BEFORE THE
PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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 STANDARDIZED PLANNING SCENARIOS

JOHN L. GEESMAN

DICKSON GEESMAN LLP
1999 Harrison Street, Suite 2000
Oakland, CA 94612
Telephone: (510) 899-4670
Facsimile: (510) 899-4671
E-Mail: john@dicksongeesman.com

Attorney for
ALLIANCE FOR NUCLEAR RESPONSIBILITY

Date: October 4, 2012

I. Introduction.

Pursuant to the September 25, 2012 ruling (the "ACR") of Assigned Commissioner Michel Peter Florio in Track 2 of the R.12-03-014, the Alliance for Nuclear Responsibility ("A4NR") respectfully submits its comments on the planning assumptions described in the Attachment to Commissioner Florio's Ruling. A4NR recognizes the importance which such scenarios play in illuminating the policy choices confronting California's energy agencies, and subscribes to the "Guiding Principles" identified for such analyses in Commissioner Florio's earlier ruling.[1] In particular, the "Guiding Principles" commendably seek to bind the efforts of such agencies 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] A4NR is especially mindful of the long reach enjoyed by the Commission's earlier scenario work, having witnessed its determinative role in the ISO's once-through-cooling studies and Track 1 of this proceeding.[4]

Given this significance, A4NR finds two serious deficiencies in the proposed scenarios outlined in the Attachment to the ACR. Correcting both of these shortcomings is necessary to properly address "the policy objectives that need to be understood in the current Long Term Procurement Plan cycle."[5] (emphasis in original)

---

[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 ACR p. 7.
[2] Guiding Principle "I.", *Ibid.*
[3] Guiding Principle "D.", *Ibid.*
[4] The four alternative scenarios for achieving a 33% Renewable Portfolio Standard, originally developed as part of the 2010 LTPP process, have defined the analytic framework for evaluating Local Capacity Requirements in Southern California.
[5] Guiding Principle "H.", ACR, p. 7.

II. The staff-proposed scenarios fail to adequately address the unplanned nuclear outage contingency prominently featured in the AB 1632 Report, which has played such a large role in Commission actions since its 2008 adoption.

A4NR has only modest criticisms of the Early SONGS Retirement Scenario,[6] but is surprised by the complete omission of shorter forced outages at Diablo Canyon and SONGS of one-year or more – "a major disruption due to seismic event or plant aging"[7]-- the core uncertainty identified in the AB 1632 legislation[8] and subsequent report. The AB 1632 Report has already led the Commission, in an effort to better understand the geologic settings of Diablo Canyon and SONGS, to authorize the largest nuclear-related seismic reassessments in the world with a combined initial total of $128.5 million of ratepayer funds.[9] It is inexplicable that the LTPP scenario process would not evaluate random 1- or 2-year involuntary outages as a follow-up to the AB 1632 Report.

As identified in 2008, the seismic event/plant aging vulnerability seemed real:

- *Diablo Canyon or SONGS could be shut down following earthquakes for as little as one week or for a much longer period of time for repairs or component replacement. Estimates of time to repair or replace nuclear plant components are very uncertain since this information is not readily available. The determining factors most likely would be the extent and location of the damage, i.e., whether the repair is on the nuclear side or the non-nuclear side of the power plant, and. the availability of replacement parts.*

[6] In light of the current situation at SONGS, it seems more sensible to assume a lack of availability throughout the planning period rather than to assume a discretionary retirement beginning in 2015. Confusingly, the ACR refers to the "Early SONGS Retirement Scenario" at p. 10 and the "Early SONGS Retirement Sensitivity" at pp. 14 – 15. In light of the ACR's statement that the nuclear units are assumed online throughout the study period in both the "Replicating TPP Scenario" and the "High DG + High DSM Scenario", A4NR believes the Early SONGS Retirement is probably intended simply as a sensitivity to the "Base Scenario" rather than as a separate fourth scenario itself. Seen this way, it should properly be applied to the "Replicating TPP Scenario" and "High DG + High DSM Scenario" as well.

