



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 11, 2014

Kelvin Henderson
Site Vice President,
Catawba Nuclear Station
Duke Energy Carolinas, LLC
4800 Concorde Rd.
York, SC 29745

SUBJECT: CATAWBA NUCLEAR STATION, UNITS 1 AND 2 – STAFF ASSESSMENT OF THE FLOODING WALKDOWN REPORT SUPPORTING IMPLEMENTATION OF NEAR-TERM TASK FORCE RECOMMENDATION 2.3 RELATED TO THE FUKUSHIMA DAI-ICHI NUCLEAR POWER PLANT ACCIDENT (TAC NOS. MF0210 AND MF0211)

Dear Mr. Henderson

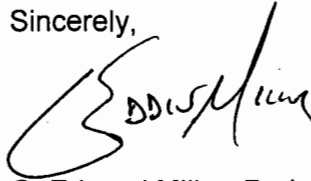
On March 12, 2012, the U.S. Nuclear Regulatory Commission (NRC) issued a request for information letter per Title 10 of the *Code of Federal Regulations*, Section 50.54(f) (50.54(f) letter). The 50.54(f) letter was issued to power reactor licensees and holders of construction permits requesting addressees to provide further information to support the NRC staff's evaluation of regulatory actions that may be taken in response to lessons learned from Japan's March 11, 2011, Great Tōhoku Earthquake and subsequent tsunami. The request addressed the methods and procedures for nuclear power plant licensees to conduct flooding hazard walkdowns to identify and address degraded, nonconforming, or unanalyzed conditions through the corrective action program, and to verify the adequacy of the monitoring and maintenance procedures.

By letter dated November 26, 2012, Duke Energy Carolinas LLC Company (Duke) submitted a Flooding Walkdown Report as requested in Enclosure 4 of the 50.54(f) letter for the Catawba Nuclear Station, Units 1 and 2 site. By letter dated February 12, 2014, Duke Energy Carolinas LLC Company provided a response to the NRC request for additional information.

The NRC staff reviewed the information provided and, as documented in the enclosed staff assessment, determined sufficient information was provided to be responsive to Enclosure 4 of the 50.54(f) letter.

If you have any questions, please contact me at (301) 415-2481 or by e-mail at ed.miller@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "G. Edward Miller". The signature is stylized with a large, sweeping initial "G" and a long, horizontal stroke extending to the right.

G. Edward Miller, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-413 and 50-414

Enclosures:

1. Staff Assessment of Flooding Walkdown Report

cc w/encl: Distribution via Listserv

STAFF ASSESSMENT OF FLOODING WALKDOWN REPORT
NEAR-TERM TASK FORCE RECOMMENDATION 2.3 RELATED TO
THE FUKUSHIMA DAI-ICHI NUCLEAR POWER PLANT ACCIDENT
DUKE ENERGY CAROLINAS COMPANY, LLC
CATAWBA NUCLEAR STATION, UNITS 1 AND 2
DOCKET NOS. 50-413 AND 50-414

1.0 INTRODUCTION

On March 12, 2012,¹ the U.S. Nuclear Regulatory Commission (NRC) issued a request for information per Title 10 of the *Code of Federal Regulations*, Section 50.54(f) (50.54(f) letter) to all power reactor licensees and holders of construction permits in active or deferred status. The request was part of the implementation of lessons learned from the accident at the Fukushima Dai-ichi nuclear power plant. Enclosure 4, "Recommendation 2.3: Flooding,"² to the 50.54(f) letter requested licensees to conduct flooding walkdowns to identify and address degraded, nonconforming, or unanalyzed conditions using the corrective action program (CAP), verify the adequacy of monitoring and maintenance procedures, and report the results to the NRC.

The 50.54(f) letter requested licensees to include the following:

- a. Describe the design basis flood hazard level(s) for all flood-causing mechanisms, including groundwater ingress.
- b. Describe protection and migration features that are considered in the licensing basis evaluation to protect against external ingress of water into structures, systems, and components (SSCs) important to safety.
- c. Describe any warning systems to detect the presence of water in rooms important to safety.
- d. Discuss the effectiveness of flood protection systems and exterior, incorporated, and temporary flood barriers. Discuss how these systems and barriers were evaluated using the acceptance criteria developed as part of Requested Information item 1.h.
- e. Present information related to the implementation of the walkdown process (e.g., details of selection of the walkdown team and procedures) using the documentation template discussed in Requested Information item 1.j, including actions taken in response to the peer review.
- f. Results of the walkdown including key findings and identified degraded, nonconforming, or unanalyzed conditions. Include a detailed description of the actions taken or planned to address these conditions using guidance in Regulatory Issues Summary 2005-20, Revision 1, Revision to the NRC Inspection Manual Part 9900 Technical Guidance, "Operability Conditions Adverse to Quality or Safety," including entering the condition in the corrective action program.
- g. Document any cliff-edge effects identified and the associated basis. Indicate those that were entered into the corrective action program. Also include a detailed description of the actions taken or planned to address these effects.

