



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

September 8, 2015

To the Addressees on
the Enclosed List

SUBJECT: NUCLEAR REGULATORY COMMISSION PLAN FOR THE AUDIT OF DUKE ENERGY CAROLINAS, LLC AND DUKE ENERGY PROGRESS, INC. INTERIM EVALUATIONS ASSOCIATED WITH REEVALUATED SEISMIC HAZARD IMPLEMENTING NEAR-TERM TASK FORCE RECOMMENDATION 2.1 - SEISMIC FOR: CATAWBA NUCLEAR STATION, UNITS 1 AND 2 (TAC NOS. MF3965 AND MF3966); MCGUIRE NUCLEAR STATION, UNITS 1 AND 2 (TAC NOS. MF3689 AND MF3690); AND OCONEE NUCLEAR STATION, UNITS 1, 2 AND 3 (TAC NOS. MF3736, MF3737, AND MF3738)

This letter documents the U.S Nuclear Regulatory Commission (NRC) staff's plan to perform a regulatory audit of Duke Energy Carolinas, LLC (Duke, the licensee) interim evaluations, also referred to as the Expedited Seismic Evaluation Process (ESEP), associated with reevaluated seismic hazard implementing Near-Term Task Force (NTTF) Recommendation 2.1 Seismic for the following plants :

- Catawba Nuclear Station, Units 1 and 2 (Catawba)
- McGuire Nuclear Station, Units 1 and 2 (McGuire)
- Oconee Nuclear Station, Units 1, 2 and 3 (Oconee)

The audit will take place in Rockville, MD on Wednesday, September 16, 2015. This technical audit will be performed consistent with NRC Office of Nuclear Reactor Regulation, Office Instruction LIC-111, "Regulatory Audits," dated December 29, 2008 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML082900195). The NRC staff will develop an audit summary report to document its observations and conclusions within 90 days of the completion of the audit.

The audit will provide the NRC with a better understanding of the ESEP interim evaluations associated with NTTF Recommendation 2.1 "Seismic" and evaluate implementation of the staff's endorsed Electric Power Research Institute (EPRI) guidance¹, as described by each of

¹ The ESEP guidance document can be found in ADAMS under Accession No. ML13102A142.

the sites². The audit is intended to support the NRC staff review of the ESEP evaluations and the subsequent issuance of letters documenting its review. Additional information is provided below.

The enclosed audit plan outlines the process that will allow the NRC staff to review the ESEP related documentation and discuss technical attributes.

If you have any questions, please contact me at (301) 415-1115 or by e-mail at Nicholas.DiFrancesco@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nick DiFrancesco', with a long horizontal flourish extending to the right.

Nicholas J. DiFrancesco, Senior Project Manager
Hazards Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

Enclosures:

1. Audit Plan
2. Correspondence associated with
ESEP reports and NRC staff review
3. List of Addressees

cc w/encl: Distribution via Listserv

² The list of Duke sites that will be audited is included in Enclosure 2.

NUCLEAR REGULATORY COMMISSION PLAN FOR THE AUDIT OF DUKE ENERGY
CAROLINAS, LLC INTERIM EVALUATIONS ASSOCIATED WITH REEVALUATED SEISMIC
HAZARD IMPLEMENTING NEAR-TERM TASK FORCE RECOMMENDATION 2.1- SEISMIC FOR:
CATAWBA NUCLEAR STATION, UNITS 1 AND 2;
MCGUIRE NUCLEAR STATION, UNITS 1 AND 2; AND
OCONEE NUCLEAR STATION, UNITS 1, 2 AND 3

BACKGROUND AND AUDIT BASIS:

On March 12, 2012, the U.S. Nuclear Regulatory Commission (NRC) issued a request for information pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Section 50.54(f) (hereafter referred to as the 50.54(f) letter)(Agencywide Documents Access and Management System (ADAMS) Accession No. ML12053A340). The purpose of that request was to gather information concerning, in part, the seismic hazards at operating reactor sites to enable the NRC staff to determine whether your license should be modified, suspended, or revoked.

