

KANSAS ELECTRIC POWER COOPERATIVE, INC.

NEWSMAKER

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Lessons Will Be Learned

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The devastating earthquake and powerful tsunami in Japan which resulted in a reactor crisis has renewed anxiety about nuclear safety and could derail efforts to revive the U.S. industry as a clean alternative energy source.

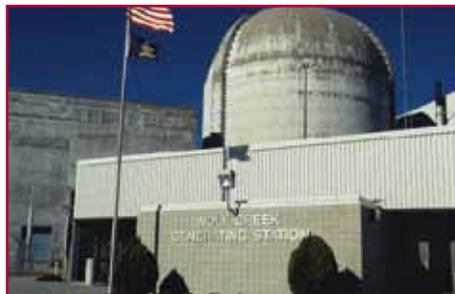
The failure of the Japanese reactors' backup cooling systems and the explosions that followed are likely to lead U.S. regulators to re-evaluate nuclear plant designs and safety. The heightened scrutiny could increase costs for new and existing reactors and make it harder to raise money for new plants.

The crisis comes just as the U.S. nuclear energy industry is starting to build the first new reactors in a generation. Before the crisis, the U.S. nuclear industry was enjoying more public and political backing than it had in years - 62 percent of the public, according to a Gallup poll done last year. That support grew out of concerns about greenhouse gases, a growing record of safe and profitable nuclear power production and volatile fossil fuel prices.

In Washington, nuclear energy was a rare issue on which the Obama administration and congressional Republicans agreed. President George W. Bush established an \$18.5 billion loan guarantee program to help build new plants. President Barack Obama wants to raise that to \$54.5 billion.

President Obama has also included nuclear power in his plan for a clean-energy standard.

Nuclear power generation does not emit carbon dioxide. And unlike wind or solar, nuclear reactors produce large amounts of base load power, uninterrupted, for several months. The 104 commercial reactors in the U.S. supply about 20 percent of the nation's electricity. But only two of nearly three dozen nuclear plants that were proposed in the middle of the last decade remain on track to be built. Low electricity prices and the



Wolf Creek Nuclear Generating Station

huge expense of building new plants have contributed to the delay. The two projects that appear to be furthest along, both with regulators and financing, are in the Southeast.

The Atlanta-based Southern Co. and its partners are seeking to build two more reactors at Plant Vogtle in eastern Georgia. And SCANA, based in Cayce, S.C., has proposed adding two reactors to its Plant Summer site

in Jenkinsville, S.C.

Both utilities have said they expect to be granted operating licenses this year and insist their projects will proceed. The Nuclear Regulatory Commission is still evaluating both. Southern Co. says its proposal passed initial safety reviews, which analyzed how well its reactors could withstand earthquakes, hurricanes, tornadoes, tsunamis - even a direct hit by a hijacked jetliner.

But nuclear experts and analysts say the Japan nuclear crisis will probably increase uncertainty and costs because of new regulations. It could also rattle investors.

Shares of Exelon Corp., the nation's biggest nuclear operator, and shares of Entergy Corp., the second biggest nuclear operator, have both seen precipitous declines in their share prices since the disaster.

Plans for two other U.S. reactors have suffered setbacks in recent months.

NRG Energy wants to add two reactors to its South Texas Project. But the project's future was already in doubt because of low natural gas and electricity prices. NRG's partner on the project, subject to a federal loan guarantee, is Tokyo Electric Power Co., owner of the stricken Japanese reactors.

Constellation Energy and Electricite de France had planned to build a new reactor at Calvert Cliffs, Md., but Constellation backed out of the partnership late last year. It's unclear whether EDF will be able to pursue the plan.

President Obama and Energy Secretary Steven Chu have renewed

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their support for new nuclear power since the earthquake. But some lawmakers are already calling for at least a delay. Sen. Joseph Lieberman has expressed his continued support for nuclear power. But he was quoted a few days after the earthquake, “We’ve got to kind of quietly, quickly put the brakes on until we can absorb what has happened in Japan.”

Nuclear advocates counter that if the radiation from the crippled reactors is contained and injuries are minor, the disaster could turn out to help the industry.

