

TALKING POINTS

RECENT EARTHQUAKE IN JAPAN
(CONSIDERATIONS FOR US REACTORS)

- Based on information from the US Geological Survey, the NRC understands that an earthquake with a magnitude 6.6 struck the west coast of Japan on July 16, 2007, at 10:13:28 AM local time, July 15, 09:13:28 PM Eastern Daylight Time.
- The epicenter of the main shock (37.574°N, 138.440°E) is located about 240 km North-North-West of Tokyo, Japan, 15 kilometers from the Kashiwazaki Kariwa Nuclear Power Plant (KKNPP).
- The earthquake caused loss of life and multiple injuries, collapsed houses, and cracked highways.
- The event did not affect the safety of the reactors.
- Three of the units at KKNP were operating and one was being restarted following an outage. Those units were automatically shutdown and are being maintained in a safe shutdown condition. Three of the remaining units were shutdown for routine maintenance and remain shutdown.
- The following information regarding minor damage to the Japanese nuclear facility has not been confirmed by the NRC staff.
- Kashiwazaki Kariwa nuclear power plant may have experienced two minor leaks and a fire, none affecting the safety of the reactor.
- The first leak, reported to be slightly radioactively contaminated water well below regulatory release limits, was detected at Unit 6, which was shut down for maintenance at the time when the earthquake struck. It did not impact the plant safety or cause environmental damage.
- A second leak may have come from stacked drums containing – low level nuclear waste which tipped over during Monday’s quake.
- A fire was triggered at an electrical transformer in the switchyard of Unit 3. The fire was extinguished within two hours and did not affect the nuclear reactor.
- The seismic design of Japanese nuclear power plants is similar to the US designs.
- The US nuclear power plants are designed to withstand site-specific naturally occurring events, including earthquakes. NRC regulations require that US plants

be designed to safely withstand the potential earthquake effects considering local and regional geology and seismology.

- The US facility located closest to a fault, the Diablo Canyon plant in California, is built to withstand a seismic event exceeding the magnitude of the quake that occurred in Japan.
- All of the US nuclear power plants are equipped with seismic instrumentation installed at various locations in the plant.
- The Diablo Canyon plant also has an auto-trip mechanism for earthquake initiated plant shut-down. Other plants in the US have procedures requiring shutdown following a significant seismic event to inspect the facility before restart.
- In addition, during the late 1980s and 1990s the NRC completed a program to evaluate the safety of operating US nuclear plants during various external events, including seismic events exceeding the site specific potential earthquake.
- The NRC will continue to monitor the events and evaluate the results of ongoing facility safety inspections in Japan to identify earthquake-related damage.
- NRC will evaluate the lessons learned from this event to identify any actions necessary to be implemented at operating US reactors and future US reactor designs.