

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF DELAWARE**

**IN THE MATTER OF INTEGRATED)
RESOURCE PLANNING FOR THE)
PROVISION OF STANDARD OFFER)
SUPPLY SERVICE BY THE DELMARVA)
POWER & LIGHT COMPANY UNDER 26)
DEL. C. SECTION 1007(c) & (d):) PSC DOCKET NO. 06-241
REVIEW AND APPROVAL OF THE)
REQUEST FOR PROPOSALS FOR THE)
CONSTRUCTION OF NEW)
GENERATION RESOURCES UNDER 26)
DEL. C. SECTION 1007(d))**

**PRELIMINARY COMMENTS OF NRG ENERGY, INC. ON REPORTS ON
EVALUATION OF BIDS RECEIVED IN RESPONSE TO REQUEST FOR
PROPOSALS FOR COMPETITIVE POWER SUPPLY BY DELMARVA POWER
& LIGHT COMPANY**

I. INTRODUCTION

On February 21, 2007, Delmarva Power & Light Company (“Delmarva” or “DP&L”) issued a report (“DP&L Report”) on its evaluation of bids received in response to its Request for Proposals (“RFP”) in Docket Nos. 06-241 and 07-20. On the same date, the consulting team of New Energy Opportunities, Inc.; La Capra Associates, Inc.; Merrimack Energy Group, Inc. and Edward L. Selgrade, Esq. (together, the “Independent Consultant” or “IC”) issued its report (“IC Report” and together with the DP&L Report, the “Reports”) on Delmarva’s RFP evaluation in Docket No. 06-241. Set out herein for consideration by the Delaware Public Service Commission (“PSC”), the Delaware Office of Management and Budget, the Delaware Energy Office and the Delaware Controller General (collectively, the “State Agencies”) are the preliminary comments of NRG Energy, Inc. (“NRG”), one of the bidders in the subject RFP, regarding the RFP

evaluation process and the Reports. The mechanics of the RFP and Delmarva's related Integrated Resource Planning process ("IRP") have been described in detail in the Reports and will not be repeated here.

NRG believes that the RFP bid evaluation process was fundamentally flawed and has resulted in conclusions that do not serve the best interests of the people of the State of Delaware or the customers of Delmarva, including the customers taking Standard Offer Service ("SOS"). Neither the Independent Consultant nor Delmarva appears to have understood the purpose of the RFP as set forth in the Electric Utility Retail Customer Supply Act of 2006 (the "Act"),¹ with the result that the Reports recommend a course of action that appears to reinforce the circumstances that the Act was intended to correct. Where the Act evidences concern with excessive reliance on purchases of electric power from wholesale markets and required an inquiry into building new sources of electric generation in Delaware, the DP&L Report concludes with a recommendation that no project be built and that the SOS requirements be exclusively served with wholesale purchases. Where the Act evidences concern with excessive reliance on natural gas-fired generators, the Reports rank a new natural gas-fired unit as the best choice involving new capacity for meeting future SOS loads. And where the Act specifically notes the importance of innovative technology and the possible use of integrated gasification combined cycle ("IGCC") for the clean combustion of coal, the Reports rank bids involving a new IGCC project by NRG in last place.

Further, previous proceedings in these Dockets have emphasized the need for some transparency in connection with the evaluations of bids received under the RFP.

¹ 26 Del. C. § 1007(d)(2).

The compromise suggested by the IC in its previous report² was to engage in a test bid that would provide the IC (and, therefore, the State Agencies) with sufficient information to assure the stakeholders that the RFP assumptions were not geared towards producing a given result. The PSC explicitly approved and endorsed this concept.³ Yet, somehow, there was insufficient time to provide the IC the ability to evaluate a “test bid”, which the IC views now as a minor inconvenience given their “closed door” discussions with Delmarva on their model inputs. Viewed in light of all of the foregoing issues, one must seriously question whether the evaluation was based on Delmarva’s desires rather than the purposes of the Act.

Moreover, NRG has serious concerns with the RFP evaluation process. As an active participant in the development of the RFP and the subject Dockets, NRG has been concerned from the beginning that the bid evaluation process would gravitate toward the lowest capital cost option. Despite numerous comments in the record of these proceedings, it appears that NRG’s fears have been realized. As will be explained in detail below, NRG believes that: (1) the bid evaluation scoring system is excessively focused on price, such that any capital-intensive project will be placed at a profound disadvantage; (2) the bidders are awarded points in respect of the price evaluation in a “winner take all, loser take nothing” scheme that reinforces the bias against capital intensive projects; (3) the price stability evaluation, which might be expected to counterbalance a bias in favor of low capital cost projects, is methodologically flawed to such an extent as to be useless; (4) several of the non-price factors, which might be expected to counterbalance a general bias in favor of low cost, actually double count

² Final Report Regarding Delmarva Power & Light Company’s Proposed RFP, Oct. 12, 2006 at 52.

³ Order No. 7066 ¶ 163 at 73-74.

factors considered in the price evaluation, further biasing the results against capital intensive and coal gasification projects; and (5) the scoring and points awards in the non-price factors sections appear arbitrary and capricious in many instances and biased.

Particularly with respect to the non-price factors analysis, NRG believes that the intent of the Act to encourage new projects at existing sites has been thwarted by the Reports' deliberate decision to evaluate each proposed new project "in isolation" without giving credit to clearly identifiable environmental remediation of existing sites particularly in the context of the so-called "Supercategory" evaluation.⁴ NRG's proposal involves the retirement of two older units at its Indian River station. Despite the clear and direct nexus between the construction of the new units and the retirement of the existing ones, NRG is awarded no credit for the retirements in its proposal. NRG protests this treatment as manifestly unfair and contrary to the Act. If a question remains about the interpretation of the Act in this circumstance, NRG believes the Reports could have prepared two sets of numbers, "with and without" the unit retirements. This would have allowed the decision-making agencies to understand on a quantitative basis what had been omitted in Delmarva's and the Independent Consultant's interpretation.

NRG also protests the IC Report's decision not to consider NRG's proposed five-year "baseload bridge" proposal. This proposal was part of an integrated approach to meeting SOS requirements, involving the construction of a relatively long lead-time innovative baseload project; it was not a stand-alone "rely on the market" bid. The IC Report states that NRG's proposal could be evaluated in the event the State Agencies were interested in proceeding with one of NRG's proposals.⁵ By failing to examine the

⁴ IC Report at 29.

