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Point Beach Nuclear Plant, Units 1 and 2
Dockets 50-266 and 50-301
Renewed License Nos. DPR-24 and DPR-27

10 CFR 50.59 Summary Report for 2013

NextEra Energy Point Beach (NextEra), LLC, is submitting the 10 CFR 50.59 Summary Report for the Point Beach Nuclear Plant (PBNP), Units 1 and 2, for calendar year 2013.

This letter contains no new commitments and no revisions to existing commitments.

Very truly yours,

NextEra Energy Point Beach, LLC

Michael Millen
Licensing Manager

cc: Administrator, Region III, USNRC
Resident Inspector, Point Beach Nuclear Plant, USNRC
Project Manager, Point Beach Nuclear Plant, USNRC
PSCW

ENCLOSURE

NEXTERA ENERGY POINT BEACH, LLC
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

10 CFR 50.59 SUMMARY REPORT FOR 2013

10 CFR 50.59 Evaluations

Modification: Replacement of the Unit 1 and Unit 2 Turbine Driven Auxiliary Feedwater Pumps

Activity Description:

Engineering Changes (ECs) 272527 and 272529 replaced existing Turbine Driven Auxiliary Feedwater (TDAFW) Pumps 1P-29 and 2P-29, respectively, and their associated turbine drivers. The pumps were replaced with refurbished pumps that include a first stage tap to supply cooling water flow to the turbine oil cooler. The turbine was replaced with a robust turbine model that includes an electronic governor. The 10 CFR 50.59 Screening performed in support of these modifications (SCR 2011-0188), concluded a 10 CFR 50.59 Evaluation was required.

Summary of Evaluation:

A. Change in Lubrication System
The new forced lubrication design is standard on the GS-2 line of turbines now supplied by Dresser-Rand. An additional advantage of the forced lubrication system is that it can accommodate more water in the oil than a bearing housing sump in the oiler-ring system. Inclusion of an oil filter allows corrosion products to be removed from the oil and therefore improves bearing lubrication. Inclusion of temperature, flow, and pressure indicators improves the ability to monitor turbine performance. Both the oil pump and oiler ring are simple mechanical devices with no discernible difference in the likelihood of failure. The components in the forced lubrication system were selected by the vendor for compatibility with the turbine design, and the operating pressures and temperatures within the lubrication system. Testing has demonstrated that there is a substantial improvement in time for loss of cooling over the 37-minute time predicted for the bearing oil temperature to reach 200°F in Engineering Evaluation (EE) 2004-0002.

B. Change in Speed Control System
The existing TDAFW Pump Turbine Woodward Type PGD mechanical governor valve control system was replaced with a new vendor supplied Woodward 505 digital speed controller based electronic governor valve control system. The upgrade to a digital controller was performed, in part, due to obsolescence issues associated with the Woodward Type PGD mechanical governor valve control system. The main electronic components utilized for manipulation of the new TDAFW pump governor valve are a Woodward 505 Controller and an Introl Dresser-Rand Governor Valve Positioner. Turbine speed feedback to the controller is provided via redundant magnetic speed sensors mounted on the turbine skid. Contact input to the control system is provided via existing limit switch contact input from both TDAFW pump main steam admission valves (MS-2019 and MS-2020) as well as new safety-related limit switches on the TDAFW pump Trip/Throttle Valve (MS-2082). The new TDAFW pump Turbine Electronic Speed Control

System is configured such that it operates in a similar manner as the existing mechanical speed governor and does not require operator interface. The TDAFW pump Turbine Electronic Speed Control System has a programmable speed ramp-up rate during turbine start-ups.

