

# Columbia Generating Station

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## Initiating Events

**Significance:**  Jun 23, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

### **Inadequate testing for drywell unidentified leak rate instrument**

Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XI (Test Control), occurred for inadequate calibration testing of the drywell unidentified leak rate instrument. The Final Safety Analysis Report specifies that the instrument can detect an increase of 1 gpm [gallon per minute] in 1 hour but the lowest point checked during calibration was 1.5 gpm. During the past cycle, this instrument read about 0.8 gpm when actual leakage was about 1.2 gpm. This finding is more than minor and had a potential impact on safety because the drywell unidentified leak rate instrument was not calibrated to detect changes in unidentified leakage consistent with the Final Safety Analysis Report and could impact operator responsiveness to the initial phases of a loss of coolant accident. This violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The problem is entered into the licensee's corrective action program as Problem Evaluation Request 201-1362. This finding was determined to be of very low risk significance based on the finding did not contribute to the likelihood of a primary system LOCA and that small changes in reactor coolant system leakage, that may not be detected, were well below the established Technical Specification limits for unidentified leakage. The issue constituted a qualification deficiency and did not result in a loss of system function (Section 1R22).

Inspection Report# : [2001003\(pdf\)](#)

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## Mitigating Systems

**Significance:**  Sep 21, 2002

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

### **Failure to Properly Design a Fire Protection Flood Barrier**

The licensee did not properly design fire protection systems, including flood barriers, to ensure that water from the systems did not affect safety-related equipment (a self disclosing issue). A spill of 15 to 20 gallons of water on the cable spreading room floor leaked through the floor to safety-related components below. The inspectors also identified that the licensee had missed multiple opportunities to identify and correct the deficiencies earlier. A violation of 10 CFR 50.48a was identified that is being treated as a noncited violation in accordance with Section VI.A.1 of the NRC Enforcement Policy. The inspectors determined that the significance was more than minor because the problem affected the reactor safety cornerstone, mitigating systems objective. Specifically, leakage through the cable spreading room floor following the actuation, rupture or inadvertent operation of the fire protection sprinkler system could adversely impact safety-related switchgear associated with Division I and II systems. The inspectors utilized the NRC's significance determination process (Manual Chapter 0609, SDP Phase 1 Worksheet for IE [initiating event], MS [mitigating system], and B [barrier] Cornerstone, dated March 3, 2002) and determined that the issue was of very low safety significance. The finding was determined to involve a design deficiency confirmed not to result in loss of function per Generic Letter 91-18, Revision 1 (Section 4OA5).

Inspection Report# : [2002003\(pdf\)](#)

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**Significance:**  Mar 26, 2002

Identified By: Licensee

Item Type: NCV NonCited Violation

**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.

Inspection Report# : [2001009\(pdf\)](#)



**Significance:** Feb 13, 2002

Identified By: NRC

Item Type: VIO Violation

**Inadequate design controls over breaker modification and three examples of inadequate corrective actions followed breaker malfunctions**

The inspectors identified a finding with an associated violation involving 10 CFR Part 50, Appendix B, Criterion III (Design Control), and 10 CFR Part 50, Appendix B, Criterion XVI (Corrective Actions). The finding involved the degraded performance of 22 breakers that were installed in the plant during May and June 2001. Sixteen of these breakers had active safety functions for Division I and II components. The licensee failed to properly verify the design adequacy of replacement Westinghouse DHP-VR 350 breakers equipped with a SURE CLOSE mechanism to operate in the existing configuration. The design change did not address the substantially reduced closing force available to operate the mechanism operated cell switch between the previous and current designs. Subsequently, the plant experienced four breaker malfunctions involving the Division II standby service water system and emergency diesel generator from June 2001 through February 2002. On June 29, 2001, and November 19, 2001, the Division II standby service water system pump breaker failed, in that the mechanism operated cell switch failed to reposition. In addition, on January 17, 2002, the Division II emergency diesel generator breaker mechanism operated cell switch malfunctioned. For these three malfunctions or failures, the licensee did not identify the cause, the generic aspects of the problem, or take effective actions to prevent repetition. This issue was considered to be more than minor because it impacted the operability of two safety-related systems with the potential to impact others. Using the NRC's Phase 3 Significance Determination Process, this finding was determined to have low to moderate safety significance based on the overall change in core damage frequency and large early release frequency. The licensee captured these problems in Problem Evaluation Request 202-0456 and 202-0927 (Sections 02.03 and 02.04, respectively). The condition that resulted in the breaker failures, the malfunction and the overall degradation of the 22 breakers has been corrected.

