How Florida's nuclear plants compare to Japan's

By Julie Patel  March 17, 2011 01:35 PM

What went wrong at the Fukushima nuclear plant in Japan and how are Florida's nuclear plants prepared to deal with similar problems?

Nuclear operators in Florida say the biggest risk their plants face is from hurricanes, which are tracked days before they form and hit, so the plants can be shutdown well in advance.

David Warburton, an associate professor of geology at Florida Atlantic University, said tsunamis have wavelengths that can be 100,000 thousand times longer than those of storm surges from hurricanes so the two don't compare.

He said a tsunami is highly unlikely in Florida. "There is a volcano in the Canary islands which is large and has a very steep slope. Should that fail, a massive landslide might go into the Atlantic, and a tsunami could be generated. Since most of Florida's coast is so flat, it would go far inland," he wrote in an email. "This is judged to be an unlikely event, but would cause tremendous damage."

Sinkholes have developed in Florida for decades so the utilities are prepared for them. For instance, Progress Energy Florida spokeswoman Suzanne Grant said the company reinforced the ground with injections of grout before building the plant and the company investigates reports of minor or small depressions anywhere nearby but no problems have been detected.

Florida Power & Light has two reactors at its Turkey Point plant near Miami and two at its plant in St. Lucie County. Progress has one near Crystal River. They are both pressurized reactors, unlike the boiling water reactor at Fukushima. The table below includes key problems at the plant, what happened and what technology Florida's plants have to address the issue in the unlikely event that a similar problem were to surface.

"Even though a seismic event of this nature is unlikely given our plants' locations, all FPL plants have had additional safety margin added to the 'worst case' scenario factors to ensure we fully meet our commitment to protect public health and safety. Our Turkey Point and St. Lucie plants have safely withstood a number of significant hurricanes since operation began," said FPL Spokesman Mike Waldron.
Progress Energy's Crystal River reactor is not operating but the company still tests its backup generators periodically, Grant said.

The reactor has been shut down since September 2009 when some work was being done on it. That triggered a long crack in the containment structure, or concrete and steel building around the reactor. Progress has fixed the damage and had planned to restart the plant's operations in April. But one of its inspectors reported to federal regulators Tuesday that there may some other smaller cracks, which it is now investigating so it can make repairs if needed.

"The safety of our community is our number one concern. That's why we're not rushing to give people a date to put it back online," Grant said.

Progress was targeted today by the Union of Concerned Scientists, which opposes nuclear power, at a discussion with reporters. The group said four of the U.S. Nuclear Regulatory Commission's 14 special inspections last year, triggered when safety issues emerge at nuclear plants, were at reactors owned by Progress.

Three were at plants outside Florida and one was an effort to wrap up the issue at the Crystal River plant. “Was the company merely unlucky or did the corporate hand play a role?” said David Lochbaum, a nuclear engineer with the group. He added that Progress Energy’s plants have operated reasonably well in the past: Last “year was a little bit of a surprise.”

Mike Hughes, a spokesman for Progress Energy, said the company has the highest safety standards and strives to improve them: "We remain focused on addressing each of the events last year that led to special inspections. In parallel, we have evaluated – and continue to evaluate – corporate policies and practices to ensure that they create and sustain a culture of questioning and safe, conservative operation."