Requested Information Item (6) in Enclosure 1 to the 50.54(f) letter requests licensees to provide an interim evaluation and actions taken or planned to address the higher seismic hazard relative to the design-basis, as appropriate, prior to completion and submission of the seismic risk evaluation. By letter dated April 8, 2013 (ADAMS Accession No. ML13102A142), the Electric Power Research Institute (EPRI) staff submitted EPRI TR 3002000704 "Seismic Evaluation guidance; Augmented Approach for the Resolution of Fukushima Near-Term Task Force Recommendation 2.1: Seismic" (hereafter referred to as the guidance). The Augmented Approach (also called the Expedited Seismic Evaluation Process (ESEP)), proposed that licensees would use a simplified seismic margins assessment process to provide additional assurance that key pieces of plant equipment in one safe shutdown pathway would be able to perform certain safety functions following a beyond-design-basis seismic event. By letter dated May 7, 2013, the NRC staff endorsed the guidance.

The NRC staff is conducting regulatory audits on the licensee's interim evaluations to determine if the information provided met the intent of the ESEP guidance and if licensees responded appropriately to Requested Information Item (6) in Enclosure 1 to the 50.54(f) letter.

By letters dated in December 2014³, to the NRC, Duke Energy Carolinas, LLC (Duke, the licensee) submitted for NRC review its ESEP evaluations for the sites included in Enclosure 2. The NRC staff issued a series of requests for additional information (RAI) to gain a better understanding of the information provided in the ESEP reports. The NRC staff continues to review the information provided by Duke and will conduct a regulatory audit of the ESEP evaluations, including the information provided in RAI responses. Specific documents that are planned to be reviewed by the staff during the audit are provided below.

³ Enclosure 2 provides ESEP report dates, ADAMS Accession Nos, RAI response dates and respective ADAMS Accession Nos.

REGULATORY AUDIT SCOPE AND METHODOLGY:

The scope of this audit will be limited to the information provided and referenced in the ESEP reports and in responses to the NRC staff RAIs including implementation of High Confidence of Low Probability of Failure (HCLPF) calculations and fragility analysis performed for specific equipment. The purpose of this audit is to enable the NRC staff to determine if the information provided as part of the ESEP submittals met the intent of the guidance and if licensees responded appropriately to Requested Information Item (6) in Enclosure 1 to the 50.54(f).

DOCUMENTS REQUESTED FOR STAFF EXAMINATION

Oconee, Catawba & McGuire:

- Reports/Calculations that demonstrate the clipping method employed by Duke for ESEP as described in the June 9, 2015 telecon/webinar.
- ESEP Report References Requested:
 - (9) Oconee Nuclear Station Individual Plant Examination of External Events (IPEEE) Submittal Report, dated December 21, 1995, Duke Power, Seneca, SC.
 - (10) Duke Energy Calculation OSC-11188, ONS Fukushima NTTF 2.1 Seismic Vendor Support Documents for GMRS, Revision 2, Duke Energy, Seneca, SC.
 - (19) Seismic PRA/IPEEE Backup Calculations, Duke Energy, Seneca, SC, Rev. 0, 2011, OSC-10225.
 - (20) Letter from W. R. McCollum Jr. to U. S. Nuclear Regulatory Commission, "Oconee Nuclear Station, Docket Nos.: 50-269, -270, -287; Oconee Supplemental IPEEE Submittal Report," dated December 15, 1997, Duke Power, Seneca, SC.
 - (21) Specification for the Seismic Displacements and Response Spectra for the Turbine, Auxiliary, Reactor, and Standby Shutdown Facility Buildings, Duke Energy, Seneca, SC, Rev. 8, 2005, OSS-027B.00-00-0002.

