Earth Island Journal
News of the World Environment

What Does a Future Without Nuclear Power Look Like for Southern California?

BY TARA LOHAN – APRIL 1, 2014

State wants renewables in the mix, but ultimately utilities will get to decide where most of the power will come from

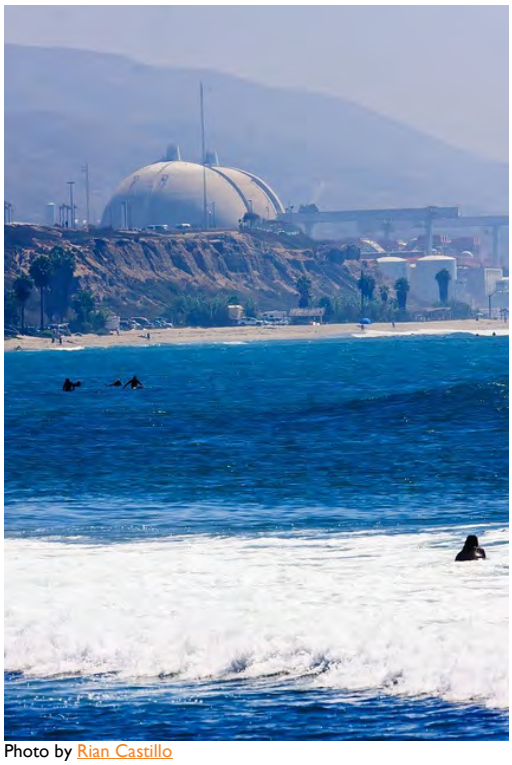

Photo by Rian Castillo
The San Onofre Nuclear Generating Station (SONGS) cranked out power to Southern California for four decades until a small radiation leak discovered in January 2012 revealed bigger problems. The plant closed down in June 2013.

Perched beside the Pacific Ocean between Los Angeles and San Diego, San Onofre Nuclear Generating Station (SONGS) cranked out power to Southern California for four decades until a small radiation leak discovered in January 2012 revealed bigger problems. The plant was taken offline and in June of 2013, officially shuttered.

At the end of its operational lifetime, SONGS was helping to power 1.4 million homes — greenhouse gas emissions free. The majority of the plant was owned by Southern California Edison, with San Diego Gas and Electric claiming 20 percent. How then would the companies go about replacing the loss of SONGS?

Environmental groups hoped the end of the nuclear era in Southern California would be marked by a strong commitment to clean energy or "preferred resources," which in utility-speak means a combination of renewable power, demand response (reducing demand at peak times), and energy efficiency. The decision of what to do next has been guided by months of review by the California Public Utilities Commission, with input from numerous stakeholders. Would the commission make strong mandates for renewables or leave the door open for more fossil fuel development like gas-fired power plants?

"I think it's important for people to realize what a critical juncture the Public Utilities Commission is at right now and what an opportunity they have here to replace a significant outage at a supply side nuclear generating station with clean, preferred energy resources," Sierra Martinez, the legal director of California Energy Projects at the Natural Resources Defense Council, said in January as groups awaited a decision from the public utilities commission.

But figuring out how to replace the power generated at SONGS is not a simple equation. While the power plant produced 2,200 megawatts, the commission needed to determine just how much energy the utilities actually need in coming years with efficiency measures reducing demand, but population growth adding more pressure. "We have to plan to meet energy needs for buildings that are not yet constructed," said Martinez.

The problem is further complicated by the fact that the SONGS replacement decision overlapped with another big regulatory change — the phasing out of coastal power plants using "once-through cooling" (OTC) in which ocean water is used to cool turbines. The practice, now considered a threat to marine health, returns the water to the environment at a hotter temperature. As a result of the OTC rule, the public utilities commission reports that the LA Basin may see 4,900 megawatts of energy lost from retired plants.

It's a kind of double whammy for Southern California Edison and San Diego Gas and Electric, which were both affected by the SONGS closure. So the commission came up with a two-part plan that was officially approved on March 13 after months of hearings and deliberation.

