

# Point Beach 1

## 2Q/2010 Plant Inspection Findings

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### Initiating Events

**Significance:**  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

#### **FAILURE TO FOLLOW PROCEDURES NEEDED TO MAINTAIN EQUIPMENT OPERABILITY WITH HAZARD BARRIERS OUT-OF-SERVICE.**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions Procedures, and Drawings," was identified by the inspectors for the licensee's failure to follow procedural/instructional guidance contained in a temporary procedure for the maintenance of high energy line break (HELB) barriers. Specifically, on June 25, 2010, the licensee placed a wedge under the control room door, a HELB barrier, contrary to the guidance contained in Operations Notebook procedure/instruction, "HELB Barrier/Vent Path Temporary Guidance." The licensee entered this item into its corrective action program.

This performance deficiency was more than minor because it was associated with the Initiating Events Cornerstone attribute of equipment performance and adversely affected the cornerstone objective of ensuring the availability and reliability of equipment needed to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, the failure to maintain the control room door available as a supporting structure, system, or component (SSC) for control room equipment availability/operability during a HELB impacted the reliability and the operability of affected control room SSCs. The finding screened as having very low safety significance (Green) because of its short exposure, approximately 0.5 hours. The finding had a cross cutting aspect in the area of human performance, work practices, because the licensee's staff was familiar with and had been briefed on, "HELB Barrier/Vent Path Temporary Guidance" in the Operations Notebook yet had failed to implement human error prevention techniques such as pre job briefing or peer checking, which, if performed, could have ensured that maintenance on the control room door was performed as required by the operations notebook procedure (H.4(a)).

Inspection Report# : [2010003](#) (*pdf*)

**Significance:**  Mar 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Untimely Corrective Actions To Address Longstanding Issue Of Submerged Cables**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified by the inspectors for the licensee's failure to implement timely corrective actions to address the longstanding issue of submerged, medium voltage, underground cables at Point Beach. Specifically, this issue was first identified in 1997, with numerous condition reports written since that time, and in January 2008, it was associated with a significant condition adverse to quality. The licensee entered this issue into its corrective action program. Corrective actions completed include increased monitoring and pumping of manholes; proposed actions include design changes to support automatic monitoring and/or water removal from the manholes.

The finding was more than minor because it was associated with the Initiating Events Cornerstone attribute of protection against external factors and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenged critical safety functions during shutdown as well as power operations. Specifically, the failure to correct the submerged cable issue in a timely manner; if left uncorrected, would lead to other cable failures as a result of the continued cable degradation. The finding screened as having very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that

mitigation equipment or functions would not be available. The finding had a cross-cutting aspect in the area of human performance, resources, because the licensee did not appropriately maintain long-term plant safety by maintenance of design margins, minimization of longstanding equipment issues, minimizing preventive maintenance deferrals, and ensuring maintenance and engineering backlogs were managed low enough to support safety (H.2(a)).  
Inspection Report# : [2010002](#) (pdf)

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## Mitigating Systems

**Significance:**  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO ENTER ABNORMAL OPERATING PROCEDURE DURING TORNADO WARNING.**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the licensee's failure to implement a required abnormal operating procedure (AOP) during a period of impending severe weather. Specifically, the licensee failed to enter AOP 13C, "Severe Weather Conditions," during a tornado warning issued by the National Weather Service for the specific location of the plant. The licensee immediately entered the issue into its corrective action program and conducted an apparent cause evaluation of the conditions.

This performance deficiency was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of protection against external events and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was determined to be of very low safety significance (Green) because it did not involve the loss or degradation of equipment or function specifically designed to mitigate a seismic, flooding, or severe weather initiating event (e.g., seismic snubbers, flooding barriers, tornado doors), and did not involve the total loss of any safety function. This finding has a cross cutting aspect in the area of human performance, resources, because the licensee did not ensure that personnel, equipment, procedures, and other resources were available and adequate to assure nuclear safety. Specifically, the entry conditions in AOP 13C were out of date and failed to provide an adequate nexus between the purpose and instructions of the procedure (H.2(c)).