¹ Agencywide Documents Access and Management System (ADAMS) Accession No. ML12053A340.
² ADAMS Accession No. ML12056A050.

- h. Describe any other planned or newly installed flood protection systems or flood mitigation measures including flood barriers that further enhance the flood protection. Identify results and any subsequent actions taken in response to the peer review.

In accordance with the 50.54(f) letter, Enclosure 4, Required Response Item 2, licensees were required to submit a response within 180 days of the NRC's endorsement of the flooding walkdown guidance. By letter dated May 21, 2012³, the Nuclear Energy Institute (NEI) staff submitted NEI 12-07, Revision 0, "Guidelines for Performing Verification Walkdowns of Plant Flood Protection Features" to the NRC staff to consider for endorsement. By letter dated May 31, 2012⁴, the NRC staff endorsed the walkdown guidance.

By letter dated November 27, 2012⁵, Duke Energy Carolinas Company LLC (licensee), provided a response for the Catawba Nuclear Station (CNS), Units 1 and 2. The NRC staff issued a request for additional information (RAI) to the licensee regarding the available physical margin (APM) dated December 23, 2013⁶. The licensee responded by letter dated February 12, 2014⁷.

The NRC staff evaluated the licensee's submittals to determine if the information provided in the walkdown report met the intent of the walkdown guidance and if the licensee responded appropriately to Enclosure 4 of the 50.54(f) letter.

2.0 REGULATORY EVALUATION

The SSCs important to safety in operating nuclear power plants are designed either in accordance with, or meet the intent of Appendix A to 10 CFR Part 50, General Design Criteria (GDC) 2: "Design Bases for Protection Against Natural Phenomena;" and Appendix A, "Seismic and Geological Criteria for Nuclear Plants," to 10 CFR Part 100. GDC 2 states that SSCs important to safety at nuclear power plants shall be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunamis, and seiches without loss of capability to perform their safety functions.

For initial licensing, each licensee was required to develop and maintain design bases that, as defined by 10 CFR 50.2, identify the specific functions to be performed by an SSC, and the specific values or ranges of values chosen for controlling parameters as reference bounds for the design.

The design bases for the SSCs reflect appropriate consideration of the most severe natural phenomena that have been historically reported for the site and surrounding area. The design bases also reflect sufficient margin to account for the limited accuracy, quantity, and period of time in which the historical data have been accumulated.

The current licensing basis is the set of NRC requirements applicable to a specific plant, and a licensee's written commitments for ensuring compliance with, and operation within, applicable NRC requirements and the plant-specific design basis.

3 ADAMS Accession No. ML121440522

4 ADAMS Accession No. ML12144A142

5 ADAMS Accession No. ML12334A444

6 ADAMS Accession No. ML13325A891

7 ADAMS Accession No. ML14051A352

3.0 TECHNICAL EVALUATION

3.1 Design Basis Flooding Hazard for Catawba Nuclear Station Units 1 and 2

The licensee reported that the licensing basis flood event at the CNS site is a probable maximum precipitation (PMP) event. The licensee stated that the hazard was originally requested by the NRC as a supplemental analysis (Safety Evaluation Report, NUREG -0954, Supplement 2, June 1984). That supplemental analysis relied on short-term (25 minute) water ponding in the Main Power Block (or Powerhouse) yard that generated flood elevations of 594.59 feet (ft). The licensee reported that more recently, a revised PMP analysis was prepared that yielded estimated flood levels (again in the form of ponding) of 594.9 ft MSL and 595.9 ft MSL, respectively, adjacent to CNS, Units 1 and 2. The licensee reported that they performed an evaluation of the external flood water that would flow through gaps under exterior doors of safety-related structures whose thresholds elevations are above 594 ft MSL. The NRC staff did not assess the revised analysis or evaluation in this report. Any revised analyses will be assessed by the NRC staff as part of Recommendation 2.1: Flooding.

