



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

June 27, 2012

Mr. Peter P. Sena, III  
President and Chief Operating Officer  
FirstEnergy Nuclear Operating Company  
341 White Pond Drive  
Akron, OH 44320

**SUBJECT: BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2; DAVIS-BESSE  
NUCLEAR POWER STATION, UNIT NO. 1; AND PERRY NUCLEAR POWER  
PLANT, UNIT NO. 1 – CLOSEOUT OF BULLETIN 2011-01, "MITIGATING  
STRATEGIES" (TAC NOS. ME6400, ME6401, ME6424, AND ME6467)**

Dear Mr. Sena:

On May 11, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued Bulletin 2011-01, "Mitigating Strategies" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML111250360), to all holders of operating licenses for nuclear power reactors, except those that have permanently ceased operation and have certified that fuel has been removed from the reactor vessel. The purpose of the bulletin was to obtain a comprehensive verification that licensees' mitigating strategies to maintain or restore core cooling, spent fuel cooling, and containment following a large explosion or fire, were compliant with Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.54(hh)(2).

The bulletin required two sets of responses pursuant to the provisions of 10 CFR 50.54(f). FirstEnergy Nuclear Operating Company (FENOC), the licensee for Beaver Valley Power Station, Unit Nos. 1 and 2 (BVPS); Davis-Besse Nuclear Power Station (DBNPS); and Perry Nuclear Power Plant (PNPP), provided responses corresponding to the bulletin's requested actions. By two letters dated June 9, 2011 (ADAMS Accession Nos. ML111600247 (non-public version) and ML111640470 (public version)), FENOC provided responses to the first request, due 30 days after issuance of the bulletin, for all three sites (BVPS, DBNPS, and PNPP). The second set of responses were due 60 days after issuance of the bulletin. By letter dated July 11, 2011 (ADAMS Accession No. ML111930021), FENOC provided its response to this second set of questions (second response), for all three sites. By letters dated November 29, 2011 (1), and November 30, 2011 (2), (ADAMS Accession Nos. ML113260278, ML113330322, and ML113330268), the NRC sent requests for additional information (RAIs) to all three sites regarding the second response. FENOC responded to the RAI letters for all three sites by letter dated December 29, 2011 (ADAMS Accession No. ML113640025).

P. Sena

- 2 -

The NRC staff has reviewed the information submitted by FENOC for BVPS, DBNPS, and PNPP, and concludes that its response to the bulletin is acceptable. As summarized in the enclosures, the NRC staff verified that FENOC has provided the information requested in the bulletin. The NRC staff finds that no further information or actions under the bulletin are requested, and plans to close the associated TACs for this review.

Please contact me at 301-415-2833, if you have any questions.

Sincerely,

A handwritten signature in black ink, reading "Peter Bamford". The signature is fluid and cursive, with the first name "Peter" and last name "Bamford" clearly distinguishable.

Peter Bamford, Project Manager  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-334, 50-412, 50-346  
and 50-440

Enclosures:

1. Beaver Valley, Summary of NRC  
Bulletin 2011-01 Response Review
2. Davis-Besse, Summary of NRC Bulletin  
2011-01 Response Review
3. Perry, Summary of NRC Bulletin  
2011-01 Response Review

cc w/encls: Distribution via Listserv



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

SUMMARY OF NRC BULLETIN 2011-01

"MITIGATING STRATEGIES" RESPONSE REVIEW

BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2

DOCKET NOS. 50-334 AND 50-412

1.0 INTRODUCTION

On May 11, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued Bulletin 2011-01, "Mitigating Strategies" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML111250360), to all holders of operating licenses for nuclear power reactors, except those that have permanently ceased operation and have certified that fuel has been removed from the reactor vessel. The bulletin required two sets of responses pursuant to the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.54(f). The first set of responses was due 30 days after issuance of the bulletin. By two letters dated June 9, 2011 (ADAMS Accession Nos. ML111600247 (non-public version) and ML111640470 (public version)), FirstEnergy Nuclear Operating Company (FENOC) provided its response to this first set of questions (first response), for Beaver Valley Power Station, Units 1 and 2 (BVPS). The second set of responses was due 60 days after issuance of the bulletin. By letter dated July 11, 2011 (ADAMS Accession No. ML111930021), FENOC provided its response to this second set of questions (second response), for BVPS. By letter dated November 29, 2011 (ADAMS Accession No. ML113260278), the NRC sent a request for additional information (RAI) on the second response. FENOC responded to the RAI, for BVPS, by letter dated December 29, 2011 (ADAMS Accession No. ML113640025). As summarized below, the NRC staff has verified that FENOC provided the information requested in the bulletin, for BVPS.

