



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

October 11, 2019

The Licensees of Power Reactors
on the Enclosed List

SUBJECT: DOCUMENTATION OF THE COMPLETION OF REQUIRED ACTIONS TAKEN
IN RESPONSE TO THE LESSONS LEARNED FROM THE FUKUSHIMA
DAI-ICHI ACCIDENT – SUPPLEMENTAL INFORMATION

The purpose of this letter is to clarify the documentation of the completion of required actions taken by licensees in response to the lessons-learned from the Fukushima Dai-ichi accident for the power reactors listed in Table 1. The clarification is being provided in response to Commission direction provided in the Affirmation Notice and Staff Requirements Memorandum (SRM) dated January 24, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML19023A038), associated with SECY-16-0142, "Draft Final Rule – Mitigation of Beyond-Design-Basis Events [MBDBE] (RIN 3150-AJ49)," (ADAMS Accession No. ML16291A186).

BACKGROUND

The letters to licensees listed in Table 1 were issued while the NRC was considering a new regulation (Section 50.155 of Title 10 of the *Code of Federal Regulations* (10 CFR), "Mitigation of Beyond-Design-Basis Events"). At that time, the staff had provided a draft final rule and supporting documentation to the Commission for approval in SECY-16-0142 (ADAMS Accession No. ML16301A005). In the January 24, 2019, SRM (ADAMS Accession No. ML19023A038), the Commission approved the final MBDBE rule, with edits. The final rule approved by the Commission contains provisions that make generically applicable the requirements imposed by Orders EA-12-049 and EA-12-051 and supporting requirements for training and documentation of changes. However, the Commission directed that the final rule's language be revised to remove requirements that are addressed at the regulatory guidance level, and to remove the requirement to address seismic and flooding reevaluated hazards in the mitigation strategies.¹ The NRC staff made conforming changes to the final rule as directed by the Commission. The final rule was published in the *Federal Register* on August 9, 2019 (84 FR 39684).

The letters listed in Table 1 acknowledged and documented that the actions required by the NRC in response to three orders, as well as the information provided in response to the March 12, 2012, 50.54(f) letter, have been completed for the applicable site. Table 1 contains a complete listing of the completion letters that were issued prior to the Commission approval of

¹ The Commission directed the staff to assess the reevaluated hazards on a plant-specific, case-by-case basis under the requirements of 10 CFR § 50.109, "Backfitting," and § 52.98, "Finality of combined licenses; information requests." The process used by the staff is documented in two "binning" letters which can be found in ADAMS at Accession Nos. ML19140A307 and ML19067A247.

the MBDBE rule. In light of the changes to the final MBDBE rule, the NRC staff has taken action to review the previous conclusions made related to the 50.54(f) letter that could have been affected by the final MBDBE rule. Based on this review, the NRC has determined that the previous conclusions remain valid for the sites listed in Table 1 and further regulatory actions are not warranted. This letter discusses the actions taken by the NRC staff to confirm that additional regulatory is not warranted for the sites addressed by the Table 1 letters.

The staff is not determining whether the licensee complies with the final MBDBE rule. Oversight of compliance with the final MBDBE rule will be conducted through the reactor oversight process.

DISCUSSION

The January 24, 2019, SRM directed the staff to use the 50.54(f) process to ensure that the NRC and its licensees will take the needed actions, if any, to ensure there is no undue risk to public health and safety due to the potential effects of the reevaluated hazards. The SRM also directed that the staff should continue these efforts, utilizing existing agency processes, to determine whether an operating power reactor license should be modified, suspended, or revoked in light of the reevaluated hazard. The staff's actions in response to the Commission's direction are documented in a seismic binning letter and a flooding binning letter (ADAMS Accession Nos. ML19140A307 and ML19067A247, respectively). The binning letters address the treatment of reevaluated seismic and flooding information.

In the final binning letters for both seismic and flooding hazard reevaluations, the sites listed in Table 1 were binned as Category 1 sites, confirming that no additional information or regulatory actions are needed². Category 1 includes sites where no additional information is needed. This category includes sites that have all the seismic or flood hazard mechanisms bounded by the current design basis, or sites where the licensee has previously demonstrated that existing seismic capacity or effective flood protection will address the unbounded reevaluated hazards.

Staffing and communications are considered supporting elements for the overarching requirement to develop, implement, and maintain the mitigation strategies for beyond-design-basis external events, which contributes to the protection of public health and safety. The NRC has concluded that a separate requirement in the MBDBE rule for the staffing and communications elements would not constitute a substantial increase in the overall protection of the public health and safety or the common defense and security, and that these elements are appropriately maintained in regulatory guidance. The information provided in response to Enclosure 5 of the 50.54(f) letter and the conclusions reached by the NRC in the staff assessments remain valid. The NRC performed onsite inspections using Temporary Instruction 2515/191, "Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communications/Staffing/Multi-Unit Dose Assessment Plans" to verify that the emergency communications and staffing plans at these sites have been implemented as described by the licensee in their submittals. No additional regulatory actions are needed.

