ORDER NO. 84815

IN THE MATTER OF WHETHER NEW GENERATING FACILITIES ARE NEEDED TO MEET LONG-TERM DEMAND FOR STANDARD OFFER SERVICE	* * * * * * * *	BEFORE THE PUBLIC SERVICE COMMISSION OF MARYLAND CASE NO. 9214

Issue Date: April 12, 2012

Among our most important responsibilities as regulators is to ensure that electricity is available to all Maryland ratepayers, whenever and wherever they need it. Electric service is no longer a luxury reserved for the wealthy few – it is the life blood of modern society. Our primary statutory mandate is to assure "safe, *adequate,* reasonable and proper service for any class of public service company. . . ,"[1] including Maryland's electric companies. Put another way, the public expects *us* to keep the lights on (and water treatment plants, and heat pumps, and air conditioners, and medical equipment, and everything else on which we depend) in Maryland. The General Assembly has given us tools to fulfill that obligation, and in doing so has expressed the distinct expectation that we will use those tools when appropriate rather than relying blindly on the operation of market forces.

Our concern about the adequacy of electric generation in Maryland began with the

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[1] *Maryland Code Annotated,* Public Utilities Article ("PUA"), § 5-101(a) (emphasis added).

Public Service Commission's ("Commission") Summer 2007 Electricity Planning Conference,[2] and while it has been postponed by subsequent exogenous events, it has not disappeared. Consequently, for the reasons set forth below, in this Order we direct Baltimore Gas and Electric Company ("BGE"), Potomac Electric Power Company ("Pepco"), and Delmarva Power & Light Company ("Delmarva") to enter into a Contract for Differences with CPV Maryland, LLC ("CPV"), under which CPV will construct a 661 megawatt (MW) natural gas-fired combined-cycle generation plant in Waldorf in Charles County, Maryland, with a commercial operation date of June 1, 2015.

Procedural Background

We initiated this case on September 29, 2009, by Order No. 82936, "to investigate whether [the Commission] should exercise its authority to order electric utilities to enter into long-term contracts to anchor new generation or to construct, acquire, or lease, and operate, new electric generating facilities in Maryland."[3] We initially directed parties interested in making proposals for new generating facilities to file such proposals by December 1, 2009, but we subsequently tolled the filing date.[4] After reviewing comments filed in the case, on December 29, 2010, the Commission prepared a draft Request for Proposals for New Generation ("RFP") and invited comments on the draft.[5]

Nearly thirty parties filed comments addressing the draft RFP. As a result of

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[2] *In the Matter of the Commission's Maryland Electricity Planning Conference*, Public Conference No. PC 9.

[3] *In the Matter of Whether New Generating Facilities are Needed to Meet Long-Term Demand for Standard Offer Service*, Case No. 9214, Order No. 82936, pp. 2-3.

[4] *Id.*, Notice of Tolling Submission Date of Proposals, Nov. 10, 2009.

[5] *Id.*, Notice of Comment Period on Request for Proposals for New Generating Facilities, Dec. 29, 2010.

those comments, the Commission made changes in the RFP and on September 29, 2011 directed BGE, Pepco, Delmarva, and The Potomac Edison Company ("PE") to issue the modified RFP.[6] In the Notice to Issue the RFP, the Commission noted that it would hold a hearing on January 31, 2012 on the need for new generation and, if required, the amount needed, and invited any written comments to be filed by January 13, 2012. As a result of some of the early comments and questions concerning the RFP and its schedule for bids, the Commission issued an Amended RFP on December 8, 2011, which extended the due dates for bids to January 20, 2012, and encouraged each bidder to submit two proposals, one for a fixed gas price offering and another for a variable gas price offering. Twenty parties availed themselves of the opportunity to file comments concerning the need for new generation.[7] Fourteen of those parties testified at the January 31, 2012 hearing and answered the Commission's questions.[8]

Finally, several parties have filed Motions in the case. On October 21, 2011, Northland Power Inc. and Eastalco Aluminum Company each filed a Request to Modify

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[6] *Id.* Notice of Approval of Request for Proposals for New Generation to be Issued by Maryland Electric Distribution Companies, Sep. 29, 2010. The comments received and the changes to the draft RFP are summarized in the Notice and will not be repeated here.