2.0 BACKGROUND

On February 25, 2002, the NRC issued EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures" (ICM Order). Section B.5.b of the ICM Order required licensees to develop specific guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities using readily available resources (equipment and personnel) that can be effectively implemented under the circumstances associated with the loss of large areas of the plant due to explosions or fire.

By letter dated June 27, 2007 (ADAMS Accession No. ML071710148), the NRC staff issued its Safety Evaluation (SE) to document the final disposition of information submitted by FENOC regarding Section B.5.b of the ICM Order, for BVPS. Along with the SE, the staff issued a conforming license condition to incorporate the B.5.b mitigating strategies into the licensing basis. On March 27, 2009, the NRC issued 10 CFR 50.54(hh)(2) as a new rule, in order to capture the B.5.b mitigating strategies and related license conditions as regulatory requirements for both current and future licensees. At that time, licensee compliance with the conforming license conditions was sufficient to demonstrate compliance with 10 CFR 50.54(hh)(2) (74 FR 13926); therefore no further actions were required on the part of current licensees.

### 3.0 TECHNICAL EVALUATION

#### 3.1 30-Day Request

In order to confirm continued compliance with 10 CFR 50.54(hh)(2), the bulletin requested that licensees address the following two questions within 30 days of issuing the bulletin:

1. Is the equipment necessary to execute the mitigating strategies, as described in your submittals to the NRC, available and capable of performing its intended function?
2. Are the guidance and strategies implemented capable of being executed considering the current configuration of your facility and current staffing and skill levels of the staff?

The NRC staff reviewed FENOC's first response, for BVPS, to determine if it had adequately addressed these questions. A summary of the NRC staff's review is provided below.

##### 3.1.1 Question 1: Availability and Capability of Equipment

In its first response, FENOC confirmed that the equipment it needs to execute the 10 CFR 50.54(hh)(2) mitigating strategies at BVPS is available and capable of performing its intended function. The NRC staff verified that this confirmation covered equipment needed for each of the three phases of the B.5.b mitigation strategies. Therefore, the NRC staff finds that FENOC has adequately responded to Question 1, for BVPS.

##### 3.1.2 Question 2: Guidance and Strategies Can Be Executed

In its first response, FENOC confirmed that the guidance and strategies it has implemented for 10 CFR 50.54(hh)(2) are capable of being executed, considering the current facility configuration, staffing levels, and staff skills for BVPS. Since FENOC has considered its current facility configuration, staffing levels, and staff's skills, and confirmed that it can execute its implemented guidance and strategies, the NRC staff finds that FENOC has adequately responded to Question 2, for BVPS.

#### 3.2 60-Day Request

The bulletin required a response to the following five questions within 60 days of issuing the bulletin:

1. Describe in detail the maintenance of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it is functional when needed.
2. Describe in detail the testing of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it will function when needed.
3. Describe in detail the controls for ensuring that the equipment is available when needed.
4. Describe in detail how configuration and guidance management is ensured so that strategies remain feasible.

5. Describe in detail how you ensure availability of offsite support.

The NRC staff reviewed FENOC's submittals, for BVPS, to determine if it had adequately addressed these questions. This was accomplished by verifying that the submittals listed equipment, training, and offsite resources which were relied upon to make conclusions in the June 27, 2007, SE, or are commonly needed to implement the mitigating strategies. A summary of the NRC staff's review is provided below.

3.2.1 Questions 1 and 2: Maintenance and Testing of Equipment

Questions 1 and 2 of the 60-day request required licensees to describe in detail the maintenance and testing of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it is functional when needed. In its second response, FENOC listed the equipment used to support the 10 CFR 50.54(hh)(2) mitigating strategies which receives maintenance or testing, for BVPS. For each item, FENOC described the maintenance and testing performed, including the frequency and basis for the maintenance or testing activity.

The NRC staff verified that FENOC listed equipment that typically requires maintenance or testing which was relied upon to make conclusions in the SE, or commonly needed to implement the mitigating strategies, for BVPS. In its second response, FENOC stated that the portable pumps, vehicles, portable power supplies, hoses, and communications equipment receive maintenance or testing at BVPS. In an RAI dated November 29, 2011, the NRC noted that the monitor nozzles and spray nozzles were not identified as receiving maintenance or testing. FENOC stated in its RAI response, for BVPS, that its inventory would find any obvious signs of damage or potential blockage of these nozzles and functionality of these nozzles is demonstrated when they are used for training. In its RAI response, FENOC described how it ensures sufficient fuel for the portable pumps, for BVPS. FENOC also identified other items that support the mitigating strategies that receive maintenance or testing.

