



NUCLEAR POWER'S OTHER FOOTPRINT

Wind, solar, geothermal and wave energy are fully able to meet our electricity needs. Why should we risk everything so that **this industry** can profit?

STILL NO REPOSITORY - Nuclear reactors have produced radioactive waste since the 1940s, yet we still have no permanent repository

MOBILE CHERNOBYL - Transporting nuclear waste to a central repository risks contamination along highways and rail lines, by accident or terrorism

MAJOR DISASTER EVERY 20 YEARS - Latest calculations show that the world will average one major disaster every 20 years

NO ENVIRONMENTAL JUSTICE ON THE REZ - Uranium mining on the Navajo Reservation is an environmental justice disaster

NUCLEAR WEAPONS PROLIFERATION - You can't make a modern nuclear weapon without a nuclear reactor

FINANCIAL RISK IS OURS - Because of huge taxpayer subsidies and loan guarantees, the industry does not pay the full price for nuclear plant projects that they do not complete. In addition, the Price-Anderson Act caps damages that the industry must pay after a disaster. U.S. taxpayers pay the rest.

UNINHABITABLE LAND - We risk the loss of valuable real estate. For example, if a disaster happened at New York's Indian Point, the estimated economic loss would be in the hundreds of billions to trillions of dollars. Beyond the cash value, the Hudson Valley, like so many other places near NPPs, is irreplaceable.

HEALTH RISK IS OURS - Google "Chernobyl children" and see the horrible results of nuclear power disasters. Sixty percent of Fukushima children have abnormal thyroids; in a few years thyroid cancers will present. The Japanese government is already hiding their medical records.

EXTREME WEATHER CAN CAUSE MELTDOWNS - (1) Climate change raises water temperature leading to the shutdown of some water-cooled reactors. (2) Extended loss of power grid will lead to more Fukushimas.

Thank you to Lisa Kasenow for summarizing Benjamin K. Sovacool's research article, "Valuing the greenhouse gas emissions from nuclear power: A critical survey", and to Eve Andrée Laramée for sharing this with C.A.N.

Submitted to
Council File No. 87-00113
3/16/13
Public 6 13-00017



NUCLEAR POWER'S CARBON FOOTPRINT

People that claim nuclear power is carbon-neutral are considering only the direct emissions of the plant itself. In fact, it has the **largest carbon footprint of any energy source other than fossil fuels**. An incomplete list:

1. **MINING** - Uranium (or thorium)
2. **MILLING** - Transportation to millworks, converting ore to "yellowcake" uranium
3. **CONVERSION** - Construction of the uranium (U) conversion facility, transportation of "yellowcake", conversion to UF₆
4. **ENRICHMENT** - Construction of the U enrichment facility and the cylinders used to transport UF₆, transportation of UF₆ to the enrichment facility, enrichment. The Paducah, KY plant uses 3,040 megawatts of coal energy at peak power.
5. **FUEL PELLETS** - Formation & transportation of uranium fuel pellets
6. **NUCLEAR POWER PLANT CONSTRUCTION (NPP)** - Takes years and uses heavy construction equipment. Steel and concrete production are carbon-intensive.
7. **SUPPORTING INFRASTRUCTURE NPPs** - Construction of roads, transmission lines, barge canals
8. **GENERATORS** - Heavy-duty diesel generators run the cooling system during routine maintenance, refueling, other normal shut downs, SCRAMs, and power outages
9. **WASTE STORAGE** - Building Radioactive Waste (radwaste) storage facilities and storage containers. Transportation of radwaste, sometimes across the country or the ocean.
10. **WASTE PROCESSING** - Building reprocessing plant, transportation of radwaste, reprocessing, building storage for the remaining radwaste
11. **WASTE INCINERATION** - Building radwaste incineration facilities, transporting the waste to the incineration facility, incineration
12. **WASTE VITRIFICATION** - Building vitrification plants, transporting waste to the plant, vitrifying the waste (involves heating the materials to very high temperatures)
13. **MONITORING OF RADIOACTIVE WASTE** - Carbon pollution generated by monitoring and guarding the radwaste for eternity
14. **DECOMMISSIONING AND DECONTAMINATION** - NPPs, other reactors, enrichment facilities, and other support infrastructure
15. **ACCIDENTS** - Mitigation and clean-up efforts have a huge carbon footprint
16. **DAMAGED REACTORS AND ACCIDENTS** - Building sarcophagus structures, monitoring, securing and periodically re-entombing failed NPPs for eternity



LOS ANGELES COUNTY
FEDERATION OF LABOR,
AFL-CIO

Maria Elena Durazo
Executive Secretary-Treasurer

Ricardo E. Icaza
President

January 14, 2013

Councilmember Jose Huizar
200 N. Spring St., Room 465
Los Angeles, CA 90012

Date: 3/4/13
Submitted in BB Committee
Council File No: 13-0002
Item No.: 6
Deputy: PUBLIC

Re: Opposition to the SONGS License Amendment Resolution

Dear Councilmember Huizar:

On behalf of the Los Angeles County Federation of Labor, AFL-CIO, I am writing to oppose the resolution before the Energy and Environment Committee calling for a license amendment and adjudicatory hearing on restart plans for the San Onofre Nuclear Generating Station (SONGS).

The availability of safe, affordable, and reliable electricity is one of the cornerstones of a strong economy that is able to provide well-paying jobs for the working men and women of Los Angeles County and the region.

