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**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Continue
Electric Integrated Resource Planning and
Related Procurement Processes.

R.20-05-003
(Filed May 7, 2020)

**COMMENTS OF
CALIFORNIANS FOR GREEN NUCLEAR POWER, INC. IN RESPONSE
TO THE PROPOSED DECISION OF ALJ FITCH MAILED DECEMBER
22, 2021**

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January 14, 2022

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Gene Nelson, Is California on track to meet clean energy goals without Diablo Canyon? It's doubtful, *SLO Tribune*, August 22, 2021. 5

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I. AUTHOR'S VERIFICATION

The author below affirms under penalty of perjury that the information contained in this written testimony is true and correct, and is given in good faith to their best available knowledge, subject to modifications resulting from new findings.

/s/ Gene Alan Nelson, Ph.D. January 14, 2022

2. INTRODUCTION

Californians for Green Nuclear Power, Inc. (CGNP) is an independent nonprofit California corporation focused on preserving the ratepayer benefits, the environmental benefits, and the public safety benefits of the continued safe operation of Diablo Canyon Power Plant (DCPP) beyond 2025. CGNP believes the DCPP closure plans are motivated by special interests that will profit directly or indirectly from the unnecessary closure of this safe, large, reliable, cost-effective, and emission-free power plant that currently provides the equivalent of five (5) Hoover Dams of clean power each year. CGNP projects the takings from Californians connected with the needless DCPP closure plans to be in the billions of dollars per year. Given these large stakes, the most likely reason for the State of California's harmful actions is the provision of things of value to California governmental decision makers, depriving Californians of honest service by those decision makers.

3. CGNP'S FIRST RECOMMENDED CHANGE TO THE PROPOSED DECISION (PD)

The Commission's PD is to adopt the 2021 Preferred System Plan. Section 4 of the PD is the Preferred System Portfolio (PSP) and GHG Target for 2030. Section 4.1 is the Analysis leading to the PSP Portfolio and GHG Target Recommendation. Section 4.2 is the Discussion, beginning on page 99. The Commission failed to acknowledge any of the

extensive written testimony supplied by CGNP in R.20-05-003 or the related R.20-11-003 Proceeding relating to the PSP and GHG target reductions. Within the Section 4.2 Discussion is the fifth sentence in the first paragraph on page 108 of 185 of the Commission's PD which reads, "Criteria pollutants were counted from generation within California only, and not from unspecified imports." This sentence contravenes the Federal Clean Air Act ¹ and California state statutes such as SB 1368 (Perata) 2006 which addresses unspecified imports. ² This sentence contravenes relevant case law³. CGNP's corrected sentence reads, "Criteria pollutants were counted from generation within California, and from all unspecified imports."

4. FACTUAL BACKGROUND FOR CGNP'S FIRST RECOMMENDATION

A summary of some of the controversies surrounding this Proceeding is found in this newspaper article. ⁴ An in-depth update is found here.⁵ Based on CGNP's observations to date, the plan supported by the Commission and at least ten other California executive branch agencies is to keep secret key elements of the plan to replace DCCP's emission-free generation mostly with coal-fired generation located in Wyoming which is owned by PacifiCorp, a subsidiary of Berkshire Hathaway Energy until the 2024-2025 time frame. The Commission's June 24, 2021 Procurement Order in this Proceeding authorizes between 4,000 to 5,000 MW of unspecified imports to be purchased. Unspecified imports are a California legal euphemism mostly applied to out-of-state coal-fired generation. Applying a capacity factor of 90% to this procurement yields a range of 32 - 40 TWh / year, likely the largest procurement in CPUC history.

¹ 42 U.S.C. §§ 7401 et seq.

² PUC §§ 8340 - 8341

³ *Union Elec. Co. v. EPA*, 427 U.S. 246 (1976)

⁴ Gene Nelson, Is California on track to meet clean energy goals without Diablo Canyon? It's doubtful, *SLO Tribune*, 7B, August 22, 2021.

⁵ Nathanael Johnson Sr., Save the Nukes, *Grist Magazine*, January 11, 2022, <https://grist.org/climate-energy/nuclear-rally-environmentalists-try-to-save-diablo-canyon-power-plant/>

Recent events such as ENRON creating California electric power shortages to boost the firm's profits bring into sharp focus that Californians expect a reliable power system^{6 7} for the largest economy in the United States (and the fifth largest in the world.). However, events such as the needless shut down of San Onofre Nuclear Generating Station (SONGS) at the end of January, 2012 decreased California's in-state reliable, emission-free generation by about 18 terawatt-hours (TWh) per year. (A terawatt-hour is a billion kilowatt-hours.)

