

## **An unwavering dedication to safety**

The earthquake and tsunami that struck Japan on March 10 were unprecedented in their ferocity. Thousands are dead, many thousands more are missing. The thoughts and prayers of Energy Northwest employees are with those who now comfort the injured and shelter the homeless as that nation begins a long, painful recovery effort.

Much of the international focus was on the Fukushima Daiichi nuclear power reactors. Though the plants were able to survive a 9.0 earthquake, and operators safely shut down the reactors, the resulting tsunami took away the plant operators' ability to deliver water to the core, which led to the immensely challenging situation they are still facing.

In the past weeks, there has been too much *misinformation* about nuclear energy which is playing on people's fears. The anti-nuclear lobby saw an opportunity, and they are exploiting it.

The immediate comparisons for many people are to Three Mile Island and Chernobyl – which, of course, is understandable. However, Chernobyl was a weapons-grade reactor with no containment structure. The partial meltdown at the Three Mile Island reactor in Pennsylvania in 1979 actually demonstrated that the plant's safety systems worked, but nevertheless served as a wake-up call to the industry to constantly examine safety and ensure every employee puts safety first – at all times.

The United States developed strong safety culture in the years that followed Three Mile Island, aided not only by the Nuclear Regulatory Commission, but by the industry itself, which developed an intensive peer-review organization focused on operational excellence. They are but one reason the U.S. nuclear energy industry remains, more than 30 years later, the nation's safest industry, and the world's gold standard for nuclear power operations.

All nuclear reactors, including Columbia Generating Station, have multiple systems for core cooling that follow the principle of "defense in depth." However, U.S. reactors have more equipment in place than those at Fukushima to cope in a situation where there is a total loss of power. In response to the terror attacks of 9/11, the industry made additional changes and modifications to bolster both safety and security.

Columbia's multiple back-up systems include three emergency diesel generators; a battery system, a portable diesel generator for re-charging the battery system, and a manually operated, steam-driven pump to provide water to the core during a reactor shutdown if electrical power is not available. We also own a fire truck which can pump water into the reactor core and used fuel pool through installed fire hose connections.

Our nation's 104 nuclear power plants are also among the most durable facilities in America, able to withstand all forms of natural and man-made disasters, including major volcanic, seismic and flood activity. There is a high confidence that Columbia's reactor building could withstand a 0.44g peak ground acceleration, which roughly equates to approximately a 6.9 magnitude earthquake, and it is sited far enough from the Columbia River – three miles – to avoid any potential flood scenario, including a breach of the Grand Coulee Dam.

And it doesn't stop there.

Employees at Columbia and other U.S. plants undergo rigorous, ongoing training related to safety and plant operations. In addition to robust emergency response training and drills, reactor operators train one week out of every six to demonstrate proficiency in their primary responsibilities, and must pass an exam annually to maintain their licenses.

Many have taken the events at Fukushima as an opportunity to question the necessity of developing additional U.S. nuclear power resources. Now is not the time for that debate.

Once the situation at Fukushima is stabilized, there will be an intense reconstruction of what happened in the hours and days after the tsunami struck to find out what could have been done differently, and the entire industry is committed to incorporating lessons-learned as they emerge. That is the culture of the industry. At Columbia, we have already joined a nationwide effort to re-examine our procedures and equipment used to respond to natural events, total loss of power, and significant loss of critical systems.

What you should know – and may already – is that every employee who works at Columbia Generating Station has an unwavering dedication to safety. Ask any member of the Energy Northwest team, “Who is responsible for nuclear safety?”, and the answer will be, “I am.” Whatever happens in the aftermath of Fukushima, those two words will not change.

- *Mark Reddemann, CEO, Energy Northwest*