The licensee reported that flooding by rivers, streams, dam failures, or channel migration were found to be non-limiting events. The site also is not adjacent to any coastal area and, therefore, is not vulnerable to tsunami flooding and/or tidal surge or seiche.

The licensee reported that groundwater intrusion is not considered to be a design issue at the site as a permanent de-watering system was installed during construction that collects and removes groundwater that might collect near the foundations of CNS structures. This water-removal system is intended to eliminate the potential for hydrostatic forces acting on those structures.

Based on the NRC staff's review, the licensee appears to have described the design basis flood hazard level(s) as requested in the 50.54(f) letter and consistent with the walkdown guidance.

3.2 Flood Protection and Mitigation

3.2.1 Flood Protection and Mitigation Description

The licensee stated that the current licensing basis (CLB) for flood protection at the site is a PMP event within the CNS Powerhouse Yard to an elevation of 594.0 ft MSL.

For the purposes of flood protection, the licensee reported that the CNS site is divided into several subbasins, each of which is serviced by separate surface water drainage systems. This arrangement includes physical barriers, drainage catch basin inlets, piping networks, and designated collection sites. These design elements are intended to minimize the accumulation of meteoric water on-site by diverting it into catchment basins located along the periphery of the CNS site during the PMP event.

The licensee stated that the physical configuration of the CNS site topographically is also an important feature of the licensee's flood protection plan. The Powerhouse Yard (elevation of 593.5 ft MSL) has two designated surface water outflow areas to collect runoff – one to the South and one the Northeast (near the Low Pressure Service Water intake area) of the yard. The Switchyard, at a higher elevation than the Powerhouse Yard, relies on a combination

concrete/asphalt curb system to further limit sheet flow into the yard containing the reactor block. This curb, located on the northern, southern, and eastern portions of the Switchyard perimeter, has a minimum top elevation of 632.75 ft MSL. A designated surface water outflow area is located on the western side of the Switchyard that is intended to collect runoff. Finally, the Cooling Tower Yard (elevation unspecified) relies on an earthen berm barrier located on its northern and western perimeter to route surface water away from the Powerhouse Yard. This berm has a minimum crest elevation 620.6 ft MSL.

Electrical conduits, trench covers, roof hatches and penetration sleeves which permit communication between some of the safety-related structures described above are reported by the licensee to be sealed or enclosed to prevent water intrusion. In addition, the licensee reported that the roofs of safety-related structures are designed with no obstructions so that rain water cannot pond (accumulate).

Lastly, the licensee installed a permanent groundwater drainage system during construction to maintain groundwater levels at or near the base of the foundation mat and basement walls, eliminating the potential for hydrostatic uplift and other below-grade forces acting on the Auxiliary and Reactor Buildings' foundations. This system consists of foundation underdrains and continuous exterior wall drains.

3.2.2 Incorporated and Exterior Barriers

The licensee stated that, in general, any flood protection measures intended to protect safety-related systems and equipment are passive features that were incorporated into the original CNS site design. The licensee reports that no safety-related systems or equipment is affected by flooding.

The licensee identified 22 doors that have been credited to limit floodwater inflow into safety-related buildings during a PMP event (defined as when the ponding water level elevation is greater than 594.0 ft MSL for a period of 35 minutes); the licensee reported that these doors are designed for hydrostatic loads of 3 psi. The licensee also reported that the 22 doors are equipped with automatic closures thereby requiring no manual operations to close them. The licensee reported that there are two exceptions. They are the two equipment access doors (designated AR6 and AR5.) located at the Auxiliary Service Building. These doors are controlled from the inside of that building, and cannot be opened from the outside. Station Security, by procedure, ensures that the Auxiliary Building and Auxiliary Service Building exterior doors are closed in the event of severe weather.

The licensee identified other credited flood protection barriers on-site including: yard drainage Type I catch basins; sheet flow outflow areas; the Cooling Tower Yard Protective berm; Switchyard protective concrete and asphalt curbs; trench cover seals in the Refueling Water Storage Tank and Monitor Tank Building pipe trenches; the Access Hatch Seals in Diesel Generator Building Roofs; the Turbine/Service Building flood wall; the Diesel Generator Building vents; the Control Room intake openings; the Auxiliary Building exterior wall (to an elevation of 598 ft MSL); the Auxiliary Building roof (to an elevation of 611 ft MSL); and the Auxiliary Service Building roof (to an elevation of 625 ft MSL).

