UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD PANEL

In the Matter of
South Texas Project Nuclear Operating Co.
Application for the South Texas Project **Docket Nos. 52-012, 52-013**
Units 3 and 4 **May 31, 2011**
Combined Operating License

INTERVENORS' CONSOLIDATED RESPONSE TO APPLICANT'S AND STAFF'S STATEMENTS OF INITIAL POSITIONS

Pursuant to the Initial Scheduling Order and the Board's March 11, 2011, Order regarding the schedule for the evidentiary hearing the Intervenors offer the following consolidated response to Applicant's and Staff's initial positions regarding contentions CL-2 and DEIS-1G.

Contention CL-2

The Staff proposes to apply the non-residential structures component of the GDP implicit price deflator.[1] Under the circumstances in this case, use of this index is not reasonable. First, the nature of SAMDAs is more specific than the non-residential structures component of the GDP implicit price deflator would reflect. For example, the Applicant posits that the lowest cost ABWR SAMDA is an improved bottom head penetration design.[2] Because of the specificity of this SAMDA the use of a more general index is not justified. Applying this generalized index to the SAMDA does not capture specific aspects of adjusted costs related to an improved bottom

[1] Staff testimony, p. 37.
[2] Applicant Statement of Initial Position on CL-2, p. 25.

head penetration design.[3]The Staff has not justified use of the non-residential structures component of the GDP implicit price deflator because there is no evidence that specific sub-components of the SAMDAs are sufficiently similar to parameters in the non-residential structures component of the GDP implicit price deflatormake its application useful.[4] Moreover, the Staff's proposed index does not account for the equipment and software aspects of the index. These costs have actually decreased from 1991-2009.[5] The equipment and software parameter reduced costs would have the effect of lowering the costs of SAMDAs. Therefore, the non-residential structures component of the GDP implicit price deflator should not be utilized because the Staff has not established that such is an "apples-to-apples" comparison with SAMDA costs.

Mr. Johnson argues that because the SAMDA costs are not detailed by Staff, a more generalized index should be applied.[6] Hence, application of the gross domestic private investment index, which acknowledges Staff's preferred exclusion of personal consumer expenditures, actually yields a lower escalation index.[7]Additionally, use of the gross domestic private investment index includes productivity improvements that further dampens effects of inflation.[8] Application of the gross domestic private investment index to the SAMDA costs produces an escalator rate (1.19) that is lower than the escalator Mr. Johnson utilizes in his direct testimony (1.31) and would therefore yield a lower cost for SAMDAs.[9]

[3]Johnson rebuttal testimony, p. 6.
[4] Id.
[5] Id. at pp. 6-7.
[6] Id. at pp. 7-8.
[7] Id.
[8] Id. at p. 8.
[9] Id. at pp. 7-9.

The Applicant argues that projections of natural gas prices should be based on commodity prices for 2009-2010.[10] Mr. Johnson contends that 2009-2010 are not representative of long-term gas prices.[11] Additionally, long-term replacement power is more likely to be accomplished through purchase power contracts rather than relying on short-term access to the ERCOT energy balancing market.[12] NRG's power it generated and sold in 2010 yielded an average price of $68.39 MWh that is appreciably greater than the approximately $35-$37 range of Applicant.[13]Therefore, Applicant's replacement power costs are based on assumptions that it would get the benefit of purchasing power at the same cost as it generates it. This is not a realistic assumption given basic market behavior. NRG's 2010 price of $68.39 is based on a more realistic model that assumes replacement power would be priced closer to retail ($68.39) than NRG's wholesale costs for generation ($35-$37) over comparable time periods.[14]

Applicant assumes that natural gas prices will remain relatively stable and increase at the general rate of inflation.[15]Mr. Johnson projects gas prices to increase greater than the rate of inflation.[16]Applicant's projections for stability in gas prices is belied by Table 6 in the Zimmerman Pieniazek testimony.[17] This table reflects broad fluctuations in gas prices over time. Additionally, irrespective of supply at any given time, gas is a nonrenewable resource and as supplies diminish prices will increase to reflect relative scarcity.

