



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
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**\*\*\*FOR THE RECORD\*\*\***

**NRC RESPONDS TO CITIZENLETTER MESSAGES**

The Nuclear Regulatory Commission has received thousands of nearly identical CitizenLetter© messages voicing concerns about U.S. operating nuclear power plants in light of Japan's tragic earthquake and tsunami on March 11, 2011, and the subsequent events at the Fukushima Daiichi Nuclear Power Station. The CitizenLetters mention the Pilgrim, Indian Point, Diablo Canyon and San Onofre plants, among others, asking for "immediate inspections" and making claims about the plants' ability to withstand severe natural events.

First off, thank you to everyone who sent a CitizenLetter. The public's active involvement in the NRC's processes helps us not only fulfill our mission of keeping you safe, but it also helps us do our jobs openly and transparently.

The NRC remains convinced that U.S. nuclear power plants are designed and operated in a manner that protects public health and safety. All U.S. nuclear power plants are built to withstand external hazards, including earthquakes, flooding, and tsunamis, as appropriate. Even those plants that are located in areas with low and moderate seismic activity are designed for safety in the event of such a natural disaster. Each plant is designed to withstand the possible ground movement that is appropriate for its location, given the earthquake sources that may affect the site. Ground movement is a function of both the magnitude of the earthquake and the distance from the fault to the specific site. The seismic responses of the structures, systems, and components associated with these facilities are site-specific, based on either identified faults and tectonic capabilities in the area or the region's seismic zone activity, whichever can generate stronger ground motion. The Diablo Canyon and San Onofre plants are located in a region that experiences higher levels of seismic activity than most of the United States and are designed accordingly. The NRC does not believe the seismic hazards associated with the Diablo Canyon and San Onofre plants can be directly compared to the events at Fukushima.

The events that occurred in Japan are the result of a combination of highly unlikely natural disasters. These include the fifth-largest earthquake in recorded history and the resulting devastating tsunami. This earthquake occurred on a "subduction zone," a tectonic plate boundary where one tectonic plate is pushed under another plate and creates enough stress in the Earth's crust to produce earthquakes of the largest magnitude. Subduction zone earthquakes are also required to produce the kind of massive tsunami seen in Japan. In the continental United States, the only subduction zone is the Cascadia region, off the coast of northern California, Oregon and

Washington, and this is the only U.S. location that could generate a continental earthquake and tsunami as large as the March 11 event in Japan. The only nuclear plant near the Cascadia subduction zone is the Columbia Generating Station in eastern Washington. This plant is located approximately 225 miles from the coast and approximately 300 miles from the subduction zone, so the ground motions estimated at the plant are far lower than those seen at the Fukushima plants. This distance also precludes the possibility of a tsunami affecting the plant. Both the Diablo Canyon and San Onofre plants' tsunami analyses include the possibility of a Cascadia-generated tsunami. Outside of the Cascadia subduction zone, earthquakes are not expected to exceed a magnitude of approximately 8.

In addition to the NRC's usual inspection activities, since the events at Fukushima the agency has twice inspected all U.S. nuclear power plants specifically for issues related to emergency procedures and resources. Both inspections showed U.S. plants are prepared to use those emergency measures to keep the public safe. Temporary Instruction 2515/183 provided instructions for NRC inspectors to perform independent assessments of "B5b" measures, which would help keep the reactors and spent fuel pools safe even after the sudden loss of significant areas of the plants. The results of these inspections indicated that although some deficiencies were identified and subsequently corrected, the licensee's plans would still ensure that critical cooling functions would be provided. The individual inspection reports are available at the NRC's public website at the following link:

<http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/follow-up-rpts.html>.

TI 2515/184 provided instructions for NRC inspectors to examine the plants' severe accident management guidelines (SAMGs), which are meant to reduce the severity of situations where a reactor core has been damaged. The inspectors were told to determine: (i) that the severe accident management guidelines (SAMGs) are available and how they are being maintained, and (ii) the nature and extent of licensee implementation of SAMG training and exercises. The results of these inspections also indicated that although some deficiencies were identified they have either been corrected or entered into Correction Action Programs and the identified deficiencies did not preclude any critical mitigation functions from being performed. Individual inspection reports associated with the TI 251/184 inspections are also available on the NRC's public website: <http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/SAMGs.html>.

In addition, the NRC issued Bulletin 2011-01 requiring all holders of operating licenses for nuclear power reactors to provide a comprehensive verification of their compliance with the regulatory requirements in 10 CFR 50.54(hh) associated with "B5b" mitigating strategies for beyond design basis events. At a Commission briefing on June 15, 2011, Martin Virgilio, Deputy Executive Director for Reactor and Preparedness Programs, indicated that the NRC had completed reviewing approximately 75% of the 30-day licensee responses to Bulletin 2011-01 and there were no cases identified where mitigating equipment was not available or the mitigation strategies were not workable.

The NRC established a senior level task force to conduct both short- and long-term analysis of the lessons that can be learned from the situation in Japan. The task force is examining all the available information from Japan to understand the event's implications for the United States. They are performing a systematic and methodical review to see if there are

changes that should be made to NRC programs and regulations to ensure protection of public health and safety. This will undoubtedly lead to the identification of issues that warrant further study in the longer term. The task force is scheduled to provide a report to the Commission in July 2011 identifying the results of its review and providing recommendations for short-term action, if necessary, and longer-term study. The NRC will assess all the available information and evaluate whether enhancements to U.S. nuclear power plants are warranted.

The NRC believes that it is highly unlikely that a similar combination of events such as those which occurred in Japan could occur in the United States, including at the Diablo Canyon and San Onofre nuclear plants. The NRC remains convinced that U.S. nuclear power plants are designed and operated in a manner that protects public health and safety. The implementation of the defense-in-depth principles by the NRC and industry, conservative decision making, use of risk insights, the results of the recent TI inspections and continuous routine inspections performed by the NRC's Resident Inspectors, industry initiatives and actions coordinated through the Institute of Nuclear Power Operations, robust corrective programs, and an absence of complacency in responding the events at Fukushima provides for further assurance that the U.S. nuclear power plants continue to remain safe.