

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
William M. Dean, Director

In the Matter of)	Docket Nos.: See Enclosure 2
)	
All Operating Reactor Licensees)	License Nos.: See Enclosure 2
)	

PROPOSED DIRECTOR'S DECISION UNDER 10 CFR 2.206

I. Introduction

By letter dated March 12, 2011, Thomas Saporito, representing Saprodani Associates, filed a petition pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) 2.206 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML110740026). The petitioner requested that the U.S. Nuclear Regulatory Commission (NRC or the Commission) take escalated enforcement action against the above-captioned licensees and suspend or revoke the NRC licenses granted to the licensees for operation of nuclear power reactors. In particular, the petitioner requested that the "NRC ORDER the immediate shut-down of all nuclear power reactors in the USA which are known to be located on or near an earthquake fault-line." The petitioner cited the Fukushima Dai-ichi accident in Japan as the rationale for and basis of the petition.

On March 21, 2011, the NRC acknowledged receipt of the petition (ADAMS Accession No. ML110840274). On April 4, 2011, the Petition Review Board (PRB) met internally to discuss petitioner's request for immediate action. The PRB determined that the request for immediate action is a general assertion without supporting facts. Thus, the PRB did not identify

a significant safety concern from the information provided which would warrant the NRC to order an immediate shutdown of nuclear power reactors located on or close to earthquake fault lines. On April 4, 2011, the petitioner was informed of the PRB's decision to deny his request for an immediate action (ADAMS Accession No. ML110940603).

On April 14, 2011, the petitioner addressed the PRB during a teleconference. A copy of the teleconference transcript is available at ADAMS Accession No. ML11109A014. During the teleconference, the petitioner stated that the petition falls into four requests as follows:

1. Order the immediate shutdown of all nuclear power reactors located on or near an earthquake fault line in the United States.
2. Order the immediate shutdown of all power reactors employing GE Mark I containment design in the United States, characterizing such design as flawed from the nuclear safety standpoint.
3. Advise other countries employing the GE Mark I nuclear power reactors about the serious nuclear safety design flaws associated with that design, which is likely to result in a serious nuclear accident comparable to the Japanese nuclear disaster.
4. Immediately revoke all 20-year license extensions issued to NRC licensees, because the NRC "has improperly and illegally granted 20-year license extensions to the 40-year license that was initially granted by the agency for the 104 nuclear reactors throughout the United States."

During the teleconference, the petitioner supplemented the second request by specifically naming NRC-licensed plants that employ the GE Mark I containment design and characterizing them as "flawed nuclear reactors" which pose an "unwarranted risk to the national security and common defense of the United States of America." He stated that "for these reasons standing alone, petitioners urge the NRC to order the immediate shutdown of all GE Mark I nuclear

power reactors in the United States.” Subsequently, on April 14 and 16, 2011, he provided additional documents in support of his claim (ADAMS Accession Nos. ML11110A026, ML11110A027, ML11110A028, and ML11119A024, respectively).

The PRB met internally on April 28, 2011, to discuss the petition, as supplemented. In accordance with the criteria for review and rejection described in Management Directive (MD) 8.11, the PRB made its initial recommendation to accept the petition in part, insofar as the petitioner requested additional regulatory action in response to the events at Fukushima. The supplemental information provided by the petitioner was not sufficient to warrant further inquiry regarding the petitioner’s assertions that the original licensing bases of U.S. nuclear reactors were faulty and that immediate shutdown was warranted.

On May 12, 2011, the Petition Manager informed the petitioner of the PRB’s initial recommendation to accept this petition in part (ADAMS Accession No. ML111320018). At that time, the petitioner requested another opportunity to address the PRB to provide comments on its initial recommendation and additional information in support of the petition.

On May 25, 2011, the petitioner addressed the PRB by teleconference to present supplemental information on the petition. Also, on May 25, 2011, he e-mailed additional information to the NRC (ADAMS Accession No. ML111450897), which the PRB considered. A copy of the transcript for the May 25, 2011, teleconference is available under ADAMS Accession No. ML11146A010.

The PRB considered the additional information provided during the teleconference on May 25, 2011, by the petitioner and determined that it did not contain any new or relevant information that would change the PRB’s initial recommendation. Consistent with its initial recommendation, the PRB declared its final recommendation to partially accept the petition for review, as modified and supplemented. Requests 1 and 2 were partially accepted to the extent

that the petitioner sought regulatory action in light of the events at Fukushima. However, Requests 1 and 2 were partially rejected on the basis that the petitioner did not provide sufficient facts to justify shutting down all nuclear power reactors located on or near fault lines, or those with the GE Mark I containment design. Request 3 was rejected on the basis that the petitioner requested an action that the NRC was already implementing, and Request 4 was rejected on the basis that the petitioner's claim was general and insufficient to warrant further inquiry, and that the issue had already been the subject of NRC staff review and evaluation. This decision was communicated to the petitioner via letter dated June 28, 2011 (ADAMS Accession No. ML11137A213).