The NRC staff verified that FENOC described the process used for corrective actions and listed the testing performed to ensure that the strategies were initially feasible, for BVPS. FENOC stated in its second response that its 10 CFR Part 50, Appendix B, corrective action program is used to document equipment failure, establish priorities, and perform trending at BVPS.

Based upon the information above, the NRC staff finds that FENOC has provided the information requested by Questions 1 and 2, for BVPS.

3.2.2 Question 3: Controls on Equipment

Question 3 of the 60-day request required licensees to describe in detail the controls on equipment, such as inventory requirements, to ensure that the equipment is available when needed. A list of inventory deficiencies and associated corrective actions to prevent loss was also requested.

The NRC staff verified that FENOC described its process for ensuring that B.5.b equipment will be available, when needed, for BVPS. In its second response, FENOC identified the equipment included in its inventory, the inventory frequency, storage requirements, and items verified. Items verified include proper quantity, location, and accessibility of equipment and controls on

the storage locations, for BVPS. FENOC stated that at the time of its second response, there were no outstanding inventory deficiencies that would render the strategies not viable.

The NRC staff verified that FENOC inventoried the equipment which was relied upon to make conclusions in the SE or commonly needed to implement the mitigating strategies at BVPS. In its second response, FENOC stated that procured non-permanently installed B.5.b equipment is inventoried at least annually in accordance with station procedures, and indicated that most of the equipment specifically listed in response to Question 3 was inventoried more frequently, for BVPS. The second response specifically stated that the following items are included in the inventory: portable pumps; vehicles; hoses; communications equipment; nozzles; connectors; and firefighter turnout gear. Although the portable power supplies were not listed as being inventoried, they receive periodic maintenance or testing, which would ensure their availability. FENOC also identified other items that support the mitigating strategies that are inventoried at BVPS.

Based upon the information above, the NRC staff finds that FENOC has provided the information requested by Question 3, for BVPS.

### 3.2.3 Question 4: Configuration and Guidance Management

Question 4 of the 60-day request required licensees to describe in detail how configuration and guidance management is assured so that the strategies remain feasible.

The NRC staff verified that FENOC described its measures to evaluate plant configuration changes for their effects on the mitigating strategies and to ensure its procedures are current, for BVPS. In its second response, FENOC stated that plant configuration changes are procedurally required to be evaluated against the licensing basis, which includes the B.5.b mitigating strategies. FENOC stated that the design change process requires a review of affected procedures and that procedure changes are validated to ensure that the B.5.b mitigating strategies remain viable at BVPS.

The NRC staff verified that FENOC described the measures it has taken to validate the procedures or guidelines developed to support the mitigating strategies, for BVPS. In its second response, FENOC identified the testing in response to Question 2 that demonstrated the ability to execute some strategies, for BVPS. FENOC also stated that "initially, B.5.b mitigating strategies were validated by walkdowns, engineering evaluations and table top reviews," and they were similarly revalidated in 2011, for BVPS.

The NRC staff verified that FENOC described the training program implemented in support of the mitigating strategies and how its effectiveness is evaluated, for BVPS. In its second response, FENOC identified the training provided to its operations personnel, emergency response organization, fire brigade, security personnel, and others. FENOC also identified the frequency with which each type of training is provided and the methods for the evaluation of the training.

Based upon the information above, the NRC staff finds that FENOC has provided the information requested by Question 4, for BVPS.

#### 3.2.4 Question 5: Offsite Support

Question 5 of the 60-day request required licensees to describe in detail how offsite support availability is assured.

The NRC staff verified that FENOC listed the offsite organizations it relies upon for emergency response, including a description of agreements and related training, for BVPS. The NRC staff compared the list of offsite organizations that FENOC provided in its second response with the information relied upon to make conclusions in the SE. FENOC stated that it maintains letters of agreement with these offsite organizations, which are reviewed annually, and that these agreements were current at the time of its second response. FENOC also described the training and site familiarization it provides to these offsite organizations. FENOC stated that it reviewed its corrective action program back to 2008 and found no issues involving lapsed agreements related to offsite support for B.5.b events, for BVPS.

Based upon the information above, the NRC staff finds that FENOC has provided the information requested by Question 5, for BVPS.

#### 4.0 CONCLUSION

As described above, the NRC staff has verified that FENOC has provided the information requested in Bulletin 2011-01, for BVPS. Specifically, FENOC responded to each of the questions in the bulletin, as requested. The NRC staff concludes that FENOC has completed all of the requirements of the bulletin and no further information or actions under the bulletin are needed, for BVPS.



