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*Comment Received From: Richard McDonald*  
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## **save Diablo Canyon**

My name is Richard McDonald and my short bio is as follows: I have a Ph.D. In Nuclear Physics from UC Davis (1977) and spent 25 years as a research scientist at Lawrence Berkeley National Lab. I am a member of the American Physical Society and the American Nuclear Society. Following retirement, I have spent 16 years now studying oil production and reserves (there is not much left) (ref. 1) as well as Energy-Return over Energy-Invested (ERoEI) (Ref. 2) and have a project called Nucleoculture which grew out of my oil work which I hope to publish soon. This combines Nuclear Energy for electricity, liquid fuels, potable water, and agriculture. (Ref. 3). I have no financial ties to the nuclear energy business.

From my work on Nuclear vs Solar energy, I find nuclear 5x cheaper (excluding the significant cost of land) over 75 years, although this may be a very conservative estimate as the mineral resources for solar (and wind) are rare and will become more rare and therefore more expensive. These include silver, copper, neodymium, lithium (for storage) and a number of minor elements. I estimate ERoEI for solar at about 5 with storage and for nuclear somewhere above 50. 5 is too little to support our present society, and 50 may still be too little to develop the developing world. As evidenced in Sri Lanka, the "green" transformation applied to a developing country leads to famine and social unrest.

Similarly in Germany and Austria now, we see the burning of coal to replace nuclear, and this is an obvious ecological disaster. Nuclear in Europe has killed ZERO people over 50+ years whereas coal will kill a well-known number of people every year. "googling" deaths due to burning coal will show the numbers, although world-wide numbers are skewed high by China and India. CA will probably see rolling blackouts and unreliable power, possibly causing death because of failures in medical institutions and devices. The tsunami-caused meltdown in Fukushima caused no deaths from radioactivity and my former colleagues examined fish in the Pacific and saw no radioactivity from the accident. The unnecessary evacuation caused approximately 1000 deaths. Diablo Canyon will save lives and should be run as long as the NRC license is valid.

I was there in the '70s when the Davis city council voted to close Rancho Secco against the advice of UC radiation experts in deference to Avory Lovens. That was a bad decision, and closing Diablo Canyon would be worse because of a shortage of hydropower. Build MORE Gen III+ reactors on the coast and couple them to desalination plants, or implement my "nucleoculture" proposal.

Richard J. McDonald, Ph. D.  
515 Jackson St.

Albany CA 94706

510-912-0516

RJM5@sonic.net

Ref. 1: Hubbert's peak and the future of oil, submitted to Scientific American, 7/22

Ref. 2 spreadsheet available upon request.

Ref. 3 Nucleoculture pptx available upon request