

PO Box 1328 San Luis Obispo, CA 93406 (858) 337-2703 (805) 704-1810 www.a4nr.org

April 10, 2019

Trust and transparency: Hallmarks for Decommissioning

Three of four California nuclear have closed prematurely-before their NRC licensed expiration.

Humboldt Bay was a 65MW BWR unit that opened in 1963 and was retired in 1976 because the cost of seismic retrofits exceeded its value as a working facility. It was placed in SAFSOR in 1988 and finally began decommissioning in 2009. It is only now nearing the end of decommissioning. Based on a price per megawatt of installed capacity, Humboldt decommissioning has cost \$17 million per megawatt, nearly double the cost of the next most expensive prior decommissioning (Big Rock Point) and 17 times more than the much larger Zion, Trojan and Maine Yankee jobs.

In spite of what should have been obvious shortcomings, this process took longer and cost more than expected, yet failed to set the stage for other premature closures.

The sudden closure of SONGS began less than two years after one of the NRC-approved steams generators at the San Onofre Nuclear Generating Station failed. While Mitsubishi Heavy Industries and SCE share the blame, this project had drawn the scrutiny of California's senators Boxer and Feinstein during 2009-2011. Both senators had been assured by the NRC that the agency would be providing additional layers of regulatory oversight to the steam generator replacement, and yet, both steam generators failed within three years of installation. The loss cost ratepayers billions of dollars and left California scrambling to insure adequate replacement generation, and thus began the premature process to decommission SONGS.

SCE employees awoke to discover that their jobs were ending, and California found that 2200 megawatts it was depending on would never again be available. A4NR participated in the contentious and frantic oversight process to determine the replacement power and costs impacts of SONGS sudden shutdown.

It took A4NR a long time to realize that the NRC's sole responsibility is to insure nuclear plants operate and shutdown safely, but not to insure that they operate until the end of their licensed permits. The problem remains that NRC's rubber-stamped regulatory approvals—and failures of oversight— have severe impacts for state energy planning and consumer protection.

The events at SONGS during the summer of 2018 provide no confidence that the NRC takes its oversight of decommissioning anymore seriously than their failures involving the approval of the defective SONGS steam generators.

On August 3, 2018 workers at SONGS incorrectly loaded a spent fuel canister into a storage vault, creating an unsupported and potentially dangerous situation. They did this 5 days before the NRC

conducted an "exit interview" with SCE *evaluating the previous six months of spent fuel handling inspections* (observing training and loading of canisters), to which the NRC concluded:

The inspections verified the licensee fulfilled all appropriate testing acceptance criteria and implemented all required changes to the appropriate plant programs and procedures to support ISFSI operations.

And yet, in spite of being given a "green light" based on months of inspections by the NRC, there was still a cask handling "mishap" that has resulted so far in a nine month delay, new cask loading requirements, and robots x-raying all the existing canisters to inspect for scratching that may have occurred due to incorrect procedures. The community is outraged, trust is again eroded, costs are mounting, and transparency is questionable. How did the NRC miss the (now obvious) flaws in SCE's cask loading procedures even after 6 months of observations and inspections?

In order to avoid the shock and confusion associated with the SONGS debacle, A4NR looked to use the lessons learned when considering the retirement and decommissioning of Diablo Canyon.

Key factors included recognizing that:

- 1) PG&E is San Luis Obispo's largest private employer;
- 2) Diablo Canyon is located in a seismically vulnerable coastal zone;
- 3) Parties to the process would need to include the Legislature and state agencies in order to protect workers, and temper the economic impacts to our community.

In 2016 A4NR signed a Joint Proposal with PG&E to retire the plant by the end of its current licenses. In 2018 we supported legislation that protected Diablo employees, mitigated economic impacts to the community, and continued funding for offsite emergency services.

With the very expensive lessons of the failed steam generators and the canister fiasco at SONGS, A4NR is participating in both current SCE and PG&E CPUC decommissioning proceedings to safeguard ratepayers from costs imposed by the negligence of others. The information we learn today an—hopefully some contacts—will enhance our focus on issues to address.

Challenges at Diablo Canyon:

- PG&E's cost estimate for decommissioning Diablo Canyon is \$4.8 billion–the highest in the nation (so far)
- PG&E is a company in bankruptcy
- PG&E has hired TVA's former CEO—Bill Johnson—to date the nation's highest paid federal official. However, an empirical analysis of his tenure at both TVA and Progress Energy demonstrate more reactors falling into lower degraded action matrix categories, per the NRC rating, than before or after his tenure

Despite seismic vulnerability, and a harsh rebuke by the National Academy of Science of the NRC's acceptance that "pools and casks are equally safe," both the CPUC and CEC have directed PG&E to expedite spent fuel removal. To date PG&E has unilaterally proposed to abandon any expedited transfers, and leave all spent fuel in the full pools until 5 years after shutdown.

It is likely that PG&E will also chose Holtec for a decommissioning contract, so A4NR is tracking delays and changes by that same vendor, also used at SONGS.

A4NR has questioned the independence of Community Engagement Panels chosen SCE and PG&E that lack *true* independence and have varying degrees of expertise. Community volunteers cannot be substituted for the technical or financial skills needed for in-depth oversight.

California's Governor, Gavin Newsom, issued the follow statement regarding PG&E's choice of new directors in late March 2019:

"Time and again, PG&E has broken the public trust and its responsibilities to ratepayers, wildfire victims, and employees. This board appears to be more of the same. It raises serious doubts about the company's commitment to make changes needed to deliver safe, reliable and affordable power to Californians."

SAFSTOR or full, prompt decommissioning both assume a federally approved waste site will exist—at some point in time. The Nuclear Waste Policy Act of 1982 has yet to produce a permanent storage site for highly radioactive waste. Fortunately California had the foresight to prohibit the siting of new reactors until the DOE can keep this commitment.

We hope that we have all learned lessons from costly premature shutdowns and decommissioning glitches. Yet without trust and transparency the only certainty in that future is one in which decommissioning, transport and waste storage will be controversial and shockingly expensive.