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

SUMMARY OF NRC BULLETIN 2011-01

"MITIGATING STRATEGIES" RESPONSE REVIEW

DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

DOCKET NO. 50-346

1.0 INTRODUCTION

On May 11, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued Bulletin 2011-01, "Mitigating Strategies" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML111250360), to all holders of operating licenses for nuclear power reactors, except those that have permanently ceased operation and have certified that fuel has been removed from the reactor vessel. The bulletin required two sets of responses pursuant to the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.54(f). The first set of responses was due 30 days after issuance of the bulletin. By two letters dated June 9, 2011 (ADAMS Accession Nos. ML111600247 (non-public version) and ML111640470 (public version)), FirstEnergy Nuclear Operating Company (FENOC) provided its response to this first set of questions (first response) for Davis-Besse Nuclear Power Station, Unit No. 1 (DBNPS). The second set of responses was due 60 days after issuance of the bulletin. By letter dated July 11, 2011 (ADAMS Accession No. ML111930021), FENOC provided its response to this second set of questions (second response), for DBNPS. By letter dated November 30, 2011 (ADAMS Accession No. ML113330322), the NRC sent a request for additional information (RAI) on the second response. FENOC responded to the RAI by letter dated December 29, 2011 (ADAMS Accession No. ML113640025), for DBNPS. As summarized below, the NRC staff has verified that FENOC provided the information requested in the bulletin, for DBNPS.

2.0 BACKGROUND

On February 25, 2002, the NRC issued EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures" (ICM Order). Section B.5.b of the ICM Order required licensees to develop specific guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities using readily available resources (equipment and personnel) that can be effectively implemented under the circumstances associated with the loss of large areas of the plant due to explosions or fire.

By letter dated July 11, 2007 (ADAMS Accession No. ML071920003), the NRC staff issued its Safety Evaluation (SE) to document the final disposition of information submitted by FENOC regarding Section B.5.b of the ICM Order, for DBNPS. Along with the SE, the staff issued a conforming license condition to incorporate the B.5.b mitigating strategies into the licensing basis. On March 27, 2009, the NRC issued 10 CFR 50.54(hh)(2) as a new rule, in order to capture the B.5.b mitigating strategies and related license conditions as regulatory requirements for both current and future licensees. At that time, licensee compliance with the conforming license conditions was sufficient to demonstrate compliance with 10 CFR 50.54(hh)(2) (74 FR 13926); therefore, no further actions were required on the part of current licensees.



### 3.0 TECHNICAL EVALUATION

#### 3.1 30-Day Request

In order to confirm continued compliance with 10 CFR 50.54(hh)(2), the bulletin requested that licensees address the following two questions within 30 days of issuing the bulletin:

1. Is the equipment necessary to execute the mitigating strategies, as described in your submittals to the NRC, available and capable of performing its intended function?
2. Are the guidance and strategies implemented capable of being executed considering the current configuration of your facility and current staffing and skill levels of the staff?

The NRC staff reviewed FENOC's first response to determine if it had adequately addressed these questions, for DBNPS. A summary of the NRC staff's review is provided below.

##### 3.1.1 Question 1: Availability and Capability of Equipment

In its first response, FENOC confirmed that the equipment it needs to execute the 10 CFR 50.54(hh)(2) mitigating strategies is available and capable of performing its intended function, for DBNPS. The NRC staff verified that this confirmation covered equipment needed for each of the three phases of the B.5.b mitigation strategies. Therefore, the NRC staff finds that FENOC has adequately responded to Question 1, for DBNPS.

##### 3.1.2 Question 2: Guidance and Strategies Can Be Executed

In its first response, FENOC confirmed that the guidance and strategies it has implemented for 10 CFR 50.54(hh)(2) are capable of being executed considering the current facility configuration, staffing levels, and staff skills, for DBNPS. Since FENOC has considered its current facility configuration, staffing levels, and staff's skills, and confirmed that it can execute its implemented guidance and strategies, the NRC staff finds that FENOC has adequately responded to Question 2, for DBNPS.

#### 3.2 60-Day Request

The bulletin required a response to the following five questions within 60 days of issuing the bulletin:

1. Describe in detail the maintenance of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it is functional when needed.
2. Describe in detail the testing of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it will function when needed.
3. Describe in detail the controls for ensuring that the equipment is available when needed.
4. Describe in detail how configuration and guidance management is ensured so that strategies remain feasible.

5. Describe in detail how you ensure availability of offsite support.

The NRC staff reviewed FENOC's submittals to determine if it had adequately addressed these questions, for DBNPS. This was accomplished by verifying that the submittals listed equipment, training, and offsite resources which were relied upon to make conclusions in the July 11, 2007, SE, or are commonly needed to implement the mitigating strategies. A summary of the NRC staff's review is provided below.

