could have been blown into the transformers and initiate a transient. The primary cause of this finding was related to the cross-cutting area of problem identification and resolution for the failure to implement effective corrective actions in response to a similar, previous inspection finding (Inspection Report 05000305/2005008). No violation of regulatory requirements occurred.

The licensee entered this issue into its corrective action program and removed the loose material from the transformer bays.

The finding is more than minor because, if left uncorrected, the loose items would become a more significant safety concern by becoming missile hazards; thereby, increasing the likelihood of an initiating event. Additionally, the inspectors determined that this issue was associated with the procedure quality 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 the station procedure used to control potential airborne material was too narrow in scope. The finding was of very low safety significance because the inspectors answered "no" to all the screening questions in the Significance Determination Process Phase 1 Screening Worksheet under the Initiating Events column.

Inspection Report# : [2006002\(pdf\)](#)

**Significance:**  Mar 30, 2006

Identified By: NRC

Item Type: FIN Finding

#### **Failure to Adequately Evaluate an Inoperative Indicating Lamp for a Turbine control Valve**

A finding of very low safety significance was identified by the inspectors for the failure to adequately evaluate an inoperative indicating lamp associated with the turbine control valves. The primary cause of this finding was attributed to the cross-cutting area of human performance because procedures were available, but not followed, that would have facilitated proper performance of the task.

The licensee entered this item into its corrective action program and reviewed open work orders, provided a status update to management, and increased communications of related expectations.

The finding is greater than minor because the failure to adequately evaluate deficient conditions, if left uncorrected, would become a more significant safety concern. The finding was of very low safety significance because the inspectors answered "no" to all the questions in the Significance Determination Process Phase 1 Screening Worksheet under the Initiating Events column.

Inspection Report# : [2006002\(pdf\)](#)

**Significance:**  Dec 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate startup procedure resulted in an inadvertent carbon-dioxide fire suppression discharge and declaration of a Notice of Unusual Event**

A finding of very low safety significance was self-revealed during two events when use of an inadequate plant prestartup procedure resulted in actuation of the CARDOX Carbon Dioxide system. A Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for the failure to include adequate acceptance criteria in Procedure N-0-02-CLA, "Plant Prestartup Checklist". The primary cause of this finding was related to the resource attribute in the cross-cutting area of Human Performance. The licensee failed to provide the operators with quality procedures containing criteria to know when the secondary plant was appropriately aligned.

The inspectors determined that the finding was greater than minor because it involved the configuration control, human performance, and procedure quality attributes of the Initiating Events Cornerstone. Additionally the finding affected the cornerstone objective of limiting the likelihood of those events that upset plant stability during power operations. Specifically, an incorrect lineup could exist in the secondary system resulting in an initiating event, or an unanalyzed secondary system response after a trip. The issue was of very low safety significance because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would

not be available. Corrective actions taken by the licensee include procedural enhancements to ensure that systems are lined up properly before continuing with plant startup.

Inspection Report# : [2005017\(pdf\)](#)

**G**

**Significance:** Jun 30, 2005

Identified By: NRC

Item Type: FIN Finding

**Inadequate controls for loose material in substation**

A finding of very low safety significance was identified by the inspectors for failure to control loose materials in the protected area and substation. No violation of NRC requirements occurred. Once identified, the licensee initiated a condition report (CAP) to develop a surveillance procedure to remove loose materials before summer months where potential adverse weather was apparent.

The issue was more than minor because, if left uncontrolled, the loose items adjacent to the auxiliary transformers and in the substation would become a more significant safety concern. The issue was of very low safety significance because the finding did not contribute to the likelihood of a primary or secondary system loss of coolant accident initiator; the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available; and the finding did not increase the likelihood of a fire or internal or external flooding. The issue was not considered a violation of regulatory requirements because it did not affect safety-related structures, systems, or components.

