BEFORE THE
PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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| Order Instituting Rulemaking to Integrate and Refine Procurement Policies and Consider Long-Term Procurement Plans. | ) ) ) ) | R.12-03-014 (Filed March 22, 2012) |

# ALLIANCE FOR NUCLEAR RESPONSIBILITY'S

# COMMENTS ON ALJ GAMSON'S PROPOSED DECISION

# ADOPTING LONG-TERM PROCUREMENT PLANS

# TRACK 2 ASSUMPTIONS AND SCENARIOS

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## SUBJECT INDEX

# TABLE OF AUTHORITIES

## *California Administrative Code, Title 20*



## *California Public Utilities Commission Decisions*



## *Miscellaneous*

## I. INTRODUCTION.

Pursuant to Rule 14.3 of the Rules of Practice and Procedure of the California Public Utilities Commission ("Commission" or "CPUC"), the Alliance for Nuclear Responsibility ("A4NR") respectfully submits its comments on the Administrative Law Judge David Gamson's proposed "Decision Adopting Long-Term Procurement Plans Track 2 Assumptions and Scenarios" mailed November 20, 2012 ("Proposed Decision" or "PD").

While mindful of the resource limitations confronted by the CPUC Energy Division, A4NR believes the Standardized Planning Assumptions and Scenarios described in Attachment A to the Proposed Decision fail in two significant ways to respond to the Guiding Principles articulated in Assigned Commissioner Michel Florio's earlier rulings in this proceeding.[1] Specifically, the work described in Attachment A falls considerably short of fulfilling Commissioner Florio's directive to unite the CPUC, the Energy Commission, and the Independent System Operator ("ISO") together around "common understandings and interpretations",[2] and to craft scenarios to "inform the transmission planning process and the analysis of flexible resource requirements to reliably integrate and deliver new resources to loads."[3]

[1] R.12-03-014, Assigned Commissioner's Ruling on Standardized Planning Assumptions, June 27, 2012, p. 8, as restated in the September 25, 2012 Assigned Commissioner's Ruling ("ACR"), p. 7, and included in Attachment A to the Proposed Decision.
[2] Guiding Principle "I." states: "Agencies including CPUC, Energy Commission, and the California ISO should strive to reach common understandings and interpretations of planning assumptions."
[3] Guiding Principle "D."

Consistent with the workload prioritization identified in the Proposed Decision,[4] A4NR considers it essential to correct the deficiencies discussed below in order to properly address "the policy objectives that need to be understood in the current Long Term Procurement Plan cycle."[5] (emphasis in original) A4NR accepts that performing the "sensitivities" it recommends may jeopardize completion of the "High DG + High DSM, 40% RPS by 2030" scenario, but considers that work of marginal value unless corrected to reflect its earlier comments.[6]

## II. Failure to apply the "Early SONGS Retirement" sensitivity to at least the "Replicating TPP" scenario, in addition to the "Base" scenario, violates Guiding Principles D and I.

The 2012 LTPP cycle has made a recurrent, laudable effort to promote a convergence between assumptions used in the Commission's procurement process and those used in the ISO's transmission planning process. This comes in the wake of years of rivalry and dispute between the two agencies over investment in electricity system infrastructure, and during a time when the emergency created by the unanticipated SONGS outage has forced a closer working partnership than seen since the electricity crisis of 2001. Indeed, the opening paragraph of the Proposed Decision recognizes the intertwined nature of the two organizations' functions:

> *The Commission formally requests that the California Independent System Operator use the Standardized Planning Assumptions and Scenarios in Attachment A to conduct*

[4] "The Base Scenario is the first priority, followed by the Replicating the TPP, then assessing the impacts of the early SONGS retirement sensitivity, and lastly the High DG and High DSM scenario." Proposed Decision, p. 9.
[5] Guiding Principle "H." states: "Scenarios should be limited in number based on the policy objectives that need to be understood in the current Long Term Procurement Plan cycle."
[6] A4NR Comments on Standardized Planning Scenarios, October 3, 2012, pp. 4 – 6, and Reply Comments on Standardized Planning Scenarios, October, 19, 2012, pp. 2 – 3.