⁵ *Id.* at 13.

economics of NRG's proposal, the IC Report makes such action on the part of the State Agencies unlikely. NRG urges that this decision be reversed and the economics of its baseload bridge proposal evaluated for the decision-making agencies. NRG notes that other bids submitted in the RFP involved much greater reliance on market purchases than NRG's proposals, yet these bids did not appear to be penalized for such reliance.

Finally, NRG believes that the Independent Consultant was placed in a position of reacting to Delmarva's evaluation and scoring of the bids, without the ability to change the evaluation methodology selected by Delmarva. The Independent Consultant does not appear to have examined and/or audited the inner workings of Delmarva's economic models in detail or, as would usually be expected in a process where an independent party is conducting analysis and making recommendations to provide guidance to the decision-making authorities, to have constructed and run economic models of its own – comparing outputs with those from the Delmarva model in a truly independent process. Instead, the Independent Consultant was able only to negotiate minor issues that the IC identified with Delmarva, such as insisting on the inclusion of a particular scenario to be examined among the others selected by Delmarva relating to non-market assumptions on gas and coal forward prices that clearly advantage Conectiv Service Energy, Inc.'s ("Conectiv") bid and disadvantage the NRG bid. As a result, the bid evaluations indelibly reflect Delmarva's preferences and biases leaving the State Agencies, the bidders and the public to wonder whether other more subtle biases remain deeply embedded in the Delmarva model that escaped the top-down review of that model by the IC and that would not have persisted in a bottom-up construction of an independent evaluation tool by the IC.

NRG reluctantly concludes that the evaluation is fundamentally flawed and must be redone. In support of this conclusion, NRG reviews the specifics of the bid evaluation process as reflected in the Reports, as set out in more detail below.

II. ECONOMICS SUPERCATEGORY

The purpose of the “Supercategory” structure, as approved by the PSC, is to interpose some “judgment” into the process as the points scoring system is acknowledged not to be “infallibly precise”.⁶ In the context of the Economic Supercategory, NRG urges the Commission to apply its judgment over the biased scores that were produced from the flawed statistical and modeling analysis undertaken by DP&L and the IC. It is inconceivable that an innovative coal-gasification plant that relies on the use of the United States’ most abundant fossil-fuel resource and which is the type of plant specifically encouraged under the Act can score so low on the Economics category that the IC does not even feel the need to consider NRG’s comments on the off-market PPA proposed by Delmarva.⁷ We ask that the Commission review NRG’s critiques of the flawed review process in connection with its overall evaluation of the Economics Supercategory.

A. Price Category

1. Introduction and General Observations.

Out of 100 possible points, the largest single award (33 possible points) is made on the basis of price. As described in Delmarva’s and the IC’s Reports, the economic evaluation awards all 33 points to the low bidder Conectiv, no points to the high bid (NRG with CCS), and scales the remaining bids in between in a linear fashion.

⁶ Order No. 7066 ¶ 114 at 52.

⁷ IC Report at 56.

As a threshold matter, NRG remains concerned that too many points are awarded on the basis of price alone. But even if the 33 point weighting is maintained, the evaluation approach adopted by Delmarva and accepted by the Independent Consultant has several very serious and fundamental flaws. First, this approach awards points relatively among the bidders in a manner that has no relation to the expected market values for electricity – which, after all, is the ultimate focus of the RPF process: to identify new generation options for Delaware and rank them truly against forecasted market prices for energy. Second, the approach neglects information valuable to the statistical analysis: by awarding full points to the low bid and no points to the high bid (regardless of the value offered), the approach ignores the spread between the two, as well as the relation to the market. For example, the same points would have been awarded if the low and high bids had been separated by \$0.50 per MWh or \$15.00 per MWh, although the importance of the price differences is clearly much less in the former case. Third, the approach does not really evaluate each bid independently, in that the points awarded to the bids might be changed greatly – and the outcome of the RFP might also change – if an outlier “high bid” had been offered by another party (*e.g.*, how might the points awarded to the losers have changed if another party had bid a nuclear plant?). Finally, the process seems to be founded on an unstated assumption that there is a sufficient number of bids to obtain a statistically meaningful sample. But with only three bidders, a normal distribution across which to distribute evaluation points is simply not possible.

At a minimum, NRG calls for a revision of the scaling approach to eliminate the “winner take all, loser take nothing” quality of Delmarva’s approach. A better approach

would have involved the use of a probabilistic model of future fuel and electricity prices – *e.g.*, a Monte Carlo simulation with a large number of runs made of expected electricity prices over time – so that a mean price and a statistical distribution of prices around that mean would be available for each year. NRG notes that peak electricity demand was simply assumed to grow at 2.2 percent annually through 2010, dropping to 2.1 percent annually through 2015, and at 1.6 percent thereafter. No effort was made to examine the probabilistic impact of alternative growth rates. With such detailed statistical information, points could be awarded on the basis of a bid’s expected performance with respect to the market rather than with respect to other bids. For example, full points (*i.e.*, 33 points) could be awarded to any bid equal to the expected mean value of market energy prices. For higher priced bids, points could be awarded relative to the likelihood of the market price meeting such bids. For example, if the mean was estimated to be \$86 per MWh, and there was a 50 percent likelihood of prices falling within the range of \$70 and \$104 per MWh, a bid of \$104 would be awarded half the available, or 16.5 points. Bids that surpassed the expected market average could be awarded bonus points. Using the example above, a bid of \$70 per MWh would be awarded a bonus of 16.5 points for a total of 49.5. No party would receive zero points, unless the bid price was so high that the probability of the market price equaling the bid price was effectively zero.

The new evaluation methodology would ensure that bids would be ranked independently of each other (reflecting their respective actual merits and values) and that points would be awarded in relation to expected market conditions. In such a situation, Conectiv would not have received all the points and NRG with CCS would not have received zero points. As matters currently stand, the seriously defective methodological

approach for bid price point awards alone appears to be responsible for most of the RFP outcome.

2. Specific Concerns with Price Evaluation of the NRG Bid.

Apart from the concerns with defective methodology, noted above, NRG believes that the IC Report (and also the DP&L Report) has inaccurately computed the economics of NRG's bids.

