



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

August 7, 2012

Vice President, Operations  
Entergy Nuclear Operations, Inc.  
Palisades Nuclear Plant  
27780 Blue Star Memorial Highway  
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR PLANT – CLOSEOUT OF BULLETIN 2011-01,  
"MITIGATING STRATEGIES" (TAC NO. ME6461)

Dear Sir or Madam:

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. ML11250360), 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). Palisades Nuclear Plant (Palisades) provided its responses to the bulletin by letters dated June 10, and July 8, 2011 (ADAMS Accession Nos. ML111640451 and ML111890270). By letter dated November 21, 2011 (ADAMS Accession No. ML113201928), the NRC sent the licensee a request for additional information (RAI) on its July 8, 2011, response. The licensee responded to the RAI by letter dated December 15, 2011 (ADAMS Accession No. ML113490429).

The NRC staff has reviewed the information submitted by Palisades, and concludes that its response to the bulletin is acceptable. As summarized in the enclosure, NRC staff verified that the licensee provided the information requested in the bulletin.

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No further information or action is required by the licensee for Bulletin for PNP. If you have any further questions or concerns, you can contact me @ 301-415-8371 or [Mahesh.chawla@nrc.gov](mailto:Mahesh.chawla@nrc.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Chawla M".

Mahesh Chawla, Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosure: Summary of NRC Bulletin 2011-01 Response Review

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SUMMARY OF NRC BULLETIN 2011-01  
"MITIGATING STRATEGIES" RESPONSE REVIEW  
PALISADES NUCLEAR PLANT  
DOCKET NO. 50-255

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 with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.54(f).

The first responses were due 30 days after issuance of the bulletin. By letter dated June 10, 2011 (ADAMS Accession No. ML111640451), Palisades Nuclear Plant (Palisades) provided its response to this first set of questions (first response).

The second responses were due 60 days after issuance of the bulletin. By letter dated July 8, 2011 (ADAMS Accession No. ML111890270), Palisades provided its response to this second set of questions (second response). By letter dated November 21, 2011 (ADAMS Accession No. ML113201928), the NRC sent a request for additional information (RAI) on the second response and Palisades responded to the RAI by letter dated December 15, 2011 (ADAMS Accession No. ML113490429). As summarized below, the NRC staff has verified that Palisades provided the information requested in the bulletin.

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 Palisades due to explosions or fire.

By letter dated August 9, 2007 (ADAMS Accession No. ML072200324), the NRC staff issued its safety evaluation (SE) to document the final disposition of information submitted by Palisades regarding Section B.5.b of the ICM Order. Along with the SE, the staff issued a conforming license condition to incorporate the B.5.b mitigating strategies into the licensing basis.

Enclosure

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) so no further actions were required on the part of current licensees.

### 3.0 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 Palisades' first response to determine if it had adequately addressed these questions.

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

In its first response, Palisades confirmed that equipment it needs to execute the 10 CFR 50.54(hh)(2) mitigating strategies 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 B.5.b mitigation strategies. Therefore, the NRC staff finds that Palisades has adequately responded to Question 1.

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

In its first response, Palisades 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. Since Palisades 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 Palisades has adequately responded to Question 2.

### 4.0 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 Palisades' submittals 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 August 9, 2007, SE or are commonly needed to implement the mitigating strategies.

#### 4.1 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, Palisades listed the equipment used to support the 10 CFR 50.54(hh)(2) mitigating strategies which receives maintenance or testing. For each item, Palisades described the maintenance and testing performed, including the frequency and basis for the maintenance or testing activity.

The NRC staff verified that Palisades 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. In its second response, Palisades stated that the portable pump, portable power supplies, hoses, spray nozzles, and communications equipment receive maintenance or testing. The testing and maintenance of the portable hose and equipment trailer was clarified in the RAI response. In its RAI response, Palisades described how it ensures there is sufficient fuel for the portable pump. Palisades also identified other items that support the mitigating strategies that receive maintenance or testing.

The NRC staff verified that Palisades described the process used for corrective actions and listed the testing performed to ensure that the strategies were initially feasible. Palisades 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.

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

#### 4.2 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 Palisades described its process for ensuring that B.5.b equipment will be available when needed. In its second response, Palisades identified equipment included in its inventory, the inventory frequency, storage requirements, and items verified. Items verified

include proper quantity, location, and accessibility of equipment. Palisades states 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 Palisades inventoried equipment which was relied upon to make conclusions in the SE or commonly needed to implement the mitigating strategies. In its second response, Palisades stated that procured non-permanently installed B.5.b equipment is inventoried in accordance with station procedures. The second response specifically states that the following items are included in the inventory: (1) hoses, (2) spray nozzles, and (3) connectors. The portable pump, portable power supplies, and communications equipment were not listed as inventoried items, but they receive periodic maintenance or testing which would also ensure their availability. In its RAI response, Palisades described its inventory of firefighter turnout gear and stated that all other equipment, tools, and instruments needed for the mitigation strategies was identified in the second response. In its RAI response, Palisades described how it ensures a vehicle is available to move the B.5.b portable pump and trailer.

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

#### 4.3 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 Palisades described its measures to evaluate Palisades configuration changes for their effects on the mitigating strategies and to ensure its procedures are current. In its second response, Palisades stated that Palisades configuration changes are procedurally evaluated against the licensing basis, which includes the B.5.b mitigating strategies. Palisades states 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.

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

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

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

#### 4.4 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 Palisades listed the offsite organizations it relies upon for emergency response, including a description of agreements and related training. The NRC staff compared the list of offsite organizations that Palisades provided in its second response with the information relied upon to make conclusions in the SE. The NRC staff noted that Palisades did not identify any local law enforcement agencies in its second response.

In its RAI response, Palisades described how it ensures the availability of several local law enforcement agencies to respond to a B.5.b event. Palisades stated that it maintains letters of agreement with the offsite organizations listed in its second response, which are validated annually, and that these agreements were current at the time of its second response. Palisades also described the training and site familiarization it provides to these offsite organizations. Palisades 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 Palisades has provided the information requested by Question 5.

#### 5.0 CONCLUSION

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

No further information or action is required by the licensee for Bulletin for PNP. If you have any further questions or concerns, you can contact me @ 301-415-8371 or [Mahesh.chawla@nrc.gov](mailto:Mahesh.chawla@nrc.gov).

Sincerely,

**/RA/**

Mahesh Chawla, Project Manager  
Plant Licensing Branch III-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosure: Summary of NRC Bulletin 2011-01 Response Review

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