NRC AUDIT TEAM:

Title	Team Member
Team Leader, NRR/JLD	Stephen Wyman
Branch Chief, NRO/DSEA	Diane Jackson
Technical Lead (NRO/DSEA)	Nilesh Chokshi
Technical Support (NRC/NRR)	Kamal Manoly
Technical Support (NRC/NRO)	Jim Xu
Technical Support (NRC)	Dan Huang
Technical Support (NRC)	Tuan Le
Technical Support (NRC)	George Wang
Technical Support (NRC)	Ian Tseng

Technical Support (NRC/NRO)	Ricardo Rodriguez
Technical Support (BNL/Consultant)	Nick Simos
Technical Support (BNL/Consultant)	Richard Morante
Technical Support (BNL/Consultant)	Joe Braverman

LOGISTICS:

Please provide six hard copies of the requested records.

DELIVERABLES:

Within 90 days of the audit, the NRC staff will prepare a detailed audit report documenting the information reviewed during the audit, and any open items identified as a result of the audit. The NRC staff will also document its understanding of the proposed resolution of any identified open items.

Correspondence Associated with
Expedited Seismic Evaluation Process evaluations and staff's review for Duke Sites

Plant Name	ESEP Report	RAIs or Supplements
	Date of letter (ADAMS Accession Nos.)	Date of letter (ADAMS Accession Nos.)
Catawba Nuclear Station, Units 1 and 2	December 31, 2014 (ML15002A261)	ML15175A457
McGuire Nuclear Station, Units 1 and 2	December 17, 2014 (ML15005A085)	RAI dated
Oconee Nuclear Station, Units 1, 2 and 3	December 19, 2014 (ML14364A213)	ML15120A017

List of Addressees

Catawba Nuclear Station

Duke Energy Carolinas, LLC
Docket Nos. 50-413 and 50-414
License Nos. NPF-35 and NPF-52

Mr. Kelvin Henderson
Site Vice President
Duke Energy Carolinas, LLC
Catawba Nuclear Station
4800 Concord Road
York, SC 29745

McGuire Nuclear Station

Duke Energy Carolinas, LLC
Docket Nos. 50-369 and 50-370
License Nos. NPF-9 and NPF-17

Mr. Steven D. Capps
Vice President – McGuire Site
Duke Energy Carolinas, LLC
McGuire Nuclear Station
12700 Hagers Ferry Road
Huntersville, NC 28078-8985

Oconee Nuclear Station

Duke Energy Carolinas, LLC
Docket Nos. 50-269, 50-270 and 50-287
License Nos. DPR-38, DPR-47 and DPR-55

Mr. Scott Batson
Vice President, Oconee Nuclear Station
Duke Energy Corporation
7800 Rochester Highway
Seneca, SC 29672-0752

the sites². The audit is intended to support the NRC staff review of the ESEP evaluations and the subsequent issuance of letters documenting its review. Additional information is provided below.

The enclosed audit plan outlines the process that will allow the NRC staff to review the ESEP related documentation and discuss technical attributes.

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Sincerely,

/RA/

Nicholas J. DiFrancesco, Senior Project Manager
Hazards Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

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2. Correspondence associated with ESEP reports and NRC staff review
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DISTRIBUTION:

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SWyman, NRR

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DJackson, NRR

RidsNrrPMCatawba Resource

RidsNrrPMOconee Resource

RidsNrrPMMcGuire Resource

RidsNrrDorLpl2-1 Resporce

ADAMS Accession No.: ML15226A185

*via e-mail

OFFICE	NRR/JLD/JHMB/PM	NRR/JLD/JHMB/LA	NRO/DSEA/RGS/BC	NRR/JLD/JHMB/BC	NRR/JLD/JHMB/PM
NAME	NDiFrancesco	SLent	DJackson	MShams	NDiFrancesco
DATE	08/22/15	08/26/15	08/28/15	08/30/15	09/08/15

OFFICAL RECORD COPY

²The list of Duke sites that will be audited is included in Enclosure 2.