Inspection Report# : [2002005\(pdf\)](#)

**Significance:** N/A Sep 22, 2001

Identified By: NRC

Item Type: FIN Finding

**Substantive Human Performance Finding related to Maintenance and Procure Adherence**

The inspectors identified a substantive human performance crosscutting issue with four examples, all associated with procedure adherence during maintenance activities. The issues had a credible impact on safety through an increased frequency of initiating events and/or the reliability, operability or functionality of mitigating equipment. The examples were: (1) a senior reactor operator failed to follow procedures when approving work, which resulted in the loss of shutdown cooling during the outage; (2) craftsmen failed to properly implement procedures when repacking a feedwater valve, which resulted in a substantial packing leak at power that required a plant shutdown to repair; (3) craftsmen failed to properly set a reactor recirculation pump over-frequency relay, which resulted in the pump unexpectedly tripping and caused a plant transient while at power; and (4) craftsmen failed to properly restore an

instrument isolation valve to the open position following a surveillance, which rendered a scram discharge volume high level switch inoperable for 3 months.

Inspection Report# : [2001004\(pdf\)](#)

**Significance:**  Sep 22, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**Adverse Plant Impacts resulting from poor procedure adherence during outage**

The inspectors identified a noncited violation of Technical Specification 5.4.1.a for failure to follow procedures when approving work, which resulted in the temporary loss of shutdown cooling during the outage. In addition, the inspectors noted two other human performance issues (determined not to be violations of NRC requirements) occurred that related to failure to adhere to procedures. The two other issues were: (1) mechanics failed to properly pack a valve that resulted in a forced shutdown to make repairs; and, (2) technicians set the over-frequency relay setpoint too low that resulted in a trip of Reactor Recirculation Pump B, while at power. The inspectors determined that these issues affected mitigating systems and/or initiating event cornerstones. The three issues had more than minor significance because the issues could have a credible impact on plant safety. The failure to adequately control work activities resulted in a loss of shutdown cooling. The severe packing leak on a feedwater valve increased the risk of a plant transient with loss of the power conversion system and the reactor recirculation pump trip increased the risk of a plant scram. The inspectors concluded the issues had very low safety significance (Green). The loss of shutdown cooling was assessed using Manual Chapter 0609, Significance Determination Process, Appendix G, Shutdown Operations. The inspectors found the event did not increase the likelihood of a loss of reactor coolant system inventory, degrade the ability to terminate a leak path, or significantly degrade the licensee's ability to recover decay heat removal. The recirculation pump trip and the valve packing leak were assessed using the at power significance determination process worksheets for initiating events. Based on the findings, it did not result in a substantive increase in the initiating event frequency for a transient with and without the power conversion system, or an increase in the likelihood of a loss of coolant accident, reactor trip with a loss of a mitigating system, or likelihood of an external event, the issues were determined to be of very low safety significance.

Inspection Report# : [2001004\(pdf\)](#)

**Significance:**  Sep 14, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Translate Design Requirements to Surveillance Test Procedure Acceptance Criteria**

Inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to properly translate design requirements into technical specification test procedures. The inadequate procedures resulted in incorrect acceptance criteria for tests of degraded voltage relay setpoints, and for the backup transformer loss of voltage settings. The finding was more than minor because, if left uncorrected, it could have resulted in an interruption of the design performance of the emergency core cooling system. The finding is of very low significance because the actual conditions that would have resulted in degraded performance never existed. The licensee had included the items in their corrective action program as Problem Evaluation Reports 201-1938 and 201-1841. This design control violation is being treated as a noncited violation (50-397/0106-02) in accordance with Section VI.A.1 of the Enforcement Policy (1R21.5).