Inspection Report# : [2005008\(pdf\)](#)

**G**

**Significance:** Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to manage risk during periods where the grid condition was defined as unstable.**

A finding of very low safety significance was identified by the inspectors for a Non-Cited Violation (NCV) of Title 10 CFR Part 50.65(a)(4). The licensee failed to adequately assess shutdown risk during degraded grid conditions. Once identified, the licensee initiated a CAP to modify shutdown safety assessment and operating procedures to include grid conditions in risk assessments. The finding was more than minor because the licensee's risk assessment had incorrect assumptions that had the potential to change the outcome of the assessment. The inspectors determined that the finding could not be evaluated using the Significance Determination Process because the finding was associated with an inadequate qualitative risk assessment. The inspectors determined that this issue was of very low safety significance which was verified by the regional branch chief.

Inspection Report# : [2005008\(pdf\)](#)

## Mitigating Systems

**G**

**Significance:** Mar 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**Ineffective Corrective Actions to Resolve Boric Acid Leakage from the 1A RHR Pump Flange Studs and Nuts**

A finding of very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified by the inspectors for ineffective identification and the initiation of corrective actions to resolve boric acid leakage from the 1A residual heat removal (RHR) pump flange studs and nuts. The primary cause of this finding was attributed to the cross-cutting area of problem identification and resolution. During a review of corrective actions associated with the licensee's identification of a moderate amount of boric acid around various pump flange studs and nuts, the inspectors found that numerous prior occasions existed where the licensee had identified similar conditions yet failed to adequately identify and initiate actions to evaluate or correct this condition adverse to quality.

The licensee entered this item into its corrective action program and wrote a work order to replace the pump casing flange gasket.

The finding is greater than minor because it is associated with the equipment performance attribute of the Mitigating System cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Additionally, failure to correct a condition adverse to quality in a safety-related system, if left uncorrected, would become a more significant safety concern. The finding was of very low safety significance because the inspectors answered "no" to all the screening questions in the Significance Determination Process Phase 1 Screening Worksheet under the Mitigating Systems column.

Inspection Report# : [2006002\(pdf\)](#)

**G**

**Significance:** Mar 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Apply Appropriate Quality Classification to TSC Diesel Generator Modifications as Required by Procedures**

A finding of very low safety significance and an associated non-cited violation of the Kewaunee Technical Specifications, Section 6.8, "Procedures," was identified by the inspectors during a review of plant modification Design Change Request 3490, which replaced the existing Technical Support Center diesel generator fuel oil day tank level switches with new level switches of a different design. The inspectors determined that, in accordance with procedure GNP-01.01.01, "Determination of Nuclear Safety Designed Classifications, QA [Quality Assurance] Type and EQ [Environmental Qualification] Type," the new level switches should have been designated as "Augmented Quality." Contrary to this, the new switches were not designated as augmented quality. The primary cause of this finding was attributed to the cross-cutting area of problem identification and resolution because of the licensee's failure to take effective corrective actions for previously identified problems with its quality assurance program.

The licensee entered this item into its corrective action program and conducted supplemental audits of quality-designated equipment, added additional related elements to an upcoming quality assurance group audit of the quality assurance program, and the conduct of a cause evaluation of related issues.

The finding is greater than minor because it is associated with the design control attribute of the Mitigating Systems cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Additionally, failure to comply with the provisions of nuclear safety-related procedures, if left uncorrected, would become a more significant safety concern. The finding is of very low safety significance because the inspectors answered "no" to all the screening questions in the Significance Determination Process Phase 1 Screening Worksheet under the Mitigating Systems column.

Inspection Report# : [2006002\(pdf\)](#)

**G**

**Significance:** Mar 30, 2006

Identified By: NRC

Item Type: FIN Finding

**Failure to Adequately Evaluate the Extent-of-Condition of Degraded Fuses in Installed Equipment**

A finding of very low safety significance was identified by the inspectors for the failure to adequately evaluate the extent-of-condition relative to installed equipment for a 10 CFR Part 21 notification for degraded Bussmann® fuses. The primary cause of the finding was attributed to the cross-cutting area of human performance because procedures were available, but not followed, that would have facilitated proper performance of the task.

The licensee entered this item into its corrective action program and planned to review other installed fuses and to conduct an evaluation of original problem.

