

May 25, 2012

Hon. Kamala D. Harris
Attorney General
1300 I Street, 17th Floor
Sacramento, California 95814

Attention: Ms. Ashley Johansson
Initiative Coordinator

Dear Attorney General Harris:

Pursuant to Elections Code Section 9005, we have reviewed a statutory initiative related to the generation of nuclear power in California (A.G. File No. 12-0013).

BACKGROUND

The Role of California's Nuclear Power Generation

California's electricity supplies are generated by several energy sources, including natural gas, nuclear fission, wind, solar, and hydropower. Approximately 16 percent of the state's electricity is generated by nuclear power plants (inside and outside of the state), three-fourths of which comes from the two nuclear power plants in the state—the Diablo Canyon Nuclear Power Plant (Diablo Canyon) in San Luis Obispo County and San Onofre Nuclear Generating Station (SONGS) in San Diego County. Both of these plants are owned primarily by investor-owned utilities (IOUs). The IOUs, in turn, are subject to regulation of their electricity rates by the California Public Utilities Commission.

Unlike some energy sources, such as wind and solar that serve as an intermittent source of energy, nuclear power provides “base load” energy, meaning that it generally provides a relatively uninterrupted, reliable power source. Because nuclear power plants generally produce power around the clock, large portions of California's electricity transmission system have been engineered with the two nuclear power plants' production capacity and output in mind. The Diablo Canyon Power Plant represents a significant generation resource and supports power flows through some of the state's major transmission lines. The SONGS is considered by the California Independent System Operator (CAISO)—the independent, public-benefit corporation that manages a large part of the state's electricity grid—to be an integral part of the Southern California transmission system and, therefore, necessary to ensure access to reliable electricity for a majority of Californians.

Since February 2012, both units at the SONGS plant have been completely shut down. While one unit was initially shut down for routine maintenance, the other unit was shut down after a

water leak was detected in one of the reactor's tubes. At the time of this analysis, it is unclear how long both units will be shut down. The CAISO, the Governor's office, and other state energy planners have sought to find replacement power that would allow the state to maintain electricity reliability while SONGS is closed. Finding such replacement power will be particularly challenging in the summer months since electricity demand peaks during that time. As a temporary contingency plan, a power plant in Huntington Beach (which had been shut down) was recently restarted and will remain in operation through November 1, 2012. Energy stakeholders have indicated that, as part of the enforcement of federal air quality standards, it is unlikely that the Huntington Beach power plant will be allowed to remain in operation on a permanent basis.

California's "Moratorium" on New Nuclear Power Plant Development

Since 1976, state law has allowed the permitting of new nuclear power plants in the state only if the California Energy Resources Conservation and Development Commission (known as the California Energy Commission or CEC) determines that the federal government has identified and approved a demonstrated technology for:

- The construction and operation of nuclear fuel rod reprocessing plants.
- The permanent disposal of high-level nuclear waste.

In effect, these two conditions have created a moratorium on the construction of new nuclear power plants in California as neither of these conditions has been met. Accordingly, no new nuclear plants have been constructed in California in over 35 years. (State law specifically exempted Diablo Canyon Power Plant and SONGS from these new requirements. Because no permanent disposal site for nuclear waste is now available in the United States, these facilities temporarily store their nuclear waste on site, either in water or in "dry case" cement casings.)

Potential Risks Associated With Nuclear Power Generation

Nuclear power plants present potential safety and security risks generally not associated with other types of energy-generating facilities. Unlike other types of power plants, each nuclear power plant contains large quantities of radioactive material which, if released—through natural disaster, human error, or malicious intent—may cause widespread public harm. As a result, these plants are subject to extensive federal and state regulatory requirements pertaining to their safe operation, security, mitigation of their potential environmental impacts, and the establishment of emergency response procedures in the event of any mishap at a nuclear facility.

