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 Units 3 and 4
Combined Operating License

Docket Nos. 52-012, 52-013

October 8, 2010

INTERVENORS' RESPONSE TO APPLICANT'S MOTION FOR SUMMARY DISPOSITION OF CONTENTION CL-2

The Intervenors hereby respond to the Applicant's Motion for Summary Disposition of Contention CL-2.[1]

Introduction

The Applicant's motion asserts that the Contention CL-2 should be dismissed because "SAMDAs are not cost-effective even after accounting for the factors identified by the Intervenors."[2] A central issue for the Board's consideration is whether the SAMDA cost of $158,000 asserted by the Applicant is reasonably accurate. The Intervenors argue herein that the Applicant's quantification of SAMDA costs fails to use estimates that accurately reflect actual

[1] This response is accompanied by the Intervenors' Response to Applicant's Statement of Facts Pursuant to 10 C.F.R. 2.710. Additionally, this response incorporates the Intervenors' contentions regarding the revisions to §7.5S of the ER (December 22, 2010) and Intervenors'consolidated response to the Applicant's and Staff's answers to the new accident contentions (January 29,2010).
[2] Applicant's motion, p. 4.

economic conditions. Consequently, SAMDA costs are actually less than asserted by the Applicant.

Intervenors' expert's analysis concludes that the cost of SAMDAs applying the Gross Domestic Product Implicit Price Deflator (GDP-IPD) yields a SAMDA cost in 2008 dollars of $144,000 and in 2009 dollars of $145,000. Applying the index of Personal Consumption Expenditures (PCE) yields a SAMDA cost in 2009 dollars of $144,000. Once volatile parameters (food and energy chain prices) are excluded under the Core PCE the SAMDA costs are further reduced to $141,300 in 2008 dollars and $143,700 in 2009 dollars. Further refinement of this Core PCE quantification by considering geographic regional differences yields a SAMDA cost of $131,000. [3]

The Applicant has calculated a SAMDA monetized impact (benefit) of $141,211.[4] Accepting Applicant's cost of SAMDAs, $158,000, would lead to the conclusion that no SAMDAs are cost-effective. However, the Intervenors contend that the reasonable and more accurate cost of SAMDAs is $131,000. This quantification yields a result that makes the cost of SAMDAs significantly less than the monetized benefits such would produce. Under this circumstance any SAMDA that yields a monetized benefit greater than the cost of $131,000 makes the SAMDA cost-effective.

Intervenors also contend that the use of 2009 ERCOT prices for replacement power cost determinations is unreasonable because such are unusually low. As discussed in the Johnson II affidavit, 2009 ERCOT prices are not representative of long term price trends.[5]

[3] Johnson Report, October 6, 2010 (hereinafter Johnson II), pp.2-3.
[4] Applicant's Joint Affidavit, p. 30, ¶74.
[5] Johnson II, pp.3-4, ¶s 8-9.

The assertion of the Applicant that market forces will not influence power prices in circumstances related to a major outage is also unreasonable. Applicant's failure to factor in market forces renders its replacement power cost calculation unreasonable.[6]

The Applicant's evaluations of the effects of price spikes and frequency loss of grid and consequences caused by these events is not reasonable.

Applicant's assumptions in calculating the cost of SAMDAs are not reasonable.

The Applicant's argument regarding the cost of replacement power does not differ materially from its previous argument in opposition to the admission of CL-2. For purposes of its motion for summary disposition the Applicant has adopted the Intervenors' replacement power costs but concluded that such would still not require SAMDAs "because the total monetized impacts are still below the lowest cost of the SAMDAs."[7] However, Applicant's argument is dependent on the premise that the lowest cost SAMDA is $158,000.[8] Intervenors' expert has quantified the lowest cost SAMDA at $131,000.[9]

The Applicant has used 2009 ERCOT electricity prices to calculate its replacement power costs and the resultant SAMDA cost of $158,000.[10] However, as explained in Johnson II, 2009 price data are not an accurate reflection of the trends in ERCOT prices that are heavily influenced by natural.gas prices. ERCOT 2009 prices reflect lower natural gas prices and the

[6] Johnson II, p.4, ¶10.
[7] Applicant's Motion for Summary Disposition, p. 18.
[8] Applicant's Motion for Summary Disposition, p. 17.
[9] Johnson II, ¶5.
[10] Id.