Low cost energy is generally viewed as a key attribute of coal-fueled projects, but the Delmarva Report incorporates projections of 4.2 percent annual growth in coal prices, based upon proprietary studies of Central Appalachian low-sulfur coal production prepared by ICF. The IC Report appears to take issue with Delmarva's use of aggressive coal price projections, but the ultimate quantitative result remains unclear. NRG notes that IGCC projects can be fueled with a wide range of coal types. There is no need to use low-sulfur coal in an IGCC plant, as virtually all sulfur is removed from the synthesis gas before combustion. If the cost of Central Appalachian coal increases as some predict, NRG would be free to obtain coal from other competitive sources. IGCC projects also have lower heat rates. NRG would like a chance to respond to the specifics of the IC Report's analysis of energy costs.

Capacity prices comprise another major component of energy production cost from coal-fueled plants. It seems as though the evaluators are assuming 70 percent of the IGCC project's capacity being dispatched, and then computing the "all in energy and capacity cost" using only Tier I pricing and excluding the Tier 2 products offered by NRG. In contrast, NRG priced a product designed to meet the 400 MW requested in the RFP with the flexibility to go down to 280 MW, which NRG was led to believe was

Delmarva's SOS requirement. As discussed further *infra*, NRG notes that the "Exposure" category acts to penalize projects sized larger than 200 MW. To add yet another size-related penalty in the "Price" category through a process of inflating capacity costs is not only outside the scope of the RFP but represents double counting in a manner that systematically disadvantages the very sort of baseload projects specifically encouraged by the Act. As with the energy costs, discussed above, NRG responds by highlighting that the RFP process led us to believe that offers for a 400 MW unit were welcomed and would not be penalized based on size.

NRG takes issue with the IC Report's evaluation of its energy and capacity costs, but this is by no means the end of the story. The IC attributes increasing costs of NRG's proposal in part to differences in inflation indexes used by NRG and the Independent Consultant.⁸ NRG notes that the choice of an inflation index is typically the sort of minor issue that can be negotiated by the parties at a later time. NRG is quite willing to discuss the merits of particular inflation indexes in connection with its proposals.

Moreover, because the Report lacks detail on significant issues underlying the evaluation, NRG has many questions about some of the unstated assumptions that appear to have been used in evaluating its bids. For example,

- Was the CAPP coal price curve of \$50-\$90/ton in \$2005 (identified in the IC Report) the one used to create NRG's evaluated cost?
- Was this the forecasted coal price used to evaluate the coal indexation that forms a part of Conectiv's bids? If not, what was the reason for the discrepancy?

⁸ *Id.* at 39.

- In the NRG evaluated price, how much of the additional cost to Delmarva’s SOS customers was a result of losses incurred by selling purchased power back to the market?
- What cost was used for pricing NRG’s Carbon Capture and Sequestration, and what was the volume of excess carbon credits assigned to the plant with CCS?
- In the base case, was NRG’s coal cost projected to increase at a rate higher than natural gas escalation?

The people of Delaware and NRG are entitled to this information in order to ensure that NRG’s bids were fairly and appropriately valued in comparison to competing offers.

Finally, NRG wishes to renew its objections to the use of imputed debt costs in the bid evaluations. NRG believes such concerns can be minimized by state regulators’ actions aimed at reducing the appearance of risk of a purchased power pass-through disallowance. As the IC acknowledged, this risk falls largely within the control of the State regulatory authorities.⁹ As such, it is inappropriate to treat it as though it were an exogenous risk. Quite likely, Delmarva will not be faced with a credit downgrade as a result of entering into a PPA following a state-mandated RFP process. In addition, NRG wishes to emphasize that Standard & Poor’s new policy, as outlined in Appendix A to the IC Report, would abandon its prior practice of not imputing debt for purchase power agreements with terms of three years or less. If this policy is adopted, the Market Reference Case used in the IC Report should also include an imputed debt cost, if such costs are assessed against other bidders to ensure an “apples-to-apples” comparison.

⁹ *Id.* at 45.

B. Price Stability Category

1. Introduction and General Observations.

The “price stability” evaluation process awards 20 points for bids that maximize stability of energy prices to the SOS customers. This goal appears fully consistent with the statutory objectives of minimizing price fluctuations to SOS electric customers, many of whom may be lower income residential customers. Extreme volatility in natural gas prices has affected electricity prices, and one would expect that a move away from gas to other energy sources would reduce volatility. But surprisingly, the Conectiv gas-fired combined cycle plant scored higher than NRG’s coal-fueled IGCC proposals, which came in last. This is particularly interesting since the IC tells us that Conectiv itself in its proposal states that it has indexed part of its price to coal “to provide the price stability sought in the RFP.”¹⁰ How could this be?

The explanation can be found by studying how the DP&L/ICF report measures price stability. When most people think of “price stability” they may think of measuring volatility or fluctuations in prices, but this is not the focus of the DP&L Report. First, the Report does not measure the behavior of bid or market prices over time. There is no time series analysis of bid prices or market prices. Instead, the Report performs a cross-sectional analysis of expected market prices and each of the bid prices for each year under an assumed set of scenarios. Thus, the Report does not measure the “stability” of any particular price from year to year, but only compares the bid prices against each other under a particular set of assumptions. Second, the Report does not reflect any stochastic modeling; no random variables are modeled or studied. All of the price data analyzed for the purpose of measuring “price stability” are fully deterministic

¹⁰ *Id.* at 8.

results of the eight scenarios that are modeled. Gas prices, for example, are modeled as initially fixed and escalating at specified annual rates. Variability in gas prices, as may result from changes in the weather or economic activity, is not considered at all. This represents a significant departure from how the relevant markets really operate and therefore means that the data and recommendations provided to the State Agencies based on such approaches by both the IC and Delmarva are likely not reflective of “real world” expectations and ought to be viewed clearly in that light.

What the “price stability” analysis actually does is to run eight scenarios over time, and compute an average price of the scenario prices, and then compute the standard deviation of the set of eight prices, each weighted equally. The same analysis is run with each of the bids, and points are awarded to the bids that produce the greatest reduction in the standard deviation, relative to the market bid. The variation in the data set is strictly a result of how the scenarios are defined. Furthermore, they have provided no indication on how market power prices are being adjusted in the various scenarios, nor justification for the magnitude and direction of their price movement from the scenarios (*e.g.*, how does high CO₂ tax occur with no gas price impact or offpeak purchase power price impact?).