Applicant argues that loss of all STP units is a low-probability event that does not warrant consideration under NEPA.[18] However, this argument does not address the premise

[10] Applicant Statement of Initial Position on CL-2, p. 28.
[11]Johnson rebuttal testimony, p.9.
[12]Id. pp. 9-10.
[13]Zimmerman Pieniazek testimony, p. 37.
[14]Johnson rebuttal testimony, pp. 9-10.
[15] Id. at p. 34.
[16]Johnson rebuttal testimony, pp. 10-11.
[17]Zimmerman Pieniazek testimony, p. 35.
[18] Applicant Initial Position on CL-2, pp. 38-39.

contention CL-2 that presumes multiple unit failures. Additionally, this argument disregards the multiple unit, common cause failures at Fukushima Daiichi that began March 11, 2011.[19]This ASLB has rejected the argument that multiple unit failures are so remote and speculative to justify exclusion from a NEPA analysis.[20] And this rejection occurred prior to the Fukushima Daiichi failures. Rejection of this argument now is even more justified given the events since March 11, 2011, at Fukushima Daiichi.

Applicant points to the February 2011, severe weather event in Texas to illustrate the ability of the ERCOT grid to absorb generation capacity losses.[21] Mr. Johnson notes that this event was a close call regarding grid loss. For example, during the event reserve capacity dropped to as low as 445 MW and much of the reserve capacity was not immediately available. Additionally, the recovery from the February 2011, event was relatively fast. But this recovery is unlike that assumed in CL-2 that foresees an extended forced outage of multiple STP units.[22]

Mr. Johnson differs with Applicant regarding whether ERCOT's 13.75% reserve margin would prevent adverse effects in the event of multiple unit loss at STP.[23] The ERCOT reserve margin is aspirational because ERCOT does not construct or own generating capacity. And ERCOT does not assume it will always have such a comfortable margin. Indeed, in the 2030 time frame, ERCOT projects a reserve margin of 4%-6% and loss of multiple STP units would arguably have an even greater disproportionate effect.

[19]Intervenors request that the ASLB take notice of the Emergency Petition to Suspend All Pending Reactor Licensing Decisions and Related Rulemaking Decisions filed with the Commission on April 14, 2011. The petition describes the failure of four Fukushima Daiichi units based on common causes.
[20] This argument was raised by Applicant in its objection to CL:-2 (Applicant's Answer to CL Contentions at 25) and was considered and rejected by the ASLB in admitting CL-2. LBP-10-14, pp. 28-29.
[21] Applicant Initial Position on CL-2, p. 38.
[22]Johnson rebuttal testimony, p. 13.
[23] Id. at pp. 13-14.

Applicant asserts that because ERCOT has never sanctioned an entity for market power abuse it is not an issue that warrants consideration.[24] As discussed by Mr. Johnson, the absence of formal findings of market abuse does not mean such has not occurred historically.[25]And irrespective of whether improper market power is applied, the loss of all STP units would allow disproportionate market power to pivotal generators.[26] Applicant's argument is premised on the notion that loss of all four STP units would hardly be noticed by ERCOT. The reality is more nuanced and is dependent on,*inter alia*, reserve capacity at the time of loss and the relative power of pivotal generators. But to suggest that loss of all four STP units would be absorbed in a seamless manner overlooks realities in both the ERCOT fluctuations in reserve capacity and relative power of pivotal generators.