² The flooding binning letter discusses additional clarifying information for Comanche Peak Nuclear Power Plant, Units 1 and 2 (letter dated July 23, 2019 (ADAMS Accession No. ML19206A073)) and Point Beach Nuclear Plant, Units 1 and 2 (completed modifications that ensure effective flood protection for the local intense precipitation flood hazard mechanism without reliance on FLEX) that support this conclusion.

CONCLUSION

Based on the conclusions documented in the letters listed in Table 1, as supplemented by the seismic and flooding binning letters and the discussion above, the NRC staff continues to conclude that the licensees for the sites listed in Table 1 have implemented the NRC-mandated safety enhancements resulting from the Fukushima Dai-ichi accident through implementation of Orders EA-12-049, EA-12-051, and responses to the 50.54(f) letter. No further regulatory decisionmaking is required for those sites listed in Table 1 related to the Fukushima lessons learned.

If you have any questions, please contact me at 301-415-2621 or by e-mail at Robert.Bernardo@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Robert J. Bernardo', is positioned above the printed name and title.

Robert J. Bernardo, Project Manager
Beyond-Design-Basis Management Branch
Division of Licensing Projects
Office of Nuclear Reactor Regulation

Enclosure:
List of Licensees

cc w/encl: Distribution via list serv

Table 1

Listing of Documentation of the Completion of Required Actions Taken in Response to the Lessons Learned from the Fukushima Dai-ichi Accident

Site	Date	ADAMS Accession No.
Arkansas Nuclear One, Units 1 and 2	July 11, 2018	ML18163A418
Braidwood Station, Units 1 and 2	May 1, 2018	ML18093B538
Byron Station, Units 1 and 2	May 1, 2018	ML18094A754
Calvert Cliffs Nuclear Power Plant, Units 1 and 2	March 28, 2018	ML18071A197
Clinton Power Station, Unit No. 1	June 28, 2017	ML17054C552
Comanche Peak Nuclear Power Plant, Units 1 and 2 ³	August 8, 2018	ML18207A272
Grand Gulf Nuclear Station, Unit 1	August 8, 2018	ML18200A179
Joseph M. Farley Nuclear Plant, Units 1 and 2	September 20, 2018	ML18249A109
McGuire Nuclear Station, Units 1 and 2	July 11, 2018	ML18163A396
Palo Verde Nuclear Generating Station, Units 1, 2, and 3	December 21, 2017	ML17335A119
Point Beach Nuclear Plant, Units 1 and 2 ⁴	August 8, 2018	ML18200A181
Prairie Island Nuclear Generating Plant, Units 1 and 2	December 21, 2017	ML17303B162
R. E. Ginna Nuclear Power Plant	March 26, 2018	ML18043B160
River Bend Station, Unit 1	September 15, 2017	ML17237C041
Salem Nuclear Generating Station, Units 1 and 2	January 25, 2018	ML17335A118
Shearon Harris Nuclear Power Plant, Unit 1	March 28, 2018	ML18071A196
South Texas Project, Units 1 and 2	May 25, 2018	ML18120A373
St. Lucie Plant Units 1 and 2	March 26, 2018	ML18043B161
Three Mile Island Nuclear Station, Unit 1	May 25, 2018	ML18120A351
Vogtle Electric Generating Plant, Units 1 and 2	September 20, 2018	ML18249A112
Waterford Steam Electric Station, Unit 3	August 8, 2018	ML18207A274

³ The flooding binning letter (ADAMS Accession No. ML19067A247) discusses additional clarifying information provided by the licensee for Comanche Peak Nuclear Power Plant, Units 1 and 2 in a letter dated July 23, 2019 (ADAMS Accession No. ML19206A073).

⁴ The flooding binning letter (ADAMS Accession No. ML19067A247) discusses additional clarifying information concerning Point Beach Nuclear Plant, Units 1 and 2 (completed modifications that ensure effective flood protection for the local intense precipitation flood hazard mechanism without reliance on FLEX).