The MS-2082 valve is normally open and the contact for its input would be normally closed. Use of the direct drive electrical actuator in place of the hydraulic actuator also removes failure modes due to binding in levers, and linkages, and binding and plugging of hydraulic control system components of the mechanical governor, as well as air/vacuum and oil leaks at fittings, gaskets, and other control system components. The likelihood of a failure in a contact that does not require to be repositioned is considered to be minimal. The Commercial Grade Dedication package for the Woodward 505 was developed under a 10 CFR 50 Appendix B program using a documented life-cycle development process. The Woodward 505 and its software was specifically developed for turbine controls. The design of the Woodward 505 software complies with industry and regulatory standards following the approach in EPRI TR-1 06439. The Woodward 505 and its associated firmware is a mature product with significant prior operating history in both commercial applications and more recently in nuclear applications. Setup parameters for the Woodward 505 are selected by Dresser-Rand to ensure compliance with the functional requirements of Specification PB-736 Revision 1. The design includes features to detect, annunciate, and/or mitigate faults within the Woodward 505. The Woodward 505 is used only in the TDAFW pumping system and failures due to software can not cause a common mode failure in redundant MDAFW pumping system. Providing diverse 125 VDC power supplies to the TDAFW Turbine Electronic Speed Control System ensures the ability to automatically operate the TDAFW pumps assuming a single failure of a single power supply. SCR 2011-0188 concluded that the power supply scheme for the TDAFW Electronic Speed Control System does not have an adverse impact on the Auxiliary Feedwater System Station Blackout design functions or 125 VDC System design functions. ECs 272527 and 272529 document Failure Modes and Effects Analysis that demonstrate that no common mode failures between the TDAFW pumping system and the Motor Driven (MD) AFW pumping system are introduced by the changes. A malfunction in the TDAFW pump lubrication System or the TDAFW pump speed controller would result in the loss of flow from the TDAFW pumping system. The TDAFW pump overspeed trip remains mechanical and does not rely on the speed controller. The effects of a failure in the lubrication and speed control systems are unchanged by EC 272751 and 272752. As documented in the CLB, adequate AFW flow as defined in the accident analyses can be provided by either the TDAFW or MDAFW pumping systems.

Conclusion:

This evaluation concluded that the changes made to the TDAFW Pump lubrication system and speed control system would not result in more than a minimal increase in the frequency of previously evaluated accidents or more than a minimal increase in the likelihood of a malfunction of SSCs important to safety. Additionally, the modifications would not increase in consequences of previously evaluated accidents or malfunctions of SSCs important to safety, nor will they create the possibility for new accidents or the possibility of malfunctions of SSCs important to safety. The replacement TDAFW pumps do not affect design basis limits for fission product barriers or depart from a method of evaluation described in the Current Licensing Basis. [EVAL 2013-01]

COMMITMENT CHANGE EVALUATIONS

CAL 3-04-001, OR-02-001.02.A.1, Improve NOS Staffing: The original commitment was to improve NOS staffing effectiveness by implementing a rotation policy, assigning assessors to maintain functional area cognizance, and completing the personnel qualification matrix tool. The commitment was cancelled.

Justification for Change: The object of the commitment was to improve nuclear oversight staffing effectiveness. With the sale of PBNP in 2007, the site has adopted the NextEra Energy nuclear oversight fleet procedures. These procedures provide the guidelines, requirements and structure to maintain nuclear oversight effectiveness through the performance of audits, documenting and tracking corrective actions, to include oversight findings, and implementation of a personnel rotation program. In addition, these documents are fleet documents and cannot be changed at the site level. (CCE 2013-001)

IR 97-007, Security Job Observations: The original commitment was to develop and implement a security job observation program. The commitment was revised to state that security management and staff personnel participate in the site / fleet observation program.

Justification for Change: In 1997, security did not participate in an observation program and the commitment to develop and implement a program was to ensure the subpart that make up the security program were looked at on a yearly basis. Security management and staff personnel are assigned monthly observations, which are completed using the site's on-line fundamental management system observation program. Specific security observations were developed using the security functional area and cross-functional fundamentals. The functional area and cross-functional observations are tracked and completed on a monthly basis and reviewed weekly during department corrective action review board meetings to identify any trends or potential weaknesses in the security program. The security observation program developed and implemented in 1997 no longer offers value and is redundant work that tracks and completes observations of the security program already being completed by security management and staff personnel. (CCE2013-002)

CAL 3-04-001, OR-02-001.02.B, NOS Staffing Effectiveness: The original commitment is to improve NOS staffing effectiveness by implementing a rotation policy, assigning assessors to maintain functional area cognizance, and completing the personnel qualification matrix tool. The commitment was cancelled.

