

D0031

2/9/2008

Re: Sunrise Powerlink

Aspen Environmental Group  
235 Montgomery St.  
San Francisco, CA 94104

Gentlemen:

With respect, I offer the following comments regarding the proposed Sunrise Powerlink project. I think I am qualified to comment on the technical aspects, on the basis of my Ph.D. degree in Physical Chemistry (UCLA, 1960), M.S. in Chemical Engineering (Caltech, 1954), thirty years as a Registered Professional Engineer, and authorship of more than thirty professional publications.

- The project should avoid intrusion into Anza-Borrego Desert State Park. That would set an undesirable precedent affecting state parks everywhere.

- There should be more emphasis on conservation in the use of electricity; reducing demand for electric power rather than just increasing supply. For example, electric utilities should subsidize conversion of lighting to use CFL and LED lamps, conversion to more efficient domestic refrigerators, and use of "swamp coolers" instead of refrigerative air conditioning.

As a Sempra Energy shareholder, I would welcome the use of the company's funds to subsidize the

adoption of conservation measures that obviate the need for investment in expansion of base load capacity or peak-sharing capacity. "Swamp coolers" are especially effective in that regard, minimizing peak loads in the hottest part of the year.

- Don't assume that the growth in demand for electric power will continue indefinitely, linked to increasing population. Population growth in Southern California is going to be limited by shortages of water, and maybe by shortages of gasoline. As a shareholder in Shell and BP, I'm aware that some of their oil fields have already passed their point of maximum production and are in decline, and their proven reserves have been overstated. The implication is that the Southern California lifestyle based on lengthy commuting by car can't be long sustained, hence a slowing or reversal of population growth.

- Solar-thermal generating capacity doesn't have to be located in the Imperial Valley. Solar-thermal doesn't depend on a high ambient temperature: it depends only on sunshine. It would work just as well in localities like Tecate or Campo or Temecula, and with lower transmission losses.

- For transmission of power from geothermal generation somewhere near Niland, the existing electric power transmission corridor along I-8 should be used. The argument that it would

be vulnerable to wildfires is specious: the same vulnerability affects other routes, as well.

I grew up in San Diego. I know that chaparral. It is going to burn, wherever it is. Any electric power transmission system must be designed with the expectation that interruptions due to wildfire will surely occur.

- Don't assume that nuclear power will be an ultimate source of electricity. The big impediment to reliance on nuclear power is the problem of dealing with the radioactive waste. It remains hazardous for at least 10,000 years; twice as long as civilization has existed. Even if it is stored at Yucca Mountain, who can guarantee that it can be rigorously excluded from the biosphere for 10,000 years or more? Reprocessing to recover and recycle fissionable materials from spent reactor fuel does not render the residue non-radioactive: nothing can do that. Any suggestion that technology will eventually find a way to make nuclear waste non-radioactive is either ignorant or dishonest. Trust me on this one: for several years I taught a college-level course in radiochemistry. I understand radioactivity.

- Planning should consider the use of wind- and solar-generating facilities linked to pumped storage, after the manner of operation of the San Luis Reservoir in Central California.

- It has been proposed that part of the 500 kV transmission line would be placed underground. Why not place all of it underground? Undergrounding has undeniable advantages that might justify the cost.

- Don't assume that geothermal hot water or steam in the Imperial Valley can be produced indefinitely. Those hot fluids are laden with minerals that form scale which plugs things up and spoils heat-transfer surfaces.

Sincerely,

David J. MacDonald, Ph.D.

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Statement by David MacDonald re Sunrise Powerlink.

My name is David J. MacDonald. My winter-time address is: 425 Pincushion Lane,  
Julian, CA 92036.

As a Sempra Energy shareholder, I want the company to invest in promoting conservation measures in the use of electric power. That means subsidizing conversion of lighting to CFL and LED lamps, subsidizing ~~conversion~~<sup>replacement</sup> of domestic refrigerators with high-efficiency models, and adopting swamp coolers instead of refrigerative air conditioning. And it means subsidizing installation of grid-connected photovoltaic power sources. I think that for the long term, conservation is more economic and more effective than investment in additional generating capacity.

Also, I want the company to use the existing power-line corridor near Interstate-8, and avoid intrusion into a state park.

David J. MacDonald, Ph.D.  
David J. MacDonald

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