LIST OF APPLICABLE POWER REACTOR LICENSEES

Arkansas Nuclear One, Units 1 and 2

Entergy Operations, Inc.
Docket Nos. 50-313 and 50-368
License Nos. DPR-51 and NPF-6

ANO Site Vice President
Arkansas Nuclear One
Entergy Operations, Inc.
N-TSB-58
1448 S.R. 333
Russellville, AR 72802

Braidwood Station, Units 1 and 2

Exelon Generation Company, LLC
Docket Nos. STN 50-456 and STN 50-457
License Nos. NPF-72 and NPF-77

Mr. Bryan C. Hanson
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer (CNO)
Exelon Nuclear
Braidwood Station
4300 Winfield Road
Warrenville, IL 60555

Byron Station, Units 1 and 2

Exelon Generation Company, LLC
Docket Nos. STN 50-454 and STN 50-455
License Nos. NPF-37 and NPF-66

Mr. Bryan C. Hanson
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer (CNO)
Exelon Nuclear
Byron Station
4300 Winfield Road
Warrenville, IL 60555

Calvert Cliffs Nuclear Power Plant, Units 1 and 2

Calvert Cliffs Nuclear Power Plant, LLC
Docket Nos. 50-317 and 50-318
License Nos. DPR-53 and DPR-69

Mr. Bryan C. Hanson
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Clinton Power Station, Unit No. 1

Exelon Generation Company, LLC
Docket No. 50-461
License No. NPF-62

Mr. Bryan C. Hanson
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer (CNO)
Exelon Nuclear
Clinton Power Station
4300 Winfield Road
Warrenville, IL 60555

Comanche Peak Nuclear Power Plant, Units 1 and 2

Vistra Operations Company, LLC
Docket Nos. 50-445 and 50-446
License Nos. NPF-87 and NPF-89

Mr. Ken J. Peters
Senior Vice President and Chief
Nuclear Officer
Attention: Regulatory Affairs
Comanche Peak Nuclear Power Plant
Vistra Operations Company, LLC
6322 N FM 56
P.O. Box 1002
Glen Rose, TX 76043

Grand Gulf Nuclear Station, Unit 1

Entergy Operations, Inc.
Docket No. 50-416
License No. NPF-29

Vice President, Operations
Entergy Operations, Inc.
Grand Gulf Nuclear Station
P.O. Box 756
Port Gibson, MS 39150

Joseph M. Farley Nuclear Plant, Units 1 and 2

Southern Nuclear Operating Company, Inc.
Docket Nos. 50-348 and 50-364
License Nos. NPF-2 and NPF-8

Ms. Cheryl A. Gayheart
Regulatory Affairs Director
Southern Nuclear Operating Company, Inc.
3535 Colonnade Parkway
Birmingham, AL 35243

McGuire Nuclear Station, Units 1 and 2

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

Mr. Tom Ray
Site Vice President
Duke Energy Carolinas, LLC
McGuire Nuclear Station
12700 Hagers Ferry Road
Huntersville, NC 28078-8985

Palo Verde Nuclear Generating Station, Units 1, 2, and 3

Arizona Public Service Company
Docket Nos. STN 50-528, STN 50-529,
and STN 50-530
License Nos. NPF-41, NPF-51, and NPF-74

Mr. Robert S. Bement
Executive Vice President Nuclear/
Chief Nuclear Officer
Arizona Public Service Company
Palo Verde Nuclear Generating Station
P.O. Box 52034
MS 7602
Phoenix, AZ 85072-2034

Point Beach Nuclear Plant, Units 1 and 2

NextEra Energy Point Beach, LLC
Docket Nos. 50-266 and 50-301
License Nos. DPR-24 and DPR-27

Mr. Mano Nazar
President and Chief Nuclear Officer
Nuclear Division
NextEra Energy Point Beach, LLC
Mail Stop: NT3/JW
15430 Endeavor Drive
Jupiter, FL 33478

Prairie Island Nuclear Generating Plant, Units 1 and 2

Northern States Power Company -
Minnesota
Docket Nos. 50-282 and 50-306
License Nos. DPR-42 and DPR-60

Mr. Scott Sharp
Site Vice President
Northern States Power Company -
Minnesota
Prairie Island Nuclear Generating Plant
1717 Wakonade Drive East
Welch, MN 55089

R. E. Ginna Nuclear Power Plant

R. E. Ginna Nuclear Power Plant, LLC
Exelon Generation Company, LLC
Docket No. 50-244
License No. DPR-18

Mr. Bryan C. Hanson
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

River Bend Station, Unit 1
Entergy Operations, Inc.
Docket No. 50-458
License No. NPF-47

Vice President, Operations
Entergy Operations, Inc.
River Bend Station
5485 U.S. Highway 61
St. Francisville, LA 70775

Salem Nuclear Generating Station, Units 1
and 2
PSEG Nuclear, LLC
Docket Nos. 50-272 and 50-311
License Nos. DPR-70 and DPR-75