Secretary Chu told a House panel

that reactors in the U.S. have designs beyond what would be required to withstand a worst-case earthquake and tsunami. And the next generation of reactors are designed to better handle a disaster of the kind that struck Japan. What apparently doomed the Japanese reactors was a loss of backup power needed to cool their fuel rods once the tsunami hit. Newer plant designs are designed to be cooled in an emergency with no need for electricity. With the newer designs, cooling water is stored above the steel container protecting the reactor. In case of emergency, the water would flow, by force of gravity, onto the containment vessel to cool it.

Such a gravity-powered cool-

ing system can operate for about 72 hours. The steel containment and the surrounding shield building are also designed to cool by using the natural circulation effect created by heated air.

U.S. public support for nuclear power could erode after the terrifying images of explosions at nuclear plants beamed from Japan in the days after the earthquake. The last major U.S. accident, the 1979 partial meltdown of the core of the reactor at Three Mile Island in Pennsylvania, led to only scant releases of radiation and no deaths. Yet it helped turn public opinion against the plants and contributed to a 30-year setback for the U.S. nuclear industry.

Regulatory Overload

For every cause, there is an effect. The wind blows; a limb falls. Cause-and-effect relationships exist in the energy industry as well. For example, electric bills will climb if the U.S. Environmental Protection Agency (EPA) moves forward with imposing a series of potentially crippling regulations on power plants. Some of these new rules directly result from court orders.

According to a report from the North American Electric Reliability Corporation, which oversees the nation’s bulk power grid, EPA mandates affecting cooling water intake structures, coal ash disposal, interstate transport of air pollutants, and hazardous air pollutants, including mercury, could force electric utilities to retire or retrofit between 33,000 MW to 70,000 MW of generating capacity by 2015—power that will need to be replaced in some way, and during a period of rising construction costs. Another hurdle, reducing emissions of greenhouse gases, including carbon dioxide, from power plants presents an even greater challenge.

Stringent regulations in each of these targeted areas could potentially impose tens of billions of dollars of



Iatan 2 Generating Unit

extra compliance costs onto the backs of utilities—and electric bills. For example, in June 2010, EPA proposed two possible approaches for managing coal ash and other coal combustion byproducts (CCBs) residues produced when coal is burned to make electricity.

One, non-hazardous regulation of CCBs, will ensure that coal ash is handled safely and protect not just the environment, but also jobs and consumers. EPA’s other option to regulate coal ash as hazardous, a determination the agency has rejected before, the last time in 2000 would hit coal-fired power plant operators with staggering costs, send electric bills up, and eliminate beneficial coal ash recycling (about one-third of the fly ash created in the U.S. is used as a Portland cement replacement). The Electric Power Research Institute (EPRI), a non-profit utility research consor-

tium that includes electric co-ops as members, pegs the potential price tag from a hazardous CCB designation at between \$54.66 billion and \$76.84 billion over a 20-year period.

Electric co-ops have been actively urging EPA through comments, testimony, and litigation to consider the negative consequences of higher electric bills in promulgating new rules. In fact, more than 10,500 comments from co-ops and their consumer-members were filed with the agency opposing regulating CCBs as hazardous.

Until EPA’s various power plant rules are finalized, the bottom line remains cause and effect uncertain. But no matter what comes down the pike, electric cooperatives are committed to working hard to provide you with safe, reliable electric power at an affordable price.

Energy-Saving Devices Can Be too Good to Be True

"If something sounds too good to be true, it probably is." That saying rings especially true when it comes to claims about energy-saving devices, particularly those that indicate they can dramatically cut your heating and cooling costs.

Ads made to look like news stories abound for "Amish style" fireplaces, a "miracle device" that supposedly can slash your heating bills. In actuality, the appliance is simply a space heater hidden inside a false fireplace with a wooden mantle.

If you were to use a space heater eight hours a day, five days a week for a month, it would cost approximately \$15. But whether it can cut your heating bill depends on several factors.