Applicant now adopts a drastically higher SAMDA cost of $982,500.[27] This approach comports with neither the Applicant's analysis in its ER §7.5 or §7.5S. This increased SAMDA cost is based on Applicant's response to earlier Intervenor and Staff arguments and a decision to make its analysis less conservative.[28] Applicant did not address this less conservative analysis in its ER at §7.5S. Accordingly, the basis for this new SAMDA cost is not provided at the same level of detail discussed in the ER and it should be rejected. [29]

Contention DEIS-1G

Staff and Applicant witnesses assert that the savings from the energy efficient building code are already accounted for in the ERCOT econometric forecasts.[30]Intervenors' expert, Philip Mosenthal, opines that the savings have only been minimally accounted for in the ERCOT

[24] Applicant Initial Position on CL-2, p. 32.
[25]Johnson rebuttal testimony, pp. 14-15.
[26] Id.
[27] Zimmerman Pieniazek testimony, p. 39;
[28] Id. at pp. 64-65.
[29]Johnson rebuttal testimony, p. 17.
[30]Pieniazek testimony p. 15; Scott testimony, p. 30.

forecast. First, the timing of improvements realized from the new building code tend to lag adoption.[31] Moreover, because of slack in new construction during the recent recession energy conservation improvements have not been installed at a pace expected during more robust economic times.[32]

Staff and Applicant witnesses advance the idea that savings from code/standards are double counted as part of energy savings programs.[33] Mr. Mosenthal concludes that there is not any significant double counting. First, the new building code savings are distinct from efficiency programs that were extant when the new building code was adopted. Therefore, the streams of savings are also distinct. Additionally, adoption of energy efficiency programs in Texas has produced savings in excess of mandate requirements. Moreover, trends for energy efficiency have considerable "head room" based on national trends. These circumstances weigh against any double counting of savings associated with codes/standards.[34]

Staff and Applicant witnesses also take issue with the 2007 ACEEE study that projected savings from the energy efficient building code. [35] However, as explained by Mr. Mosenthal, his analysis did not depend on the 2007 ACEEE study and instead relied on a separate and more recent analysis.[36] Further, Mr. Mosenthal's estimates of savings are conservative and do not include savings from major renovations.[37] These savings could result in "1,404 and 2,419 MW savings in 2020 and 2025, respectively, could in fact rise to more like 2,800-4,200 MW in 2020 and 4,800-7,200 MW in

[31]Mosenthalrebuttal testimony, pp. 5-6.
[32] Id.
[33]Pieniazek testimony, pp.16-17; Mussatti testimony, p. 33.
[34]Mosenthalrebuttal testimony, pp. 7-9.
[35]Pieneizak testimony, p. 3; Mussatti testimony, p. 39; Applicant Statement of position on DEIS-1G, pp.
[36]Mosenthall rebuttal testimony, p. 9.
[37] Id. at p. 10.

2025."[38]Additionally, neither Staff nor Applicant witnesses discuss likely upgrades to the building code expected periodically in the future.[39]

Mr. Mosenthal disagrees with Applicant on whether the building code savings are enough to offset the need for power.[40] Mr. Mosenthal notes that the magnitude of coal capacity retirements is speculative given the uncertainties regarding environmental upgrades that might affect retirement decisions. The FEIS assumes all coal capacity over fifty years old will be retired. However, there has been no plant-by-plant analysis to determine which coal-fired units would be candidates for upgrades and longer service.[41] Without such plant-by-plant analysis it is speculative whether such retirements will actually take place.

The Applicant argues that DEIS-1 is now moot because the effects of the adoption of the energy efficient building code have been accounted for in the FEIS.[42]However, as argued by Mr. Mosenthal, the full magnitude of savings from the energy efficient building code and standards has not been fully recognized by the Applicant.[43] To find the contention moot requires a complete rejection of Mr. Mosenthal's testimony that the Staff's and Applicant's conclusions regarding savings anticipated from the building code are incorrect and/or have already been accounted for by ERCOT's econometric forecasts. Based on Mr. Mosenthal's testimony, neither conclusion is justified.

[38] Id.
[39]Id. at pp.10-11.
[40]Mosenthal rebuttal testimony, pp. 11-12.
[41] Id.
[42] Applicant Statement of Position on Contention DEIS 1G, pp. 9-13.
[43]Mosenthal rebuttal testimony, pp. 3-7.

