

# PUBLIC SUBMISSION

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**Docket:** NRC-2009-0552

Notice of Receipt and Availability of Application for Renewal of Diablo Canyon Nuclear Power Plant License

**Comment On:** NRC-2009-0552-0026

Diablo Canyon Power Plant, Units 1 and 2; Notice of Intent to Prepare an Environmental Impact Statement

**Document:** NRC-2009-0552-DRAFT-0074

Comment on FR Doc # 2015-15921

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## General Comment

See attached file(s)

## Attachments

Academy Comments, Diablo EIS, 8-30-15

SUNSI Review Complete  
Template = ADM - 013  
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Add= *m. w. entgel (ms wa)*



August 30, 2015

Submitted via NRC website

Cindy Bladey, Office of Administration  
Mail Stop: OWFN-12 H08  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**Re: Comments of the World Business Academy on the Notice of Intent to Prepare an Environmental Impact Statement, Diablo Canyon Power Plant, Units 1 and 2**

Dear Ms. Bladey:

We encourage the NRC to include and explore the following topics in the scope of its Environmental Impact Statement (EIS) on Diablo Canyon: climate change, energy supply and grid stability, economic impact, earthquake risk and public health risk including increasing cancer and declining infant health.

**Nuclear Power is not a Solution to Climate Change and Diablo Canyon is not a Solution to Reduce Greenhouse Gas Emissions**

On September 14, 2014, the World Business Academy released a report entitled "Nuclear Power: Totally Unqualified to Combat Climate Change. The conclusion of this report, which was researched and written partially in response to Dr. James Hansen's endorsement of nuclear power, states:

"While we at the World Business Academy agree with Dr. Hansen's overall assessment concerning higher standards and the need for action, we believe that the vast resources and time needed to build new nuclear plants on a scale to meaningfully reduce carbon emissions would be better allocated towards the expansion of various renewable energy sources in tandem with hydrogen storage and transport systems. If the impact Dr. Hansen seeks is an expedited and meaningful reduction in global greenhouse gas emissions, the fastest, most economically viable and safest course of action is an all-out effort to ramp up renewable deployment. With the support of the private sector, the growth and innovation in the renewable energy sector will lead to unprecedented adoption of the technologies critical to the future of our species.

If a business fails, the owners face bankruptcy. If nuclear power fails, the world faces radioactive poisons, nuclear terrorism, and the specter of a dangerous future filled with bomb-rattling nations and regional nuclear arms races. We face incalculable expense and unlimited danger dealing



with ever-greater quantities of highly toxic radioactive waste that remains deadly even in small quantities for millennia.

Our civilization immediately needs to deploy on a massive scale non-fossil-fuel energy sources that (1) are safe, renewable, non-toxic, and increasingly inexpensive (as deployed quantities increase) and (2) can begin supplying vast amounts of sustainable energy on a fully distributed basis (i.e., where creation and utilization are both distributed). Given growing demand and limited resources, the U.S. and the nations of the world should invest in the best global energy solutions rather than try to resurrect the failed nuclear option. Efficiency, biofuels, renewables, and hydrogen could revitalize our nation and our planet economically, environmentally, and geopolitically, while ensuring a safe future for all.”

Furthermore, we agree with the assessment that Diablo Canyon’s electrical output will be a barrier to reaching the ambitious carbon reduction goals set by Governor Jerry Brown and the California Energy Commission. Given that nuclear power is not a flexible, dispatchable resource and provides 24/7 baseload power, it cannot be shut down when an overabundance of power becomes available on the grid. Therefore, it will displace cheaper, renewable resources.

### **Diablo Canyon is not necessary to meet California’s energy demands or for grid reliability**

In the 2013-2014 *Transmission Report*, the California Independent System Operator (CAISO) determined that DCNPP is not a “must run” facility needed to maintain grid support and reliability. Furthermore, the loss of San Onofre’s 2,254 MW of nuclear power plant capacity since January 2012 did not result in brownouts, blackouts, or interruptions of power, due to the significant excess power capacity built into the California power grid.