PROPOSAL

This measure immediately prohibits the generation of nuclear power in the state, including by existing power plants, until such time as the CEC finds, and the Legislature affirms, that the federal government has identified and approved a demonstrated technology for:

- The construction and operation of nuclear fuel rod reprocessing plants.
- The permanent disposal of high-level nuclear waste.

The measure would result in the immediate shut down of the Diablo Canyon Power Plant and SONGS and they would remain shut down until such time as the conditions outlined above were met.

FISCAL EFFECTS

Fiscal Effects of This Measure Highly Uncertain

Federal Preemption and Other Legal Issues. Our analysis of this measure indicates that there are serious questions as to future actions by the federal government agencies that regulate nuclear power and energy markets, or by the courts, that could prevent the provisions of this measure from taking effect. So-called federal preemption of this initiative measure could occur because federal energy authorities could require that one or both of the nuclear plants continue to be operated for a period of time—contrary to this measure—to ensure that reliable access to electricity is maintained in California while the necessary infrastructure to provide replacement power is being built. It is also possible that either a federal or state court could find that the measure’s required shutdown of nuclear power plants amounts to an unconstitutional “taking” of private property and thus could require just compensation. For the purpose of making our fiscal estimates, however, we have assumed that all provisions of the measure would take effect and become operative.

Uncertainty About the Timetable for Obtaining Replacement Power. The measure’s ultimate fiscal effect is also highly uncertain because some important factors are difficult to predict. One critical factor is the time required to build new electricity generation plants and transmission lines to replace the generation lost due to the immediate shutdown of the state’s two nuclear power plants. The state’s electricity authorities have stated that, under current statutory and regulatory provisions, it would take many years to permanently replace the electricity generating capacity of at least one of the two nuclear plants due to the current complexity of siting power plants and transmission lines. We have been advised that, in particular, current state and federal air quality and other environmental laws would make siting and building new power plants and transmission lines a potentially lengthy process. If, however, state and federal authorities were to suspend air quality laws as well as expedite the environmental review of replacement power, the time it would take to build new generation could be reduced.

Uncertainty Over When the Conditions of the Measure Might Be Met. As noted earlier, this measure halts the operation of nuclear power plants in California until such time that the CEC determines, and the Legislature affirms, that certain conditions have been met. Thus, the fiscal effects of this proposed initiative would depend upon when, if ever, a federally approved technology exists for the construction and operation of nuclear fuel rod reprocessing plants and for the permanent disposal of high-level nuclear waste. It is our understanding that it is unlikely the conditions allowing the resumption of nuclear power generation in the state would be met for at least many years.

Economic Impacts Could Affect State and Local Revenues and Costs

This measure could have significant effects on the California economy which, in turn, would affect both state and local government revenues and costs.

Disruptions to Electricity System. Because the state's two nuclear facilities are integral parts of the state's electricity grid, their operation is currently necessary to ensure reliable access to electricity in California. We are advised by the CAISO that permanently closing the two nuclear facilities would affect at least for several years reliable access to electricity in the state, especially during the summer months when energy demand peaks. In particular, the permanent loss of the SONGS plant would reduce the capacity to deliver electricity in the Los Angeles Basin area to below state and local standards for reliability. As a result, the risk of rolling blackouts would be increased in that area. The frequency and duration of rolling blackouts would depend on various factors including electricity demand and weather conditions. Such disruptions to the electricity grid would have negative impacts on the California economy, including loss of economic output, reduced productivity, loss of jobs, and reduced purchases of goods and services, leading to reduced household and business income. In the case that these disruptions were extensive, the resulting loss of economic activity in the state could be substantial, potentially in the tens of billions of dollars annually.

The extent of any disruptions in any one year and over time would be significantly affected by how quickly replacement power came on line. In order to minimize the length and frequency of major economic disruptions resulting from this measure, it is probable that the state would take emergency action to speed up the process to establish replacement power. Thus, it is likely that any major economic losses resulting from the measure would occur in the near term.