The winner was Bluewater’s fixed rate bid with an annual escalation rate equal to DP&L’s assumed annual inflation rate of 2.5 percent. Because most of the scenarios involved differing assumptions about natural gas prices, CO₂ emission allowances prices, coal mining productivity and capital costs for thermal plants, Bluewater’s bid was relatively unaffected by the assumptions made in the scenarios and the standard deviation of the various scenario prices was reduced compared to the market case. Because it is not

clear whether and how market power prices were adjusted to reflect the revised assumptions about fuel, emission and capital cost assumptions in various scenarios, the extent to which the overall price volatility to ratepayers was modeled to increase due to the intermittent nature of Bluewater's operation cannot be determined. Given that NRG's proposal represents the most complete coverage of ratepayer energy requirements, and that reducing exposure to market price fluctuations was the putative objective, a finding that the resource with the greatest reliance on market purchases provides the highest price stability while the resource with the least reliance on purchases provides the least stability is perverse. Bluewater received the maximum 20 points. And because market prices in the PJM Mid-Atlantic Region are usually set by a marginal gas-fired combined cycle plant, it should come as no surprise that Conectiv's gas-fired combined-cycle bid closely matched the market behavior under the various scenarios and yielded little change in the standard deviation of the modeled prices. Conectiv was awarded only 0.7 out of 20 points.

NRG's coal-fueled IGCC bids were found to actually increase the standard deviation of the scenario prices, so that NRG came in last and was awarded no points. There are several reasons for this result. First, two of the eight scenarios relate to differing assumptions about CO₂ emission allowance prices. As a result, any bid utilizing solid fossil-fueled technology would be faced with a greater standard deviation among the eight scenarios than a gas-fired plant or a renewable resource plant. Because each of the scenarios were weighted equally for computing the standard deviation, the choice of CO₂ emission costs for two out of the eight total scenarios has the effect of amplifying the impact of this factor. Second, the sixth scenario involved assumed reductions in new

power plant capital costs of 35, 25 and 15 percent for coal, gas and nuclear plants, respectively. Because coal plants received the largest assumed cost reduction, a coal facility bid would show the greatest dispersion of resulting prices under the chosen set of scenarios. Third, the last scenario involved making strikingly different assumptions about annual changes in coal mining productivity, with the effect that coal prices diverged markedly among the scenarios over the course of many years. A coal-based bid would be uniquely exposed to the heightened dispersion of prices resulting from this assumption in one of the scenarios, and would be penalized in the resulting analysis of standard deviations.

The bottom line is that the assumptions directly determine the results. A different set of assumptions for the scenarios would likely yield different point allocations. Fundamentally, the points are awarded on the basis of how each bid's pricing is affected by a set of assumed inputs. Bids that are relatively unaffected by the assumptions underlying the scenarios come out ahead; bids that are affected by the scenario assumptions do less well. When such assumptions are arbitrary, deterministic and not reflective of dynamic market behavior, the State Agencies must recognize that the resulting point allocations will not reflect the actual expected value of the proposals, and may be of no value at all.

The IC Report justifies its price stability methodology on the grounds that "price stability can be divided into two components," the first being "year-to-year variation around average multi-year prices" and the second "reflects long-term price uncertainty (*e.g.*, average gas and power prices over the next 20 years)."¹¹ In fact, the concept of "price stability" can and should be viewed over a wide range of time periods. There is no

¹¹ *Id.* at 30.

theoretical justification for dividing the concept into “two components” of annual and 20 year scope. More fundamentally, there is no justification for not undertaking a stochastic analysis of price behavior over time.

The DP&L Report cites three reasons for ignoring price fluctuation in its “price stability” analysis. First, it claims that the three year rolling average used in setting SOS prices tends to dampen short term price volatility.¹² While this may be so, Delmarva could have incorporated a three year rolling average into its analysis. This would have been a better decision than ignoring price volatility altogether and instead studying the impact on prices of an assumed set of scenarios. Second, the DP&L Report notes that short-term perturbations and events are difficult to anticipate.¹³ Indeed, they are, and for this reason statistical analysis has developed tools to consider the probability of events rather than anticipating them. Data are available on price volatility for a range of fuels and are also available for such market drivers as the weather. Other probabilistic models are available for such factors as economic growth and inflation. But rather than incorporate probabilities into its analysis, DP&L and its consultant simply make a few guesses about how gas, coal, and capital costs might turn out – and base their analysis and corresponding rankings and recommendations upon such guesses. Finally, the DP&L Report states that the contracts being offered would be long-term commitments.¹⁴ This is not a reason to ignore price volatility as such term is usually understood. Although the contracts being offered are long-term contracts, energy prices in the markets will still vary on a short-term basis and customers will be affected by such variation. Moreover, the decision that has to be made about accepting or rejecting such

¹² DP&L Report at 30.

¹³ *Id.*

¹⁴ *Id.*

contract offers is made but once. The decision makers should be afforded with an analysis that addresses the likely real-world impact, over the short and long terms.

NRG recommends that the price stability evaluation methodology be revised along the lines suggested above and the analysis be redone. If a decision is made to retain the flawed evaluation approach, at a minimum, the number and scope of scenarios evaluated must be expanded. With enough scenarios, properly selected to reflect likely outcomes, Delmarva's approach can begin to reflect the attributes of a proper probabilistic analysis.

2. Specific Concerns with Price Stability Evaluation of NRG Bid.

In addition to NRG's concerns with the overall evaluation methodology, as discussed above, NRG wishes to note a number of concerns with how its bids were evaluated. In particular, NRG notes that some of the price dispersion – and hence, the standard deviation – among the scenarios analyzed was due to the “High CO₂” scenario, which caused NRG's two evaluated proposals to have the highest prices reported on Table 5.¹⁵ While increases in the standard deviations resulted in NRG's two base bids receiving zero points for price stability, NRG's CCS bid was not evaluated for its impact on price stability – because the Independent Consultant had determined that the CCS option was more costly than ICF's forecast of CO₂ emission allowances. In other words, NRG submitted a bid for a particular technology designed to address the “High CO₂” scenario, but it was never evaluated against such a scenario. NRG submits that its projected cost of CCS should have served as a cap on the “High CO₂” scenario. This reasonable assumption would reduce the cost of this scenario, and thus yield lower standard deviations for NRG's bids.