[7] California Energy Commission, *An Assessment of California's Nuclear Plants: AB 1632 Report,* November 20, 2008, p. 1.

[8] Assembly Bill 1632 (Blakeslee, Chapter 722, Statutes of 2006).

[9] 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. Both decisions expressly stated that additional study costs are reasonably foreseeable and established advice letter processes to provide further funding.

Other factors affecting the duration of a shutdown include the amount of time needed to investigate the plant for damage and the need for design and back fitting efforts. Public or regulatory concerns also could delay the restart of the power plant.[10]

- *The experience in Japan of the Kashiwazaki-Kariwa Nuclear Power Plant (KK NPP) in the wake of the 2007 Niigata Chuetsu-Oki earthquake may offer some lessons for California's nuclear plant operators. The KK NPP is the largest nuclear plant in the world with the capacity to generate 8,200 megawatts of power when operating. The KK NPP experienced ground motions significantly higher than the design basis ground motion and yet suffered no significant damage to safety-related components. Nevertheless, more than a year after the earthquake, the KK NPP remains shut down. Extensive investigations and a re-evaluation of the seismic design standards for the plant appear to be the primary cause of the lengthy shut-down, suggesting that repairing or replacing damaged components may be just one factor in how long a nuclear power plant is shut down following a major seismic event.*[11]

- *California's operating nuclear plants are now approaching their fourth decade of operation. As they age, their systems, structures, and components are all subject to age-related degradation, which, if unchecked, could lead to a loss of function and impaired safety … In many cases, the shut-downs occurred unexpectedly. According to a study by the Union of Concerned Scientists, more than three dozen nuclear power reactors have experienced year-plus outages including reactors in California.*[12]

- *Plant component aging problems have surfaced at some U.S. nuclear plants outside of California. For example, Davis-Besse (Ohio), Vermont Yankee (Vermont), Oyster Creek (New Jersey), and Indian Point (New York) have all received increased scrutiny by the NRC, government agencies, and/or watchdog groups concerned that different types of age-related degradation are eroding the safety of these plants. The implications for Diablo Canyon and SONGS are twofold. First, the same unanticipated age-related degradation of some plant components or systems could be occurring at the California plants; age-related degradation has already occurred, for example, PG&E and SCE are replacing their plants' steam generators. Second, a serious incident or the identification of a safety hazard at one plant could result in a regulatory requirement for more extensive inspections, repairs, and even outages at similar plants nationwide.*[13]

A4NR believes that nothing has transpired since the 2008 publication of the AB 1632

---

[10] California Energy Commission, An Assessment of California's Nuclear Plants: AB 1632 Report, November 20, 2008, p. 12.
[11] *Ibid.*, pp. 12 – 13.
[12] *Ibid.,* pp. 16 – 17. The UCS Study was completed in 2006, identified 51 such year-plus outages, and has never been updated.
[13] *Ibid.*, pp. 17 – 18.

Report to reduce the vulnerability of California's electricity system to involuntary nuclear outages which stop short of retirement. The magnitude of such a disruption compels that this contingency be carefully evaluated in the current LTTP cycle. Adapting the Early SONGS Retirement Scenario (or "Sensitivity") to include a random 1- or 2-year outage of Diablo Canyon, as a "sensitivity" tested at several points during the planning period, would seem easy to accomplish and of considerable value.

III. The High DG + High DSM, 40% RPS by 2030 Scenario inadvertently represents a diminution of effort in California's renewable energy efforts.

In light of the motivating role which climate change continues to play in many of California's electricity policies, and the Commission's past leadership in that effort, A4NR is acutely aware of the necessity of finding non-emitting sources of generation (or displacement thereof through DSM) to backstop the large (but uncertain) contributions expected from SONGS and Diablo Canyon. A4NR is also aware of public comments by Governor Brown that his heralded 33%-by-2020 renewables legislation should be considered "a floor, not a ceiling."[14] Before latching onto the notion that a 40% target in 2030 is the appropriate renewables complement to a "High DG + High DSM" scenario, the Energy Division staff should ponder the origin of the 33%-by-2020 target.