[7] Written comments were filed by: GE Energy; PJM Power Providers Group (P3); BGE; Genon Mid-Atlantic, LLC; Exelon Corporation; Calpine Corporation; Office of People's Counsel ("OPC"); CPV Maryland, LLC ("CPV"); Commission's technical staff ("Staff"); PJM Interconnection, LLC ("PJM"); PSEG Energy Resources & Trade LLC ("PSEG"); Pepco & Delmarva (Joint Comments); PE; The Electric Power Supply Association ("EPSA"); Retail Energy Supply Association ("RESA"); Sierra Club & Chesapeake Climate Action Network (Joint Comments); Maryland Energy Administration ("MEA"); PPL Energy Plus, LLC ("PPL"); and the Independent Market Monitor for PJM ("IMM"). In response to a Commission request, PJM filed Supplemental Comments on Jan. 31, 2012. CPV filed additional comments following the hearing, on February 6, 2012. In addition, Boston Pacific filed its Evaluation Report dated August 12, 2011 and the Governor filed a letter concerning the RFP on Oct. 20, 2011. Finally, on March 29, 2012 the four Maryland Electric Distribution Companies ("EDCs") – BGE, Pepco, Delmarva, and PE – filed a letter expressing technical concerns with the Contract for Differences.

[8] The following parties testified at the hearing: Boston Pacific; PJM; the IMM; MEA; OPC; Staff; Sierra Club & Chesapeake Climate Action Network; Pepco & Delmarva; CPV; NRG Energy, Inc.; EPSA; PPL; P3; and GE Energy.

the RFP. On October 31, 2011, Pepco and Delmarva filed an Application for Rehearing. On January 25, 2012, NRG Energy, Inc. filed a Motion to Postpone Procurement of New Generation. Each of these Motions will be addressed in this Order.

The RFP

In the Amended RFP, dated December 2, 2011, the EDCs seek bids for new, natural gas-fired Generation Capacity Resources (as defined by PJM) to be located inside the Southwest MAAC Locational Deliverability Area.[9] The RFP seeks proposals in any quantity not to exceed 1,500 MW on an installed capacity basis, to be operational no earlier than June 1, 2015 and no later than June 1, 2017.[10] The RFP requires the Supplier to offer and deliver the generation output into the PJM capacity, energy and ancillary services markets, and the EDCs do not take physical delivery of the generation.[11] The Supplier must bid the capacity into the PJM Base Residual Auction ("BRA") "in accordance with BRA rules and regulations as they exist throughout the term of the Contract. The Supplier will not be paid for any year in which the Supplier's Generation Capacity Resource does not clear the BRA."[12] Thus, the risk of not clearing in the BRA is left on the Supplier, not ratepayers. Anyone is eligible to bid, provided they meet the PJM membership requirements and are willing to meet the RFP contractual requirements.[13]

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[9] RFP, § 2.1.
[10] *Id.*, §§ 2.2, 2.3.
[11] *Id.*, § 3.
[12] *Id.*, § 3.1(b).
[13] *Id.*, § 5.1.

The RFP specifies that the Supplier and the EDC will enter into a financial arrangement under a Contract for Differences.[14] Under the Contract for Differences, the difference between the Supplier's actual revenue from the PJM capacity and energy sales and the fixed contract price for capacity results in a payment or credit.[15] If the actual revenues are below the fixed contract capacity price, the EDC is obligated to pay the supplier the difference. If, however, the actual revenue from the PJM market exceeds the fixed contract capacity price, the Supplier pays the EDC the excess. Settlement between the Supplier and the EDC is to take place monthly.[16]

Positions of the Parties

<u>PJM</u>

In its written comments, PJM "does not take a position of whether the Commission should determine there is a reliability need to pursue the construction of new generation in Maryland."[17] PJM notes that in its load forecast, economic activity as measured by gross metropolitan product (GMP) is the primary driver for peak load growth and growth in total energy consumption, and that in its 2012 forecast, projected GMP growth remains below the 2011 forecast GMP growth through 2016.[18] The Economic Index Variable used by PJM shows even slower growth rates.[19] PJM also

[14] *Id.*, § 3.
[15] *Id.*, § 3.2.
[16] *Id.*, § 3.2.
[17] *Comments of PJM Interconnection, LLC,* pp. 1-2.
[18] *Id.*, p. 4.
[19] *Id.*

notes that peak load growth in the BGE, Pepco, Delmarva, and PE zones is below the PJM average growth rate of 1.4% per year.[20] PJM does note that coal-fired generation more than 40 years old and less than 400 MW is considered at "high risk" for retirement, of which there are 2,320 MW in Maryland.[21] PJM adds that due to such retirements, "there may be localized reliability concerns that will need to be addressed."[22] In its Supplemental Comments requested by the Commission to look at the effects of possible retirement of coal generation at the C. P. Crane and H. A. Wagner plants, PJM found that retirement of either or both would result in potential reliability violations.[23] PJM also found that such retirements would "increase existing constraints but not cause new constraints. . . . In their absence the lowest cost replacements are generally west of constrained interfaces into the APS system which increases both the incremental cost of energy and congestion for large portions of PJM load."[24]