¹⁵ IC Report at 41.

In addition, NRG questions whether any credit has been given in the price stability evaluation for the virtual turndown capability that is a feature of its bid. This capability is intended to leave Delmarva with a level of economic rights that will permit it to view the NRG PPA as load following down to 280 MW with resulting benefits for price stability. However, there appears to be little or no value attributed to this feature in the Report, and NRG would like to explore whether this feature was either misunderstood or ignored in the evaluation process.

Moreover, NRG would like to know what happened with respect to the pricing on NRG's bids when the IC ran an analysis using a lower (and, undoubtedly more reasonable) coal price forecast.¹⁶ The fact that such a lower evaluated price exists and has not been made a part of the IC Report is of great concern to NRG.

NRG has consistently decried the "black box" nature of the modeling and evaluation. The IC and the PSC have advised NRG not to worry because the evaluation would be fair and safeguards would ensure a competitive process. We now have a situation where test bids have not been run, objectionable cost curves that inexplicably favor the addition of gas-fired generation to the mix have been used, and innovative, capital-intensive technology has been disfavored. Accordingly, NRG would like the Commission and the IC to comment specifically on how these safeguards have been applied and how the evaluations in this RFP process meet the intent and purpose of the Act.

¹⁶ *Id.* at 43.

C. Exposure Category

1. Introduction and General Observations.

NRG has consistently objected to the so-called “Exposure” category for the simple reason that the category – as projected to be scored and as actually scored – favors the construction of a conventional technology, gas-fired power plant from a utility or utility affiliate which is not the type of “innovative baseload” facility that the Act was intended to promote. In fact, it is interesting that the final evaluation methodology produces the highest score for Conectiv’s proposal which, incidentally, looks quite like Delmarva’s original request (*i.e.*, 200 MW or less, dispatchable, investment grade provider *etc.*) in its draft RFP which was modified on the order of the PSC following significant expenditure of time and money of many stakeholders (including the PSC) so that the RFP might produce a result that was in conformity with the goals of the Act.

2. Specific Concerns with Exposure Evaluation of NRG Bid.

NRG was awarded none of the possible 2.5 points for the “Contract Size” sub-category because it bid a 400 MW contract. NRG objected to this bid evaluation criterion when it was first proposed and reiterates its objections here. Projects such as IGCC are characterized by marked scale economies. NRG is proposing to construct an approximately 600 MW plant of sufficient size to capture these scale economies, yet is proposing only a 400 MW contract in the RFP in order to comply with the RFP. An RFP compliant contract offer should be awarded points in the Contract Size category. NRG is proposing to take the risk for the difference. NRG strongly suspects that had it proposed to shoulder even more such risk, and bid only 200 MW in order to capture the 2.5 points, its score in the “Financeability” category of the “Project Viability Supercategory” would

likely have fallen by an amount sufficient to make up for the gains. This sub-category could have been made subject to a quantitative analysis – for example, through the use of a probabilistic model of demand growth – which might have allowed the State Agencies to gauge the likely impact of contracted capacity exceeding needs. However, the chosen approach appears to be based on a simplistic and static view of markets without consideration of potential growth.

NRG was awarded none of the possible 1.5 points relating to “Credit Rating” because it does not have an investment grade rating. The points were withheld despite credit enhancements in the proposed PPA and despite the strong credit ratings of NRG’s contractors. The blind reliance on the rating agencies – as opposed to solid credit metrics applied to the particular project – is exactly the mistake that power purchasers made earlier in this decade when former “investment grade” suppliers fell into bankruptcy. NRG is offering lien and other security for its obligations under the proposed PPA; those should be taken into account in evaluating the credit profile of its IGCC Project in lieu of the lack of an investment grade credit rating.

For the “Years of Contract” category, NRG was apparently awarded nothing for its 25-year proposals and was awarded 0.33 points for its 20-year proposal. NRG considers this treatment to be arbitrary and, yet again, biased against capital-intensive projects. From the proposals received by Delmarva, it is readily apparent that capital intensive, innovative technologies require longer term contractual commitments whereas CCGT technology does not. To the extent that Delmarva and the IC wish to ignore this simple fact, there is little NRG can do other than to point out, again, that this type of evaluation is completely inconsistent with the spirit and words of the Act.

D. Contract Terms

There is a simple and straightforward indictment of Delmarva's proposed form of PPA: not a single bidder received more than 0.4 points on the category. This suggests that Delmarva proposed a fundamentally flawed, unfinanceable PPA with the acquiescence of the IC. This is despite the fact that the PSC Order specifically contemplates a "big funnel" approach to attracting bids (and the fact that only three bids were submitted serves as an indictment of the nature of the RFP process).¹⁷ Perhaps by providing an unfinanceable PPA, Delmarva was seeking to ensure that it would only receive "balance sheet" financing proposals from investment grade entities as it originally sought in its RFP (that was subsequently modified on order of the PSC prior to formal issue in November 2006). Accordingly, in addition to being penalized for proposing a project financed structure in the "Exposure" category, as outlined below, NRG was again unfairly punished for proposing a financeable PPA which is necessary for the bids of any innovative technology to progress.

III. FAVORABLE PROJECT CHARACTERISTICS SUPERCATEGORY

In connection with the evaluation of the "Favorable Project Characteristics" Supercategory, NRG's proposal clearly meets the criteria for Technological Innovation and Fuel Diversity (although these characteristics are underweighted given their importance under the Act). However, NRG's bids are effectively marginalized in part because of perceived Environmental Impacts. Yet, NRG urges the Commission to consider that the proposed shutdown of Indian River Units 1 and 2 when evaluating NRG's overall score. Clearly, the total emissions from the Indian River site will be dramatically reduced as the IGCC comes on line and Units 1 and 2 are retired, and this

¹⁷ See Order No. 7066 ¶ 53 at 24.

must be valuable to someone given the volume of correspondence related to existing Indian River units. Although NRG understands that the Commission does not want to provide RFP points to aggregate emissions reductions, NRG urges the Commission to heed its own advice and evaluate the emissions reduction in connection with its review of the Supercategory.