[14] The Governor's April 12, 2011 signing statement for SBX1-0002 was clear: "While reaching a 33% renewables portfolio standard will be an important milestone, it is really just a starting point - a floor, not a ceiling. Our state has enormous renewable resource potential. I would like to see us pursue even more far-reaching targets. With the amount of renewable resources coming on-line, and prices dropping, I think 40%, at reasonable cost, is well within our grasp in the near future."

As graphically demonstrated in the CEC's 2004 Integrated Energy Policy Report Update,[15] and its 2005 Integrated Energy Policy Report,[16] determination of the appropriate 2020 goal for California's renewable portfolio standard was a linear extrapolation. Starting with where performance stood at the time, and the conviction that transformative government policy requires consistent and sustained commitment, a straight line trajectory through 2010's 20% goal produced a 33% target in 2020. A similar exercise today would yield a 54.5% renewables target for 2030. Meeting the aspirations of Executive Order S-3-05 to reduce greenhouse gas emissions in 2050 by 80% of 1990 levels[17] is likely to require substantially decarbonizing electricity generation. The indispensable role which the Commission has played in California's climate and energy policies would suggest it is an unlikely advocate of backing off now.

A4NR believes that keeping faith with the efforts of the last decade – the Commission's procurement efforts were launched in 2004 with the admonition that renewable resources are "the rebuttable presumption" of all utility long-term procurement[18] -- requires the continuation of an ambitious trajectory. The Commission's trailblazing should be illuminated, not inadvertently undermined, by the Energy Division's scenario assessments. A4NR acknowledges

---

[15] *"The Energy Commission believes that it is important to set ambitious RPS goals for the post-2010 period to maintain the momentum for continued renewable energy development, expand investment and innovation in technology, and drive costs down for renewable energy. Governor Schwarzenegger has indicated strong support for accelerating the RPS goal to reach 20 percent renewables by 2010 and 33 percent by 2020, referring to renewables as the cornerstone of his energy and environmental action plans.* (footnote omitted) *Given the degree to which California's earlier commitment to renewable energy was allowed to atrophy in the late 1980s and 1990s, the Energy Commission believes that it is imperative to codify the RPS goals."* California Energy Commission, Integrated Energy Policy Report 2004 Update, December 9, 2004, p. 37. The 2020 goal is graphed in Figure 10 at p. 38.

[16] California Energy Commission, 2005 Integrated Energy Policy Report, November 21, 2005, Figure 16, p. 108.

[17] The June 1, 2005 executive order established California's renowned greenhouse gas emission targets and, A4NR presumes, remains a cornerstone of state energy policy.

[18] D.04-12-048, pp. 2 and 69.

that the prospect for distributed generation of renewable electricity looms considerably larger today than in 2004 – 05, and expects that the "High DG + High DSM, 40% RPS" scenario will reflect Governor Brown's oft-repeated mantra promoting 12,000 MW of installed renewable DG capacity by 2020. But an overriding requirement of that scenario should be that at least 54.5% of the electricity generated is renewable, irrespective of whether it is categorized as DG or RPS.

IV. Conclusion

A4NR shares the philosophy embedded in the earlier comments of PG&E:

> *... scenarios should utilize combinations of assumptions, representing plausible future states of the world, to arrive at a reasonably wide range of system need. Scenarios should be constructed in a manner that can pave the way for robust analyses that must consider the various operating attributes of different types of capacity in order to determine the operating attributes that are more effective in meeting the identified need. With resources having the right attributes, fewer megawatts (MW) should be required to meet the identified need.*[19]

Correcting the two deficiencies A4NR has described above will enable the Commission's scenarios work to fulfill this function and better illuminate the choices confronting California's energy policymakers.

Respectfully submitted,

By: /s/ John L. Geesman

JOHN L. GEESMAN
DICKSON GEESMAN LLP

Date: October 4, 2012

Attorney for
ALLIANCE FOR NUCLEAR RESPONSIBILITY

[19] Comments of Pacific Gas and Electric Company (U 39 E) on the Energy Division Draft Scenarios, September 7, 2012, p. 2.