The finding was greater than minor because the failure to adequately evaluate the impact of potentially degraded safety-related fuses on installed equipment, if left uncorrected, would become a significant safety concern. Specifically, the condition could cause premature circuit interruptions of safety-related or risk significant mitigating components, when called upon to perform the related functions, and this is an undesirable condition. The finding was of very low safety significance because the inspectors answered "no" to all the screening questions in the Significance Determination Process Phase 1 Screening Worksheet under the Mitigating Systems column.

Inspection Report# : [2006002\(pdf\)](#)

**G**

**Significance:** Dec 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**Adjustments performed on safety-related service water Valve 4B without procedure resulted in valve being declared inoperable**

On October 5, 2005, a finding of very low safety significance was self-revealed when SW-4B failed to meet its In-Service Testing stroke time requirements during the performance of Surveillance Procedure SP-02-138B and an associated unplanned entry into a Technical Specification Limiting Condition for Operation occurred. The condition occurred because the licensee made adjustments to safety-related Valve SW-4B, "Turbine Building Service Water Train "B" Header Isolation," without procedural guidance to perform such adjustments. The primary cause of this finding was related to the personal attribute of the cross-cutting area of human performance because maintenance was performed without required procedures.

The finding was more than minor because performing adjustment of safety-related equipment without procedural guidance, if left uncorrected, would become a more significant safety concern. Additionally, the finding is associated with the Reactor Safety/Mitigating Systems Cornerstone attribute of Procedure Quality and effects the associated Cornerstone objective of insuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors answered "no" to all five screening questions in the Phase 1 Screening Worksheet under the Mitigating Systems column. Therefore, this finding was of very low safety significance. A Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for the failure to provide procedural guidance for adjusting SW-4B; a safety-related valve which could affect the ability of safety-related mitigating system components to perform their intended function. Corrective actions taken by the licensee include procedural revisions to strengthen guidance on adjustment of safety-related components.

Inspection Report# : [2005017\(pdf\)](#)

**G****Significance:** Dec 31, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**Operator Licensing Exam Results Were Less Than Minimum Acceptable Percentage For Passing**

A finding of very low safety significance was identified. The finding was associated with unsatisfactory operating crew performance on the simulator during facility-administered licensed annual operator requalification examinations. Of the 7 crews evaluated, 2 did not pass their annual operating tests. The finding is of very low safety significance because the failures occurred during testing of the operators on the simulator, because there were no actual consequences to the failures, and because the crews were removed from watch-standing duties, retrained, and re-evaluated before they were authorized to return to control room watches.

Inspection Report# : [2005017\(pdf\)](#)**G****Significance:** Dec 16, 2005

Identified By: NRC

Item Type: FIN Finding

**No Trending of Adverse Conditions Identified During Outages**

The inspectors identified a finding of very low safety significance for the licensee not reviewing corrective action program documents (CAPs) during outages for potential trends of conditions adverse to quality. As part of the screening process of CAPs, the licensee assigned, as possible, CAPs to various "hot buttons." Hot buttons were searchable categories in the corrective action program computer system that had been established for various problems, such as equipment tagging errors, security door control, and reactivity management. For non-outage times, the licensee assigned a monthly number of hits for each hot button that, if exceeded for 3 months in succession, would result in the generation of a CAP to investigate a possible trend. However, as of December 16, 2005, the licensee did not use hot button action levels during outages when the number of CAPs written was much higher than during non-outage times.

This finding is greater than minor because if left uncorrected would become a more significant safety concern. 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. No violation of regulatory requirements occurred. The cause of the finding is related to the cross-cutting element of problem identification and resolution, because of not identifying potential conditions adverse to quality through trending of CAPs during outages.