Inspection Report# : [2010003](#) (pdf)

**Significance:**  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

### **FAILURE TO CONTROL THE DESIGN OF PARTIALLY INSTALLED MODIFICATIONS FOR SEISMIC REQUIREMENTS.**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure of the licensee's modification process to ensure that new 480 volt cables, installed for the future repowering of various auxiliary feedwater (AFW) system motor operated valves, were installed in accordance with applicable regulatory requirements. Specifically, a seismic design evaluation was not completed prior to the installation of a cable coil suspended above the 2MS 2020 valve, 2P 29 turbine driven AFW pump steam supply. In response to this issue, the licensee installed more robust restraints that satisfied seismic acceptability criteria and performed an evaluation that showed the interim condition of the modification did not challenge operability. At the conclusion of this inspection period, the licensee was in the process of conducting a root cause evaluation. The inspectors also noted that a very similar issue at this site resulted in the issuance of a NCV in the second quarter of 2009.

This performance deficiency was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of design control and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, once identified, the modification required rework to comply with applicable design requirements. The inspectors determined the finding was of very low safety significance (Green) because the issue did not result in the

actual loss of a safety function. The inspectors also determined the finding has a cross cutting aspect in the area of problem identification and resolution, corrective action program, because the licensee failed to implement appropriate corrective actions for a previous violation with the same performance deficiency (P.1(d)).

Inspection Report# : [2010003](#) (pdf)

**Significance:**  Jun 30, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**PROCEDURES WERE NOT APPROPRIATE TO ADEQUATELY VERIFY AND DOCUMENT THE DESIGN OF NEW OR MODIFIED SSCs WITH RESPECT TO SEISMIC II/I INTERACTIONS.**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure to provide procedures that were appropriate to verify and document the design of new or modified SSCs with respect to seismic II/I interactions. Specifically, the procedures used for seismic II/I interaction evaluations of new or modified SSCs did not provide guidance for evaluating equipment that was not represented in the earthquake experience or generic testing equipment classes under the scope of the Seismic Qualification Utility Group methodology. Also, no formal guidance was incorporated in modification and seismic procedures to document seismic II/I interaction evaluations. As a result, the licensee did not perform an evaluation that was in accordance with the licensing basis to verify the design of the "B" containment sump strainers of Units 1 and 2 with respect to potential seismic II/I interactions. The licensee entered this issue into its corrective action program.

The performance deficiency was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of protection against external events and adversely affected the cornerstone objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. This finding was of very low safety significance (Green) because it was a qualification deficiency confirmed not to result in loss of operability or functionality. The inspectors determined that the finding had a cross cutting aspect in the area of problem identification and resolution, self and independent assessments, because the licensee did not conduct self assessments of the Seismic Qualification Utility Group program (P.3(a)).

Inspection Report# : [2010003](#) (pdf)

**Significance:**  Mar 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

**Inappropriate Application Of A Dedicated Operator During A System Venting Surveillance**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR 50.65(a)(4) was identified by the inspectors for the failure to properly assess risk that resulted from risk-significant maintenance being performed on the residual heat removal, safety injection, and containment spray systems. Specifically, the licensee inappropriately applied criteria for the use of a dedicated operator to meet availability requirements. As part of its corrective actions, the licensee stopped work that required the use of a dedicated operator pending further evaluation.

The issue was more than minor because the licensee's risk assessment for January 12, 2010, failed to consider multiple systems unavailable during maintenance. Specifically, the failure to account for the unavailability of the residual heat removal, safety injection, and containment spray systems, resulted in an inadequate daily risk assessment and could affect the unavailability time of this system in related performance and maintenance rule indicators. The inspectors evaluated the finding using the Significance Determination Process in accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment K, Maintenance Risk Assessment and Risk Management Significance Determination Process, dated May 19, 2005, and determined the issue screened as having very low safety significance, because the incremental conditional core damage probability was less than 1E-6 due to the test condition lasting only four hours. This finding had a cross-cutting aspect in human performance, decision-making, because the licensee did not have a process or use a

systematic approach regarding facets of a dedicated operator (H.1(a)).