The licensee did not identify any exterior flood-prevention barriers permanently in-place requiring operator manual actions.

3.2.3 Temporary Barriers and Other Manual Actions

The licensee did not identify any temporary barriers in its walkdown report that require manual operator actions in the event of a flood threat.

However, the licensee stated that a CAP action was identified to add steps to the "Plant Flooding Procedure" for manually closing Auxiliary Service Building doors AR5 and AR6 during a flooding event. In addition, another action was entered in the CAP to have an appropriate temporary barrier available to block the openings of these doors in the event that they cannot be manually closed.

3.2.4 Reasonable Simulation and Results

The purpose of performing reasonable simulations is to verify that the required flood protection procedures or activities can be executed as specified/as written. The licensee performed a reasonable simulation based on two CNS procedures as the site has certain active features that require manual actions in the event of a flood. The procedures implemented included the "Plant Flooding Procedure" and the "Natural Disaster and Earthquake Procedure".

The licensee noted that flood protection features at the CNS site generally do not include any temporary features that would require the implementation of a procedure for the performance of those manual/operator actions necessary for the flood protection feature in question to perform its intended flood protection function.

3.2.5 Conclusion

Based on the NRC staff's review, the licensee appears to have described protection and mitigation features as requested in the 50.54(f) letter and consistent with the walkdown guidance.

3.3 Warning Systems

There are no credited external flooding warning systems installed at the CNS site.

Based on the NRC staff's review, it appears that the licensee has provided information to describe any warning systems as requested in the 50.54(f) letter and consistent with the walkdown guidance.

3.4 Effectiveness of Flood Protection Features

The licensee reported that the worst hydrological condition at the CNS site is a PMP event occurring within the Powerhouse yard.

The licensee indicated that, by its very nature, the PMP event and associated runoff is a limited, short-duration event. All flood protection features within the CNS Powerhouse yard that are intended to protect safety-related structures and equipment against the PMP event are passive design features. The licensee found no deficiencies and reported that all features were available and functional.

The licensee defined the acceptance criteria for the flood protection features by the requirements in the current licensing basis using guidance from NEI 12-07. The licensee visually inspected the flood protection features to identify any material degradation as well as verifying the configuration with design documents.

Based on the NRC staff's review, it appears that the licensee has discussed the effectiveness of flood protection features as requested in the 50.54(f) letter and consistent with the walkdown guidance.

3.5 Walkdown Methodology

By letter dated June 8, 2012,⁸ the licensee responded to the 50.54(f) letter that they intended to utilize the NRC-endorsed walkdown guidelines contained in NEI 12-07, "Guidelines for Performing Verification Walkdowns of Plant Flood Protection Features." The licensee's walkdown submittal dated November 27, 2012, indicated that the licensee implemented the walkdowns consistent with the intent of the guidance provided in NEI 12-07. The licensee did not identify any exceptions from NEI 12-07.

Based on the NRC staffs review, it appears that the licensee has presented information related to the implementation of the walkdown process as requested in the 50.54(f) letter and consistent with the walkdown guidance.

3.6 Walkdown Results

3.6.1 Walkdown Scope

The licensee performed walkdowns of currently-credited flood protection features at the CNS site; however, the exact number of as-built features visually-inspected was not reported. The walkdown scope was developed by the licensee to confirm that flood protection features credited in the CLB were acceptable and capable of performing their credited flood protection functions. Those passive features generally reported to have been inspected were limited to the SSCs described in the licensee's walkdown report.

As previously discussed in Section 3.2.4, the licensee reported that it did perform two reasonable simulations. The licensee did not discuss modes of operation and concurrent environmental conditions that were considered for the walkdowns. The licensee used acceptance criteria consistent with the intent of NEI 12-07. Items that did not meet the NEI 12-07 acceptance criteria were documented in the site's CAP.

3.6.2 Licensee Evaluation of Flood Protection Effectiveness, Key Findings, and Identified Deficiencies

The licensee performed an evaluation of the overall effectiveness of the CNS's flood protection features. By virtue of its walkdown inspections, the licensee verified that permanent safety-related SSCs at the CNS site were acceptable, not degraded, and capable of performing

their intended design function as credited in the CLB. Only two CNS operator actions are credited for external flood protection.