*operational flexibility modeling, which we expect will be filed at the Commission in Track 2 of this proceeding.*[7]

Consequently, A4NR regards it as serious omission for Attachment A to the Proposed Decision to restrict the SONGS Early Retirement "sensitivity" to the Base Scenario. As the ISO made clear in its earlier filed comments:

> *The Early SONGS Retirement Sensitivity in the Revised Scenarios is only proposed on the base scenario. To assess the impact of early retirement through the LTPP process, the sensitivity should be assessed on the [Replicating TPP] case ... This will align with the scenarios being used in the ISO's 2012/2013 TPP, both for evaluating the need for transmission upgrades and additions, and assessing the impacts of these retirements on the procurement requirements and impacts on operational flexibility needs.*[8]

A4NR expressed concern in its Track 1 Reply Brief over a potential regulatory game of infrastructure cost-shifting between CPUC-jurisdictional expenditures and ISO-jurisdictional expenditures,[9] and is hopeful that this relegation of the Replicating TPP Scenario to second tier status is merely a workload-induced staff oversight. Faithful observance of this proceeding's Guiding Principles D and I should compel that it be corrected.

A4NR has a somewhat similar concern that the omission of the SONGS Early Retirement "sensitivity" from the "High DG + High DSM" scenario also serves to diminish the meaningfulness of this scenario. However, while A4NR considers such an omission ill-advised, degrading the value of "High DG + High DSM" case by failing to subject it to the SONGS Early

[7] Proposed Decision, p. 1.
[8] Comments of the California Independent System Operator Corporation on Standardized Planning and Study Scenarios, October 5, 2012, p. 7.
[9] A4NR, Track 1 Reply Brief, October 12, 2012, pp. 2 – 4.

Retirement "sensitivity" is within the Commission's policy purview and does not appear to be precluded by the Guiding Principles adopted for this proceeding.

## III. Failure to construct a Diablo Canyon Forced Outage "sensitivity" marks four years of CPUC evasion of the AB 1632 Report's contingency planning recommendation.

Serendipitously, the Proposed Decision was mailed precisely four years from the date of adoption of the Energy Commission's AB 1632 Report, and its now famous lament over a significant blind spot in California's energy planning process:

> *In the current energy agency planning processes, there does not appear to be an overt consideration of lengthy shutdowns for the nuclear units on reliability or other implications for customers.*[10]

The AB 1632 Report, afforded great weight in the Commission's two decisions[11] earlier this year authorizing some $128.5 million in ratepayer-funded seismic studies at Diablo Canyon and SONGS, strongly recommended the procurement process be adapted to address this contingency:

> *The Energy Commission, CPUC, and California ISO should further evaluate the unique uncertainties of losing the electricity provided by Diablo Canyon and SONGS over an extended period, identify how resources might be acquired that have an energy supply capability beyond that used in normal market conditions, and modify the long-term planning and procurement process at the CPUC to ensure that these resources are acquired in a timely manner.*[12]

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[10] California Energy Commission, An Assessment of California's Nuclear Plants: AB 1632 Report, November 20, 2008, p. 23.
[11] D.12-05-004 authorized a $64.25 million program at SONGS and D.12-09-008 authorized a $64.25 million program at Diablo Canyon.
[12] *Ibid.,* p. 24.

A4NR takes no position as to the appropriate procurement mechanism to respond to this uncertainty, but considers it irresponsible for the Proposed Decision's Attachment A to not even contemplate evaluating the prospect. In A4NR's judgment, it would be neither analytically difficult nor workload-intensive to adjust the SONGS Early Retirement "sensitivity" to test a random 1-2 year outage of Diablo Canyon at several points during the planning period.

In determining whether this minor adjustment would be a prudent bolstering of the long-term procurement planning process, the Commission should consider the following observations from the AB 1632 Report:[13]

> ***IMPACTS OF A MAJOR DISRUPTION***
>
> *If an earthquake, age-related plant or equipment failure, or other event leads to an outage at one or both of the nuclear plants, the power from the impaired units would need to be replaced with power from other sources. Actions at other plants not directly related to the in-state nuclear plants could also result in a plant shutdown. For example, a major safety-related event at a nuclear power plant elsewhere in the country could lead to a general shutdown of other nuclear plants for an indefinite period of time. The reliability, cost, and environmental implications of an extended outage would depend on what time of the year the outage occurred and what replacement power was available.*
>
> *When any of California's nuclear reactors are not operating, the power they produce must be replaced with power from other sources. PG&E and SCE generally schedule refueling outages and other planned maintenance shutdowns to avoid periods of peak electricity demand and reduce the cost of replacement power. However, unplanned outages can occur at anytime. The experiences of nuclear plants nationwide indicate that most unplanned outages last just a few days, although many plants have experienced significant operational disruptions lasting a year or longer, mostly from component degradation.*
>
> *There are three scenarios which can be used to evaluate the consequences of an extended unplanned outage:*
>
> - *Assume that California and the rest of the Western Interconnection develop and implement comprehensive long-term resource adequacy standards;*

[13] *Ibid.,* pp. 19 – 23 (footnotes omitted).

