



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

February 7, 2020

Dr. Jennifer L. Uhle
Vice President, Generation & Suppliers
Nuclear Energy Institute
1201 F Street, NW, Suite 1100
Washington, DC 20004

SUBJECT: TIMELY RESOLUTION OF ISSUES RELATED TO TORNADO-MISSILE
PROTECTION—SUPPLEMENTAL INFORMATION

Dear Dr. Uhle:

This letter provides supplemental information about the U.S. Nuclear Regulatory Commission's (NRC's) letter, "Timely Resolution of Issues Related to Tornado-Missile Protection," dated February 28, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18338A085). In that letter, the NRC described the timely and efficient resolution of longstanding issues related to tornado-missile protection, with the goal of closing these issues in 2019. The letter also referenced Enforcement Guidance Memorandum (EGM) 15-002, Revision 1, "Enforcement Discretion for Tornado-Generated Missile Protection Noncompliance," dated February 15, 2017 (ADAMS Accession No. ML16355A286) which expires on June 10, 2020.

On September 10, 2019, the NRC staff conducted a Category 2 public meeting with the Nuclear Energy Institute (NEI) at NRC Headquarters to discuss generic recommendations for addressing tornado-missile protection at nuclear power plants (ADAMS Accession No. ML19274C199). Based on industry feedback and discussion among participants about changes evaluated under Title 10 of the *Code of Federal Regulations* (10 CFR) 50.59, "Changes, tests and experiments," the NRC staff is providing this supplemental information about the option of bringing the facility back into compliance by changing the licensing basis to incorporate the Tornado Missile Risk Evaluator (TMRE) under 10 CFR 50.59 without prior NRC approval.

In its letter dated February 28, 2019, the NRC stated, "depending on the special circumstances, several approaches may be considered such as: changes evaluated under 10 CFR 50.59," with the following footnote:

Tornado-missile protection issues have been addressed through modification of facilities and participation in industry-led initiatives such as the Electric Power Research Institute's TORMIS computer code, and use of Nuclear Energy Institute (NEI) 17-02, "Tornado Missile Risk Evaluator (TMRE) Industry Guidance Document," Revision 1, issued September 2017 (ADAMS Accession No. ML17268A036). The NRC is finalizing its TMRE pilot plant reviews. Licensees may use TORMIS, TMRE, or other such methods on a plant-specific basis in accordance with 10 CFR 50.59.

In parallel and subsequent to issuance of the NRC letter dated February 28, 2019, the NRC completed its TMRE pilot reviews for Vogtle Electric Generating Plant, Shearon Harris Nuclear

Power Plant, and Grand Gulf Nuclear Station and issued license amendments approving the plant-specific applications (ADAMS Accession Nos. ML18304A394, ML18347A385, and ML19123A014, respectively).

As stated in the NRC letter dated February 28, 2019, licensees may pursue a number of options and approaches to reconcile issues related to tornado-missile protection. Licensees may use insights from all three TMRE pilots in performing plant-specific evaluations using 10 CFR 50.59 and submitting plant-specific license amendment requests. To the extent licensees can satisfy the terms, conditions, and limitations, the plant-specific approvals for Vogtle, Harris, and Grand Gulf may be of direct benefit.

NEI 96-07, Revision 1, "Guidelines for 10 CFR 50.59 Implementation," issued November 2000 (ADAMS Accession No. ML003771157), as endorsed by Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59 'Changes, Tests, and Experiments,'" provides licensees with guidance that the NRC staff considers acceptable for use in complying with the Commission's regulations on the process by which licensees, under certain conditions, may make changes to their facilities and procedures as described in the final safety analysis report (as updated) without prior NRC approval.

NEI 96-07, Revision 1, Section 4.3.8.2, "Guidance for Changing from One Method of Evaluation to Another," states the following:

The definition of "departure..." provides licensees with the flexibility to make changes under 10 CFR 50.59 from one method of evaluation to another provided that the new method is approved by the NRC for the intended application. A new method is approved by the NRC for intended application if it is approved for the type of analysis being conducted, and applicable terms, conditions and limitations for its use are satisfied.