3.2.1 Questions 1 and 2: Maintenance and Testing of Equipment

Questions 1 and 2 of the 60-day request required licensees to describe in detail the maintenance and testing of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it is functional when needed. In its second response, FENOC listed the equipment used to support the 10 CFR 50.54(hh)(2) mitigating strategies which receives maintenance or testing, for DBNPS. For each item, FENOC described the maintenance and testing performed, including the frequency and basis for the maintenance or testing activity, for DBNPS.

The NRC staff verified that FENOC listed equipment that typically requires maintenance or testing which was relied upon to make conclusions in the SE or commonly needed to implement the mitigating strategies, for DBNPS. In its second response, FENOC stated that the portable pump, vehicles, portable power supplies, hoses, and communications equipment receive maintenance or testing. In an RAI dated November 29, 2011, the NRC noted that the monitor nozzles and spray nozzles were not identified as receiving maintenance or testing. FENOC stated in its RAI response that its inventory would find any obvious signs of damage or potential blockage of these nozzles and functionality of these nozzles is demonstrated when they are used for training at DBNPS. The NRC staff noted that refueling of the portable pump is done during maintenance. FENOC also identified other items that support the mitigating strategies that receive maintenance or testing, for DBNPS.

The NRC staff verified that FENOC described the process used for corrective actions and listed the testing performed to ensure that the strategies were initially feasible. FENOC stated in its second response that its 10 CFR Part 50, Appendix B, corrective action program is used to document equipment failure, establish priorities, and perform trending, for DBNPS.

Based upon the information above, the NRC staff finds that FENOC has provided the information requested by Questions 1 and 2, for DBNPS.

3.2.2 Question 3: Controls on Equipment

Question 3 of the 60-day request required licensees to describe in detail the controls on equipment, such as inventory requirements, to ensure that the equipment is available when needed. A list of inventory deficiencies and associated corrective actions to prevent loss was also requested.

The NRC staff verified that FENOC described its process for ensuring that B.5.b equipment will be available when needed, for DBNPS. In its second response, FENOC identified the equipment included in its inventory, the inventory frequency, storage requirements, and items verified. Items verified include proper quantity, location, and accessibility of equipment and

controls on the storage locations, for DBNPS. FENOC stated that at the time of its second response, there were no outstanding inventory deficiencies that would render the strategies not viable.

The NRC staff verified that FENOC inventoried the equipment which was relied upon to make conclusions in the SE or commonly needed to implement the mitigating strategies, for DBNPS. In its second response, FENOC stated that procured non-permanently installed B.5.b equipment is inventoried at least annually in accordance with station procedures, and indicated that many items specifically listed in response to Question 3 are inventoried more frequently, for DBNPS. The second response specifically stated that the following items are included in the inventory: portable pump; vehicle; hoses; communications equipment; nozzles; adapters; and firefighter turnout gear. FENOC also identified other items that support the mitigating strategies that are inventoried, for DBNPS.

Based upon the information above, the NRC staff finds that FENOC has provided the information requested by Question 3, for DBNPS.

### 3.2.3 Question 4: Configuration and Guidance Management

Question 4 of the 60-day request required licensees to describe in detail how configuration and guidance management is assured so that the strategies remain feasible.

The NRC staff verified that FENOC described its measures to evaluate plant configuration changes for their effects on the mitigating strategies and to ensure its procedures are current, for DBNPS. In its second response, FENOC stated that plant configuration changes are procedurally evaluated against the licensing basis, which includes the B.5.b mitigating strategies at DBNPS. FENOC stated that the design change process requires a review of affected procedures and that procedure changes are validated to ensure that the B.5.b mitigating strategies remain viable at DBNPS.

The NRC staff verified that FENOC described the measures it has taken to validate the procedures or guidelines developed to support the mitigating strategies for DBNPS. In its second response, FENOC identified the testing in response to Question 2 that demonstrated the ability to execute some strategies, for DBNPS. FENOC also stated that "initially, mitigating strategies were validated by walkdowns, engineering evaluations and table top reviews," and they were similarly revalidated in 2011. FENOC reviews the B.5.b mitigating strategies every 3 years to ensure they remain feasible.

The NRC staff verified that FENOC described the training program implemented in support of the mitigating strategies and how its effectiveness is evaluated at DBNPS. In its second response, FENOC identified the training provided to its operations personnel, emergency response organization, including key decision makers, fire brigade, security personnel, and other personnel, for DBNPS. FENOC also identified the frequency with which each type of training is provided and the methods for the evaluation of the training.

Based upon the information above, the NRC staff finds that FENOC has provided the information requested by Question 4, for DBNPS.