Inspection Report# : [2005005\(pdf\)](#)**G****Significance:** Dec 16, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Correct Procedure Non-Adherence**

The inspectors identified a finding of very low safety significance and a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to take corrective action for procedure non-compliance identified during the licensee's 2004 self-assessment of the corrective action program. As a result of the assessment, CAP025194, "Corrective Action Program Procedure and Guidance Document Use," was written and documented that plant workers were not following corrective action program procedures for apparent cause evaluations and root cause evaluations, effectiveness review content, priority and due date assignments, initiator feedback, and documentation of corrective action completion. To correct this problem, corrective action CA018094, "Corrective Action Program Procedure and Guidance Document Use," was written and specified one or 2 weeks of requiring "in-hand" use by the plant staff of the corrective action program administrative procedure. However, completion of this action was delayed several times and on July 25, 2005, CAP025194 and CA018094 were closed with the only documented action taken being a July 18, 2005, meeting of the station human performance steering committee at which the licensee decided not to take action because of the pending transition to the corrective action program documents of the plant's new owner.

This finding is greater than minor because if left uncorrected would become a more significant safety concern. 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. The cause of the finding is related to the cross-cutting element of problem identification and resolution, because of the failure to take corrective action for non-adherence to station procedures.

Inspection Report# : [2005005\(pdf\)](#)**G****Significance:** Dec 16, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Adequately Correct Residual Heat Removal Pump Seal Leakage**

A finding of very low safety significance that was a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the licensee's ineffective corrective action to repair a leak on the seal of the "B" residual heat removal (RHR) pump. The leak was identified on November 2, 2005, when the pump was stopped following the performance of a required surveillance. The leak rate exceeded leakage control program limits. A similar leak was identified on June 16, 2004, for which the licensee replaced the seal in November 2004.

This finding is greater than minor because it was associated with the "RCS (reactor coolant system) equipment and barrier performance" attribute of the barrier integrity cornerstone and does affect the cornerstone objective of providing reasonable assurance that physical design

barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Although the RCS barrier was affected, the finding did not affect the mitigation capability of the RHR system and did not contribute to the likelihood of a primary or secondary system loss of coolant accident initiator or affect the containment integrity. Therefore, the finding is of very low safety significance.

Inspection Report# : [2005005\(pdf\)](#)

**Y**

**Significance:** Oct 06, 2005

Identified By: NRC

Item Type: VIO Violation

#### **Potential Flooding in the Turbine Building Basement**

A review of design drawings by the inspectors revealed a direct piping connection from the turbine building sump to the trench in safeguards alley. The inspectors determined that there were no check valves located in the piping to prevent water spills in the turbine building basement from backing up into the safeguards alley. The inspectors also noted that no flood barriers specifically designed to protect equipment in the safeguards alley from flooding in the turbine building basement were installed. The inspectors requested additional information from the licensee regarding potential flooding events occurring in the safeguards alley. The licensee documented its response to the inspectors' information request in Condition Evaluation (CE) 014653. This CE stated that it would take approximately 3 hours for flooding caused by AFW pump discharge to affect safety-related equipment, and such flooding could be mitigated by opening doors between the safeguards alley and the turbine building basement. The CE also stated that other sources of flooding in the turbine building basement need not be considered since such flooding events are outside the design basis of the plant.

The inspectors identified a finding that was preliminarily determined to be of substantial to high safety significance because the licensee failed to provide adequate design control to ensure that Class I equipment was protected against damage from the rupture of a pipe or tank resulting in serious flooding or excessive steam release to the extent that the Class I equipment's function is impaired. Specifically, the design of Kewaunee Power Station (KPS) did not ensure that the auxiliary feedwater (AFW) pumps, the 480-volt (V) safeguards buses, the safe shutdown panel, emergency diesel generators (EDGs) 1A and 1B, and 4160-V safeguards buses 1-5 and 1-6 would be protected from random or seismically induced failures of non-Class I systems in the turbine building. The finding is also an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for not ensuring that the design of KPS prevented turbine building flooding from impacting multiple safety related equipment trains needed for safe shutdown of the plant. The inspectors determined that a primary cause of this finding was related to the cross-cutting area of Problem Identification and Resolution, because there was an earlier opportunity to discover and correct this issue based on the licensee's 2003 experience when minor flooding from the turbine building had challenged safety equipment located adjacent to the turbine building basement.