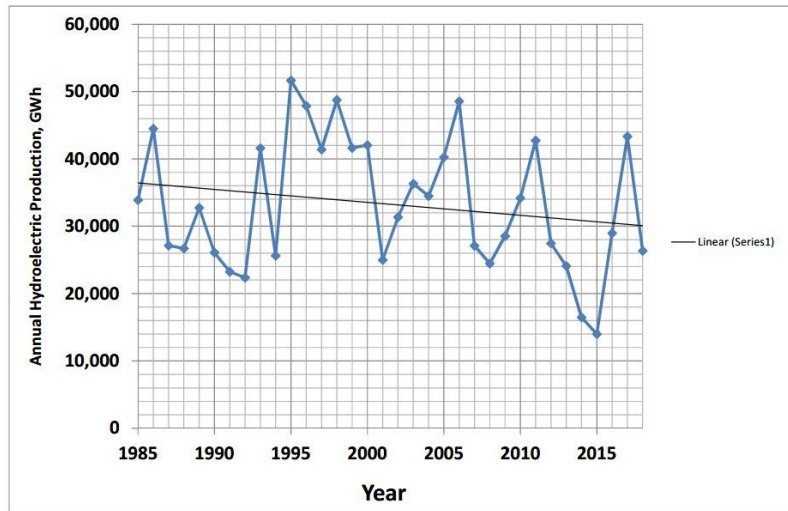
The shutdown of many megawatts of coastal natural gas fired power plants employing once-through cooling has been repeatedly delayed by the Commission in recognition of the important reliability role of those plants to protect California's fragile grid. The alleged benefit to Californians is to protect sea life. However, fishermen on boats know that one of the best fishing spots is near the outfall of power plants employing once-through cooling. Instead of being harmed, ocean fish are attracted to the outfall area since it is slightly warmer. Federal 316(b) regulations involving the waste heat from power plants on inland waterways should not apply to the world's largest heat sink, namely the Pacific Ocean. Daily heat inputs from the Sun dwarf the heat input of California coastal power plants. The solar heat inputs are essential for evaporating sea water to create water vapor which is deposited on California as rain and snow.

SONGS operated from the early 1980s with a variance in which the plant owners paid in the range of \$2 million - \$3 million annually to construct artificial reefs to remediate any claimed harms to sea life. DCPD has operated with a similar variance since starting operations in 1984 and should continue to operate under a variance. Given that federal 316(b) regulations applicable to DCPD also stipulate that remediation costs must

⁶ Eaton Corporation, California Unplugged, *America's Power*, September 25, 2020, <https://www.americaspower.org/wp-content/uploads/2020/09/California-Unplugged-Sept-25-2020.pdf>

⁷ Obstacles To Carbon-Free Electricity By 2035, *America's Power*, May 31, 2021, <https://www.americaspower.org/wp-content/uploads/2021/06/Carbon-Free-Electricity-May-31.pdf>

not be out of proportion to claimed environmental benefits. On May 1, 2009, the U.S. Supreme Court affirmed this principle.⁸



The scientific consensus is that burning more fossil fuels, particularly coal for electricity generation, is diminishing California snowpack, which decreases California hydroelectric production.

The graph to the left based on California Energy Commission data⁹ confirms this negative trend. The linear fit line shows a loss of about 6 TWh of California hydroelectric production between 1985 and 2018. The CEC website shows the 2019 California hydroelectric production was 38,494 GWh and the 2020 hydroelectric production dropped to 21,414 GWh, almost a record low. Snowpack in the Rockies is also down, leading to significant water shortages in the Colorado River basin - and the threat of power cutbacks from Hoover Dam and other dams on the Colorado River.¹⁰ Total diminution of emission-free hydroelectric power serving California load in the neighborhood of 10 TWh / year relative to 37 years ago.