#### 3.2.4 Question 5: Offsite Support

Question 5 of the 60-day request required licensees to describe in detail how offsite support availability is assured.

The NRC staff verified that FENOC listed the offsite organizations it relies upon for emergency response, including a description of agreements and related training, for DBNPS. The NRC staff compared the list of offsite organizations that FENOC provided in its second response with the information relied upon to make conclusions in the SE, for DBNPS. The NRC staff noted that the second response did not identify any local law enforcement agencies and did not include agreements for debris removal equipment to be provided by offsite resources. In its RAI response, FENOC described how it assures the availability of a local law enforcement agency and debris removal equipment, for DBNPS. FENOC stated that it maintains letters of agreement with these offsite organizations, which are reviewed annually, and that these agreements were current at the time of its second response. FENOC also described the training and site familiarization it provides to these offsite organizations. FENOC stated that it reviewed its corrective action program back to 2008 and found no issues involving lapsed agreements related to offsite support for B.5.b events, for DBNPS.

Based upon the information above, the NRC staff finds that FENOC has provided the information requested by Question 5 for DBNPS.

#### 4.0 CONCLUSION

As described above, the NRC staff has verified that FENOC has provided the information requested in Bulletin 2011-01, for DBNPS. Specifically, FENOC responded to each of the questions in the bulletin, as requested. The NRC staff concludes that FENOC has completed all of the requirements of the bulletin and no further information or actions under the bulletin are needed, for DBNPS.



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

SUMMARY OF NRC BULLETIN 2011-01

"MITIGATING STRATEGIES" RESPONSE REVIEW

PERRY NUCLEAR POWER PLANT, UNIT NO. 1

DOCKET NO. 50-440

1.0 INTRODUCTION

On May 11, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued Bulletin 2011-01, "Mitigating Strategies" (Agencywide Documents Access and Management System (ADAMS) Accession No. ML111250360), to all holders of operating licenses for nuclear power reactors, except those that have permanently ceased operation and have certified that fuel has been removed from the reactor vessel. The bulletin required two sets of responses pursuant to the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.54(f). The first set of responses was due 30 days after issuance of the bulletin. By two letters dated June 9, 2011 (ADAMS Accession Nos. ML111600247 (non-public version) and ML111640470 (public version)), FirstEnergy Nuclear Operating Company (FENOC) provided its response to this first set of questions (first response), for Perry Nuclear Power Plant, Unit No. 1 (PNPP). The second set of responses was due 60 days after issuance of the bulletin. By letter dated July 11, 2011 (ADAMS Accession No. ML111930021), FENOC provided its response to this second set of questions (second response), for PNPP. By letter dated November 30, 2011 (ADAMS Accession No. ML113330268), the NRC sent a request for additional information (RAI) on the second response. FENOC responded to the RAI by letter dated December 29, 2011 (ADAMS Accession No. ML113640025). As summarized below, the NRC staff has verified that FENOC provided the information requested in the bulletin, for PNPP.

2.0 BACKGROUND

On February 25, 2002, the NRC issued EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures" (ICM Order). Section B.5.b of the ICM Order required licensees to develop specific guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities using readily available resources (equipment and personnel) that can be effectively implemented under the circumstances associated with the loss of large areas of the plant due to explosions or fire.

By letter dated July 11, 2007 (ADAMS Accession No. ML071920006), the NRC staff issued its Safety Evaluation (SE) to document the final disposition of information submitted by FENOC regarding Section B.5.b of the ICM Order, for PNPP. Along with the SE, the staff issued a conforming license condition to incorporate the B.5.b mitigating strategies into the licensing basis. On March 27, 2009, the NRC issued 10 CFR 50.54(hh)(2) as a new rule, in order to capture the B.5.b mitigating strategies and related license conditions as regulatory requirements for both current and future licensees. At that time, licensee compliance with the conforming license conditions was sufficient to demonstrate compliance with 10 CFR 50.54(hh)(2) (74 FR 13926); therefore, no further actions were required on the part of current licensees.

### 3.0 TECHNICAL EVALUATION

#### 3.1 30-Day Request

In order to confirm continued compliance with 10 CFR 50.54(hh)(2), the bulletin requested that licensees address the following two questions within 30 days of issuing the bulletin:

1. Is the equipment necessary to execute the mitigating strategies, as described in your submittals to the NRC, available and capable of performing its intended function?
2. Are the guidance and strategies implemented capable of being executed considering the current configuration of your facility and current staffing and skill levels of the staff?

The NRC staff reviewed FENOC's first response, for PNPP, to determine if it had adequately addressed these questions. A summary of the NRC staff's review is provided below.