NEI 12-07 defines a deficiency as follows: "a deficiency exists when a flood protection feature is unable to perform its intended function when subject to a design basis flooding hazard." The licensee reported that it did identify potential deficiencies and observations during the course of the flood walkdowns, as noted below:

- *Unit 2 Auxiliary Building Electrical Penetration Room door (located at elevation 594 ft MSL):* Floodwater in excess of the 594-ft elevation will enter through the gap of the Unit 2 Electrical Penetration Room door and subsequently be routed to the Unit 2 Auxiliary Feedwater (CA) Pump Room. As a consequence of flooding, the water level in the CA Pump Turbine pit may be higher than that of the pump shaft. The licensee noted that two Interim Actions were to be undertaken to mitigate this potential condition. The first was to modify the CNS operating procedure for engaging this pump to ensure the discharge valve is not opened if a flooding event is anticipated or in progress. The second was that an Engineering Change Request had been made to install a flood gate/barrier to block the Unit 2 Electrical Penetration Room door to reduce any potential floodwater flow under this door.
- *Auxiliary Building Groundwater Drainage (WZ) "B" sump room door (T400C2).* The licensee reported that the consequences of water entering the "B" WZ Sump has not been evaluated. The threshold of this door is reported to be at an elevation 595.0 ft MSL; the calculated maximum flood level would be 11" above the door threshold. The gap between the bottom of the door and the concrete threshold was measured by the licensee and will be evaluated for inflow into the WZ "B" sump room. The licensee reported that this issue has been entered into the CAP.
- *Diesel Generator vent openings.* The licensee measured the height of the openings. Since the Unit 1 Diesel Generator Crankcase Vacuum (ZD) vents were not accessible when the walkdown was performed, the licensee determined from drawings that there was only a 1" margin to the flood height. Therefore, the licensee completed a modification to increase the height of these vents.
- *Auxiliary Service Building doors AR5 and AR6:* During the procedure walkthrough for the "Plant Flooding" and "Natural Disaster and Earthquake" (RP/O/A/5000/007) procedures the licensee observed that for the two Auxiliary Service Building doors (designated AR5 and AR6) required to be closed or have the opening blocked; however, it was noted that there was no guidance in-place on how to manually close those doors. Moreover, the licensee noted that there was no equipment or supplies staged near any of the doors in question to block the opening if one or both of them cannot be closed. The licensee noted that an action was entered into the CAP to add steps to the procedure for closing the doors manually. Another action was entered in the CAP to have an appropriate temporary barrier available to block the door openings, if the doors cannot be closed.

3.6.3 Flood Protection and Mitigation Enhancements

The licensee reported that there were no recently-implemented enhancements to the CNS site that are intended to improve or increase flood protection and/or mitigation.

The licensee did note that an enhancement will be made to create predefined work orders to ensure flood barriers for the Diesel Generator External Door will be created to ensure the flood barriers are restored if removed.

3.6.4 Planned or Newly-Installed Features

The licensee did not determine that any planned or newly installed features were necessary by the flood walkdowns.

3.6.5 Deficiencies Noted and Actions Taken or Planned to Address

Several deficiencies identified by the licensee and the actions taken or planned to address those deficiencies are discussed in Section 3.6.2 of this report.

3.6.6 Staff Analysis of Walkdowns

The staff reviewed the licensee's walkdown report dated November 26, 2012.

As part of the walkdown effort, the licensee evaluated the capability of flood protection features by conducting a series of visual inspections. Those inspections confirmed that credited design features were in-place, available, and capable of performing their intended flood protection or mitigation functions. The licensee also performed a reasonable simulation to verify that the required flood protection procedures or activities can be executed as specified/as written. Several potential deficiencies were noted, and were referred to the licensee's CAP. Some changes or enhancements to flood protection or mitigation features were identified as a result of the walkdowns. Based on the above assessment, the NRC staff concludes that the licensee performed the walkdowns consistent with the intent of NEI 12-07.

Based on the NRC staff's review, it appears that the licensee has provided results of the walkdown and described any other planned or newly installed flood protection systems or flood mitigation measures as requested in the 50.54(f) letter and consistent with the walkdown guidance. Based on the information provided in the licensee's submittals, the NRC staff concludes that the licensee's implementation of the walkdown process meets the intent of the walkdown guidance.

3.6.7 Available Physical Margin

The NRC staff issued a request for additional information (RAI) to the licensee regarding the available physical margin (APM) dated December 23, 2013⁹. The licensee responded by letter dated February 12, 2014¹⁰. The licensee has reviewed their APM determination process, and

9 ADAMS Accession No. ML13325A891.
10 ADAMS Accession No. ML14051A352.

entered any unknown APMs into their corrective action program. Staff reviewed the response, and concluded that the licensee met the intent of the APM determination per NEI 12-07.