Inspection Report# : [2001006\(pdf\)](#)

**Significance:**  Jun 05, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**Inadequate corrective actions associated with alternate decay heat removal method**

Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI (Corrective Actions), was identified for inadequate corrective measures taken for an issue identified during a previous outage. Plant personnel had failed to identify an appropriate method of alternate decay heat removal with both trains of shutdown cooling inoperable. The

licensee's revised method for alternate decay heat removal was inadequate because it did not meet Technical Specifications in that operators could not place the system in service within 1 hour. The violation is more than minor because it had a credible impact on safety in that the alternate decay heat removal path would not have been available for up to 5 hours after needed. This violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The problem is entered into the licensee's corrective action program as Problem Evaluation Request 201-1360. The finding represents a problem identification and resolution issue where the licensee's corrective actions for establishing an alternate decay heat removal path still did not meet the Technical Specification requirements. The finding was determined to be of very low safety significance using the significance determination process Appendix G (Shutdown Operations) for the reactor vessel inventory greater than 23 feet above the reactor vessel flange and the time-to-boil was greater than 2 hours, the finding screened out as Green based on the fact that it did not result in a loss of reactor vessel inventory or a significant loss of thermal margin (Section 1R20).  
Inspection Report# : [2001003\(pdf\)](#)

**Significance:**  May 02, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**Inoperable scram discharge volume high level switch for 3 months**

Technical Specification 3.3.1 requires, in part, that all scram discharge volume hi level instrument switches be operable. Contrary to the Technical Specification, one instrument was inoperable from February 5 to May 2, 2002, because of a human performance error. A technician failed to properly reposition the instrument isolation valve during a previous surveillance. The licensee placed this issue into the corrective action program as Problem Evaluation Request 201-0732 and reported the event to the NRC in Licensee Event Report 2001-002. The inspectors determined that the issue had very low safety significance (Green) because one inoperable instrument did not result in a loss of the safety function to scram the plant on high scram discharge volume.

Inspection Report# : [2001003\(pdf\)](#)

**Significance:** SL-IV Mar 31, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to obtain NRC approval prior to changing fire protection program (Closes URI 0012-02)**

No Color. The inspectors identified that the licensee had failed to obtain NRC approval for a change to the fire protection program that involved reducing the required fire brigade drill periodicity from quarterly to semi-annually. This issue constituted a violation of License Condition 2.C(14), which permits changes to the fire protection program, without NRC approval, unless a change could adversely affect the ability to achieve and maintain safe shutdown. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The problem is in the licensee's corrective action program as Problem Evaluation Request 201-0530. This issue has no color because the problem is not subject to the fire protection significance determination process but constitutes a violation more than minor significance and has the potential for impacting the NRC's ability to perform its regulatory function.

Inspection Report# : [2001002\(pdf\)](#)

**Significance:**  Mar 31, 2001

Identified By: NRC

Item Type: FIN Finding

**Failure to fully V&V EOP for containment venting**

Green. The inspectors identified that engineering had not properly verified and validated an emergency operating procedure action for venting the containment. Specifically, the licensee had no documented testing or analysis that demonstrated certain containment exhaust and purge valves could open with containment pressure approaching 92 psig. The problem is in the licensee's corrective action program as Problem Evaluation Request 201-0248. The inspectors determined that the issue had very low risk significance because of the very low core damage and large early release frequencies associated with the event sequences where the valves would be utilized with elevated containment pressures above the valve environmental qualification differential pressure of 45 psid. In addition, based on preliminary

discussions with vendors, the licensee believes that the valves will properly operate under the stated worst case conditions.

Inspection Report# : [2001002\(pdf\)](#)

**Significance:**  Nov 20, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**Inadequate design control for adverse weather modification.**

The inspectors identified that the licensee failed to adequately consider the actual piping configuration and design conditions for the Division I and II standby service water system when designing and implementing an adverse weather related modification. As a result, controls were inadequate to ensure that water in the piping would not freeze during extreme cold weather conditions. The inspectors identified a violation of 10 CFR Part 50, Appendix B, Criterion III (Design Control) for this issue. This violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The problem is in the licensee's corrective action program as Problem Evaluation Request 200-2016. The inspectors determined that the issue had very low risk significance. This was based on the low frequency of an initiating event occurring that would require mitigation using the standby service water system, concurrent with the discharge lines freezing

Inspection Report# : [2000014\(pdf\)](#)

**Significance:**  Nov 18, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**Inadequate testing for heat traces (Closes URI 50-397/00014-01)**

Green. The inspectors identified that the licensee had not tested heat trace circuits for Division III service water and condensate storage tank piping since initial plant startup. The failure to perform adequate testing to ensure the operability of the safety-related Division III service water heat trace circuits was a violation of 10 CFR 50, Appendix B, Criterion XI (Test Control). This violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The problem is in the licensee's corrective action program as Problem Evaluation Request 200-2037. The inspectors determined that the issue had very low risk significance using the Phase 1 significance determination process. The finding affected only the mitigation system cornerstone and was determined not to result in a loss of function per Generic Letter 91-18, Revision 1, "Information to Licensees Regarding NRC Inspection Manual Section on Resolution of Degraded and Nonconforming Conditions."