⁸ Supreme Court Rules that Cost Can be Used to Determine Best Technology Available, *Barclay Damon LLP*, May 5, 2009, <https://www.barclaydamon.com/alerts/Supreme-Court-Rules-that-Cost-Can-be-Used-to-Determine-Best-Technology-Available-05-05-2009>

⁹ 1985-2018 Total Annual Energy, *California Energy Commission*, June, 2021, https://www.energy.ca.gov/sites/default/files/2020-08/1985-2018_Total_Annual_Energy.xlsx

¹⁰ Ian James, 'The pie keeps shrinking': Lake Mead's low level will trigger water cutbacks for Arizona, Nevada, *Arizona Republic*, August 15, 2020. <https://www.azcentral.com/story/news/local/arizona-environment/2020/08/15/lake-mead-low-arizona-nevada-water-cutbacks/5584993002/>

Finally, there is the unnecessary planned shut down of safe, reliable, cost-effective DCPD electricity production in 2024 and 2025 leading to the loss of another nominal 18 TWh / year. The total above loss of California's electricity is in the neighborhood of 50 TWh / year. The CEC website referenced on the previous page shows recent California electricity consumption approximates 300 TWh / year. California cannot afford to lose 1/6 of its power. After 2025, if DCPD closes, California will have no choice but to accept PacifiCorp's Wyoming coal-fired power to keep the lights on - despite SB 1368 (Perata).

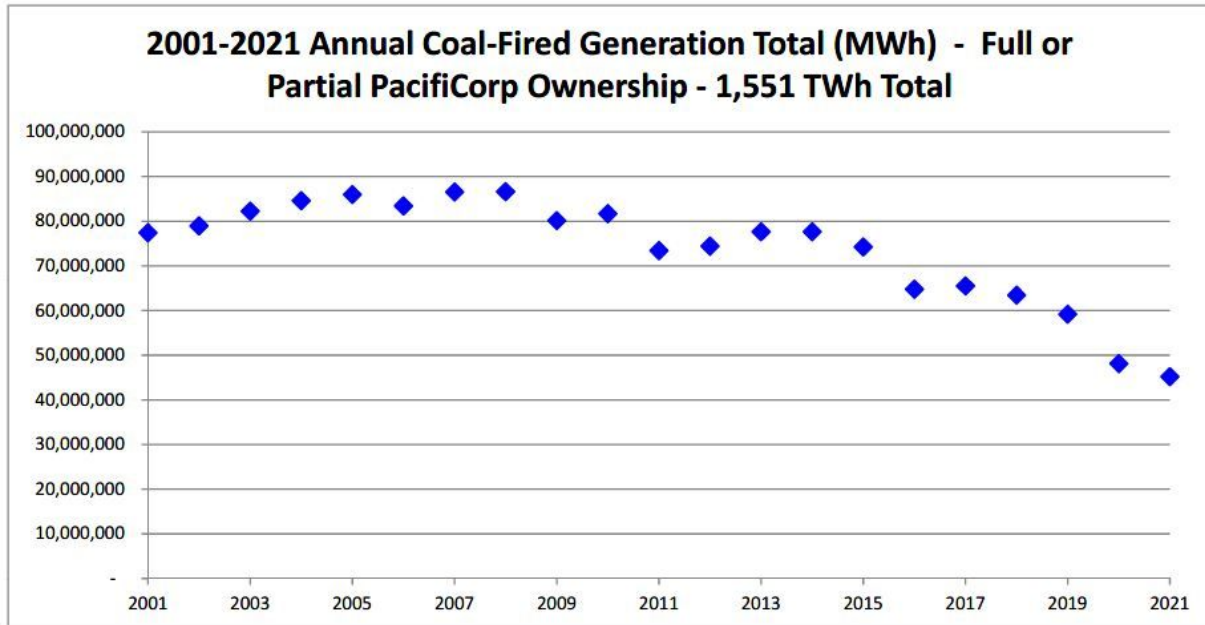
4A. PACIFICORP EMITS SIGNIFICANT AMOUNTS OF CRITERIA POLLUTANTS FROM ITS PRIMARILY COAL-FIRED GENERATION FLEET

Per CARB, PacifiCorp's 2018 CO₂ equivalent emissions were 674,176 metric tons.¹¹ However, PacifiCorp's 2019 reported sustainability metrics¹² show that the firm's total 2017 CO₂ equivalents were 41,826,769 metric tons, a factor of 62 larger. This is a significant discrepancy. In addition, PacifiCorp's sustainability metrics show the 2017 emission of 36,327 tons of NO_x, 25,861 tons of SO₂, and 103 tons of Mercury. CGNP takes sharp exception to the CPUC arbitrarily setting these values to zero. In contrast, DCPD's annual emissions of all of these criteria pollutants was actually zero. PacifiCorp's sustainability metrics show 63% of the firm's net generation was coal-powered, down from 77% in 2005. (In 2006, PacifiCorp was acquired by Berkshire Hathaway Energy for about \$6 billion.)