Inspection Report# : [2010002](#) (pdf)

**Significance:**  Mar 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure To Follow Temporary Modification Procedure**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the licensee's failure to follow the temporary modifications procedure FP-E-MOD-03, Revision 6. Specifically, the Applicability section of this procedure was not properly applied to the temporary condensate storage tank (CST) modification such that the system was not appropriately characterized as a temporary modification. As a result, the licensee failed to adequately document an evaluation of the potential impacts to operating equipment. As of the conclusion of the inspection, the licensee had entered this issue into its corrective action program.

The finding was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of design control and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee inappropriately applied the exemption criteria of the temporary modification procedure to the fill point connected to the newly classified "vent" of the permanent CST and failed to assess the impact of the temporary CST system on plant design. The finding screened as having very low safety significance (Green) because the finding was not a design or qualification deficiency resulting in a loss of functionality, did not represent a loss of system safety function or loss of a single train for greater than its allowed technical specification time, and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events. This finding had a cross-cutting aspect in the area of human performance, decision-making, because the licensee did not appropriately use conservative assumptions in decision-making and verify the validity of underlying assumptions for the temporary CST modification (H.1(b)).

Inspection Report# : [2010002](#) (pdf)

**Significance:**  Mar 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure To Establish Required Fire Watches**

A finding of very low safety significance and associated Non-Cited Violation of Technical Specification 5.4.1.h for Units 1 and 2 was identified by the inspectors for the licensee's failure to establish appropriate fire watches required as compensatory 3 Enclosure

measures to address identified fire protection impairments. Specifically, on three occasions, the licensee failed to issue, and properly implement, fire watch surveillances as required by procedure OM 3.27. The licensee had entered all instances into its corrective action program.

The finding was more than minor because the finding was associated with the Mitigating Systems Cornerstone attribute of protection against external factors (fire) and affected the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to implement fire watches required as compensatory measures degraded the defense-in-depth elements of the fire protection program that is necessary to ensure safe shutdown in the event of a fire. The issue was of very low safety significance based on the low degradation rating for the finding. The finding had a cross-cutting aspect in the area of human

performance, resources, because the licensee's preliminary apparent cause evaluation attributed the underlying cause of these events to less than adequate procedures, or procedures that did not adequately link to each other, and pre-job briefing materials that did not address fire protection considerations (H.2(c)).

Inspection Report# : [2010002](#) (pdf)

**Significance:** SL-IV Feb 17, 2010

Identified By: NRC

Item Type: VIO Violation

**Inaccurate Information Relating to Signatures on Ignition Control Procedures**

A Severity Level IV, Cited Violation of 10 CFR 50.9(a) "Completeness and Accuracy of Information," was identified by the inspectors for the licensee's failure to maintain complete and accurate information required by the Commission. Specifically, a Point Beach Nuclear Plant employee and two contract employees from Day and Zimmermann Nuclear Power Services, signed Ignition Control Permits without the authorized person inspecting the areas as required by the ignition control procedure NP 1.9.13.

The violation affected the NRC's ability to perform its regulatory function because it involved willfulness. Therefore, it was evaluated using Traditional Enforcement. The NRC determined that a Severity Level IV violation was appropriate due to the willful nature of some violation examples. The NRC determined that the violation should be cited because: (1) the violation was NRC-identified; and (2) it was willful; and (3) it involved a first-line supervisor. The inspectors determined that this violation was a performance deficiency, but because the underlying work was always completed with a fire watch present, that deficiency was minor in nature. As such, no cross-cutting aspect was evaluated for the minor performance deficiency.

Inspection Report# : [2010008](#) (pdf)

Inspection Report# : [2010010](#) (pdf)

**Significance:**  Dec 31, 2009

Identified By: NRC

Item Type: FIN Finding

**Failure To Meet Generic Letter 89-13 Program Requirement For Mussel Control**

The inspectors identified a finding of very low safety significance for the failure to meet a commitment made in the Generic Letter 89-13 program. Specifically, the program states that biocide treatments at Point Beach are performed at least annually and are directly applied to the service water system for mussel control and eradication to prevent fouling of safety related heat exchangers. However, the 2008 biocide treatment for mussel control was deferred until 2009. After the treatment in 2009, greater than expected tube blockage and reduced flow to safety-related heat exchangers due to mussels was identified. In response, the licensee adjusted flow through the affected heat exchangers and opened and cleaned the heat exchangers to remove mussels that caused the tube blockage. The licensee took corrective actions to ensure that future annual biocide treatments would be conducted annually.