The NRC has approved the plant-specific application of the TMRE method at the TMRE pilot plants; however, the NRC safety evaluation placed a number of conditions and limitations on the use of the TMRE method. Each licensee seeking to resolve tornado-missile-protection issues using the TMRE method would need to evaluate how the approved plant-specific conditions and limitations would apply to its facility.

If you have any further questions about this matter, please contact Mr. Philip McKenna at 301-415-0037.

Sincerely,

/RA/

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation



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

February 7, 2020

Mr. Chris Bakken
Executive Vice President
Nuclear Operations & Chief Nuclear Officer
Entergy Nuclear
1340 Echelon Parkway
Jackson, MS 39213

SUBJECT: TIMELY RESOLUTION OF ISSUES RELATED TO TORNADO-MISSILE
PROTECTION—SUPPLEMENTAL INFORMATION

Dear Mr. Bakken:

This letter provides supplemental information about the U.S. Nuclear Regulatory Commission's (NRC's) letter, "Timely Resolution of Issues Related to Tornado-Missile Protection," dated February 28, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18338A085). In that letter, the NRC described the timely and efficient resolution of longstanding issues related to tornado-missile protection, with the goal of closing these issues in 2019. The letter also referenced Enforcement Guidance Memorandum (EGM) 15-002, Revision 1, "Enforcement Discretion for Tornado-Generated Missile Protection Noncompliance," dated February 15, 2017 (ADAMS Accession No. ML16355A286) which expires on June 10, 2020.

On September 10, 2019, the NRC staff conducted a Category 2 public meeting with the Nuclear Energy Institute (NEI) at NRC Headquarters to discuss generic recommendations for addressing tornado-missile protection at nuclear power plants (ADAMS Accession No. ML19274C199). Based on industry feedback and discussion among participants about changes evaluated under Title 10 of the *Code of Federal Regulations* (10 CFR) 50.59, "Changes, tests and experiments," the NRC staff is providing this supplemental information about the option of bringing the facility back into compliance by changing the licensing basis to incorporate the Tornado Missile Risk Evaluator (TMRE) under 10 CFR 50.59 without prior NRC approval.

In its letter dated February 28, 2019, the NRC stated, "depending on the special circumstances, several approaches may be considered such as: changes evaluated under 10 CFR 50.59," with the following footnote:

Tornado-missile protection issues have been addressed through modification of facilities and participation in industry-led initiatives such as the Electric Power Research Institute's TORMIS computer code, and use of Nuclear Energy Institute (NEI) 17-02, "Tornado Missile Risk Evaluator (TMRE) Industry Guidance Document," Revision 1, issued September 2017 (ADAMS Accession No. ML17268A036). The NRC is finalizing its TMRE pilot plant reviews. Licensees may use TORMIS, TMRE, or other such methods on a plant-specific basis in accordance with 10 CFR 50.59.

In parallel and subsequent to issuance of the NRC letter dated February 28, 2019, the NRC completed its TMRE pilot reviews for Vogtle Electric Generating Plant, Shearon Harris Nuclear

Power Plant, and Grand Gulf Nuclear Station and issued license amendments approving the plant-specific applications (ADAMS Accession Nos. ML18304A394, ML18347A385, and ML19123A014, respectively).

As stated in the NRC letter dated February 28, 2019, licensees may pursue a number of options and approaches to reconcile issues related to tornado-missile protection. Licensees may use insights from all three TMRE pilots in performing plant-specific evaluations using 10 CFR 50.59 and submitting plant-specific license amendment requests. To the extent licensees can satisfy the terms, conditions, and limitations, the plant-specific approvals for Vogtle, Harris, and Grand Gulf may be of direct benefit.

NEI 96-07, Revision 1, "Guidelines for 10 CFR 50.59 Implementation," issued November 2000 (ADAMS Accession No. ML003771157), as endorsed by Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59 'Changes, Tests, and Experiments,'" provides licensees with guidance that the NRC staff considers acceptable for use in complying with the Commission's regulations on the process by which licensees, under certain conditions, may make changes to their facilities and procedures as described in the final safety analysis report (as updated) without prior NRC approval.