Based on the NRC staff's review, it appears that the licensee has documented the information requested for any cliff-edge effects, as requested in the 50.54(f) letter and consistent with the walkdown guidance. Further, the NRC staff reviewed the response, and concludes that the licensee met the intent of the APM determination per NEI 12-07.

3.7 NRC Oversight

3.7.1 Independent Verification by Resident Inspectors

On June 27, 2012, the NRC issued Temporary Instruction (TI) 2515/187 "Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns." In accordance with the TI, NRC inspectors independently verified that the CNS licensee implemented the flooding walkdowns in accordance with the walkdown guidance. Additionally, the inspectors independently performed walkdowns of a sample of flood protection features. The inspection report dated April 25, 2013¹¹ documents the results of this inspection. No findings of significance were identified.

4.0 SSCs NOT WALKED DOWN

The licensee identified no restricted access features; only inaccessible features were identified as not inspected.

4.1 Restricted Access

No restricted access features were identified by the licensee.

4.2 Inaccessible Features

The licensee reported that certain features of the CEC physical plant were not inspected because of inaccessibility. They included the underground drainage system electrical conduit seals, cable trench flood barriers, and Diesel Generator Maintenance Access Hatch seals.

The licensee provided a basis for reasonable assurance that inaccessible access features are available and will perform credited functions. The underground drainage system was not inspected because of physical inaccessibility. However, the licensee reported that this system is tested and inspected. Electrical conduit seals were identified to be part of the CNS Preventative Maintenance Program. Consistent with this program, the licensee reported that the seals are inspected on every 18 months. Flood barriers located in cable trenches that serve communications between the Cooling Towers, the Switchyard, and the Powerhouse yard are also reported to be part of the CNS Preventative Maintenance Program. The licensee reported that these flood barriers are visually inspected once a year. Following inspection, the licensee reported that Engineering is contacted if any damage or degradation of the barrier is found to determine further action. Diesel Generator maintenance access hatch seals are uncovered only

when work requires the removal of the hatches. The licensee reported that preventative maintenance is in-place to reseal the hatches when work is complete.

5.0 CONCLUSION

The NRC staff concludes that the licensee's implementation of flooding walkdown methodology meets the intent of the walkdown guidance. The NRC staff concludes that the licensee, through the implementation of the walkdown guidance activities and, in accordance with plant processes and procedures, verified the plant configuration with the current flooding licensing basis; addressed degraded, nonconforming, or unanalyzed flooding conditions; and verified the adequacy of monitoring and maintenance programs for protective features. Furthermore, the NRC staff notes that no immediate safety concerns were identified. The NRC staff reviewed the information provided and determined that sufficient information was provided to be responsive to Enclosure 4 of the 50.54(f) letter.

K. Henderson

- 2 -

If you have any questions, please contact me at (301) 415-2481 or by e-mail at ed.miller@nrc.gov.

Sincerely,

/RA/

G. Edward Miller, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-413 and 50-414

Enclosures:

- 1. Staff Assessment of Flooding Walkdown Report

cc w/encl: Distribution via Listserv

DISTRIBUTION:

PUBLIC	RidsOpaMail Resource	RidsRgn2MailCenter Resource
LPL2-1 R/F	RidsNrrLASFiguroa Resource	BRini, EDO RI, RII, RIII, RIV
RidsNroDsea Resource	RidsNrrPMCatawba Resource	RidsAcrsAcnwMailCTR Resource
RidsNrrDorl Resource	AKock, NRO	RidsNrrDorlLPL2-1 Resource
RKuntz, NRR	NKaras, NRO	SFlanders, NRO
CCook, NRO	PChaput, NRO	
MJardaneh, NRO		

ADAMS Accession Number: ML14153A662

* concurrence by e-mail

OFFICE	DORL/LPL2-1/PM	JLD/PMB/PM	DORL/LPL2-1/LA
NAME	GEMiller	RKuntz	SFiguroa
DATE	06/09/14	06/09/14	06/03/14
OFFICE	DSEA/RHM1	DORL/LPL2-1/BC	DORL/LPL2-1/PM
NAME	RKaras*	RPascarelli	GEMiller
DATE	05/01/14	06/11/14	06/11/14

OFFICIAL RECORD COPY