Justification for Change: The object of the commitment was to improve nuclear oversight staffing effectiveness. With the sale of PBNP in 2007, the site has adopted the NextEra Energy nuclear oversight fleet procedures. These procedures provide the guidelines, requirements and structure to maintain nuclear oversight effectiveness through the performance of audits, documenting and tracking corrective actions, to include oversight findings, and implementation of personnel rotation program. In addition, these documents are fleet documents and cannot be changed at the site level. (CCE 2013-003)

CAL 3-04-001, OR-02-001.02.C, NOS Staffing Effectiveness: The original commitment was to improve NOS staffing effectiveness by implementing a rotation policy, assigning assessors to maintain functional area cognizance, and completing the personnel qualification matrix tool. The commitment was cancelled.

Justification for Change: The object of the commitment was to improve nuclear oversight staffing effectiveness. With the sale of PBNP in 2007, the site has adopted the NextEra Energy nuclear oversight fleet procedures. These procedures provide the guidelines, requirements and structure to maintain nuclear oversight effectiveness through the performance of audits, documenting and tracking corrective actions, to include oversight findings, and implementation of a personnel rotation program. In addition, these documents are fleet documents and cannot be changed at the site level. (CCE 2013-004)

CAL 3-04-001, OR-02-001.04, NOS Effective Communication: The original commitment was to ensure NOS is effective in communicating significant issues to site management. The commitment was cancelled.

Justification for Change: The object of the commitment was to improve nuclear oversight's communication of significant issues to site management. With the sale of PBNP in 2007, the site has adopted the NextEra Energy nuclear oversight fleet procedures. These procedures provide the guidelines, requirements and structure to communicate significant issues to site management. In addition, these documents are fleet documents and cannot be changed at the site level. (CCE 2013-005)

CAL 3-04-001, OR-02-001.07.C, NOS Effective Management Response: The original commitment was to ensure NOS is effective in assuring management response to QA findings. The commitment was cancelled.

Justification for Change: The object of the commitment was to improve nuclear oversight's effectiveness in assuring management response to QA findings. With the sale of PBNP in 2007, the site has adopted the NextEra Enbergy nuclear oversight fleet procedures. These procedures provide the guidelines, requirements and structure to assure management responds to QA findings. In addition, these documents are fleet documents and cannot be changed at the site level. (CCE 2013-006)

IR 90-018, Electric Cable Tray Fill and Cable Ampacity: The original commitment was to implement changes to the cable and raceway data system (CARDS), which will allow for automatic calculation of ampacity. The revised commitments states that formal evaluations for ampacity will be provided through the design process via modifications or individual calculations as guided by approved procedures or existing guidance calculations.

Justification for Change: The CARDs database contains data necessary to calculate the allowable ampacity of electrical cables. Revision 3 of the CARDs software includes the capability to record the source of information for each attribute to each cable or raceway in the database. New software, EDISON, has replaced CARDs and continues to contain the necessary data to calculate the allowable ampacity for electrical cables. EDISON will not be used for automatic formal cable ampacity calculations. The proposed change is necessary to clarify that the commitment to update CARDs has been completed (closed in 1990 per NRC Report dated 9/27/1990), and the ampacity function of the EDISON database is not part of this commitment. The EDISON software has the capability to perform ampacity calculations, and therefore a desire to update EDISON for this purpose is being considered. Alternate means are used by engineering, such as ampacity calculations/guidance to formally calculate ampacity at Point Beach. (CCE 2013-007)

GL 89-13, Containment Fan Coolers: The original commitment for the containment fan coolers was to monitor during normal operation for maintaining heat transfer capability. Performance

testing and/or frequent regular maintenance will be performed on an appropriate frequency based on the results of future testing and/or frequent regular maintenance in accordance with the guidance in GL 89-13, Service Water System Problems Affecting Safety-Related Equipment, and GL 89-13 Supplement 1. The frequency will not be less than once every 5 years. The commitment change changes the existing commitment from performance testing and/or frequent regular maintenance to regular maintenance performed on an appropriately designated frequency.

Justification for Change: The change in methods from performance testing to inspecting and/or maintenance is because there is no practical method to adequately performance test the CFCs due to unacceptably high overall test uncertainty yielded from current industry standards. (CCE 2013-008)