- *Assume that California utilities continue to use more ad hoc methods to estimate future capacity and energy requirements and continue to "muddle through" in procuring needed resources to cover likely conditions; and*

- *Assume that the California ISO and the CPUC implement reforms to current resource adequacy requirements to extend current resource capacity planning into the 4-6 year ahead time horizon;*

*Each of these alternative scenarios would lead to a different conclusion about the sudden disruption of output from one or both of the nuclear facilities.*

***West-Wide Resource Adequacy Scenario***

*This scenario assumes that policy makers continue the general trend of examining future resource needs from a reliability perspective that not only extends capacity requirements into the future, but also evaluates energy needs relative to the loss of resources, such as California's nuclear plants, which provide large amounts of energy. Such a framework is codified into planning and procurement standards, and utilities and other load serving entities (LSE) generally live up to such requirements.*

*Consultants to the Energy Commission using computer models simulated the operations of the electricity market for the year 2012 and beyond with and without one or both of the nuclear plants operational. The simulations were conducted using a set of West-wide resource plans developed for the 2007 IEPR Scenarios Analysis that assumes supplies are always added to the system just in time to satisfy demand conditions and reserve requirements. Such studies typically assume that if today, for whatever reason, various regions have resources in excess of their demand and reserve requirements; they would only gradually trend down toward the minimum requirements established through the hypothetical resource adequacy standards.*

*Since much of the West and some California utilities currently have resources above those minimum requirements, as expected, the consultants found that no electricity supply shortages would occur as the result of either Diablo Canyon or SONGS being shut down for an extended period in 2012. In years beyond 2012, whether the energy lost from a year-long outage could be readily replaced from instate resources or imported from other parts of the West depends a great deal on whether WECC (Western Electricity Coordinating Council) and the NERC (Northern American Electric Reliability Corporation) identify both energy and capacity risks in their assessments of system adequacy and whether these risks are fully mitigated by appropriate resource additions that have surplus energy generating potential that can substitute during the hypothetical outage.*

*The consultant's simulations found that in the event of an extended outage at either nuclear plant, replacement power would be supplied mostly by combined cycle natural gas-fired plants. Approximately 55 to 62 percent of the increased generation would come from in-state gas-fired plants, while the remainder would come from out-of-state gas-fired plants along with a small amount of increased coal generation.*

*The cost of that replacement power would include the operating costs of in-state units and market costs to acquire power from out-of-state. For a year-long loss of either nuclear plant, the simulations found that these costs would be $470 million higher than the cost to generate power from the nuclear plant. The added cost would increase average rates for customers of either PG&E or SCE/SDG&E by approximately half a cent per kilowatt-hour (kWh) while the outage continued. Plant repair costs likely would further increase rates.*

*An outage would also pose environmental consequences, since the replacement power would be largely natural gas-fired. The simulations found that a year-long outage at either nuclear plant would increase in-state greenhouse gas emissions from power generation by seven to eight percent, or roughly 4.3 to 4.7 million tons of $CO_2$. Out-of-state replacement generation would add an additional 2.2 to 2.8 million tons of $CO_2$, for a total greenhouse gas impact of approximately 7 million tons of $CO_2$.*

***Ad Hoc Planning Scenario***

*The WECC collects electricity load (demand) and resource data from electrical system control areas (balancing authorities) and prepares an annual assessment of winter and summer peak conditions. In preparing its analysis, WECC counts resource additions only when they satisfy various criteria intended to screen out power plant proposals that are not considered committed. Because the purpose of the analysis is to reveal the extent to which peak planning needs are not satisfied by existing resources and committed resource additions, it is a very conservative view of what is actually expected to be in place in future years. Presumably by revealing deficits, it motivates independent generators to develop project proposals or move ahead toward contractual commitments with utilities and actually obtain needed permits and begin construction.*

*The WECC draft 2008 Power Supply Assessment reports reserve margins through 2017 under adverse hydro conditions, restricted transfer capabilities, and 1-in-2 load conditions during the peak summer and winter months. According to this assessment, reserve margins in both northern and southern California will decline over the next ten years if new plants are not built in addition to those currently undergoing regulatory review or already under construction. Under the adverse conditions described above, the WECC study shows that by 2012 generating resources will already be deficient to maintain the CPUC-mandated 15 percent reserve margin in Southern California assuming SONGS is available, and reserve margins would fall below acceptable levels to nearly 5 percent -- close to a Stage 2 Emergency – if SONGS were unavailable. Northern California is just in balance (including a 15 percent reserve margin) in 2012 with Diablo Canyon in service, but well below planning standards with it not available during summer peak electricity demand in California.*