In his testimony at the hearing, PJM Senior Vice President of Operations and Long-Term Planning Michael Kormos stated that prior to 2008, due to a very strong economy and very strong load growth, they were seeing problems from inadequate capacity beginning in 2012 to 2015. However, due to the downturn in the economy and very slow recovery, they now see a possible need for new generation in 2020, and no earlier than 2017 in their worst case scenario.[25] Mr. Kormos also noted that the biggest constraint in Maryland comes from bringing in energy from the west across the

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[20] *Id.*, p.8.
[21] *Id.*, pp.11-12.
[22] *Id.*, p. 13.
[23] *Supplemental Comments of PJM Interconnection, LLC.*, p. 4.
[24] *Id.*, p. 5.
[25] Transcript, pp. 48-50.

Allegheny Mountains,[26] and that coal plant retirements could cause "significant congestion increases."[27] He stated that PJM believes such coal retirement problems can be addressed by transmission upgrades.[28]

<u>The IMM</u>

The IMM does not support going forward with the RFP, at least in its present form. Dr. Bowring takes the position that "[i]f you're going to rely on markets, you have to be fully committed to markets,"[29] and he disagrees with the premise that PJM's Reliability Pricing Model ("RPM") fails to adequately incent new generation.[30] He testified that the Commission's RFP "will have long lasting, negative consequences for PJM markets" because it will suppress prices.[31] He believes that the RFP will result in a situation where only "subsidized" units would be built under such long-term contracts.[32] He does state that with significant changes to the RFP to include participation by existing suppliers and any fuel type, the RFP would be "consistent with the competitive wholesale market design."[33]

<u>MEA</u>

The Maryland Energy Administration supports going forward with the RFP. It notes that "while current generation resources meet today's reliability needs," studies

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[26] *Id.*, p. 63.
[27] *Id.*, p. 57.
[28] *Id.*, p. 56.
[29] *Id.*, p. 67.
[30] *Id.*, p. 66.
[31] *Id.*, p. 67.
[32] *Comments of the Independent Market Monitor for PJM,* p.2.
[33] *Id.*, pp. 2-4.

looking into the future reveal there is a need for new generation in Maryland.[34] MEA cites the finding in the *Long Term Electricity Report for Maryland* ("LTER") that shows electricity usage increasing by 18% by 2030, and in the High Demand scenario by over 30%.[35] MEA notes that 90% of Maryland's generation is coal or nuclear, and much of it is very old, reflecting a lack of fuel diversity.[36] MEA also notes that Maryland has not had any major new generation come on-line since 2003, and that RPM has not led to the construction of any significant power plants in Maryland since its inception in 2007, despite high prices for capacity.[37] MEA's witness, Mr. Lucas, testified at the hearing that 30% of Maryland's electricity is imported and that figure is projected to grow.[38] He said that the LTER ran a combined events scenario in which coal retirements, transmission delays, and reductions in demand response resulted in Maryland requiring new generation by 2015.[39] He also commented on the substantial variability in the year-to-year forecasts of the utilities, sometimes "swinging by more megawatts than a large gas plant."[40]

<u>OPC</u>

OPC supports going forward with the RFP. While noting that there is presently significant excess reserve capacity beyond the 15.5% minimum planning reserve requirements in PJM, OPC states that "[T]here is reason to believe that a combination of

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[34] *Comments of the Maryland Energy Administration*, p. 1.
[35] *Id.*, p. 2.
[36] *Id.*, p. 2.
[37] *Id.*, p. 3.
[38] Transcript, p. 80.
[39] *Id.*, p. 83.
[40] *Id.*, p. 84.