A. Environmental Impacts Category

1. Introduction and General Observations.

The analysis of Environmental Impacts double counts certain of the factors addressed in the Price Category, and this double counting affects coal-based projects disproportionately. For example, estimated carbon dioxide allowance costs are counted in the economic side of the evaluation – as are the capital costs of CCS – but “greenhouse gas” emissions are also counted (4 points) as a non-price factor, in the Favorable Characteristics Supercategory. The bottom line is that any coal project gets penalized for the cost of emitting CO₂, further penalized for the cost of capturing and sequestering CO₂ and also gets penalized yet again for CO₂ emitted in the non-price factors section. Factors that are “priced in” as economic factors should not be double counted in the other non-price areas.

Another example of double counting relates to the Criteria Pollutants Factor of the Environmental Impacts Category. Any new power plant will be subject to new source review, so that any such new power plant will have air emissions satisfying Environmental Protection Agency (“EPA”) standards as necessary to protect human health. For coal-fueled projects, the cost of complying with such EPA requirements can add significantly to the projects’ capital cost. Yet despite compliance with costly

environmental standards, the Environmental Impacts Category subtracts points for emissions after compliance with the standards. Viewed in perspective, the evaluation actually subtracts points for air emissions *below* the levels found by the EPA to impact human health. And this is not a trivial subtraction: fully 10 percent of the non-price factor points are awarded (or withheld) for such air emissions. Moreover, the impact falls disproportionately on coal-based projects, for which the cost of compliance with air quality standards is already high. The evaluation system makes the perfect the enemy of the good.

In the analysis of Price factors, the NRG with CCS bid suffers in the evaluation because the evaluators felt that the cost of CCS was too high in relation to ICF's model of CO₂ emission allowance prices. But the bid by NRG without CCS gets penalized with only 0.3 points out of 4.0 possible in the greenhouse gas factor of the "Favorable Characteristics Supercategory" and then gets adversely affected again in the economic evaluation for passing through net allowance costs.

In the real world, the option for adding CCS would have value as a risk reduction tool. CCS could be added if and when CO₂ allowance costs become known. But the subtraction of 3.7 points from the IGCC plant without CCS *up front* ensures that the option will not be selected. Consider the following: if CO₂ allowance costs turn out to be very high, many fuel consumers may switch to gas, driving up gas prices and the price of electricity from gas-fired plants such as Conectiv's. This is what the Energy Information Administration is modeling. But if CO₂ allowance costs turn out low, a coal plant might delay installing CCS. A coal-fueled plant with a CCS option has advantages that the static modeling effort of DP&L/ICF never picks up.

NRG also has a global concern with the treatment of a competing bid. The IC Report notes that Conectiv's Alternate Offer could involve the sourcing and dispatch of "many different types of resources with varied environmental profiles."¹⁸ But rather than seeking to model the available alternative resources and their environmental impacts, or simply penalizing the Alternate Offer bid for presenting a host of unknown environmental liabilities, the IC scores the non-price portion of the evaluation the same for both bids. In other words, the IC treats the unspecified generating resources as though they were all gas-fired combined cycle units. This is extremely unlikely to be true. Conectiv would dispatch alternative resources when cheaper power is available, and this will likely be coal-fired power from older plants without modern environmental controls. In the absence of other information, the non-price factors of Conectiv's Alternate Offer should be scored accordingly.

2. Specific Concerns with Environmental Impact Evaluation of the NRG Bids.

Consistent with the express terms of the Act, NRG has taken the initiative to propose multiple bids utilizing innovative baseload technology that has the ability to remove 99% of the SO₂, over 95% of the mercury and over 90% of the NO_x that would be emitted from an uncontrolled, conventional coal plant of comparable size. When couple with shutdown of Indian River Units 1 and 2, this means that the resulting emissions from the re-powered Indian River site will be 80% less for SO₂, 80% less for mercury and 60% less for NO_x – overall, as compared to today's levels while providing significantly more generation. These are material reductions – clearly to the benefit of all Delawareans – but they are not encouraged or recognized in the scoring.

¹⁸ IC Report at 24.

With respect to Criteria Pollutants, out of a possible 4 points, NRG without CCS scored 3.0 and NRG with CCS scored 2.8, allegedly because of reduced fuel conversion efficiency under the CCS scenario. As a technical matter, NRG notes that the CCS process itself may capture certain of the criteria pollutants (*e.g.*, SO₂ and NO_x) not captured elsewhere in the system, and this effect may outweigh any loss of fuel conversion efficiency. This is not considered in the IC Report. The potential gain should be reflected in NRG's score.

Both IGCC configurations were awarded only 0.5 out of a possible 1.5 points in respect of the impact of the IGCC unit on Water Use. The Bluewater Project was awarded 1.5 and Conectiv's gas-fired project was awarded 1.0. There are two issues with these scores. First, the subtraction of fractional points for the fossil fuel plants appears to be fundamentally arbitrary. Why were the IGCC proposals awarded a score of 0.5 rather than 0.7 or 0.8 points? Would the IGCC unit use twice the water of the gas-fired unit? Clearly, any IGCC unit will consume some water (the source of the hydrogen), but subtracting two-thirds of the available points is unjustifiable. Viewed in isolation, both IGCC options should be awarded at least a 0.8 point score for this factor – a result more in line with the treatment of the gas-fired project.

NRG does not understand the methodology that results in a poor score for its proposals with respect to Land Impacts. NRG is proposing to build its plant on an existing site. This is recognized in the IC Report, but then, almost inexplicably, the IC Report states that “full credit for co-locating at an industrial site does not seem correct since this is an incremental land use that would expand the industrial footprint.”¹⁹ The IGCC proposals were awarded 1.0 out of 1.5 possible points – *i.e.*, one-third of the

¹⁹ *Id.* at 29.

possible points were deducted because of the small incremental impact. This point deduction is arbitrary and unsupported by any factual analysis.

On Solid Waste Impacts, both IGCC configurations were awarded only 0.5 out of a possible 1.5 points, on the ground that “the project will be generating significant amounts of hazardous solid waste....”²⁰ The total discussion on this subject consists of three short sentences. The type and quantity of “hazardous solid waste” are not identified. The Bluewater Project was awarded the full 1.5 points, while the Conectiv Project received 1.3 points. Again, the deduction of fractional points for the fossil projects is fundamentally arbitrary. NRG has a history of competent handling of solid wastes and, in fact, the IGCC process promises to produce byproducts that are commercially saleable which further limits the need for hazardous waste “disposal”. Accordingly, NRG believes that it should be awarded at least 1.0 points for this criterion.