Inspection Report# : [2001002\(pdf\)](#)

**Significance:**  Aug 26, 2000

Identified By: NRC

Item Type: FIN Finding

**Potentially inadequate corrective actions for safety-related breakers**

The inspectors identified that, following an age related breaker failure, the licensee had inadequate justification for determining operability of the remaining risk significant breakers. The licensee initially verified 10 percent of the antipump relays (the failed subcomponent) and did not have a basis for the small sample size. The licensee subsequently checked the remaining vulnerable risk significant breakers. The licensee identified two additional degraded, but operable, units. This issue did not result in a violation of NRC requirements because, due to the inspectors' intervention, appropriate actions were taken in a reasonable time frame. The inspectors determined that the above issue had very low risk significance because the remaining risk significant breakers were determined to be operable. However, this finding is a cross-cutting issue related to problem identified and resolution

Inspection Report# : [2000012\(pdf\)](#)

**Significance:**  Jul 27, 2000

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

**Failure to follow procedures causes two MSIV isolation events.**

Two emergency safety features actuations occurred following two instances where the same operations crew failed to follow procedures. In the first case, when swapping reactor protection system power sources, the operators did not reset the 1/2 main steam isolation valve close signal. Upon securing the second power source (completing the logic), the valves automatically closed. In the second instance, operators failed to bypass all four instrument channels associated with main steam isolation valve closure in response to a loss of condenser vacuum (only two channels were bypassed). When condenser vacuum was broken as part of the shutdown, the valves unexpectedly closed. The failure to follow procedures was a violation of Technical Specification 5.4.1.a. This violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The problems are in the corrective action program as Problem Evaluation Requests 200-1051 and 200-1078. The inspectors determined that these issues had very low safety significance because the plant was shut down at the time and the events had little impact on the plant.

Inspection Report# : [2000011\(pdf\)](#)

**Significance:**  Jul 08, 2000

Identified By: NRC

Item Type: FIN Finding

**RCIC water hammer vulnerability during station blackout (Closes URI 0004-01)**

The NRC inspectors had identified that, during a station blackout, the reactor core isolation cooling system was vulnerable to water hammer. Station blackout is the most risk significant event at WNP-2. The licensee planned to implement system modifications by Refueling Outage 15 to correct the problem. This issue did not constitute a violation because the licensee had only partially credited the reactor core isolation cooling system for station blackout mitigation in the licensing basis. Specifically, the NRC safety evaluation report indicated that the system could fail because of a lack of room cooling. The inspectors found that this issue had very low safety significance because of the low probability (10 percent) of reactor core isolation cooling system failure from water hammer. Further, the system could still supply water for approximately 1.5 hours before a water hammer would occur.

Inspection Report# : [2000011\(pdf\)](#)

**Significance:** N/A May 20, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**Inadequate 50.59 concerning reactor building flood protection (Closes URI 9913-02)**

NO COLOR. The inspectors identified that the licensee's 50.59 evaluation, concerning a change to flooding protection features, was inadequate in that it failed to identify an unreviewed safety question. The change to the facility involved accounting for a nonisolable drain line between the reactor core isolation cooling and control rod drive pump rooms. Per the Final Safety Analysis Report the rooms were supposed to be water resistant and not connected. This change was an unreviewed safety question because the connection could result in the malfunction of several additional pieces of equipment important to safety during flooding. The inadequate evaluation was a noncited violation of 10 CFR 50.59 (EA-00-094). The licensee disagreed with the violation. 10 CFR 50.59 issues are not handled per the significance determination process. However, a risk assessment concerning the licensee's proposed change to the facility was performed and the change was of very low risk significance.