##### 3.1.1 Question 1: Availability and Capability of Equipment

In its first response, FENOC confirmed that the equipment it needs to execute the 10 CFR 50.54(hh)(2) mitigating strategies is available and capable of performing its intended function at PNPP. The NRC staff verified that this confirmation covered equipment needed for each of the three phases of the B.5.b mitigation strategies. Therefore, the NRC staff finds that FENOC has adequately responded to Question 1, for PNPP.

##### 3.1.2 Question 2: Guidance and Strategies Can Be Executed

In its first response, FENOC confirmed that the guidance and strategies it has implemented for 10 CFR 50.54(hh)(2) are capable of being executed, considering the current facility configuration, staffing levels, and staff's skills for PNPP. Since FENOC has considered its current facility configuration, staffing levels, and staff skills, and confirmed that it can execute its implemented guidance and strategies, the NRC staff finds that FENOC has adequately responded to Question 2, for PNPP.

#### 3.2 60-Day Request

The bulletin required a response to the following five questions within 60 days of issuing the bulletin:

1. Describe in detail the maintenance of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it is functional when needed.
2. Describe in detail the testing of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it will function when needed.
3. Describe in detail the controls for ensuring that the equipment is available when needed.
4. Describe in detail how configuration and guidance management is ensured so that strategies remain feasible.

5. Describe in detail how you ensure availability of offsite support.

The NRC staff reviewed FENOC's submittals to determine if it had adequately addressed these questions, for PNPP. This was accomplished by verifying that the submittals listed equipment, training, and offsite resources which were relied upon to make conclusions in the July 11, 2007, SE, or are commonly needed to implement the mitigating strategies. A summary of the NRC staff's review is provided below.

3.2.1 Questions 1 and 2: Maintenance and Testing of Equipment

Questions 1 and 2 of the 60-day request required licensees to describe in detail the maintenance and testing of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it is functional when needed. In its second response, FENOC listed the equipment used to support the 10 CFR 50.54(hh)(2) mitigating strategies which receives maintenance or testing at PNPP. For each item, FENOC described the maintenance and testing performed, including the frequency and basis for the maintenance or testing activity.

The NRC staff verified that FENOC listed equipment that typically requires maintenance or testing which was relied upon to make conclusions in the SE or commonly needed to implement the mitigating strategies, for PNPP. In its second response, FENOC stated that the portable pumps, portable power supply, hoses, and communications equipment receive maintenance or testing at PNPP. In an RAI dated November 29, 2011, the NRC noted that the monitor nozzles and spray nozzles were not identified as receiving maintenance or testing. FENOC stated in its RAI response, for PNPP, that its inventory would find any obvious signs of damage or potential blockage of these nozzles and functionality of these nozzles is demonstrated when they are used for training. In its RAI response, FENOC described how it ensures sufficient fuel for the portable pump it credits for 10 CFR 50.54(hh)(2), for PNPP. FENOC also identified other items that support the mitigating strategies that receive maintenance or testing.

The NRC staff verified that FENOC described the process used for corrective actions and listed the testing performed to ensure that the strategies were initially feasible, for PNPP. FENOC stated in its second response that its 10 CFR Part 50, Appendix B, corrective action program is used to document equipment failure, establish priorities, and perform trending at PNPP.

Based upon the information above, the NRC staff finds that FENOC has provided the information requested by Questions 1 and 2, for PNPP.

3.2.2 Question 3: Controls on Equipment

Question 3 of the 60-day request required licensees to describe in detail the controls on equipment, such as inventory requirements, to ensure that the equipment is available when needed. A list of inventory deficiencies and associated corrective actions to prevent loss was also requested.

The NRC staff verified that FENOC described its process for ensuring that B.5.b equipment will be available when needed, for PNPP. In its second response, FENOC identified the equipment included in its inventory, the inventory frequency, storage requirements, and items verified. Items verified include proper quantity, location, and accessibility of equipment, compressed gas bottle pressures, and controls on storage locations, for PNPP. FENOC stated that at the time of

its second response, there were no outstanding inventory deficiencies that would render the strategies not viable, for PNPP.

The NRC staff verified that FENOC inventoried the equipment which was relied upon to make conclusions in the SE or commonly needed to implement the mitigating strategies at PNPP. In its second response, FENOC stated that procured non-permanently installed B.5.b equipment is inventoried at least quarterly in accordance with station procedures. The second response specifically stated that the following items are included in the inventory: portable pump trailer; hoses; communications equipment; spray nozzles, connectors, and firefighter turnout gear. Although the portable power supply and pickup truck were not listed as being inventoried, they receive periodic maintenance or testing which would ensure their availability. FENOC also identified other items that support the mitigating strategies that are inventoried at PNPP.

