TESTIMONY BEFORE THE SENATE ENERGY, UTILITIES, AND COMMUNICATIONS COMMITTEE
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APRIL 14, 2011

My name is Emily Rusch, and I am the State Director of CALPIRG, the California Public Interest Research Group.

It will be months, if not years, before we are able to learn all of the lessons from the crisis at Japan's nuclear power plant. But several lessons are already abundantly clear.

First, nuclear power is inherently risky. The ongoing crisis at the Fukushima reactor in Japan reminds us that it is impossible to have a truly fail-safe plan to prevent a radioactive release.

Second, we cannot predict or control Mother Nature. The earthquake in Japan was larger than the experts had predicted was possible. Here in California, we have discovered a new fault line near Diablo Canyon as recently as 2008.

Third, even the best backup plans can fail. Any combination of events that resulted in a loss of power to the primary and backup cooling systems for the reactors, or the cooling systems for the spent fuel pools often on-site, could initiate the same kind of crisis as what we are witnessing in Japan.

Fourth, spent fuel pools may be more vulnerable to a radioactive release than the reactor core. This week it was discovered that temperatures have been rising at one of the spent fuel pools at Fukushima, indicating that efforts to keep the spent fuel rods cool are not working. At both Diablo Canyon and San Onofre, spent fuel pools are holding more spent fuel rods than they were designed for. There is no long-term safe storage plan for nuclear waste. Dry cask storage on site is the safest option, but leaves radioactive spent fuel rods in California communities in perpetuity.

Therefore, knowing these risks, we recommend that California's elected officials demand answers of state and federal regulators to the following questions and take our recommended steps.

QUESTIONS FOR THE NUCLEAR REGULATORY COMMISSION:

1) Responding to public pressure, PG&E came out this week requesting that the Nuclear Regulatory Commission does not approve their license extension until after three-dimensional seismic studies are completed.

   Considering that new seismic studies could bring to light considerable new information on the vulnerabilities of California's plants to earthquakes, why aren't these studies *required* by the Nuclear Regulatory Commission? Why do they need industry to request this safety step?

What steps is the NRC prepared to take – immediately – to safeguard U.S. nuclear reactors against earthquake risks that may be larger than previously understood, or against earthquakes that may exceed those in the recent historical record, such as the recent earthquake in Japan?

2) All American nuclear power plants store spent nuclear fuel in pools at or near the reactor – just as did the reactors at Fukushima. However, most of these spent fuel pools are outside the containment structure that prevents the leakage of radiation from the reactor core and the NRC does not require plant operators to provide backup power to operate spent fuel pools when off-site power is lost.

Why doesn't the NRC require that spent fuel pools be included within similar reactor structures as reactor cores – thereby reducing the threat of radiation exposure – or require that operators provide back-up power to spent fuel pools?

3) The reactors at Fukushima had eight hours worth of backup battery electricity supply, which was used when offsite power was knocked offline and emergency generators were rendered inoperable. We understand that California's nuclear power plants each have eight hours of battery backup, while most U.S. reactors only have four hours of battery backup.

Why doesn't the NRC require nuclear operators to take greater steps to assure the availability of backup electricity supplies?

4) Japan's intentional release of 9,000 tons of radioactivity directly into the ocean has underscored the impossibility of containing radioactivity once it is released in the environment. Several nuclear power plants – including Braidwood in Illinois, Salem in New Jersey, Indian Point in New York, Vermont Yankee and others – have experienced uncontrolled leaks of radioactive material to groundwater, and yet have not received any penalty.

Without the realistic threat of NRC penalties, what incentives do nuclear plant operators have to be vigilant in protecting the public from releases of radioactive materials?

5) Natural disasters can not only disrupt operations of a nuclear power plant, but can also disrupt transportation networks, making evacuation even more difficult than it would be under normal circumstances.

Seven U.S. nuclear power plants have more than 5 million people living within the 50-mile evacuation radius the federal government recommended for U.S. nationals in Japan following the Fukushima disaster. In many cases, the population of areas around these plants has exploded since they were planned 40-50 years ago.

In California San Onofre has 7,368,676 million people living within 50 miles of the plant, more than any other plant in the country besides Indian Point in New York and Limerick in Pennsylvania. Diablo Canyon has a smaller population of 423,397 people within 50 miles, many of whom live quite close to the reactor.

What assurances can the NRC give that nuclear power plants' evacuation plans will result in the safe evacuation of people living near nuclear plants, even in the midst of a concurrent natural disaster? Why shouldn't the NRC deny license renewals to plants in densely populated areas from which an orderly, rapid evacuation would be nearly impossible?

6) The plan to transport highly radioactive nuclear waste by train and truck across communities in America to store it for tens of thousands of years in Yucca Mountain, Nevada, is no longer an option. CALPIRG opposed the Yucca Mountain plan, because the safety of the waste could not be guaranteed either in transport or once stored at Yucca Mountain. However, the alternative – storing highly radioactive nuclear waste on site – also raises safety concerns, especially for the populations near the reactors. Because of the lack of a safe plan for radioactive waste, California lawmakers adopted a moratorium on new nuclear reactors being built in California. The waste storage conundrum presents a very strong argument not to extend licenses to operate for another twenty years.

What is the NRC's long-term plan for storing additional radioactive waste from California's plants?

7) The Nuclear Regulatory Commission recently granted a 20-year license extension to the Vermont Yankee nuclear power plant – an aging plant of the same design as the reactors in Fukushima, Japan, that has experienced problems ranging from the collapse of its cooling tower to the release of radioactive materials to groundwater, and whose executives repeatedly misled Vermont legislators about conditions at the plant. Given that Vermont Yankee can be relicensed under those conditions – and that the NRC has never denied a relicensing request – we are concerned that their review process is not robust enough. PG&E has begun the process for the approval of a license extension at Diablo Canyon, and Southern California Edison is expected to do the same.

What specific actions will the NRC take to include state regulators and legislators, and local communities, in the safety review process for a license extension?

CALPIRG'S QUESTIONS FOR THE PUBLIC UTILITIES COMMISSION:

1) What will you do to ensure that seismic studies are independently reviewed, completed as quickly as possible without sacrificing quality, and available for the public to review?

2) The Public Utilities Commission is considering the approval of more than $80 million in ratepayer funds for PG&E to take steps to extend the license of their Diablo Canyon plant to operate for another twenty years, even though recommended seismic studies have yet to be completed. Wouldn't it be prudent for the PUC to review completed seismic studies before allowing ratepayer funds to be spent on license renewal?

CALPIRG'S RECOMMENDED STEPS FOR CALIFORNIA'S ELECTED OFFICIALS:

1) As the Nuclear Regulatory Commission does their own safety analysis of our plants, make sure California officials are included. Ask the NRC to hold joint hearings with the California Energy Commission and Public Utilities Commission.

2) Require PG&E and Southern California Edison to complete seismic studies promptly, be independently peer-reviewed, and available for the public to review.

3) Create a plan to retire our nuclear power plants. Task the California Energy Commission to come up with a report, documenting how California could retire our nuclear power plants, and maintain a reliable electric grid with safer, cleaner sources of power. Request that the report include a timeline for how quickly we could replace the power, and come up with an action plan for acting on that report.

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