Mr. Peter P. Sena, III
President and Chief Nuclear Officer
PSEG Nuclear LLC – N09
Salem Nuclear Generating Station
P.O. Box 236
Hancocks Bridge, NJ 08038

Shearon Harris Nuclear Power Plant, Unit 1
Duke Energy Progress, LLC
Docket No. 50-400
License No. NPF-63

Ms. Tanya Hamilton, Site Vice President
Shearon Harris Nuclear Power Plant
5413 Shearon Harris Rd.
M/C HNP01
New Hill, NC 27562-0165

South Texas Project, Units 1 and 2
STP Nuclear Operating Company
Docket Nos. 50-498 and 50-499
License Nos. NPF-76 and NPF-80

Mr. G. T. Powell
President and CEO
STP Nuclear Operating Company
South Texas Project
P.O. Box 289
Wadsworth, TX 77483

St. Lucie Plant, Units 1 and 2
Florida Power and Light Company
Docket Nos. 50-335 and 50-389
License Nos. DPR-67 and NPF-16

Mr. Mano Nazar
President, Nuclear Division
and Chief Nuclear Officer
Nuclear Division
Florida Power & Light Company
Mail Stop EX/JB
700 Universe Blvd.
Juno Beach, FL 33408

Three Mile Island Nuclear Station, Unit 1
Exelon Generation Company, LLC
Docket No. 50-289
License No. DPR-50

Mr. Bryan C. Hanson
Senior Vice President
Exelon Generation Company, LLC
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

Vogtle Electric Generating Plant, Units 1
and 2
Southern Nuclear Operating Company, Inc.
Docket Nos. 50-424 and 50-425
License Nos. NPF-68 and NPF-81

Ms. Cheryl A. Gayheart
Regulatory Affairs Director
Southern Nuclear Operating Company, Inc.
3535 Colonnade Parkway
Birmingham, AL 35243

Waterford Steam Electric Station, Unit 3
Entergy Operations, Inc.
Docket No. 50-382
License No. NPF-38

Site Vice President
Entergy Operations, Inc.
Waterford Steam Electric Station
17265 River Road
Killona, LA 70057-3093

SUBJECT: DOCUMENTATION OF THE COMPLETION OF REQUIRED ACTIONS TAKEN
IN RESPONSE TO THE LESSONS LEARNED FROM THE FUKUSHIMA
DAI-ICHI ACCIDENT – SUPPLEMENTAL INFORMATION DATED October 11,
2019

DISTRIBUTION:

PUBLIC	LRegner, NRR	RidsNrrPMPrairieIsland
PBMB R/F	RidsNrrLAJBurkhardt	RidsNrrPMREGinna
RidsNrrOd	RidsNrrLABClayton	RidsNrrPMRiverBend
RidsNrrDorl	RidsNrrLAKGoldstein	RidsNrrPMSalem
RidsNrrDorlLpl1	RidsNrrLASRohrer	RidsNrrPMShearonHarris
RidsNrrDorlLpl2-1	RidsNrrLASLent	RidsNrrPMSouthTexas
RidsNrrDorlLpl2-2	RidsNrrLAPBlechman	RidsNrrPMSStLucie
RidsNrrDorlLpl3	RidsNrrLALRonewicz	RidsNrrPMTThreeMileIsland
RidsNrrDorlLpl4	RidsNrrPMANO	RidsNrrPMVogle
RidsNrrDorlLSPB	RidsNrrPMBraidwood	RidsNrrPMWaterford
RidsNrrOd	RidsNrrPMByron	RidsRgn1MailCenter
RidsOeMailCenter	RidsNrrPMCalvertCliffs	RidsRgn2MailCenter
RidsOgcMailCenter	RidsNrrPMClinton	RidsRgn3MailCenter
UShoop, NRR	RidsNrrPMComanchePeak	RidsRgn4MailCenter
JDana, NRR	RidsNrrPMFarley	RidsEdoMailCenter Resource
RPascarelli, NRR	RidsNrrPMGrandGulf	BTitus, NRR
MMarkley, NRR	RidsNrrPMMcGuire	PBamford, NRR
MOrenak, NRR	RidsNrrPaloVerde	JSebrosky, NRR
DWrona, NRR	RidsNrrPMPointBeach	RBernardo, NRR

ADAMS Accession No. ML19238A341

*Via e-mail

OFFICE	NRR/DLP/PBMB/PM	NRR/DLP/PBMB/LA	NRR/DLP/PBMB/BC(A)	OGC (NLO)
NAME	RBernardo	SLent	BTitus	BHarris*
DATE	8/23/19	8/26/19	8/30/19	10/11/19
OFFICE	NRR/DLP/PBMB/PM			
NAME	RBernardo			
DATE	10/11/19			

OFFICIAL RECORD COPY