recession. In fact, 2009 natural gas prices retreated to 2001 levels. This 2009 aberration is not a reasonable basis to project future ERCOT prices and most forecasts project natural gas prices to increase over the inflation rate. Applicant's use of the 2009 ERCOT data has the effect of understating the replacement power costs because future cost projections begin with an abnormally low cost year. This methodology is faulty and an unreasonable basis upon which to determine actual future replacement power costs. In *Pilgim* the Commission did not *per se* prohibit application of additional factors or alternative assumptions in considering whether a particular SAMA candidate should be evaluated. "Unless it looks genuinely plausible that inclusion of an additional factor or use of other assumptions or models may change the cost-benefit conclusions for the SAMA candidates evaluated, no purpose would be served to further refine the SAMA analysis, whose goal is only to determine what safety enhancements are cost-effective to implement."[11] In this case, determination of replacement power costs affects the cost-benefit of the SAMDAs. And it is plausible that utilizing ERCOT prices that more accurately reflect costs that exceed inflation will change the cost-benefit calculus for the SAMDAs in this case.

Applicant's sensitivity analysis is unreasonable because it does not account for more precise calculations of inflation rates that accurately reflect costs related to SAMDAs.

As discussed in Johnson II, the Applicant has utilized the consumer price index to determine SAMDA costs. In doing so, the Applicant concludes that the lowest-cost SAMDA is

[11] *In the Matter of Entergy Nuclear Generation Co .and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station)*, CLI-10-11, 2010 WL 1235387 at *19.

$158,000.[12] This measure of inflation does not account for the conversion of nominal costs to real costs considering the overall domestic economy. In order to account for this parameter a more precise index is the Gross Domestic Product Implicit Price Deflator (GDP-IPD). Application of the GDP-IPD results in SAMDA costs of $144,000 (2008 dollars) and $145,000 (2009 dollars). Further refinement of the SAMDA costs requires accounting for consumer price inflation based on consumption. The Personal Consumption Expenditures (PCE) price index is utilized by the Federal Reserve's Open Market Committee as a measurement of inflation. Applying the PCE yields a SAMDA cost of $144,000 measured in 2009 dollars. Exclusion of the food and energy prices in the Core PCE reduces the SAMDA cost to $141,300 (2008 dollars) and $143,700 (2009 dollars). Regional cost-of-living differentials further reduce the SAMDA cost to $131,000.[13]

NUREG 1555 explicitly allows use of cost estimation tools that are "accepted'.[14] While the use of the CPI is accepted it produces an inflation multiplier that is less refined and precise than using the indices applied in the Johnson II affidavit. This is a crucial methodological issue because the SAMDA cost has the potential to affect the outcome of the case.[15] Additionally, the underlying purpose of the SAMDA analysis is to consider design alternatives that may bear on whether NEPA's mandate to consider alternatives has been met.[16]

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[12] Johnson II, p.2, ¶2.
[13] Johnson II, pp. 2-3, ¶s 2-5.
[14] NUREG 1555 review procedures direct that the applicant's cost estimates be compared "with estimates developed elsewhere (e.g., using previous SAMA evaluations or using accepted cost-estimation tools)." NUREG 1555, p.7.3-6.
[15] *Anderson v. Liberty Lobby, Inc*., 477 U.S. 242, 248 (1986).
[16] 42 U.S.C. §4332(c); *Natural Resources Defense Council v. Nuclear Regulatory Commission*, 606 F.2d 1261, 1271 (1979)(programmatic EIS on storage tank use did not obviate NEPA requirement to consider alternatives in the EIS).

The Applicant's understatement of market effects is unrealistic and disregards the Board's inclusion of such in Contention CL-2.

Applicant has argued that removing the STP units would not have any significant long-term consequences nor "dramatically" increase annualized replacement power costs. This assumption is not realistic. The model upon which Applicant relies is flawed in at least three material ways. First, it assumes that wind capacity has a 24.5% capacity factor. This far exceeds the capacity factor utilized by ERCOT that assumes a wind capacity factor of 9-11%.[17] Overstating this capacity factor has the effect of blunting the effect of a large outage by increasing the total amount of replacement power available in the event of an outage. Applicant's assumption of an artificially high wind capacity factor is not reasonable in light of actual ERCOT data that pegs wind capacity factor at less than half of Applicant's estimate.