Inspection Report# : [2000010\(pdf\)](#)

**Significance:**  May 20, 2000

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

**Inadequate work package results in RCIC keepfill pump failure**

Green. Reactor core isolation cooling system keepfill pump rebuild procedures were inadequate. The keepfill pump failed because lubrication components were not properly adjusted during refurbishment and a bearing did not receive adequate lubrication. The condition rendered the reactor core isolation cooling system unavailable for 13 hours, when pump replacement was completed. The inadequate work documents constituted a noncited violation of Technical

Specification 5.4.1.a. The inspector determined that this issue was of very low risk significance because of the short reactor core isolation cooling system out-of-service time (Section 1R19).

Inspection Report# : [2000010\(pdf\)](#)

**Significance:**  May 20, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**Main steam pressure switches inoperable for 82 days because of inadequate surveillance and human error. Closes LER 2000-001).**

Green. During a surveillance, the licensee identified that two condenser vacuum pressure switches were inoperable for 82 days (Licensee Event Report 50-397/2000-01). The condition rendered the main steam isolation valves inoperable for the loss of condenser vacuum event, but the valves would have closed at a higher condenser pressure. The switches were rendered inoperable when they were recalibrated with a faulty calibration rig. The problem was found during the subsequent calibration. Additionally, during the problematic calibration, maintenance and operations personnel noted anomalous initial readings but did not follow plant procedures and document the problem on a problem evaluation request. This effectively circumvented the corrective action program. The inspectors determined that the problem constituted a noncited violation of Technical Specification 3.3.6.1. This issue was of very low risk significance. The problem would not have increased the risk for core damage and the worst case scenario, leading to condenser failure, would not lead to a large early fission product release (Section 1R22.2).

Inspection Report# : [2000010\(pdf\)](#)

**Significance:**  May 20, 2000

Identified By: NRC

Item Type: FIN Finding

**Failure to identify equipment failures as MPFFs**

Green. The inspectors identified two instances (of three checked) where equipment failures were not properly characterized as maintenance preventable functional failures. First, two main steam pressure switches were rendered inoperable for 82 days because of a faulty calibration rig, which was constructed by maintenance personnel. Second, the Division II standby gas treatment system was rendered inoperable when craftsmen miscalibrated the heaters, because of a faulty work package. This issue was of very low safety significance because it was administrative in nature and did not, in itself, affect the reliability of the noted safety-related equipment

Inspection Report# : [2000010\(pdf\)](#)

**Significance:**  May 05, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**Detectors found not installed in accordance with the fire code.**

Green. The team identified several fire areas without detectors installed as required by the 1974 National Fire Protection Association Code 72E. Section 4-4.6 of the Code states, in part, "In beam construction over 8 inches in depth, movement of heated air and smoke may be slowed by the pocket or bay formed by the beams. In this case, spacing shall be reduced. If beams exceed 18 inches in depth and are more than 8 feet on centers, each bay shall be treated as a separate area requiring at least one detector." The team identified fire areas (RC-4, RC-9, RC-14, and RC-19) that did not meet the Code requirement. Operating License Condition 2.C.14 requires that the licensee implement and maintain the approved fire protection program. This approved program is committed to the 1974 National Fire Protection Association Code 72E. The failure to maintain the Code requirement for fire detector placement is a violation of Operating License Condition 2.C.14. This violation is being treated as a Non-Cited Violation (50-397/0007-01), consistent with Section VI.A of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as Problem Evaluation Request 200-0751. This issue was evaluated using the NRC's Significance Determination Process and was screened out as low risk significance in Phase 1 because redundant safe shutdown functions were separated by a 3-hour fire barrier (Section 1R05.2b.1).

Inspection Report# : [2000007\(pdf\)](#)

**Significance:**  May 05, 2000

Identified By: NRC

Item Type: NCV NonCited Violation

**A degraded 1-hour rated Darmatt raceway fire barrier found with an unsealed annular gap through the post-fire safe shutdown barrier envelope.**

Green. The team identified one small opening in a 1-hour Darmatt fire barrier where a Whittaker cable penetrated. The fire barrier protected the Division 2 safe shutdown cables. The opening was in the shape of an isosceles triangle with the base measuring about one-half inch and the height measuring about three-eighths inch. This fire area (RC-3) was of high risk consequence because if a postulated cable fire occurred in this area both divisions of post-fire safe shutdown capability would be lost. Operating License Condition 2.C.14 requires that the licensee implement and maintain the approved fire protection program. The approved program requires that a 1-hour rated barrier be maintained between redundant safe shutdown trains in this fire area. The failure to maintain a 1-hour rated fire barrier is a violation. This violation of the Operating License Condition 2.C.14 is being treated as a Non-Cited Violation (50-397/0007-02), consistent with Section VI.A of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as Problem Evaluation Request 200-0736. This issue was evaluated and was determined to be of low risk significance because barrier degradation, detection, and automatic and manual suppression for Fire Area RC-3 were in the normal operating state (Section 1R05.2b.2).