This finding was more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the associated cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors determined the finding could be evaluated using the Significance Determination Process in accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Table 4a, for the Mitigating Systems Cornerstone, dated January 10, 2008. The finding was determined to be of very low safety significance because the issue did not result in the actual loss of a safety function. This finding did not involve a violation of NRC regulatory requirements. The inspectors determined this performance deficiency was not indicative of current performance; therefore, no cross-cutting aspect was identified.

Inspection Report# : [2009005](#) (pdf)

**Significance:**  Dec 18, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

### **Errors Found in the Room Ventilation Calculation for G-01 and G-02**

A finding of very low safety-significance (Green) and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control" was identified by the inspectors for the licensee's failure to adequately calculate the maximum room temperature for G-01 and G-02. Specifically, the licensee's calculation 2005-0054 failed to incorporate the design basis described in Technical Specification (TS) bases 3.8.1 related to the numbers of fire dampers associated with G-01 and G-02 exhaust fans that must be opened to maintain room temperature. The calculation also failed to demonstrate that the temperature stratification close to the combustion air intake filter was acceptable. Instead, the calculation only considered the bulk air temperature in the room. The licensee subsequently entered these concerns into their corrective action program as AR 01162599 and AR 01162759.

The finding was determined to be more than minor because the finding was similar to IMC 0612, Appendix E, Example (3.J). The calculation errors were significant in that there was reasonable doubt that the maximum room temperature would not exceed the value of the Vendor Technical manual. The finding impacted the Mitigating System cornerstone of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee did not ensure that the maximum room temperature of EDG-1 and EDG-2 would not exceed 115 degrees Fahrenheit (F), which is required to be maintained to ensure that the EDGs will perform their safety function during a design basis accident when the outside air temperature was 95 degrees Fahrenheit. The finding was of very low safety-significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, A Significance Determination of Reactor Inspection Findings for At-Power Situations." This finding was not associated with a cross-cutting aspect because the finding was not indicative of the licensee's current performance.

Inspection Report# : [2009007](#) (pdf)

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## **Barrier Integrity**

**Significance:**  Mar 31, 2010

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure To Evaluate Seismic Piping Interactions**

A finding of very low safety significance and an associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the licensee's failure to evaluate seismic piping interactions. Specifically, for a plant configuration where the stem of a spent fuel pool cooling system valve contacted an adjacent service water pipe, the licensee's evaluation to demonstrate that the existing spent fuel pool cooling system piping and valves met the design basis acceptance criteria of United States of America Standard (USAS) B31.1-1967 used a method of analysis that did not evaluate the dynamic effect of impact forces as specified by the design basis piping code. The licensee entered this issue into its corrective action program.

The finding was determined to be more than minor because it was associated with the Barrier Integrity Cornerstone attribute of design control and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, compliance with the seismic Category I design basis requirements of United States of America Standard (USAS) B31.1-1967 was to ensure valve SF-2, the valve connection between two sections of spent fuel pool cooling system piping, would function as required during a seismic Category I design basis event. The finding screened as having very low safety significance (Green) because it was a design deficiency of the structural integrity of the spent fuel pool cooling piping system that: did not result in loss of cooling to the spent fuel pool; did not result from fuel handling errors that caused damage to fuel clad integrity or a dropped assembly; and did not result in loss of spent fuel pool inventory greater than 10 percent

of spent fuel pool volume. The finding had no cross-cutting aspect because it was a legacy design issue, not reflective of current performance.