The transcripts of the teleconferences were treated as supplements to the petition and are available for inspection at the NRC's Public Document Room (PDR), located at O1F21, 11555 Rockville Pike (first floor), Rockville, Maryland 20852. Publicly-available documents created or received at the NRC are accessible electronically through ADAMS in the NRC Library at <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC's PDR reference staff by telephone at 1-800-397-4209, or 301-415-4737, or by e-mail to pdr.resource@nrc.gov.

II. Discussion

Based on the NRC's timeline related to its Fukushima lessons-learned review, and because the items accepted for review pertained to the Fukushima review, the NRC's review of this petition took longer than the standard of 120 days for reaching a decision on the petition. This section includes both the petitioner's requests for orders to be issued and the NRC's actions and decisions.

Additional information regarding the implementation of Japan Lessons-Learned Activities, including plant-specific implementation status, is available on the NRC's Japan Lessons-Learned public website at <http://www.nrc.gov/reactors/operating/ops-experience/japan-dashboard.html>.

Request 1: Order the immediate shutdown of all nuclear power reactors located on or near an earthquake fault line in the United States.

NRC decision: The NRC has determined that U.S. plants located at or near earthquake fault lines continue to operate safely and do not pose an immediate safety concern to the members of the public. Nuclear power plants in the U.S. have been designed, built, and operated to safely withstand earthquakes likely to occur in their region.

As part of the NRC post-Fukushima lessons-learned activities, the NRC established the Near-Term Task Force (NTTF). The NTTF was tasked with conducting a systematic and methodical review of NRC processes and regulations and determining if the agency should make additional improvements to its regulatory system. Ultimately, a comprehensive set of recommendations was developed in a report to the Commission dated July 12, 2011, SECY-11-0093 (ADAMS Accession No. ML111861807). In the report, the NTTF determined that the current regulatory approach, and the resultant plant capabilities, gave the NTTF and the NRC the confidence to conclude that an accident with consequences similar to the Fukushima accident is unlikely to occur in the U.S.

On March 12, 2012, the NRC issued a request for information pursuant to Title 10 CFR 50.54(f) regarding recommendations 2.1, 2.3, and 9.3 of the NTTF review (ADAMS Accession No. ML12056A046). The purpose of the 10 CFR 50.54(f) letter is to gather information with respect to the NTTF Recommendations for seismic hazards. The letter instructs all licensees to reevaluate seismic hazards at their sites using updated seismic hazard information, present-day

guidance and methodologies, and a risk evaluation. The NRC staff is currently reviewing the licensees' submitted seismic hazard reports. In cases where a licensee's reevaluated hazard exceeds the design basis, more detailed site-specific evaluations and actions will be required, such as a seismic probabilistic risk assessment. NRC will review each step in the analysis process and take action to require plant changes as necessary.

In addition to the 10 CFR 50.54(f) letter, the Commission issued Order EA-12-049 on March 12, 2012, which requires mitigation strategies to protect against external events, including postulated seismic events (ADAMS Accession No. ML12054A735). Licensees must comply with the order no later than two refueling cycles after submittal of the overall integrated plan (OIP), or December 31, 2016, whichever comes first. To date, all licensees have submitted OIPs to describe how they will comply with the Order, and the OIPs have been evaluated by the NRC staff. In addition, the NRC staff has performed on-site audits to ensure that full implementation will occur within the required time period.

The NRC has concluded that continued operation of nuclear plants on or near earthquake fault lines does not pose an imminent risk to public health and safety. The NRC is addressing the petitioner's seismic hazard concerns through Orders and requests for information, as described above. No further action will be taken regarding this request.

Request 2: **Order the immediate shutdown of all power reactors employing GE Mark I containment design in the United States.**

NRC decision: The NRC has determined that GE Boiling Water Reactors (BWRs) with Mark I containments continue to operate safely and do not pose an immediate safety concern to the members of the public.

The concern with GE Mark I containment design was previously addressed by the NRC in NUREG-0661, "Safety Evaluation Report Mark I Containment Long-Term Program –

Resolution of Generic Technical Activity A-7,” dated July 1980 (ADAMS Accession No. ML072710452). In the report, NRC staff concluded that “the proposed structural acceptance criteria are consistent with the requirements of the applicable codes and standards and, in conjunction with the structural analysis techniques, will provide an adequate basis for establishing the margins of safety in the containment design.” All GE Mark I BWRs were evaluated for suppression pool hydrodynamic loads, and appropriate modifications were made to maintain the containment structural integrity.