Inspection Report# : [2000007\(pdf\)](#)

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## Barrier Integrity

**Significance:**  Jun 23, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to test secondary containment isolation valves in accordance with IST program**

Green. A noncited violation of Technical Specification Surveillance Requirement 3.6.4.2.2 was identified for the failure to test secondary containment isolation Valves FDR-V-219, FDR-V-220, FDR-V-221, FDR-V-222, EDR-V-394, and EDR-V-395 in accordance with the Inservice Testing Program. This issue was more than minor based on the time of discovery, two valves were degraded and would not have passed Code testing. The inspectors identified a lack of design control and design understanding, on the part of plant engineers, associated with six secondary containment isolation valves in the equipment drain and floor drain systems. Inspector identified problems included the failure to perform Technical Specification required testing, an inappropriate change to the Technical Specifications Bases, inaccurate plant drawings, and the failure to meet commitments with respect to describing secondary containment system classifications in the Final Safety Evaluation Report. This violation is being treated as a noncited violation, consistent with Section VI.A of the NRC Enforcement Policy. The problem is entered into the licensee's corrective action program as Problem Evaluation Request 201-0680. The inspectors determined that the issue had very low safety significance because the finding only represents a degradation of the radiological barrier function provided for the secondary containment versus primary containment (Section 1R22).

Inspection Report# : [2001003\(pdf\)](#)

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## Emergency Preparedness

**Significance:**  Sep 24, 2001

Identified By: NRC

Item Type: VIO Violation

**Yellow SDP finding for failure to meet emergency planning standard 50.47(b)(10).**



Contrary to 50.54(q) and 50.47(b)(10), from October 14, 1997, to July 23, 2001, a range of protective actions for certain members of the public within Columbia Generating Station's plume exposure pathway emergency planning zone had not been developed. Specifically, the licensee had not developed a range of protective actions for employees of private businesses leasing space within the licensee's exclusion area which were consistent with Federal guidance, as described below: (1) the licensee had not adequately developed the means and time required to warn or advise lessee employees by activation of a reliable notification system. In addition, other licensee notification processes did not apply to lessees, an evacuation sign was not effective based on the fact that several lessee employees were unfamiliar with the response to the siren, the telephone notification would not be fully effective during off-hours because it relied on someone being near the phone that was called, and mobile patrol security sweeps would not be fully effective during off-hours because of the lack of training and procedures. (2) the licensee had not adequately developed the means for evacuation routes and transportation to some suitable offsite location. Specifically, many lessee employees had not been trained on the WNP-1 Construction Site Emergency Evacuation and Response Plan or the evacuation routes established in the CGS Emergency Plan, CGS personnel designated to act as the Emergency Directors were not trained about the presence of the lessee employees in the exclusion area boundary, and the licensee's dependence on security officers, who would be assigned to a roadblock, would not be fully effective in informing lessee employees of situation-specific evacuation routes because roadblocks would not be established if a radiological release affected the plant access roads. (3) the licensee had not adequately developed the means for radiological monitoring of people evacuated from the site and a decontamination capability at the monitoring location. Specifically, lessee employees had not been trained on the CGS Emergency Plan and were unaware of the location and function of offsite assembly areas, including radiological monitoring and decontamination capabilities. Many lessee employees who were interviewed did not understand that Energy Northwest was responsible for radiological monitoring. The WNP-1 Construction Site Emergency Evacuation and Response Plan did not address radiological monitoring for lessee evacuees, and the CGS emergency response organization was not trained about the presence of lessee employees in the exclusion area boundary. The licensee has entered this issue into its corrective action program in problem evaluation requests (PER) 201-0569, 201-1614, 201-1615, and 201-1793.