Based upon the information above, the NRC staff finds that FENOC has provided the information requested by Question 3, for PNPP.

### 3.2.3 Question 4: Configuration and Guidance Management

Question 4 of the 60-day request required licensees to describe in detail how configuration and guidance management is assured so that the strategies remain feasible.

The NRC staff verified that FENOC described its measures to evaluate plant configuration changes for their effects on the mitigating strategies and to ensure its procedures are current, for PNPP. In its second response, FENOC stated that plant configuration changes are procedurally evaluated against the licensing basis, which includes the B.5.b mitigating strategies. FENOC stated that the design change process requires a review of affected procedures and that procedure changes are validated to ensure that the B.5.b mitigating strategies remain viable at PNPP.

The NRC staff verified that FENOC described the measures it has taken to validate the procedures or guidelines developed to support the mitigating strategies, for PNPP. In its second response, FENOC identified the testing in response to Question 2 that demonstrated the ability to execute some strategies. FENOC also stated that "initially, mitigating strategies were validated by walkdowns, engineering evaluations and table top reviews," and they were similarly revalidated in 2011, at PNPP.

The NRC staff verified that FENOC described the training program implemented in support of the mitigating strategies and how its effectiveness is evaluated, for PNPP. In its second response, FENOC identified the training provided to its operations personnel, emergency response organization, including key decisions makers, security personnel, fire brigade, and other personnel. FENOC also identified the frequency with which each type of training is provided and the methods for the evaluation of the training, for PNPP.

Based upon the information above, the NRC staff finds that FENOC has provided the information requested by Question 4, for PNPP.

### 3.2.4 Question 5: Offsite Support

Question 5 of the 60-day request required licensees to describe in detail how offsite support availability is assured.



The NRC staff verified that FENOC listed the offsite organizations it relies upon for emergency response, including a description of agreements and related training, for PNPP. The NRC staff compared the list of offsite organizations that FENOC provided in its second response with the information relied upon to make conclusions in the SE. FENOC stated that it maintains letters of agreement with these offsite organizations, which are reviewed annually, and that these agreements were current at the time of its second response. FENOC also described the training and site familiarization it provides to these offsite organizations. FENOC stated that it reviewed its corrective action program back to 2008 and found no issues involving lapsed agreements related to offsite support for B.5.b events.

Based upon the information above, the NRC staff finds that FENOC has provided the information requested by Question 5, for PNPP.

#### 4.0 CONCLUSION

As described above, the NRC staff has verified that FENOC has provided the information requested in Bulletin 2011-01, for PNPP. Specifically, FENOC responded to each of the questions in the bulletin, as requested. The NRC staff concludes that FENOC has completed all of the requirements of the bulletin and no further information or actions under the bulletin are needed, for PNPP.

P. Sena

- 2 -

The NRC staff has reviewed the information submitted by FENOC for BVPS, DBNPS, and PNPP, and concludes that its response to the bulletin is acceptable. As summarized in the enclosures, the NRC staff verified that FENOC has provided the information requested in the bulletin. The NRC staff finds that no further information or actions under the bulletin are requested, and plans to close the associated TACs for this review.

Please contact me at 301-415-2833, if you have any questions.

Sincerely,

/ra/

Peter Bamford, Project Manager  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-334, 50-412, 50-346  
and 50-440

Enclosures:

1. Beaver Valley, Summary of NRC  
Bulletin 2011-01 Response Review
2. Davis-Besse, Summary of NRC Bulletin  
2011-01 Response Review
3. Perry, Summary of NRC Bulletin  
2011-01 Response Review

cc w/encls: Distribution via Listserv

DISTRIBUTION:

PUBLIC	RidsOgcRp Resource	LPLI-2 R/F
RidsAcrsAcnw_MailCTR Resource	RidsNrrDprPgcb Resource	
RidsRgn1MailCenter Resource	RidsNrrDorlDpr Resource	RidsNrrDorlLpl1-2 Resouce
RidsNrrPMBeaverValley Resource	RidsNrrLAABaxter Resource	BPurnell, NRR
RidsNrrPMDavisBesse Resouce	RidsNrrDorlLpl3-2 Resource	RidsRgn3MailCenter Resource
RidsNrrPMPerry Resource		

ADAMS Accession Number: ML12160A245

\*via memo \*\*via email

OFFICE	LPLI-2/PM	LPLIII-2/PM	LPLI-2/LA	NRR/PGCB/BC	LPLI-2/BC
NAME	PBamford	MMahoney	ABaxter	KMorgan-Butler*	MKhanna
DATE	06/12/12	06/13/12	06/18/12**	05/30/12, 06/08/12	06/27/12

OFFICIAL RECORD COPY