The Applicant's assumption regarding ancillary costs is also understated. Ancillary service costs are influenced by outage events, particularly major outage events such as the loss of the STP capacity.[18]

The Applicant's market impact assumptions also presume perfect competition by linking hourly prices to marginal costs. Actual experience shows that some suppliers are more likely to be competitive under certain conditions and at certain hours.[19] But Applicant's objective in its analysis is to establish that the power market would not notice the absence of STP capacity and reduced supply of power would not affect prices. This is not realistic.[20]

[17] Johnson II, p.4, ¶10.
[18] Id.
[19] Id.
[20] Id.

Applicant's conclusions related to the effect of price spikes are understated.

The effect of price spikes is discussed in detail in the initial Johnson report.[21] Applicant has addressed one factor cited by Johnson that would be a likely consequence of the loss of STP capacity: markets would adjust.[22] However, the Applicant does not address other consequences such as economic dislocation and bankruptcies of retail service providers. The Applicant's approach to minimize these various consequences is not to address each and explain why such are not material. Instead the Applicant employs a probabilistic risk analysis (PRA) to diminish the statistical likelihood of the occurrence of price spikes.[23] After conceding that price spikes is $5,101,276,420 per year the PRA is applied and the economic impact effectively rendered *de minimis.* However, the Applicant's analysis is flawed. While the Joint Affidavit at paragraph 64 assumes a doubling of the percentage impact on costs based on 2008 price spikes it does not double the economic impact of those spikes in the PRA. Had it done so the multiplier would have been twice the impact of $5,101,276,420 with a concomitant effect on its PRA. This greater economic impact raises a disputed fact regarding the Applicant's assessment of the monetized impacts of price spikes.

[21] Johnson, pp.5-6.
[22] Applicant's Motion, p.22; Applicant's joint affidavit ¶62.
[23] Applicant Motion, p.23; Joint Affidavit ¶64.

Applicant's assessment of the consequences of the loss of the grid understate the economic impacts from such an occurrence.

The Applicant relies on the low probability of the loss of grid to justify its assignment of low costs from such an occurrence.[24] However, notwithstanding the structural means to prevent outages such occur more frequently than suggested by the Applicant.[25]The relative frequency of these significant outages, whether caused by weather, failure of transmission capacity or other events, raises a disputed issue of fact.

Notwithstanding the frequency of large blackouts the Applicant uses the economic effects of the $10 billion loss from the 2003 Northeast United States blackout in its calculation of replacement power costs and consumer impacts.[26] However, the Applicant does not address the approximately $45 Billion in losses attributable to the California rolling blackouts. Utilizing an economic impact of $45 Billion rather than $10 Billion would cause a proportionate increase in the replacement power costs and related consumer impacts. This difference raises a disputed issue of fact regarding the economic impacts and increases in replacement power costs advanced by the Applicant.

[24] Applicant Motion, pp. 23-26.
[25] Johnson, p.7.
[26] Applicant Motion, p. 26.

The Applicant's characterization of its evaluation as "very conservative" on the basis of using a 3% discount rate is not warranted.

Applicant characterizes its use of a 3% discount rate in its evaluation as very conservative.[27] Office of Management and Budget uses a range of discount rates that are as low as 2.2% based on considerations of cost-effectiveness.[28] Compared to the 7% discount rate frequently used 3% is relatively conservative. However, given OMB's use of appreciably lower discount rates than the Applicant's use of 3% raises a question whether the description of such as "conservative" is warranted.

Conclusion

There are numerous issues of fact that preclude summary disposition. For example, the SAMDA costs advanced by the Applicant are not based on reasonable assumptions or analysis and the Applicant's projection of long-term ERCOT costs are understated and unreasonable.. The Applicant's view of future ERCOT costs is also unreasonable. The Applicant's conclusion that market effects need not be considered in evaluating long-term outage consequences is likewise unreasonable. And the Applicant's assessments related to the effects of ERCOT price spikes and loss of grid are unreasonable. The issues of fact raised herein preclude summary disposition.

[27] Applicant Motion, pp.26-27
[28] Johnson II, p. 3, ¶7.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on October 8, 2010 a copy of the above and foregoing was served by the Electronic Information Exchange on the following recipients:

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