Inspection Report# : [2002008\(pdf\)](#)

Inspection Report# : [2001008\(pdf\)](#)

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## Occupational Radiation Safety

**Significance:**  Mar 26, 2002

Identified By: Licensee

Item Type: NCV NonCited Violation

### **Failure to follow ALARA planning procedures**

Technical Specification 5.4.1(a) requires procedures to implement the ALARA program. Procedure SWP-MAI-01, "Work Management-Planning, Scheduling and Work Activities," Revision 10, implements ALARA planning. Section 3.7.1 of the above procedure states, in part, if the job scope is changed, ensure all appropriate individuals/ organizations who initially reviewed the work order task review it again and concur with the proposed amendment. On September 17, 2001, the licensee documented a task pertaining to motor operator refurbishment work on Reactor Feedwater Valves MO-65A and B that was worked outside the original work order task ALARA plan. Radiation protection ALARA personnel were not informed of the change to the work order task ALARA plan. The licensee originally estimated the exposure as 348 Person-Millirem, but the actual exposure was 1800 Person-Millirem. The failure to contact ALARA personnel to obtain their concurrence is a Technical Specification 5.4.1(a) violation. This event is described in the licensee's corrective action program, reference PER 201-1983. This violation is being treated as a noncited violation. The safety significance of this violation was determined to be very low (Green) by the Occupational Radiation Safety Significance Determination Process because there was no overexposure or substantial potential for an overexposure and the ability to assess dose was not compromised.

Inspection Report# : [2001009\(pdf\)](#)

**Significance:**  Jul 26, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to perform a radiological survey**

A noncited violation was identified regarding the licensee's failure to perform a radiological survey. During the review of Problem Evaluation Request 201-0051, the inspectors identified that the licensee had appropriately evaluated the operational issues associated with draining a system but failed to review the radiological issues. Problem Evaluation Request 201-0051 discussed that mechanics began repairs on Reactor Closed Cooling Valve-610, located on Spent Fuel Pool Cooling Heat Exchanger-1A, and found the system not completely drained. The workers identified and corrected the problem with the drain hose and waited in a low dose area approximately 45 minutes while the system finished draining. The licensee took corrective actions associated with the drain hose being too long and not properly routed. However, the licensee did not address the radiological consequences associated with not surveying an area after completely draining a component. Although originally planned for 45 mrem, the workers received an exposure of 109 mrem. The workers did not request that radiation protection personnel perform a survey to determine the radiological conditions after completely draining the heat exchanger. 10 CFR 20.1501(a) requires surveys to determine the radiological conditions and the potential radiological hazards. The failure to perform a survey after completely draining the spent fuel pool cooling heat exchanger is a violation of 10 CFR 20.1501(a). The violation is being treated as a noncited violation consistent with Section VI.A. of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as Problem Evaluation Request 201-1601. This violation had more than minor safety significance because not surveying an area when plant system conditions change has a credible impact on worker radiological safety. This violation was processed through the Occupational Radiation Safety Significance Determination Process and determined to be of very low safety significance because there was no over exposure or substantial potential for over exposure. Further, the ability to assess dose was not compromised because personnel wore proper dosimetry.

Inspection Report# : [2001004\(pdf\)](#)



**Significance:** May 23, 2001

Identified By: Licensee

Item Type: NCV NonCited Violation

**Failure to perform a radiation survey.**

Green. 10 CFR 20.1501(a) states, in part, that each licensee shall perform surveys that are reasonable to evaluate radiation levels and potential radiological hazards. On June 29, 2000, the licensee identified that a localized area of residual heat removal room B had not been surveyed and posted as a high radiation area following plant shutdown three days earlier. General radiation levels were as high as 120 millirem per hour. The failure to perform a radiological survey is a 10 CFR 20.1501(a) violation. This event is described in the licensee's corrective action program, reference PER 201-1089. This is being treated as a noncited violation. The safety significance of this finding was determined to be very low by the Occupational Radiation Safety Significance Determination Process because there was no overexposure or substantial potential for an overexposure and the ability to assess dose was not compromised.