The finding was more than minor because it impacted Mitigating Systems cornerstone attributes of design control (initial design and plant modifications) and protection against external factors (internal flood hazards and seismic events) and it impacted the Mitigating Systems cornerstone objective to ensure availability, reliability and capability of multiple trains of safety related equipment to respond to events to prevent core damage. A Significance Determination Process Phase 3 risk analysis determined that this finding was preliminarily of substantial to high safety significance. The licensee has taken significant corrective actions, including extensive system and structural modifications to address this issue.

After considering the information developed during the inspection, and the additional information you provided prior to, during, and in response to our questions at the Regulatory Conference, the NRC has concluded the inspection finding is appropriately characterized as Yellow (i.e., an issue with substantial importance to safety, that will result in additional NRC inspection and potentially other NRC action).

Inspection Report# : [2004009\(pdf\)](#)

Inspection Report# : [2005002\(pdf\)](#)

Inspection Report# : [2005011\(pdf\)](#)

Inspection Report# : [2005018\(pdf\)](#)

**Significance:** SL-IV Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Report in a Timely Manner an Unanalyzed Condition Involving a Potential Runout Concern With the CCW Pumps**

The inspectors identified a Non-Cited Violation (NCV) when the licensee failed to make a written report, within 60 days, to the NRC in accordance with 10 CFR 50.73(a)(2)(ii)(B), when an unanalyzed condition that significantly degraded plant safety was identified. Specifically, the licensee did not recognize the significance of a previously identified condition involving a potential runout issue with the component cooling water (CCW) pumps, and did not report this condition until the inspectors identified the requirement. The concern related to the CCW pump capability to provide required flow under certain conditions. Specifically, during a loss of power, and with specific system configurations, the loss of power could lead to a CCW pump runout condition. The primary cause of this finding was related to the cross-cutting area of human performance.

Because this issue affects the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The inspectors determined that this violation is of very low safety significance and because the licensee entered the issue into their corrective action program (CAP026528), this violation is being treated as an NCV consistent with Section VI.A.1 of the NRC Enforcement Policy. The licensee has taken actions to revise plant procedures to address this issue.

Inspection Report# : [2005012\(pdf\)](#)

**W****Significance:** Aug 16, 2005

Identified By: NRC

Item Type: VIO Violation

**Potential Common Mode Failure of Auxiliary Feedwater**

URI 05000305/2005002-05 is associated with the design of the AFW pump's discharge pressure switches. The inspectors identified the potential for air intrusion into operating AFW pumps, potentially resulting in a common mode failure of the AFW system. This could occur during certain events where the suction source is lost prior to being able to manually swap the source of water from the CST to the SW system.

The inspectors identified a finding that was preliminarily determined to be of low to moderate safety significance, because Kewaunee failed to provide adequate design control to ensure the AFW pumps would be protected from failure due to air ingestion during tornado or seismic events; as well as from failure during potential runout conditions. The finding is also an apparent violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for not effectively providing controls to check the adequacy of the design for protecting the AFW pumps during design and license basis events.

The finding was determined to be more than minor since it impacted Mitigating System cornerstone attributes of design control (initial design and plant modifications) and the cornerstone objective to ensure availability, reliability, and capability of the AFW system to respond to events to prevent core damage. A Significance Determination Process Phase 3 risk analysis determined that this finding was preliminarily of low to moderate safety significance. The licensee has taken significant corrective actions, including extensive modifications to the system.

After considering the information developed during the inspection, the NRC has concluded the inspection finding is appropriately characterized as White (i.e., an issue with low to moderate increased importance to safety, which may require additional NRC inspections).

Inspection Report# : [2005002\(pdf\)](#)Inspection Report# : [2005010\(pdf\)](#)Inspection Report# : [2005014\(pdf\)](#)**G****Significance:** Jul 29, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Evaluate the Effect of Modification on Turbine Driven AFW Pump Performance with Reduced Steam Pressure**

The inspectors identified a finding involving a Green Non-Cited Violation (NCV) of 10 CFR 50, Appendix B, Criterion III, "Design Control". The finding involved the revision of AFW pump discharge pressure trip setpoints. The licensee had not determined if the turbine driven AFW (TDAFW) pump was capable of providing the required flow under reduced steam pressure conditions prior to approving the modification. This issue could have affected the performance of the AFW system under post accident conditions.