In response to the costal power plant closures they requested that Southern California Edison secure 1,400 to 1,800 megawatts of power from other sources. Of that a minimum of 1,000 megawatts are required to be from gas-fired power plants, 50 megawatts from energy storage, and 150 megawatts from preferred resources. After that, the company can add an additional 400 megawatts from preferred resources and 200 megawatts from other sources if they need it.

But when it came to replacing the power produced by SONGS, the commission may have made a lot of environmental groups happy by not requiring any new gas-powered plants. It ordered the company get 400 megawatts from preferred resources and only allowed for 100 to 300 megawatts from "any source," leaving the door open for only a small amount of additional gas.

Things shook out a little differently with San Diego Gas and Electric. The company was recently authorized to build Pio Pico Energy Center, a new gas power plant in a low-income Latino neighborhood just north of the Mexican border in Otay Mesa — a move that angered community members who felt the area was already overburdened with poor air quality.

With that in mind, the commission's new plan doesn't ask San Diego Gas and Electric to replace the power it was getting from SONGS with fossil fuels. This means that the commission found that all the lost power from SONGS could in fact be replaced entirely with system upgrades and preferred resources — something environmental groups were clamoring for from the start. Of course, that doesn't mean utility companies will choose that path.

"We believe they are correct that that whole need could be filled with preferred resources and energy storage," says Will Rostov, staff attorney at Earthjustice. "Now it will be incumbent on the utilities to look and see where we are in the world — that we have big greenhouse gas issues"

But Rostov says that some last minute changes to the commission's plan might tilt it in favor of gas instead of renewables. An earlier draft of the plan called for San Diego Gas and Electric to procure between 500-700 megawatts, with 200 megawatts from preferred resources and storage, and the remaining amount coming from any source. But then, Rostov explains, in the final draft of the plan the commission increased the total amount of new energy the company had to procure to 800 megawatts.

While the difference may seem small, Rostov says now San Diego Gas and Electric has 600 megawatts it can secure that's not required to be preferred sources. And that's exactly enough for a new gas plant they've been eyeing. "Our concern is that there is already a proposed plant in Carlsbad," said Rostov, "And it feels like the decision was changed in a way to facilitate that plant."

Jennifer Ramp, a spokesperson for San Diego Gas and Electric couldn't comment on plans for Carlsbad, but that her company would "be looking for a good balance of the different resources" and that in recent years they have been aggressively pursuing renewables. "In 2002 we had less than 1 percent renewables in our portfolio," said Ramp. Now that number is 23 percent and climbing.

Mark Nelson, Southern California Edison's director of integrated planning and strategy, said his company has already taken bids on new procurement and should have contracts by June. Residents will get an idea in just a few months of how the company will be proceeding.

If more gas plants are in the works some environmental and community groups are concerned that it would mean poorer air quality, increased health impacts, and a hindrance to the state's goals for reducing greenhouse gas emissions.

"San Diego Gas and Electric and Southern California Edison have a track record of building new natural gas power plants in low-income communities and communities of color," said Shana Lazerow, an attorney with Communities for a Better Environment. "These dirty power plants harm the health of nearby communities and emit hundreds of thousands of greenhouse gases."

While gas-fired power plants burn cleaner than coal and oil, according to the US Environment Protection Agency, they still produce harmful emissions, including carbon dioxide, nitrogen oxides, and sulfur dioxide. In addition, the drilling, processing, and transportation of natural gas can produce even more threats to air and water, including releases of the potent greenhouse gas methane.

In November, the California Air Resources Board reported that greenhouse gas emissions had ticked up in 2012 thanks to more electricity coming from natural gas, driven in part from the closure of SONGS.

But with such broad guidelines set by the public utilities commission, ultimately it will be up to utilities to decide what a post-SONGS energy future looks like for Southern California.

The NRDC's Martinez is still optimistic. The "replacement strategy significantly avoids the construction of many fossil-fueled power plants and is a critical step forward for California's clean energy future," he wrote in a recent blog. "This decision will have a major impact on future long term energy planning because it demonstrates that we can replace an enormous nuclear power plant with largely clean energy and transmission solutions."