Inspection Report# : [2001003\(pdf\)](#)



**Significance:** May 22, 2001

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to post a High-High Radiation Area**

Green. On May 22, 2001, the inspector identified that radiological postings surrounding recirculation Loop A on the 501-foot elevation of the drywell were not in accordance with Technical Specification 5.7.2.(a) requirements. General area radiation levels were as high as 2500 millirem per hour. The failure to post a high-high radiation area is a violation of Technical Specification 5.7.2.(a). The issue was more than minor because the failure to control an area in accordance with Technical Specification requirements has a credible impact on safety and the potential for unplanned or unintended dose. This violation is being treated as a noncited violation consistent with Section VI. A.1 of the NRC Enforcement Policy. This violation is entered into the licensee's corrective action program as Problem Evaluation Request 201-0886. The safety significance of this finding was determined to be very low by the Occupational Radiation Safety Significance Determination Process because there was no overexposure or substantial potential for an

overexposure, and the ability to assess dose was not compromised (Section 2OS1).

Inspection Report# : [2001003\(pdf\)](#)

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## Public Radiation Safety

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### Physical Protection

**Significance:** N/A Mar 21, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Security officer announced the arrival and presence of an NRC inspector**

On March 21, 2002, the inspectors identified a violation of 10 CFR 50.70, "Inspections," after a security officer announced to other on-duty officers that the NRC resident inspector had arrived on-site. The security officer stated that gatehouse officers have provided central alarm and secondary alarm station security operators advance notification of NRC inspection activities. The officer stated he was unaware of the prohibition restricting the announcement of NRC inspection personnel. The issue was more than minor due to the potential for impacting the NRC's ability to perform its regulatory function. This Severity Level IV violation is being treated as a noncited violation, consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation is in the licensee's corrective action program as Problem Evaluation Request 202-0867 (NCV 50-397/01009-03).

Inspection Report# : [2001009\(pdf\)](#)

**Significance:**  Jan 23, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Security Officer Inattentive at the Secondary Alarm Station**

On January 23, 2002, the NRC inspector identified an inattentive security officer while on post at the plant secondary alarm station. This condition was a violation of the Facility Operating License, NPF-21, Section 2.E, and CGS physical security plan. The physical security plan required the secondary alarm station be continuously monitored. The officer's inattentiveness resulted in a temporary loss of the security monitoring function. This issue was more than minor because it involved a failure of the licensee to meet the requirements of 10 CFR 73.55(f) and associated licensee security plan. The issue was of very low safety significance (Green) because it did not involve an actual facility intrusion and there have not been greater than two similar findings in the previous four quarters. This violation is in the licensee's corrective action program as Problem Evaluation Request 202-0230 (NCV 50-397/01009-02).

Inspection Report# : [2001009\(pdf\)](#)

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## Miscellaneous

**Significance:** N/A Nov 09, 2001

Identified By: NRC

Item Type: FIN Finding

#### **PI&R Inspection Summary**

The licensee was effective at identifying problems and putting them into the corrective action program. The licensee's effectiveness at problem identification was evidenced by the relatively few deficiencies identified by external organizations (including the NRC) that had not been previously identified by the licensee during the review period. The licensee effectively used risk information in prioritizing the extent of evaluation of individual problems. Corrective actions, when specified, were implemented in a timely manner; however, the station was not meeting their self-

established timeliness goals for dispositioning actions and completing corrective actions. Licensee audits and assessments were effective. Based on the interviews conducted during this inspection, workers at the site felt free to input safety issues into the problem identification and resolution program (Section 4OA2.a,b,c,d).

Inspection Report# : [2001007\(pdf\)](#)

**Significance:** N/A Feb 22, 2001

Identified By: NRC

Item Type: FIN Finding

**Cross Cutting Issues: Human Performance**

Both Applicants passed the retake examinations.

Inspection Report# : [2001301\(pdf\)](#)

**Significance:** N/A Dec 05, 2000

Identified By: NRC

Item Type: FIN Finding

**Cross-cutting Issues: Identification and Resolution of Problems**

The licensee was effective at identifying problems and putting them into the corrective action program. The licensee's effectiveness at problem identification was evidenced by the relatively few deficiencies identified by external organizations (including the NRC) that had not been previously identified by the licensee during the review period. The licensee effectively used risk information in prioritizing the extent of evaluation of individual problems and the schedule for implementation of corrective actions. Corrective actions, when specified, were generally implemented in a timely manner. Licensee audits and assessments were effective. Based on the interviews conducted during this inspection, workers at the site felt free to input safety issues into the problem identification and resolution program

Inspection Report# : [2000016\(pdf\)](#)

Last modified : December 02, 2002