Increased Costs for Electricity. This measure would likely result in an increase in electricity rates. First, the reduction in the state's supply of electricity that would result would put upward pressure on wholesale electricity prices at least for many years until replacement sources came on line and could be fully integrated into the electricity grid. Second, if and when the lost nuclear sources were fully replaced, electricity rates might still be higher than otherwise. This is because the electricity rates paid by consumers might reflect both (1) continued recovery by the IOUs of their investment in the nuclear power plants as well as (2) the new investments the IOUs would make in developing replacement sources of electricity.

The increases in electricity rates under these circumstances could eventually be very significant and could affect state and local government revenues and costs. First, they could negatively impact the California economy which, in turn, would likely translate into a loss of revenues to the state and local government. Tax revenues received by governments are affected by business profits, personal income, and taxable sales—all of which in turn are affected by what individuals and businesses pay for electricity. Increases in electricity rates due to the measure would also directly increase state and local government costs since they are large consumers of electricity. Also, the effect of all of these changes in the energy marketplace would potentially increase both the revenues collected through rates and the costs of electricity provided by local government agencies, such as municipal utilities.

State Could Be Held Liable to Compensate Utilities for Investment Losses. Under current state law, IOUs are generally allowed to recover costs associated with their capital investments through the ratemaking process. If this measure were enacted and resulted in the shutdown of Diablo Canyon and SONGS, the courts could require the state, rather than IOU ratepayers, to compensate those utilities for some or all of their investment losses resulting from their closure.

These losses could total more than \$4 billion if the plants were permanently closed. However, the state's potential liability in this area, if any, is highly uncertain.

Impacts on State and Local Government Finances. If this measure were enacted and it led to the shutdown of Diablo Canyon and SONGS, the resulting cumulative impacts of the economic disruptions could be substantial—potentially in the tens of billions of dollars annually in the near term until replacement power were found. (The losses would depend on weather conditions, electricity demand, and electricity costs.) The resulting impact on state and local government finances—decreased revenues and increased costs—could potentially reach the billions of dollars annually in the near term.

Reduced State and Local Financial Exposure From Potential Nuclear Emergencies

This measure allows state and local governments to avoid potential future costs and loss of revenues that they might otherwise incur in the event of a major release of radioactivity into the surrounding environment from a California nuclear power plant. Major releases of radioactivity into the environment from nuclear plants have rarely occurred. In part, this is likely due to the regulatory requirements affecting their security and safe operation as well as building standards designed to help plants withstand major natural disasters. In the event that such a release of radioactivity did occur, experts in this field indicate that it could result in major direct governmental costs for emergency response and lost governmental revenues due to widespread economic disruption.

The immediate shutdown under the measure of the two nuclear power plants in the state could therefore reduce some of the exposure of the state and local governments in the vicinity of an affected nuclear generation plant to the substantial costs and lost revenues that could otherwise result from a major release of radiation. However, this measure may not alleviate much of the financial exposure to the state and local governments because the current lack of permanent storage options for nuclear waste means that all nuclear waste will remain stored on site at the two California plants for the foreseeable future, even if the operations of the plants were shut down. These potentially avoidable impacts could collectively amount to billions of dollars. The financial exposure of state and local governments to such costs would, however, be offset to some extent by federally mandated liability insurance requirements on the nuclear industry as well as potential federal financial assistance in the event of a major emergency. These state and local fiscal impacts, however, could still be major.

Summary of Fiscal Effects

We estimate that this measure would have the following major fiscal effects:

- Likely major impacts on state and local finances in the near term in the form of decreased revenues and increased costs, potentially in the billions of dollars annually, due to near-term disruptions in the state's electricity system and electricity price increases. The magnitude of these impacts would depend on the time to develop replacement power, the frequency and duration of rolling blackouts, and various related factors, such as electricity demand and weather conditions.

- Potential avoidance of significant future state and local government costs and lost revenues in the rare event of a major nuclear plant incident.

Sincerely,

Mac Taylor
Legislative Analyst

Ana J. Matosantos
Director of Finance