Applicant has posited that rather than actually account for demand reductions anticipated from the energy efficient building code a sensitivity test was utilized.[44] First, this does not meet the requirement of DEIS-1G to actually account for reduced demand. MrMosenthal was able to do this analysis in his direct testimony.[45] The Applicant's sensitivity analysis assumes no such direct accounting is possible.[46]However, Mr. Mosenthal's analysis is straightforward and where it finds uncertainties such are bounded by reasonable estimates based on historical data.[47] Applicant's rejection of a demand reduction analysis is not justified based on the demand reduction analysis done by Mr. Mosenthal.

Applicant argues that its sensitivity analysis is adequate because it is reasonable based on available information.[48] However, Applicant's conclusion that inadequate data are available to reach reasoned conclusions is contradicted by Mr. Mosenthal's analysis. Moreover, reliance on a sensitivity analysis when a straightforward demand reduction analysis is anticipated by DEIS-1G raises questions about the Applicant's methodology. The N.R.C. has stated that need for power projections are reviewed based on methodology. "To be sure, the acceptability of any particular forecast made respecting the future need for the power…will hinge to an appreciable extent upon the propriety of the methodology employed in developing that forecast—including underlying data bases and assumptions."[49] Here, while Mr. Mosenthal does what DEIS-1G anticipates,

[44] Applicant Statement of Position on Contention DEIS 1G, p. 14.
[45]Mosenthal direct testimony, pp.5-9.
[46] Applicant Statement of Position on Contention DEIS 1G, p. 14.
[47] For example, Mr. Mosenthal discusses uncertainties related to code compliance and relies on federal studies that demonstrate upward trends on compliance.
[48] Applicant Statement of Position on Contention DEIS 1G, p. 14, citing *Kan. Gas & Elec. Co.* (Wolf Creek Generating Station, Unit 1), ALAB-462, 7 NRC 320, 328 (1978).
[49]7 N.R.C. at 328.

Applicant interposes a sensitivity study that does not fully account for savings from the energy efficient building code/standards.[50]The Applicant states that "[D]espite the inherent uncertainties in predicting the reduction in power demand attributable to the new building codes, the FEIS includes potential effects of the energy efficient building code in its sensitivity test."[51] In support of this conclusion Applicant cites Mr. Pieniazek's testimony that states

> "[O]nly a few months have passed since the adoption of thenew building code. There is not enough reliable performance information available to assess itspotential quantitative effect on the most recent ERCOT forecast. Thus, absent reliable, currentinformation, forecasting any future reduction in power demand is speculative. Despite theseuncertainties, the FEIS includes potential effects of the energy efficient building code in itssensitivity tests."[52]

Actually, the FEIS treatment of the effect of building code improvements is appreciably more attenuated. In explanatory text for FEIS Table 8-2 the only mention of the energy efficient building code is that it was adopted effective April 1, 2011. And neither Table 8-1 nor Table8-2 make any quantifications for the effect of the energy efficient building code.[53]

Applicant also argues that the ACEEE study is of no value because it considers peak load.[54]However, the contention specifically calls out reductions in peak demand anticipated by the adoption of the energy efficient building code. The contention is focused on the relative reduction of load, particularly peak load. The function of the EIS in this regard is to discuss the effect of the energy efficient building code on demand reduction; and as noted above in discussion of FEIS Tables 8-1 and 8-2, it has not done so.

[50] See for example, Mosenthal rebuttal testimony, pp. 3-6.
[51] Applicant Statement of Position on Contention DEIS 1G, p. 16.
[52]Pieniazek testimony, p. 16.
[53] FEIS, pp. 8-17-8-18.
[54] Applicant Statement of Position on Contention DEIS 1G, p. 20.

Conclusion

Based on the above arguments and authorities Contentions CL-2 and DEIS 1G should proceed to the evidentiary hearing.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on May 31, 2011 a copy of "**INTERVENORS' CONSOLIDATED RESPONSE TO APPLICANT'S AND STAFF'S STATEMENTS OF INITIAL POSITIONS**" was served by the Electronic Information Exchange on the following recipients:

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