According to the California Energy Commission, in 2012 California’s total in-state installed generation capacity was 71,863 MW, of which Diablo Canyon provided 2,240 MW, or 3.1%. Overall, based on California Public Utilities Commission data, the California’s nuclear power capacity was over and above the 30% reserve margin maintained in addition to, and on top of, the State’s peak summer-energy demand.

PG&E’s projected energy load growth for 2011-2022 will be met by a combination of demand side (conservation) and renewable energy installations at the customer site (60%) and through a combination of additional renewable resources, natural gas, and market purchases by the utility (40%). The overall environmental impact and greenhouse gas generation from these renewable sources will be significantly less than that produced by existing nuclear power and fossil fuel base load plants.



### **Within the Near Term Ratepayers will not Benefit from Diablo Canyon Operation**

On October 3, 2014, Friends of the Earth submitted to the California Public Utilities Commission a Petition for the Commission to Initiate a Rulemaking Regarding the Economics of, and Appropriate Method of Compensation for, the Diablo Canyon Nuclear Power Plant. Included as Appendix C of this Petition was the Declaration of utility economic expert consultant Steven Moss, which concludes:

“In summary, a comparison of the costs of electricity from Diablo Canyon nuclear reactors with that of electricity procured on the open market (which over the next few years will increasingly be generated by preferred resources) suggests that within a few years, ratepayers would be better off if PG&E were to procure power from other sources or replace these power needs with conservation or other demand reducing strategies.”

Now that we have addressed the climate change, energy demand, grid stability, and economic issues impacting the continued operation of Diablo Canyon, we turn to the health and safety issues, which relate to the primary mission of the NRC. As stated in the NRC Mission Statement: “The NRC licenses and regulates the Nation's civilian use of radioactive materials to protect public health and safety, promote the common defense and security, and protect the environment.”

### **Diablo Canyon Poses a Significant Earthquake/Tsunami/Meltdown Risk**

Based on available evidence in the public record, the Academy believes that Diablo Canyon poses a significant radiation risk to the public because it is located near or on multiple earthquake faults and is located in an historic tsunami zone putting it at risk for a Fukushima-like earthquake, tsunami, and meltdown.

The U.S. Geological Survey's 2008 Shoreline discovery prompted PG&E to quickly assess whether the fault—a roughly 12-kilometer-deep, 24-kilometer-long vertical strike-slip that intersects with the nearby Hosgri fault to the north, and lies some 600 meters (1,969 feet) from the plant's power block—is capable of producing an earthquake large enough to damage vital plant components.

The DCNNP was originally built to withstand a 6.75 magnitude quake from four faults, and later upgraded to a 7.5. The Fukushima earthquake registered 9.0 on the Richter scale. Given this 7.5 design, and the fact that DCNPP sits on the coast in an historic tsunami zone, the plant is at risk for a Fukushima-like accident. As a result of the above, Diablo Canyon is the only nuclear plant in the country required to meet three seismic design requirements: the Design Earthquake (DE), the Double Design Earthquake (DDE), and the Hosgri Event (HE).



On Jan. 7, 2011, PG&E submitted its final report on the Shoreline fault to the NRC. It included the determination that the three local earthquake faults could produce about 70 percent greater ground motion than the Double Design Earthquake.

In light of Fukushima, the public called for action to immediately learn the lessons of Fukushima and apply them to insure the safety of U.S. reactors that have seismic vulnerability, such as Diablo Canyon. Unfortunately, the NRC rejected immediate action and implemented a long-term evaluation, under which post-Fukushima updates to determine new seismic source and ground motion characterization for DCNPP will not be done until 2015-2018. The US Nuclear Regulatory Commission (NRC) has stated it is unlikely the permitted "design basis" for DCNPP will stand (in 2018) without requiring modifications.

In September 2011, Richard Peck, the NRC's chief onsite inspector for DCNPP since 2007, officially reported that the DCNPP was "in violation of its license agreement" due to the safety issues posed by earthquake vulnerabilities. At present, no scientific consensus exists among PG&E, the NRC's Senior Seismic Hazard Analysis Committee (SSHAC), seismic experts, and nuclear power critics as to whether DCNPP can be rendered safe at all, due to ongoing controversies as to the scope of the seismic risk and the true regulatory design basis of the plant.