Inspection Report# : [2010002](#) (*pdf*)

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## Emergency Preparedness

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## Occupational Radiation Safety

**Significance:**  Mar 31, 2010

Identified By: NRC

Item Type: FIN Finding

### **Inadequate Communications, Incomplete As-Low-As-Is-Reasonably-Achievable Job Planning And Ineffective Implementation Of Radiological Work Controls**

The inspectors identified a finding of very low-safety-significance for inadequate as-low-as-is-reasonably achievable (ALARA) job planning and ineffective implementation of radiological work controls. This issue adversely impacted the licensee's ability to minimize dose for the containment sump fibrous insulation removal project during the Unit 2 Refueling Outage (U2R30). Specifically, radiological controls were not effectively implemented to reduce ambient radiation levels and minimize in-field work hours for craft personnel. This resulted in an actual dose outcome that was not consistent with the planned, intended dose for work associated with the fibrous insulation removal project. Corrective actions were implemented to address the organizational communication deficiencies that lead to the incomplete ALARA job planning and ineffective implementation of radiological work controls for the project.

The finding was more than minor because it impacted the Occupational Radiation Safety Cornerstone objective for ensuring adequate protection of worker health and safety from exposure to radiation in the attribute of program and process for ALARA planning, in that, incomplete ALARA job planning and radiological work control deficiencies contributed to an actual increase in worker doses in excess of 5 person-rem and exceeded the licensee's initial intended dose estimates by more than 50 percent. The finding did not involve: an overexposure; a substantial potential for an overexposure; or an impaired ability to assess dose. While the finding involved ALARA planning and controls, the 3-year rolling average dose for the Point Beach Nuclear Plant was less than the significance determination process threshold of 135-person-rem for pressurized water reactors at the time the performance deficiency occurred. Therefore, the inspectors determined that this is a finding of very low safety significance. The finding had a cross-cutting aspect in the area of human performance in decision-making, in that, the licensee did not communicate decisions and the basis for decisions to personnel who have a need to know the information in order to perform work safely in a timely manner (H.1(c)).

Inspection Report# : [2010002](#) (*pdf*)

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## Public Radiation Safety

**Significance:**  Dec 31, 2009

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure To Maintain Proper Control Of Radioactive Material Within The Radiologically Controlled Area**

A self-revealed finding of very low safety significance and associated Non-Cited Violation of 10 CFR 20.1101(b) was identified for the failure to adequately control radioactive material to prevent its migration outside the radiologically

controlled area (RCA), as required by licensee procedures. On May 21, 2009, a contract worker performing inspections of the main electrical transformers located outside the RCA picked-up a wadded-ball of debris (unmarked tape) and placed it in his front pants pocket. The debris was later found to be radioactively contaminated when the worker alarmed the protected area exit radiation monitors a few hours later as he attempted to leave the site. The tape was likely used to cover contaminated hoses that were previously used within the Point Beach RCA, but had escaped the licensee's control and migrated (blew) into the transformer area outdoors where it was found by the worker. The licensee's storage of radioactive material in an outdoor satellite RCA and/or the licensee's radioactive material control practices during refueling outages when the containment building equipment hatch was open to the environment led to the escape of the material outside the RCA. The contractor's assigned work duties should not have involved exposure to radioactive material; consequently, the worker was unnecessarily exposed to radiation from the contaminated tape. A dose evaluation completed by the licensee's consultant determined that the effective dose equivalent to the worker's thigh from exposure to the contaminated ball of tape was approximately one mrem. The licensee's corrective action called for expanded radiation protection oversight during movement of material in outdoor areas. Procedures were revised to include a post outage walkdown of outdoor areas near the RCA yard. Additionally, the licensee planned to construct an enclosure so that storage/transfer of contaminated materials could be performed indoors.

The finding was more than minor because it impacted the program and process attribute of the Public Radiation Safety Cornerstone and adversely affected the cornerstone objective of ensuring adequate protection of public health and safety from exposure to radiation, in that, unnecessary radiation exposure was received by an individual from inadequately controlled radioactive material. The finding was determined to be of very low safety significance because: (1) it involved a radioactive material control problem that was contrary to NRC requirements and the licensee's procedure; and (2) the dose impact to a member of the public (the contract worker) within the licensee's restricted area was less than 5 millirem total effective dose equivalent. The cause of the radioactive material control problem involved a cross-cutting component in the human performance area for inadequate work control, in that, job site conditions including environmental conditions (high winds, night time work, etc.) impacted human performance and consequently, radiological safety, during movement of material/equipment in outdoor areas (H.3.(a)).

Inspection Report# : [2009005](#) (*pdf*)

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## Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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## Miscellaneous

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