*Actual reserve margins will depend on weather, economic conditions, and electrical resource development. For example, tightening credit markets could delay construction of plants that are currently under regulatory review or planned, resulting in lower*

*reserve margins. On the other hand, tightening credit markets could reduce demand growth. Environmental constraints such as air quality requirements could limit new generation options, or once-through cooling restrictions could cause existing plants to retire more quickly than currently anticipated. Hotter than average peak weather would also worsen conditions. A planning reserve margin standard, such as the CPUC/California ISO requirement of 15 percent, would cover these contingencies. The WECC analysis indicates that increased reliability concerns if Diablo Canyon and SONGS were out of service in the (unlikely) environment that does not require utilities and other Load Serving Entities (LSEs) to acquire resources to cover contingencies.*

***Extended Planning Time Horizon Scenario***

*Over the past two years, the CPUC and California ISO have been examining alternatives that would extend the current one-year-ahead time horizon for planning electricity resource adequacy to something more like 4-6 years ahead. The CPUC staff has recommended that this extended planning and commitment time horizon be adopted through bilateral markets or through a centralized capacity market mechanism administered by the California ISO. The CPUC is scheduled to make a decision by the end of 2008. If it does so, utilities and LSEs in the CPUC/California ISO jurisdiction would need to acquire resources to cover loads and reserve requirements 4-6 years into the future on a rolling basis.*

*If this policy is adopted, an extended outage at Diablo Canyon or SONGS might be expected to have consequences somewhere in between the assessment of the two previous scenarios. It is possible that summer peak reliability could be assured, but that providing enough energy to replace Diablo Canyon or SONGS would greatly strain the system. There are ways to cover energy deficits, but most are not easily accomplished or inexpensive. For example, the old steam generating units targeted for retirement or repowering by existing Energy Commission policy could generate more energy, albeit at much higher cost and emissions than would normally be considered acceptable. Few other resources have any "upside" energy generating capabilities.*

The question A4NR would pose to the Commission before final adoption of the Track 2 assumptions and scenarios: what has transpired over the last four years that would justify allowing the long-term procurement process to continue to ignore the contingency of unplanned outages at Diablo Canyon?

**IV. Recommended language changes in the Proposed Decision.**

Correction of the two deficiencies identified in these Comments requires only minor changes to the wording of the Proposed Decision and its Attachment A, and no alterations in either the Findings of Fact or the Conclusions of Law. A4NR's recommended new language is:

- Add a new final sentence to the end of Section 3.6 Replicating the Transmission Planning Process on p. 8: <u>The Early SONGS Retirement sensitivity will also be applied to the Replicating the TPP Scenario.</u>

- In Attachment A,[14] in Section VII. 2012 Scenarios, add the underlined sentence to the existing discussion of SONGS and Diablo Canyon:

> Early SONGS Retirement explores a future without the significant energy contributions of major baseload resource (SONGS) in the first planning period (2015) and the retirement of another (Diablo Canyon) in the second period (2024). This is designed to reflect a current uncertainty around the operation of the SONGS facility as well as understand the longer-term implications of retiring Diablo Canyon as some parties have proposed. <u>An additional variation on Early SONGS Retirement will test a 1-2 year forced outage of Diablo Canyon at least once during the first planning period.</u>

- In Attachment A,[15] in Section VIII.A.1. Early SONGS Retirement Sensitivity, add the underlined language to the existing discussion:

> This sensitivity was developed to explore the implications of a key nuclear relicensing and retirement possibility facing the Commission<u>, as well as the forced outage risk identified by the Energy Commission's AB 1632 Report</u>. The Early SONGS Retirement sensitivity departs from the Base Scenario by applying

[14] Because the Proposed Decision's Attachment A is comprised of unnumbered pages, A4NR's proposed wording changes to Attachment A are identified by the pertinent Section as inserts to the existing discussion.
[15] *Ibid.*

the mid assumption, with SONGS retired on January 1, 2015 and Diablo Canyon retired at relicensing in 2024 (Unit 1) and 2025 (Unit 2). An additional variation on Early SONGS Retirement will test a 1-2 year forced outage of Diablo Canyon at least once during the first planning period. Note that in no way does this sensitivity intend to pre-judge Commission action on nuclear retirements; instead it seeks to inform Commission decision making in this area.

**V. Conclusion.**

A4NR has identified two significant deficiencies in the course set by the Proposed Decision. Correcting them will enhance the value which the scenarios analyzed in the 2012 LTPP cycle can provide state energy planners, and better achieve the objectives established by Commissioner Florio's earlier rulings.

Respectfully submitted,

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