This issue was greater than minor because it potentially affected the Mitigating System cornerstone objective of equipment capability. The issue screened as very low safety significance in Phase 1 of the SDP, because it was a design deficiency that was not found to result in a loss of function and the item was resolved prior to being in the plant conditions where the finding could have impacted the pump's performance. The licensee conducted post modification tests and revised permanent plant procedures to ensure the TDAFW pump was capable of providing the required flow under reduced steam pressure conditions.

Inspection Report# : [2005010\(pdf\)](#)**G****Significance:** Jun 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to minimize prior identified and predictable explosive gas concentrations in the WGDs**

A finding of very low safety significance was identified by the inspectors for a NCV of Title 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action." The licensee failed to consider the impact on plant fire protection when ineffective resolution of waste gas system issues repeatedly led to explosive mixtures in the Waste Gas Decay Tanks. The licensee entered these issues into their corrective action program. The primary cause of this violation was related to the cross-cutting area of Problem Identification and Resolution. The licensee repeatedly encountered explosive gas levels in the WGDs and were aware of plant conditions that resulted in these levels but failed to take adequate corrective actions to prevent explosive gas mixtures from developing in the WGDs. The issue is more than minor because uncontrolled explosive mixtures in the WGDs could have led to a more significant safety concern. The issue was of very low safety significance because explosive mixtures were only present during plant shutdown conditions; an explosion would not have affected safe shutdown equipment (i.e. Residual Heat Removal System); the explosive mixture conditions were only present for short periods of time (<12 hours); and the tanks were isolated and vented per procedure when discovered.

Inspection Report# : [2005008\(pdf\)](#)

## Emergency Preparedness

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### Occupational Radiation Safety

**G****Significance:** Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Post and Control Access Into a Locked High Radiation Area During Radiographic Activities**

A self-revealed finding of very low safety significance and an associated Non-Cited Violation of NRC requirements were identified when a high radiation area boundary was breached by two workers during radiography. An unnecessary radiation exposure could have been received by the workers had they not been stopped by radiography personnel as they moved toward the exposed radiographic source.

The issue was more than minor because it was associated with the Program/Process attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to ensure adequate protection of worker health and safety from exposure to radiation. The issue represents a finding of very low safety significance because there was no overexposure or substantial potential for an overexposure given the actual radiological conditions in the area coupled with the duration of the radiographic operation and the presence of radiography personnel who provided surveillance of the area, nor was the licensee's ability to assess worker dose compromised. A Non-Cited Violation of Technical Specification 6.13(a) and 10 CFR 20.1601(b) was identified for the failure to comply with the RP requirements that govern the control of access into high radiation areas. Corrective actions taken by the licensee included enhanced administrative measures by revising the radiography procedure and counseling of involved staff. Since the cause of the problem included corrective action deficiencies from previous similar radiography boundary control events, the finding also relates to the cross-cutting area of problem identification and resolution.

Inspection Report# : [2005012\(pdf\)](#)**G****Significance:** Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Control Access Into a High Radiation Area During Radiographic Activities**

A self-revealed finding of very low safety significance and an associated Non-Cited Violation of NRC requirements were identified for an unposted/uncontrolled locked high radiation area in the turbine building during radiography activities. A radiography source created radiation levels such that a major portion of the whole body could have received in one hour a dose in excess of 1000 mrem in accessible areas of the turbine building, which were not posted or controlled in accordance with regulatory requirements. The areas with elevated dose rates were not positively controlled by locked door/gate, use of a barrier and flashing light, or maintained under continuous visual or electronic surveillance.