The fact is, the current Nuclear Regulatory Commission (NRC) process is very rigorous and transparent. It includes ample opportunity for both opponents and proponents to provide input. Since October, 2012, the NRC has held two public meetings in Orange County and one public meeting at its offices in Maryland. As part of the NRC's process for considering SCE's restart plan for Unit 2 at SONGS, the Commission will hold at least two more public meetings in Orange County so that local residents and interested parties can easily participate in the dialogue. The next public meeting is expected in mid-February.

The NRC has a well-established and thoughtful process in place for making decisions like the one before it on SONGS – a process that is founded in science and incorporates public comment. Let's use that process rather than replacing it with an emotionally charged political process and legal maneuvers.

While the promoters of this resolution claim they only want the NRC to adopt an open and fair process, they are in fact using misinformation and fear to seek the permanent shutdown of the nuclear plant. Our fear is the hundreds of well-paying jobs at SONGS that are at risk and the very real threat to the regional economy. Some of these activists further claim they are acting out of concern for the environment, when the reality is that a permanent loss of SONGS – which has zero emissions – would need to be replaced with gas fired power plants in the heart of Southern California.

While it would be easy for the City of Los Angeles to dismiss this issue thinking it has no impact on the City and its own utility, the impacts of shutting down SONGS could have a serious negative impact on the City of Los Angeles. If SONGS is forced to shut down, the Air Quality Management District will have to give a priority when issuing emission (credits/permits) to plants in southern Orange County where baseload power must be replaced. This could prevent credits from being available in Los Angeles as the City seeks to upgrade and replace its aging fleet of power plants located in the basin.

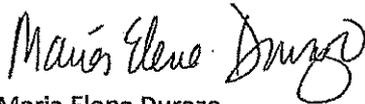
2130 W. James M. Wood Blvd.
Los Angeles, CA 90006
(213) 381-5611
fax (213) 383-0772

If you have not already done so, you also should carefully review this issue with your legal counsel to clarify any legal restrictions. As part owner of the Palo Verde Nuclear Generation Station, you should be aware of how any action you take on SONGS may affect your own nuclear interests.

The council should take its time to thoroughly review the issue and not rush through a resolution. The NRC has stated it is months away from making any decision on SONGS so the City has time to weigh in. The next public meeting on this matter is expected to take place in mid-February right here in Southern California. The NRC will provide 10 days advance notice for those who would like to participate in the conversation.

I urge you to reject this misguided resolution and to support Chairman Huizar's alternative resolution. The NRC's sole mission is ensuring the health and safety of the public. Don't interfere with the critical work of this federal agency by politicizing the effort.

Sincerely,

A handwritten signature in cursive script that reads "Maria Elena Durazo". The signature is written in dark ink and is positioned above the typed name.

Maria Elena Durazo
Executive-Secretary Treasurer
Los Angeles County Federation of Labor, AFL-CIO

ITEM NO. 6

Untitled

From: William Ernest Schenewerk, PhD, California Nuclear Engineer NU02272
5060 San Rafael Avenue, Los Angeles CA 90042, wschenewerk@msn.com 323 257 6672

To: Los Angeles Energy Environment Committee, March 06, 2013 Room 1010
Ms/Sir(2)

Per the top diagram I presented to city council on December 14, 2012, San Onofre steam generator internal leakage allows some of the water passing through the reactor core to enter the steam plant.

San Onofre Units 2 and 3 are PWRs, Pressurized Water Reactors. In a PWR, water that goes through the core is normally kept separate from the steam that goes to the steam turbine. PWR Steam generators use hot water from the reactor to make steam.

In the case of a Boiling Water Reactor (BWR), bottom diagram, steam from the reactor goes directly to the steam turbine. Minus a small number of specialty atomic powerplants, roughly 2/3 are PWRs and the other 1/3 are BWRs.

BWRs have higher personnel radiation exposure during ~~work~~ During steam generator maintenance, PWRs typically have greater personnel radiation exposure.

In a worst-case scenario, a PWR steam massive generator tube failure consequence will resemble a normally-operating BWR. Minor PWR steam generator tube leakage will probably not significantly increase radiation exposure. Radiation exposure is further limited by maintaining water quality in the PWR primary loop and minimizing stellite use in valves.

There is also the issue of whether or not any of this matters. Nagasaki bomb data shows leukemia rate decreasing as exposure went from slightly-above background to ~0.4 Sv (40 rad) [01]. 0.4 Sv is more radiation than any of the Fukushima on-site personnel received. Also, Nagasaki malignant-Neoplasm death rate did not increase significantly until exposure exceeded ~2 Sv (200 rad). RBE assumed unity. Hiroshima radiation exposure included neutrons [02]. There is no statistically significant human or animal low-radiation exposure data that supports Linear No Threshold (LNT). Required population size is billions. Besides, just about everyone that opposes atomic power also oppose fossil fuel and still go to the dentist. I do not wish to become an involuntary camper and breathe dirty air. (5110 San Rafael Avenue, observed solar PV removal 02/26/2012.)

W. Ernest Schenewerk 03/06/2013

Sincerely, William Ernest Schenewerk, PhD. 03/06/2013

References

- [01] Charles E. Land, "Estimating Cancer Risks from Low Doses of Ionizing Radiation Science, Volume 209, 09121980, 0036-8075/80/0912-1197\$01.50/0, pages 1197-1203. Available online to AAAS members.
- [02] Alvin M. Weinberg, "The Future of Nuclear Energy," Physics Today, March 1981, Pages 48-52, In print, Los Angeles Central Library.

Date: 3/6/13

Submitted in EE Committee

Council File No: 13-0002

Item No.: 6

~~Public~~ PUBLIC