

Docket Optical System**DOCKET****09-IEP-1A**

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CEC 2009 Integrated Energy Policy Report draft

The State of California has serious energy problems. Despite its lack of expertise in the field the state legislature has assumed responsibility for solving the problems. The legislature has depended on the CEC for aid to generate legislation in the field. The legislature/ CEC combination has not been entirely successful as shown below:.

Electric rates in the state are among the highest in the nation.

PG&E was driven into bankruptcy

Investor owned utilities have no incentive to generate electricity at the lowest cost

The state is perennially on the border line of having sufficient reliable electric generating capacity to meet the needs of industry and the public. The state electrical industry has been coerced from building enough electric capacity to serve the needs of CA industry and public. Conservation is promoted as good policy. Building new power plants is regarded as bad policy. Building new nuclear power plants has been banned .As a result the state must import a large portion of its electricity.

The state has decreed that greenhouse gas production by electric utilities shall be reduced .by large amounts. It has decreed that this shall be accomplished by constructing new power plants using only state approved energy sources. The state expects that these power plants which mostly generate non reliable electricity can substitute for existing power plants which generate reliable 24/7 electricity.. The so called “renewable” energy sources mandated by the legislature may look attractive from a greenhouse gas production viewpoint but they are totally unsuitable for generating reliable 24/7 commercial electricity.

The legislature will get very little help if the 2009 IEP report is sent to them without major revision. Major revision should be based on the following discussion.

CEC report, 200-2009-012-SF provides yearly electric power demand for California. It states: estimated demand growth of 1.1 % per year

2008	287,000 giga watt hrs used	61,500 peak megawatts used
2018	307,000 gwh estimated	68.600 peak mw estimated

Dividing the 2008 demand by 24 x 365 hours indicates that generation capacity required to produce the 2008 demand was about 33 giga watts or 33,000 megawatts. Similar computation for 2018 is about 35,000 mw. Comparing these numbers to the CEC peak demand figures shows that not all power plants

were operating at full power 24/7. The numbers do reflect the amount of reliable 24/7 demand .and also the increase in 24/7 generation capacity required. In the 10 year period from 2008 to 2018. Reliable 24/7 generation capacity must be increased by about 2000mw while peak capacity generation will require a capacity increase of 7000mw.

In an effort to reduce greenhouse gas production by electric utilities the state has mandated that 30% of the electricity sold by investor owned utilities must be generated using state defined “renewable” energy. I don’t have a number for IOU estimated sales for 2018 so I will estimate a number of 80% of 307,000 gwh or 246,000 gwh. 30% of this is 74000 gwh I will estimate that 75% of this amount will be solar and wind generated or about 55000 gwh. Since The CEC says solar and wind plants can generate only about 20% of their name plate capacity the name plate generating capacity required for solar and wind will be 55000 gwh divided by the amount (24x365x.0.2) which equals the startling numbers of 32gw or 32000 mw.nameplate capacity required to generate the state mandated “renewable” electricity.

These numbers reflect 2 different problems although they are related. The 2009 IEP draft report doesn’t recognize or discuss either one although the legislature desperately needs guidance.. How can the state increase its reliable 24/7 electricity supply without unduly increasing the production of GHG?.

It is obvious that the path taken by the state to produce more solar and wind generated electricity is not viable. They are not capable of generating reliable 24/7 electrify. They are not practical both from the diffuse and erratic nature of solar and wind and the enormous name plate generating capacity they require to make even a small reduction in GHG.. The attempt to force solar and wind on the public should be abandoned

The only readily available energy source that can be used to generate the additional required reliable 24/7 without producing GHG is nuclear. .

The 2009 IEP report should state these facts in clear and concise fashion. This will cause consternation in the CEC and the legislature but it is time for the state to bite the bullet. If it is truly interested in assuring that the state has an adequate supply of reliable 24/7 electricity and if it is truly interested in reducing electric utility produced GHG by meaningful amounts there is no other choice than nuclear and the state must promote it..

If the CEC feels obligated to maintain the topics so carefully prepared in the current draft they certainly must be modified to fully support the above policy. Analyzing the several topics presented by the CEC document use a lot of words to say very little about the real problems. My comments on the draft report topics.

Energy Efficiency and Demand Response

The report uses several pages of verbosity promoting a nickel and dime solution to the basic problem that the state doesn’t generate enough electricity to meet its needs. If the state had sufficient capacity there would be no need to worry about small reductions in demand. Conservation may slightly reduce the number of new power plants required but the total demand overwhelms the small gains of conservation. Much of the conservation rhetoric implies reducing the living standards of the public and they do not appreciate it.

RENEWABLE ENERGY

It is impossible to generate reliable 24/7 electrify with the state allowed “renewable” energy sources. If the global warming problem is as serious as Al Gore pictures it, 20 or 30% reduction in greenhouse gas

production is not sufficient. The proposed 20% reduction is already difficult to accomplish. A 30% reduction will be really difficult. Neither is a sufficient reduction if you are serious about human caused global warming..

Distributed Generation and Combined Heat and Power

This is in the same category as Energy Efficiency and Demand Response above. The state needs a lot of added base load generation. This is done most economically by large plants feeding the grid. Asking the ISO to manage inputs to the grid from a myriad of small sources is a recipe for high cost electrify and grid problems. This is a concept promoted by the self proclaimed expert A. Lovins. It is not worthwhile as a solution to the lack of capacity.

Nuclear Power Plants

Here is where the CEC and this report are completely off base. Nuclear energy offers the only practical and economical solution to the state's energy problems. The CEC insists on attacking nuclear energy based on no good reasoning. The recommendations in the report have no bearing on anything but the mind set of the legislature and CEC that nuclear is bad. If the CEC wants to help the state it should be recommending that the state remove all the roadblocks erected against nuclear.

Transmission

Building transmission lines to transport the intermittent and unreliable electrify from "renewable" energy plants is a waste of the taxpayer and ratepayer money.

Natural Gas

The supply of natural gas is finite. It is not renewable. Burning it produces lots of GHG. All new base load plants should be nuclear energy powered.

Reduce Once through cooling

The original intent of this scheme was to put another nail in the coffin of Diablo Canyon and Songs. Cooling towers will send millions of tons of water vapor, a potent GHG, into the atmosphere. This is a bad scheme which should apply only to plants with a limited water heat sink.