new environmental regulations, low gas prices, and the inability of developers to arrange financing for new generation development in the current market could result in a deficiency of generation resources for Maryland consumers as early as 2015 or 2016."[41] OPC points specifically to the Mercury and Air Toxic Standards ("MATS") issued by the Environmental Protection Agency ("EPA") on December 16, 2011, and the Cross-State Air Pollution Rule ("CSAPR") issued on July 6, 2011, as likely to lead to the retirement of between 11,000 MW to 25,000 MW of coal-fired capacity in PJM.[42] This is exacerbated by low gas prices, which lead to coal plants being dispatched for fewer hours and receiving less revenue when they are dispatched, which in turn leads to more retirements.[43] OPC also notes that the LTER simulation of early retirement of 14,000 MW of at-risk coal capacity advances the Maryland need date to 2016, and early retirement of 25,000 MW of at-risk coal advances the Maryland need date to 2015.[44] In the latter instance, the LTER model would add 2,100 MW of new capacity in the Southwestern Mid-Atlantic Area Council ("SWMAAC") between 2015 and 2018.[45] OPC does not believe that the Contract for Differences stemming from the RFP would undermine the capacity market or have a widespread negative effect.[46]

Staff

Although Staff makes no explicit recommendation, it does note that the utilities

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41 *Comments of the Office of People's Counsel,* p. 8.
42 *Id.*, pp. 9, 11.
43 *Id.*, p. 14.
44 *Id.*, pp. 18-19, Transcript, P. 87.
45 *Id.*, p. 19.
46 Transcript, p. 89.

forecast for projected peak demand would require some new generation in 2016.[47] Staff also states that the "more conservative scenarios" incorporated in the LTER indicate a need for new generation in both PJM and Maryland by 2015.[48] Staff points out that the PJM peak load forecast is lower than the utilities' forecast for 2015 by more than 7%.[49] Staff performed an analysis of the bill impacts to residential customers for 600 MW of a combined cycle project and found, if it cleared every auction and received RPM capacity payments every year, the monthly bill impact would range from a credit of $0.23 to a cost of $0.36 for the high market value and low market value case respectively.[50] Staff also cautions that demand response in Maryland is very high, and that Commercial and Industrial demand response may be in a state of maturity and any additional demand response will have to come from the residential sector.[51] Staff recommends that if the Commission does decide to proceed with the RFP, it should do so in increments rather than by ordering all 1,500 MW now.[52]

The Maryland Utilities

BGE comments that there is an excess of generation capacity throughout PJM already, that new transmission projects have been identified to meet Maryland's needs, that PJM's peak load forecasts are decreasing, that demand response continues to grow, and that customers would be "burdened" with additional costs for unneeded and

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[47] *Comments of the Staff or the Public Service Commission of Maryland*, p. 17.
[48] *Id.*, p. 18.
[49] *Id.*, p. 4, Table A.2.
[50] *Id.*, p. 23.
[51] *Id.*, p. 13.
[52] Transcript, p. 93.

uneconomic generation by proceeding with the RFP. According to BGE, the RFP is "unnecessary."[53] Potomac Edison states there is no need for new long-term generation, because for the foreseeable future adequate resources are available to meet electric supply demand in Maryland.[54] PE cites the LTER that, "For most scenarios, no new generation capacity is needed in PJM to meet reliability requirements until about 2018."[55] PE notes that it receives ample bids of supply in the Standard Offer Service ("SOS") auctions and that retail choice remains strong in Maryland.[56] PE argues that supply is increasing due to addition of renewable generation while demand is moderating, indicating no need to proceed with the RFP.[57] In their joint comments, Pepco and Delmarva vigorously oppose going forward with the RFP at this juncture. They urge the Commission to pause and hold evidentiary hearings which include pre-filed sworn testimony, discovery, and cross-examination.[58] They note that PJM's peak load forecast for SWMAAC has declined virtually every year since 2007, and that from a load perspective, there is less of a need for new generation than there was in 2009.[59] They argue that the current SOS procurement process has produced adequate supplies,[60] that PJM projects adequate transmission for the Pepco and Delmarva zones through at least 2019,[61] that demand response resources have reduced the need for new generation,[62] and they also point to the

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[53] *Comments of Baltimore Gas and Electric Company*, p. 1.
[54] *Comments of Potomac Edison*, p. 1.
[55] *Id.*, p. 2.
[56] *Id.*, p. 3.
[57] *Id.*, p. 4.
[58] *Comments of Potomac Electric Power Company and Delmarva Power & Light Company,* pp. 8, 35-36.
[59] *Id.*, pp. 13-14.
[60] *Id.*, pp. 14-17.
[61] *Id.*, pp. 17-21.
[62] *Id.*, pp. 21-22.