Space heaters only warm a small area. You may save some money if you turn down the thermostat (sometimes to as low as 50 degrees Fahrenheit), site the space heater in a room with people in it, and then close off that room from the rest of the house. But space heaters cannot come close to replacing energy-efficient central heating or weatherization improvements. So while it's technically possible to cut your heating bill by 50 percent using space heaters, for most people, it's impractical.

On the flip side are evaporative coolers that say they will inexpensively cool a room in your home. The inside of the unit consists of cold water and frozen ice packs, like you would use in

***The Truth about
"Miracle Heaters"
and "Evaporative
Coolers."***



***"When it comes
to saving energy,
there are no magic
solutions."***

a lunch box. The water wets a curtain; a fan blows air through the curtain and over the ice packs, theoretically providing a cool breeze. Evaporative coolers operate best in low-humidity regions.

But do they actually work? A Consumer Reports experiment found that even in desert-like conditions, one device cooled a test room only 2

degrees over four hours.

"When it comes to saving energy, there are no magic solutions," asserts Brian Sloboda, senior program manager for energy efficiency at the Cooperative Research Network, the research arm of the National Rural Electric Cooperative Association. "Anyone promising to slash your utility bill by double digits is stretching the truth to the breaking point. Buying ENERGY STAR-rated appliances, unplugging battery chargers and other 'vampire' electronics, and sealing air leaks around windows and doors are some of the best ways to save money and energy."

The bottom line: there's no substitute for good old-fashioned energy efficiency measures like weather stripping around doors, caulking around windows, adding insulation to your attic, plugging leaks in ductwork, and regularly cleaning or replacing furnace filters.

Leadership Dickinson County at KEPCo

Leadership Dickinson County traveled to Topeka on March 8 for a day at the Capitol. To conclude their program, the group met at KEPCo's office for dinner and a visit from Legislators representing the region.

Approximately 20 students, youth leaders and other representatives spent the day learning about Kansas government, including watching the Legislature in action. At the end of the day, the group had many questions for

a contingent of six Kansas lawmakers who visited with the group at KEPCo.

Legislators attending the meeting were: Sen. Jay Emler, Sen. Pete Brungardt, Rep. Steve Johnson, Rep. Tom Moxley, Rep. Vern Swanson and Rep. Elaine Bowers. Two of the Legislators serve on either the House or Senate Utilities Committees.

This is the ninth year the group has concluded their day in Topeka at the KEPCo offices.

What Is Good Value to a Co-op Member?

Everyone likes a good deal. For most of us, a good deal means we're pleased with what we get for what we have to pay. The difference between the two is the very definition of business "value". But how do electric cooperative members look at value? What is the relative strength of reliability, convenience, cost, service, fair dealing and a wide-range of other factors? In short, what are the most critical ingredients in the stew?

Based on 11,000 interviews with members of 45 cooperatives across the nation last fall conducted by Touchstone Energy's 2010 Coopera-



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tive Difference Research, we know how members think about value. Good prices are important but rank only fifth, behind such critical attributes as providing good service, avoiding problems, being perceived as better than the competition, and remaining informative.

While good prices don't assure

high rank, perceptions of being too expensive assure a low one. In addition, it's clear that poor service, additional fees, being slow to respond, and underperforming other utilities are a lethal combination for perception of value.

So, at a time when members are hyper-focused on pocketbook concerns, a cooperative does not have to be the cheapest, but a cooperative does need to be the best in essential areas like providing excellent member service, avoiding and quickly responding to problems, and being better than the alternative.

Prepay Metering a Hit With Younger, Low Income Members

Based on 5,000 co-op consumer interviews last fall, Touchstone Energy's 2010 Cooperative Difference Research found that more than 40 percent of co-op members ages 18 – 34 probably or definitely would use a pre-pay metering option. In addition, more than one-third of members of

all ages with incomes below \$50,000 say they have high interest in pre-pay metering.

What perceived benefits drive this? In short, convenience and cash flow. The top reasons they cited were the return of cash deposits, notification by phone when balances are low,

and no deposits for new service connections. In addition, many members felt a pre-pay option would also help them manage their energy use more wisely.