



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.<sup>1</sup> 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

---

<sup>1</sup> 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 needed<sup>2</sup>. 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.

---

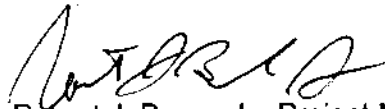
<sup>2</sup> The flooding binning letter discusses additional clarifying information for Comanche Peak Nuclear Power Plant, Units 1 and 2 (letter dated July 23, 2019 (ADAMS Accession No. ML19206A073)) and Point Beach Nuclear Plant, Units 1 and 2 (completed modifications that ensure effective flood protection 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](mailto:Robert.Bernardo@nrc.gov).

Sincerely,



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 <sup>3</sup>	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 <sup>4</sup>	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

<sup>3</sup> 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).

<sup>4</sup> 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
RidsNrrDorlLp1	RidsNrrLASRohrer	RidsNrrPMShearonHarris
RidsNrrDorlLp2-1	RidsNrrLASLent	RidsNrrPMSouthTexas
RidsNrrDorlLp2-2	RidsNrrLAPBlechman	RidsNrrPMSStLucie
RidsNrrDorlLp3	RidsNrrLALRonewicz	RidsNrrPMTThreeMileIsland
RidsNrrDorlLp4	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**