NEI 96-07, Revision 1, Section 4.3.8.2, "Guidance for Changing from One Method of Evaluation to Another," states the following:

The definition of "departure..." provides licensees with the flexibility to make changes under 10 CFR 50.59 from one method of evaluation to another provided that the new method is approved by the NRC for the intended application. A new method is approved by the NRC for intended application if it is approved for the type of analysis being conducted, and applicable terms, conditions and limitations for its use are satisfied.

The NRC has approved the plant-specific application of the TMRE method at the TMRE pilot plants; however, the NRC safety evaluation placed a number of conditions and limitations on the use of the TMRE method. Each licensee seeking to resolve tornado-missile-protection issues using the TMRE method would need to evaluate how the approved plant-specific conditions and limitations would apply to its facility.

If you have any further questions about this matter, please contact Mr. Philip McKenna at 301-415-0037.

Sincerely,

/RA/

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation



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

February 7, 2020

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

SUBJECT: TIMELY RESOLUTION OF ISSUES RELATED TO TORNADO-MISSILE
PROTECTION—SUPPLEMENTAL INFORMATION

Dear Mr. Nazar:

This letter provides supplemental information about the U.S. Nuclear Regulatory Commission's (NRC's) letter, "Timely Resolution of Issues Related to Tornado-Missile Protection," dated February 28, 2019 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18338A085). In that letter, the NRC described the timely and efficient resolution of longstanding issues related to tornado-missile protection, with the goal of closing these issues in 2019. The letter also referenced Enforcement Guidance Memorandum (EGM) 15-002, Revision 1, "Enforcement Discretion for Tornado-Generated Missile Protection Noncompliance," dated February 15, 2017 (ADAMS Accession No. ML16355A286) which expires on June 10, 2020.

On September 10, 2019, the NRC staff conducted a Category 2 public meeting with the Nuclear Energy Institute (NEI) at NRC Headquarters to discuss generic recommendations for addressing tornado-missile protection at nuclear power plants (ADAMS Accession No. ML19274C199). Based on industry feedback and discussion among participants about changes evaluated under Title 10 of the *Code of Federal Regulations* (10 CFR) 50.59, "Changes, tests and experiments," the NRC staff is providing this supplemental information about the option of bringing the facility back into compliance by changing the licensing basis to incorporate the Tornado Missile Risk Evaluator (TMRE) under 10 CFR 50.59 without prior NRC approval.

In its letter dated February 28, 2019, the NRC stated, "depending on the special circumstances, several approaches may be considered such as: changes evaluated under 10 CFR 50.59," with the following footnote:

Tornado-missile protection issues have been addressed through modification of facilities and participation in industry-led initiatives such as the Electric Power Research Institute's TORMIS computer code, and use of Nuclear Energy Institute (NEI) 17-02, "Tornado Missile Risk Evaluator (TMRE) Industry Guidance Document," Revision 1, issued September 2017 (ADAMS Accession No. ML17268A036). The NRC is finalizing its TMRE pilot plant reviews. Licensees may use TORMIS, TMRE, or other such methods on a plant-specific basis in accordance with 10 CFR 50.59.

In parallel and subsequent to issuance of the NRC letter dated February 28, 2019, the NRC completed its TMRE pilot reviews for Vogtle Electric Generating Plant, Shearon Harris Nuclear

Power Plant, and Grand Gulf Nuclear Station and issued license amendments approving the plant-specific applications (ADAMS Accession Nos. ML18304A394, ML18347A385, and ML19123A014, respectively).

As stated in the NRC letter dated February 28, 2019, licensees may pursue a number of options and approaches to reconcile issues related to tornado-missile protection. Licensees may use insights from all three TMRE pilots in performing plant-specific evaluations using 10 CFR 50.59 and submitting plant-specific license amendment requests. To the extent licensees can satisfy the terms, conditions, and limitations, the plant-specific approvals for Vogtle, Harris, and Grand Gulf may be of direct benefit.