The NRC issued Order EA-12-050, “Order to Modify Licenses with Regard to Reliable Hardened Containment Vents,” on March 12, 2012 (ADAMS Accession No. ML12054A694). This order was superseded by a modified Order EA-13-109, “Order Modifying Licenses with Regard to Reliable Hardened Containment Vents Capable for Operation Under Severe Accident Conditions,” on June 6, 2013 (ADAMS Accession No. ML13143A334). The order requires all BWR licensees with Mark I and Mark II containments to design and install a venting system that provides venting capability during severe accident conditions. This order further enhances the reliability of the containment vent system, thereby protecting the containment during severe accidents. To date, all affected licensees have submitted OIPs for upgrading containment venting capabilities from the pressure suppression wetwell to assist in preventing core damage, and the OIPs are currently being reviewed by the NRC staff. OIPs for reliable ventilation from the drywell, or reliable venting strategies that eliminate the need for drywell venting, will be submitted by licensees within the next year.

The NRC has concluded that continued operation of power reactors employing GE Mark I containment design does not pose an imminent risk to public health and safety. The NRC is addressing the petitioner’s containment concerns through Orders, as described above. No further action will be taken regarding this request.

Request 3: Advise other countries employing the GE Mark I nuclear power reactors about the serious nuclear safety design flaws associated with that design, which is likely to result in a serious nuclear accident comparable to the Japanese nuclear disaster.

NRC decision: This is a general request for the NRC to ensure that policies exist to support the sharing of information related to the events involving Fukushima. The NRC's current policies and practices support its openness goals with external, including international, stakeholders. Specifically, since the earthquake and tsunami in Japan, the NRC has participated in meetings at the International Atomic Energy Agency, Nuclear Energy Agency, G8 Nuclear Safety and Security Group, and at numerous other bilateral and multilateral meetings to share information on this event with NRC's international counterparts. Therefore, since the petitioner requested an action that the NRC is currently implementing, the PRB determined that this request did not meet the criteria for review on the basis that the request does not set forth sufficient facts to warrant further actions beyond the actions that the NRC has already undertaken to ensure openness on this issue with all external stakeholders.

Request 4: Immediately revoke all 20-year license extensions issued to NRC licensees, because the NRC "has improperly and illegally granted 20-year license extensions to the 40-year license that was initially granted by the agency for the 104 nuclear reactors throughout the United States."

NRC decision: In accordance with MD 8.11, the PRB will review a petition under 10 CFR 2.206 only where the petitioner specifies the bases for taking the requested action. Although the petitioner asserted that the NRC lacked the legal authority to grant license extensions for numerous plants, he failed to set forth the basis for his assertion. He claimed that the NRC "improperly interpreted the amendment to section 104b under 42 USC 2134 and under the Atomic Energy Act of 1954, as amended," and thus, "improperly and illegally granted 20-year

license extensions to the 40-year license that was initially granted by the agency.” This is a general claim, insufficient to warrant further inquiry.

The petitioner also claimed that “the NRC has recklessly endangered public health and safety in these circumstances because in so extending these licenses by 20 years, the agency has significantly increased the likelihood of a loss-of coolant accident” due to neutron embrittlement of the reactor vessel over time. All license renewals have been subjected to the NRC’s license renewal review process, per 10 CFR 51 and 54, with several opportunities for public participation, including a hearing. A reactor vessel neutron embrittlement analysis is included in each license renewal application, and is evaluated in the resulting NRC staff safety evaluation report in accordance with NUREG-1800, “Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants,” Section 4.2. Request 4 was rejected based on the criteria that the petitioner raised issues that have already been the subject of NRC staff review and evaluation for which a resolution has been achieved, the issues have been resolved, and the resolution is applicable to the facility in question.

III. Conclusion

As discussed above, the supporting facts provided in the petition, as supplemented by the teleconferences and petitioner’s additional submittals, were found to be insufficient to warrant that the NRC accept the petitioner’s Requests 1 and 2 to immediately shutdown U.S. nuclear power plants at or near earthquake faults or those employing the Mark I reactors.

The NRC partially accepted Requests 1 and 2 of the petition to the extent that the petitioner sought some type of regulatory action in light of the events at Fukushima. The above discussion demonstrates that the NRC has addressed the petitioner’s concerns related to the events at Fukushima through the issuance of Orders and through a request for information

pursuant to 10 CFR 50.54(f). Such actions significantly enhance the margins of safety to the effects of extreme natural phenomena at commercial operating reactors in the United States.

Request 3 was rejected on the basis that the petitioner requested an action that the NRC was already implementing, and Request 4 was rejected on the basis that the petitioner's claim was general and insufficient to warrant further inquiry, and that the issue had already been the subject of NRC staff review and evaluation.

Based on the staff responses to the petitioner's four concerns, the NRC does not plan to take any additional enforcement actions as specified in the petitioner's requests. Therefore, the NRC is closing this petition.

As provided in 10 CFR 2.206(c), a copy of this director's decision will be filed with the Secretary of the Commission for the Commission to review. As provided for by this regulation, the decision will constitute the final action of the Commission 25 days after the date of the decision unless the Commission, on its own motion, institutes a review of the decision within that time.

Dated at Rockville, Maryland, this day of .

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

William M. Dean, Director
Office of Nuclear Reactor Regulation