In respect of the impact of the proposal on wildlife, the IGCC plant with CCS was penalized an additional 0.3 points out of concern with the impact on wildlife of an accidental release of concentrated CO₂.²¹ Apart from the purely speculative nature of this deduction, the irony is overwhelming: in return for proposing to take a step against global climate change – which is expected to have global negative impacts on wildlife – NRG is penalized out of a concern with a speculative accident scenario involving captured CO₂. Conectiv’s gas-fired plant was not penalized for a possible release of highly combustible methane as it was awarded a perfect score of 1.5 points. Hence, the reduction of NRG’s score on this issue is patently indefensible.

²⁰ *Id.*

²¹ *Id.*

B. Fuel Diversity

Fuel diversity is a goal of any new development of generation resources under the Act as it promotes price stability as well as energy independence. However, the points system that appears as applied by the IC in this RFP evaluation fails to encourage either of those goals. First, the IC seems to be equating “Fuel Diversity” with fuel flexibility. This is simply ill-conceived as applied. For example, adding additional gas and oil-fired capacity into the mix of generation resources exacerbates the lack of fuel diversity in Eastern PJM and should not be encouraged. However, adding a plant that can use many different types of coal which is plentiful in the continental United States would add to the diversity mix in Eastern PJM; particularly where the plant has a biomass co-firing option. Further, NRG’s score of 1.5 points out of a possible 3.0 makes even less sense upon review of Bluewater’s perfect score. The RFP specifically states a preference for the use of “renewable and solid fuel resources”. Bluewater is given a perfect score for its use of renewable resources, but NRG is cut by 50 percent for using solid fuel (including some renewable resources for those who value mere “flexibility” as equivalent to “diversity”). This is completely arbitrary and fundamentally at odds with Delmarva’s own RFP language. Accordingly, NRG should have been awarded the full 3.0 points in this category.

IV. PROJECT VIABILITY NON-PRICE SUPERCATEGORY

There is something fundamentally flawed in this “Supercategory”. Clearly, the preference for a combined-cycle gas plant evidenced by the scoring system suggests that something is amiss from the onset of the evaluation given the policy goals of the Act to diversify generation resources. However, perhaps more troubling is how a project that (i)

is predicated on faulty economic assumptions as recognized by the IC, (ii) is to be built on property for which the allocation of property rights is not altogether clear and (iii) is to be built by a company that has very limited experience as a company in raising capital in the debt and equity markets (especially with an unsustainable revenue projection) is favored over a project with recognized sustainable economics that is proposed for an existing generation site in Delaware by a company that continually raises project financing in the capital markets. This result suggests that there is a fundamental flaw in the analysis, the evaluation or both and, in any such case, the work needs to be repeated.

A. Operational Date

1. Introduction and General Observations.

The RFP clearly stated that bids could be made based on an in-service date of July, 2013. By awarding no points for a bid that has an in-service date at July 2013, Delmarva and the IC effectively value a conforming bid as much as a non-conforming bid would be valued on this point. That appears to be a fundamentally flawed methodology.

2. Specific Concerns with respect to Operational Date Evaluation of NRG Bids.

In addition to awarding NRG no points with respect to its conforming bid, the IC failed to provide any points for the impact of NRG's proposed five-year "baseload bridge" proposal. This baseload bridge would provide absolute certainty of an in-service date well in advance of any other project with very little associated operational risk. This should be worth some value in connection with the RFP process.

3. Specific Concerns with respect to Operational Date Evaluation of Other Bids.

NRG fails to understand how Bluewater can receive any points for an "Operational Date" of 2011/2012 when the IC does not believe that Bluewater's revenue

projections are realistic. Further, how can points be allocated to Bluewater where they do not yet have control of their site and, as stated by the IC, the rules for site control are still “being developed”.²² Moreover, they have actually not done any wind monitoring at their proposed sites but have instead looked at estimates and modeling to produce their proposal. Further, the rules for permitting offshore wind are “still evolving”. However, since Bluewater included a 2011 date in their contract (despite the tremendous uncertainty surrounding that date) for the first half of their project and 2012 for the second half – they still get 1.0 points. Query whether the RFP is encouraging a “get the deal and fix it later” mentality for a wind project – especially since “intermittent resources” have been provided relaxed security requirements under the PPA.

B. Reliability of Technology

1. Introduction and General Observations.

Although inclusion of a ranking criterion relating to technology reliability is not problematic *per se*, NRG believes that this ranking criterion should be applied in the context of the Act’s unambiguous encouragement of innovative technologies. To penalize innovative technologies simply for being innovative runs contrary to the express provisions of the Act. In particular, NRG believes that a technology that has an established track record of unreliability should be penalized, but a technology, such as IGCC, that has demonstrated the capability of long term reliable operation, should be accorded favorable treatment. Coal gasification projects are running reliably right now. In its prior comment in this docket and in its bid, NRG recognized that achievement of high capacity factor operation for an IGCC project might require a learning curve of perhaps three years. Moreover, a larger number of IGCC projects (as well as gasification

²² *Id.* at 21.

projects not involving power generation) are in the planning stage, nationwide. Among other things, the Department of Energy is actively involved in solid fuel gasification research and commercialization efforts. The Independent Consultant should have recognized that operational experience with IGCC plants will become commonplace within a decade. The assignment of points in the bid evaluation should reflect these considerations.

2. Specific Concerns with respect to Technological Reliability Evaluation of NRG Bids.

NRG believes that the relative reliability of the IGCC proposal without CCS and with CCS has been misjudged by the IC. The technology for carbon dioxide capture is very well known – having been developed and used commercially and successfully for decades in the refining and chemical industries. Equally, the technology that will be used in geologic carbon sequestration is not new – with compressing, transporting and injecting gases and liquids being very well established in the oil and gas industry. Putting all these established processes and technologies together in the context of capturing and sequestering carbon from power plants represents an innovative application, but existing experience significantly mitigates technical concerns. In any event, any difficulties with the CCS technology would not likely impact the power block portion of the plant – in that event, it would revert to the IGCC plant without CCS profile. Electricity production could continue, and the SOS customers would not face a shortfall of energy or capacity. Accordingly, it seems totally unreasonable to cut the point score in half and, instead, reliability for both IGCC configurations should be valued at 1.0.