NEI 96-07, Revision 1, "Guidelines for 10 CFR 50.59 Implementation," issued November 2000 (ADAMS Accession No. ML003771157), as endorsed by Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59 'Changes, Tests, and Experiments,'" provides licensees with guidance that the NRC staff considers acceptable for use in complying with the Commission's regulations on the process by which licensees, under certain conditions, may make changes to their facilities and procedures as described in the final safety analysis report (as updated) without prior NRC approval.

NEI 96-07, Revision 1, Section 4.3.8.2, "Guidance for Changing from One Method of Evaluation to Another," states the following:

The definition of "departure..." provides licensees with the flexibility to make changes under 10 CFR 50.59 from one method of evaluation to another provided that the new method is approved by the NRC for the intended application. A new method is approved by the NRC for intended application if it is approved for the type of analysis being conducted, and applicable terms, conditions and limitations for its use are satisfied.

The NRC has approved the plant-specific application of the TMRE method at the TMRE pilot plants; however, the NRC safety evaluation placed a number of conditions and limitations on the use of the TMRE method. Each licensee seeking to resolve tornado-missile-protection issues using the TMRE method would need to evaluate how the approved plant-specific conditions and limitations would apply to its facility.

If you have any further questions about this matter, please contact Mr. Philip McKenna at 301-415-0037.

Sincerely,

/RA/

Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

SUBJECT: TIMELY RESOLUTION OF ISSUES RELATED TO TORNADO-MISSILE PROTECTION – SUPPLEMENTAL INFORMATION DATED FEBRUARY 7, 2020

DISTRIBUTION:

PUBLIC
 PM File Copy
 RidsNrrDorl Resource
 RidsNrrDorlLp12-1 Resource
 RidsNrrDorlLp13 Resource
 RidsNrrDorlLp14 Resource
 RidsNrrDorlLspb Resource
 RidsNrrDra Resource
 RidsNrrDraAplb Resource
 RidsNrrDss Resource
 RidsNrrDssScpb Resource
 RidsNrrOd Resource
 RidsOeMailCenter Resource
 RidsOgcMailCenter Resource
 RidsRgn1MailCenter Resource

RidsRgn2MailCenter Resource
 RidsRgn3MailCenter Resource
 RidsRgn4MailCenter Resource
 RidsOpaMail Resource
 DCollins, RI/DRP
 JYerokun, RI/DRS
 MMiller, RII/DRP
 MFranke, RII/DRS
 JLara, RIII/DRP
 KO'Brien, RIII/DRS
 AVegel, RIV/DRP
 RLantz, RIV/DRS

ADAMS Accession No. ML20015A299

***via e-mail NRR-106**

OFFICE	NRR/DRO/IRSB	Tect Editor	NRR/DRO/IRSB/BC	NRR/DORL
NAME	DBeaulieu*	KAzariah-Kribbs	PMcKenna *	CElanger*
DATE	1/15/20	1/16/20	1/16/20	1/21/20
OFFICE	NRR/DSS	NRR/DRA	NRR/DRO	RI/DRS
NAME	MRoss-Lee* (for JDonoghue)	GBowman* (for MFranovich)	RFelts* (for CMiller)	JYerokun*
DATE	1/16/20	1/16/20	1/24/20	1/23/20
OFFICE	RII/DRS	RIII/DRS	RIV/DRS	OGC/MLE
NAME	APretzello* (for MFranke)	KOBrien*	RLantz*	MMarsh*
DATE	1/22/20	1/23/20	1/15/20	1/22/20
OFFICE	OGC	NRR/OD		
NAME	RAugustus*	HNieh		
DATE	2/2/20	2/7/20		

OFFICIAL RECORD COPY

SUBJECT: TIMELY RESOLUTION OF ISSUES RELATED TO TORNADO-MISSILE
PROTECTION—SUPPLEMENTAL INFORMATION DATED FEBRUARY 7, 2020

Identical letters sent to:

Dr. Jennifer L. Uhle
Vice President, Generation & Suppliers
Nuclear Energy Institute
1201 F Street, NW, Suite 1100
Washington, DC 20004

Mr. Chris Bakken
Executive Vice President
Nuclear Operations & Chief Nuclear Officer
Entergy Nuclear
1340 Echelon Parkway
Jackson, MS 39213

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