A 2012 Union of Concerned Scientists (UCS) report on "Seismic Shift" found a *1-in-6 risk of a major earthquake near Diablo Canyon* in every year that the plant is operating, a situation the UCS called "radioactive roulette."

A Fukushima-scale disaster at Diablo Canyon could devastate the Central Coast; destroy California's agricultural industry; envelop Santa Barbara in deadly radiation; and, depending on which way the wind is blowing, require the evacuation of Los Angeles.

### **Diablo Canyon Poses an Ongoing Cancer Risks to Residents Living Near the Nuclear Plant**

On March 3, 2014, the Academy release a report titled "Report on the Health Status of Residents in San Luis Obispo and Santa Barbara Counties Living near the Diablo Canyon Nuclear Reactors." The report was authored by Joseph Mangano, MPH, an epidemiologist with over 30 peer-review publications in medical and scientific journals.



The main findings and conclusion of the report about local health patterns are that:

1. Since the Diablo Canyon nuclear power plant opened in the mid-1980s, San Luis Obispo County has changed from a relatively low-cancer to a high-cancer county.
2. Due to increases in the San Luis Obispo County cancer rate during 2001-2010, an additional 738 people were diagnosed with cancer.
3. Cancer incidence in San Luis Obispo County rose from 0.4% below to 6.9% above the average for the state of California during the time period of 1988-1990 to 2003-2010. The current rate is the highest of all 20 counties in southern California:
4. Significant rapid increases occurred for the incidence of thyroid and female breast cancer in San Luis Obispo County, both highly radiosensitive cancers.
5. After Diablo Canyon began operating, infant mortality in San Luis Obispo County rose significantly.
6. After Diablo Canyon began operating, child/adolescent cancer mortality in the county rose rapidly.
7. Melanoma incidence in San Luis Obispo County soared from 3.6% above to 130.2% above the state incidence rate during the period from 1988-1990 to 2003-2010, and is now the highest of all California counties.
8. Cancer mortality for people of all ages in San Luis Obispo County rose from 5.1% below to 1.4% above California from 1988-1990 to 2008-2010, making SLO the 25<sup>th</sup> highest county in the state (up from 43<sup>rd</sup> highest).
9. The ratio of babies born at very low weight (below 3 pounds, 4 ounces) rose 45.0% higher in the 9 San Luis Obispo County zip codes closest to Diablo Canyon, versus the other more distant 10 county zip codes.
10. The ratio of all-cause mortality rose 47.9% higher in the 9 San Luis Obispo County zip codes closest to Diablo Canyon, versus the other more distant 10 county zip codes.
11. In the 10 zip code areas in Santa Barbara County closest to Diablo Canyon, there was a greater rise in the rates of infant mortality (61.7%), low weight births (40.2%), and total mortality (19.1%), than in the 5 zip codes areas in the city of Santa Bárbara, located approximately 90 miles from the plant.



**Report Conclusions and Recommendations:**

While many factors can affect disease and death rates, the official public health data presented in this report suggest a probable link between the routine, federally-permitted emissions of radioactivity from the Diablo Canyon nuclear power plant and elevated health risks among those infants, children, and adults living closest to the reactors.

These findings strongly suggest that federally-permitted radiation releases pose a health risk to the public, especially to people living near Diablo Canyon in California. These data also correspond with earlier studies showing significant declines in local disease and death rates after the shutdown of the Rancho Seco nuclear power plant in Sacramento County in 1989.

This report should be followed by additional health studies and shared with elected officials and local citizens so that the public health implications of nuclear power are fully understood, especially as aging reactors continue to operate.

In summary and conclusion, the World Business Academy strongly recommends that the following issues be addressed by the NRC in the EIS on the proposed license renewal of the Diablo Canyon Nuclear Power Plant: climate change, energy supply and grid stability, economic impact, earthquake risk, and public health risk including increasing cancer and declining infant health.

Sincerely,

*Jerry B. Brown*

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