3. Specific Concerns with respect to Technological Reliability Evaluation of Other Bids.

The IC Report notes that the scale-up technology proposed to be used has not been tested – instead relying on the reputation of the equipment manufacturer. Other authorities have reached similar, and even more troubling conclusions: “Disadvantages of offshore wind include: higher installation and maintenance costs in comparison with land sites, undeveloped regulatory regimes over water, technology not yet optimized for water locations, and immature offshore wind resource assessment methods.”²³

C. Site Development

1. Introduction and General Observations.

Consistent with the Act, NRG proposed development of its IGCC projects at the site of an existing solid-fueled power plant and the NRG bids require only a marginal increase in land requirements. The IC Report itself notes “the project is located at an industrial site with existing generation units owned by NRG, the bidder already has site control, a transmission interconnection and a fuel supply infrastructure.”²⁴ Despite these clear advantages, NRG was penalized with a 0.5 point deduction while Conectiv received a perfect score.

2. Specific Concerns with respect to Site Evaluation of NRG Bids.

NRG does not believe that the need to file a land use plan involving expansion of existing permits justifies a 0.5 point reduction in its Site Development score. This is akin to permitting a risk which has already been incorporated in the Operations Date analysis

²³ Willett Kempton, Cristina L. Archer, Amardeep Dhanju, Richard W. Garvine and Mark Z. Jacobson, (2007), Large CO₂ reductions via offshore wind power matched to inherent storage in energy end-uses, *Geophysical Research Letters*, 34.

²⁴ IC Report at 31.

and to count this against NRG here would be, in effect, a double penalty for the same issue. If any deduction is believed necessary, NRG recommends only 0.1 point.

Moreover, whereas NRG notes the provisions of the PSC Order that do not permit consideration of reduced emissions from shuttering existing plants, NRG believes that there will be positive socio-economic impacts from the promised shutdown of Indian River Units 1 and 2 that should provide benefits that outweigh whatever factors the IC thought required a downward adjustment in the score for its proposals.

Finally, the IC Report only appears to address negative socio-economic impacts, such as noise and traffic congestion during construction. NRG submits that its IGCC proposal will have many positive socio-economic impacts – in terms of employment and tax base – that the competing bids will not have. Why has the IC Report not focused on such positive impacts?

3. Specific Concerns with respect to Site Evaluation of Other Bids.

It is inconceivable that a company that (i) can show absolutely no evidence of site control, (ii) cannot adequately explain how it can obtain complete site control and (iii) is going to build a group of 40 story structures over 30 square miles near Delaware's premier beachfront and recreational areas scores anything for site development.

Bluewater's proposal will not lead to many permanent jobs in Delaware or otherwise materially stimulate the local economy. Bluewater's proposal has to be a zero on site development.

D. Bidder Experience

NRG has a dedicated team of individuals with a long history of developing successful capital intensive projects. In addition, NRG as a company has successfully

financed the development of such projects and is a recognized name in the financial community for innovative project financings. However, all of this together leads to a score of only 3.0 in this category. Yet, Bluewater, which has financed nothing and developed nothing as a stand-alone entity, is somehow “more experienced” in getting projects to achieve commercial operation to the value of 0.5 points. This does not make sense. NRG questions the logic behind this; it appears completely arbitrary.

E. Financeability

1. Specific Concerns with respect to Financeability Evaluation of NRG Bids.

IGCC facilities have been successfully financed in Europe. NRG has been in discussions with numerous banks that are eager to be involved in its Project. NRG is extremely confident that it will be able to attract financing for its Project (assuming that the PPA is fixed from DP&L’s off-market proposal) based on the experience with IGCC technology elsewhere. Accordingly, a 40 percent reduction in the available points does not seem appropriate.

2. Specific Concerns with respect to Financeability of Other Bids.

As the IC recognizes, Bluewater Wind does not have a financeable revenue stream.²⁵ Indeed, the Independent Consultant expresses concerns about the viability of the project itself and highlights the substantial development hurdles faced by Bluewater:

²⁵ “However, we have significant concerns about the viability of the project itself... Bluewater is relying on substantial revenues from parties other than Delmarva for the separate sale of both Renewable Energy Credits and Greenhouse Gas Credits for the same quantity of MWh produced. *This raises the issue of “double counting...”*. *Id.* at 48 (emphasis added). “Therefore the revenues assumed by Bluewater from the sale of GHG credits are uncertain at best... *our analysis does not show the revenue shortfall will be fully made up”*. *Id.* at 23 (emphasis added).

[T]he company cannot obtain definitive site control until new federal rules for offshore wind development are released. Other offshore wind projects in development in the Northeast have experienced substantial delays in large part because of this issue. It is for these reasons that Bluewater had the lowest score for project viability.²⁶

How can Bluewater receive any points for financeability in this context?

V. CONCLUSION

NRG is disappointed that, after months of participation in the stakeholder debate, it appears as if the result of the RFP process was predetermined by the underlying (and opaque) price evaluation and RFP points system. Delmarva gets the result that it wants; *i.e.*, a conclusion that an intermediate load, gas-fired combined cycle project for less than 200 MW (incidentally proposed by its affiliate) is the best project (as it undoubtedly would have been under Delmarva's first RFP issued prior to the public comment period), but it still is not quite good enough to merit a contract award. The Independent Consultant even makes recommendations as to how Conectiv's bid can be improved with respect to the one-time price adjustment.²⁷ All of this makes one seriously question the integrity of the process and the value placed by decision makers on the public comments received in these Dockets.

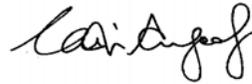
²⁶ *Id.* at 48.

²⁷ *Id.* at 55.

We urge the Commission to re-evaluate the proposals in light of the comments set forth above to both promote the legislative intent underlying the Act and to restore the public's faith in this RFP process.

Respectfully submitted,

NRG ENERGY, INC.

A handwritten signature in black ink, appearing to read "Caroline Angoorly". The signature is written in a cursive, flowing style.

by: Caroline Angoorly
Senior Vice President, Northeast

March 1, 2007