¹¹ California Air Resources Board, Annual Summary of 2018 Greenhouse Gas Emissions Data, November 4, 2019. https://www.arb.ca.gov/cc/reporting/ghg-rep/reported-data/2018-ghg-emissions-2019-11-04-archive.xlsx?_ga=2.214040657.772797513.1626640108-1568542331.1581168515

¹² PacifiCorp 2019 Sustainability Report, <https://www.brkenenergy.com/assets/pdf/sustainability-pacificorp.pdf> (Archived 07 02 21)

Here is a graphic showing the huge amount of PacifiCorp coal-fired generation by year, using EIA reported statistics. PacifiCorp generated close to 50 TWh from coal in 2021.



Here is the 2019 Clean Air Task force tabulation of PacifiCorp coal-fired generation showing the premature deaths of the very old and very young associated with coal-fired power plant emissions.

COAL-FIRED POWER PLANT	State	Capacity, MW	Berkshire Hathaway Energy Ownership Percentage	Annual Deaths from Air Pollution
Colstrip Power Plant	MT	2,094	6.8	48
Craig Station	CO	1,304	12.9	21
Cholla Generating Station	AZ	1,027	36.7	12
North Valmy	NV	522	50.0	21
Hunter Power Plant	UT	1,336	84.7	28
Huntington Power Plant	UT	911	100.0	16
Naughton Power Plant	WY	700	100.0	20
Dave Johnston Power Plant (Ret. 2020)	WY	762	100.0	34
Wyodak Power Plant	WY	335	80.0	9
Jim Bridger Power Plant	WY	2,118	66.7	60
Hayden Station	CO	446	17.5	7
Total		11,555		276

Initial map source: <https://tinyurl.com/PacifiCorp-1-Coal> Generally, the plant power output was higher
 CATF 2019 Updated map source: <https://www.tollfromcoal.org/#/map>

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TOLL FROM COAL (Statistics before COVID-19 increased death tolls)

Coal-fired power plants are the nation's largest industrial polluter. The air pollutants from power plants—CO₂, soot, particles, mercury, and other air toxics harm public health, causing unhealthy levels of ozone smog and fine particles and can shave years off people's lives.

Since the year 2000, the Clean Air Task Force has issued studies based on work by Abt Associates, U.S. EPA's peer-reviewed, published methodology to quantify the deaths and other adverse health effects attributable to the toll from power plant emissions. Using the most recent emissions data (2019), Clean Air Task Force used the CO-Emissions Impacts Screening and Mapping Tool developed by Abt Associates to estimate the death and disease due to coal that year.

Warren Buffet in his 2021 Letter to Berkshire Hathaway shareholders disclosed the total cost of the Energy Gateway Project will be \$18 billion by 2030.¹³ Given that Washington state and Oregon have already enacted future bans on coal-fired generation,¹⁴ The Energy Gateway will be primarily employed to serve California load.

5. CONCLUSION

PacifiCorp's plan to substitute Wyoming coal - fired generation for emission-free Diablo Canyon Power Plant generation should be rejected for the above reasons. The CPUC should halt the plan to make this substitution by 2025 as not in the public interest. California ratepayers, the environment, and California public safety will all be harmed if the CPUC goes forward with this plan.

Dated: January 14, 2022

Respectfully submitted,

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¹³ Berkshire Hathaway Energy Annual Letter to Shareholders, February 21, 2021. <https://berkshirehathaway.com/letters/2020ltr.pdf> (Archived 01 03 22 by CGNP \$18 billion Energy Gateway Project summarized on page 13 of 14, allegedly supporting clean energy.)

¹⁴ Energy News Network, States are banning coal. Will it change the electricity mix?, *E&E Publishing*, LLC, July 21, 2020. <https://energynews.us/2020/07/21/states-are-banning-coal-will-it-change-the-electricity-mix/>