The issue was more than minor because it was associated with the Program/Process attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to ensure adequate protection of worker health and safety from exposure to radiation. The issue represents a finding of very low safety significance because there was no overexposure or substantial potential for an overexposure given the actual radiological conditions in the uncontrolled areas coupled with the duration of the radiographic shot. A Non-Cited Violation of Technical Specification 6.13(b) and 10 CFR 20.1601(b) was identified for the failure to comply with the RP requirements that govern the control of access into locked high radiation areas. Corrective actions taken by the licensee included enhanced administrative measures by revising the radiography procedure, and counseling and training of RP staff.

Inspection Report# : [2005012\(pdf\)](#)**G****Significance:** Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Control Access Into a High Radiation Area While Moving a Radioactive Filter**

A self-revealed finding of very low safety significance and two associated Non-Cited Violations of regulatory requirements were identified for an unposted and uncontrolled high radiation area in an auxiliary building elevator during the transfer of a radioactive seal water injection filter. As a result of this failure, workers could have unknowingly entered a high radiation area in the elevator without knowledge of the radiological conditions.

The issue was more than minor because it was associated with the Program/Process attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to ensure adequate protection of worker health and safety from exposure to radiation. The issue represents a finding of very low safety significance because there was no overexposure or substantial potential for an overexposure given the circumstances and the actual radiological conditions in the area, nor was the licensee's ability to assess worker dose compromised. A Non-Cited Violation of Technical Specification 6.13(a) and 10 CFR 20.1601(b) was identified for the failure to comply with the RP requirements that govern the control of access into high radiation areas. This issue also represents a Non-Cited Violation of 10 CFR 20.1902(b)/20.1903 for failure to post a high radiation area. Corrective actions taken by the licensee included enhanced administrative measures (RP Job Guide) for change-out and transport of all radioactive filters.

Inspection Report# : [2005012\(pdf\)](#)

**G**

**Significance:** Sep 30, 2005

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Post a High Radiation Area While Moving a Radioactive Filter**

A self-revealed finding of very low safety significance and two associated Non-Cited Violations of regulatory requirements were identified for an unposted and uncontrolled high radiation area in an auxiliary building elevator during the transfer of a radioactive seal water injection filter. As a result of this failure, workers could have unknowingly entered a high radiation area in the elevator without knowledge of the radiological conditions.

The issue was more than minor because it was associated with the Program/Process attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to ensure adequate protection of worker health and safety from exposure to radiation. The issue represents a finding of very low safety significance because there was no overexposure or substantial potential for an overexposure given the circumstances and the actual radiological conditions in the area, nor was the licensee's ability to assess worker dose compromised. A Non-Cited Violation of Technical Specification 6.13(a) and 10 CFR 20.1601(b) was identified for the failure to comply with the RP requirements that govern the control of access into high radiation areas. This issue also represents a Non-Cited Violation of 10 CFR 20.1902(b)/20.1903 for failure to post a high radiation area. Corrective actions taken by the licensee included enhanced administrative measures (RP Job Guide) for change-out and transport of all radioactive filters.

Inspection Report# : [2005012\(pdf\)](#)

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## **Public Radiation Safety**

**G**

**Significance:** Mar 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Adequately Evaluate Degraded Flow Conditions on a SW System Radiation Monitor**

A finding of very low safety significance and an associated non-cited violation of the Kewaunee Technical Specifications, Section 6.8, "Procedures," was identified by the inspectors for the failure to adequately evaluate degraded flow in a service water system radiation monitor. The primary cause of this finding was attributed to the cross-cutting area of human performance because procedures were available, but not followed, that would have facilitated proper performance of the task.

The licensee entered this item into its corrective action program and planned to conduct inspections of other radiation monitor sample chambers, assess the need for an in-line filter, and assess the need for a modification to correct the recurring problem with the service water radiation monitor.

The finding was greater than minor because the finding involved conditions contrary to those required by the offsite dose calculation manual. Specifically, sampling requirements that were required to be initiated when the related radiation monitoring instrumentation should have been declared inoperable were not accomplished. The finding was of very low safety significance because no radiological releases were possible from the indicated pathways when the condition existed.

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## **Physical Protection**

[Physical Protection](#) information not publicly available.

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## **Miscellaneous**

Last modified : May 25, 2006