LTER as evidence that no new generation is needed until at least 2020.[63] The PHI companies vigorously advocate that distribution companies such as themselves should be allowed to bid and build the new generation if the RFP proceeds.[64] Finally, they ask the Commission to include an appropriate cost recovery mechanism for them to recover any payments made under the Contract for Differences if the RFP proceeds.[65]

The Suppliers

CPV and GE Energy both advocate that the RFP should proceed. CPV includes an extensive discussion of the PJM data and the LTER analysis that concludes that there will be a need for 675 MW of new generation in SWMAAC by 2015.[66] The report reaches this conclusion by finding that four "adjustments" need to be made to the assumptions underlying the LTER: first, that the effect of the Mt. Storm – Doubs transmission upgrade is overstated;[67] that it overstates the amount of available demand response capacity;[68] that it overestimates demand response because it does not account for non-performance and fatigue;[69] and that the LTER fails to account for the effect of recent environmental regulations in estimating retirements of coal facilities.[70] Mr. Egan of CPV testified at the hearing that SWMAAC is relying on demand response and energy efficiency for 2,400 MW, or slightly more than 20% of its total capacity needs in

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[63] *Id.*, p. 21.
[64] *Id.*, pp. 26-28.
[65] *Id.*, pp. 30-35.
[66] *Comments of CPV Maryland , LLC*, Exhibit A, Transcript, P. 151.
[67] *Id.*, p. 8.
[68] *Id.*, pp. 9-10.
[69] *Id.*, pp. 10-13.
[70] *Id.*, pp. 13-16.

2014/2015.[71] CPV also notes it requires a total of 5 to 6 years for planning and construction of new generation, and that the building phase alone requires 2 ½ to 3 years.[72] GE Energy points out that the reserve margin in SWMAAC has been negative for several years, rather than the 15% usually deemed necessary, and that it is projected to exceed -20% during 2012.[73] GE also notes that 90% of the total energy supplied in SWMAAC since 2008 is from coal and nuclear resources, which require a long time to start-up.[74] Particularly as additional renewable resources are added to the generation mix by 2022, there will be a need for greater flexibility in generation resources, a requirement satisfied by natural gas combined cycle generation.[75]

Other suppliers are equally adamant that the Commission should not proceed with the RFP. Exelon Corporation states that new generation is not needed citing the LTER and notes it projects the utilities will reduce demand by almost 3000 MW by 2015.[76] Calpine Corporation likewise asserts new generation is not needed, that proceeding would "destroy" the competitive market, and that new merchant generation is being built elsewhere.[77] Calpine also contends the RFP violates the U. S. Constitution's Supremacy and Commerce Clauses.[78] PPL claims that going forward with the RFP is not necessary because the competitive market is working to create reserve margins above 20% through

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[71] Transcript, p. 156.
[72] *Id.*, p. 155.
[73] *Comments of GE Energy*, p. 1.
[74] *Id.*, p. 2, Transcript, p. 228.
[75] *Id.*, p. 2, Transcript, p. 229.
[76] *Comments of Exelon Corporation Regarding the Commission's Request for and Review of Proposals*, pp. 2-3.
[77] *Comments of Calpine Corporation*, pp. 1-3.
[78] *Id.*, p. 4.

2015, and trends indicate demand is declining.[79] It asserts that building new generation now will only lead to higher, not lower, electricity prices for Maryland consumers, and notes that similar proposals in New Jersey have led to constitutional challenges.[80] PSEG joins the others in asserting that proceeding with the RFP will interfere with the proper functioning of the wholesale competitive market, and cites the Brattle Group's finding that "RPM is performing well."[81] PSEG advocates that instead of proceeding with the RFP, the Commission should work with PJM to improve RPM.[82] If the Commission were to proceed, PSEG urges it to open the RFP to existing generation, any fuel type and any location in PJM.[83]

<u>Trade Associations</u>

The trade association representatives also oppose going forward with the RFP. P3, which represents existing generation owners in PJM, suggests that resources have already been procured through 2015 to meet Maryland's needs with a "robust" reserve margin, demonstrating there is no need for new generation.[84] P3 notes that demand is not growing at the rate previously expected, and PJM has been regularly reducing its projected future needs for Maryland.[85] It points to the experience last summer when peak demand was extremely high, but PJM met that peak demand with present generation.[86]

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[79] *Comments of PPL Energy Plus, LLC Regarding the Commission's Request for and Review of Proposals,* p. 1.
[80] *Id.*, pp. 2-3.
[81] *PSEG Energy Resources & Trade LLC Comments,* pp. 2-3, and fn. 2.
[82] *Id.*, p. 4
[83] *Id.*, p. 5.
[84] *Comments of the PJM Power Providers Group*, p. 2, Transcript, p. 209.
[85] *Id.*, p.2.
[86] Transcript, p. 213.

P3 emphasizes that coal generation in Maryland has already been upgraded with environmental controls, so that the impact of new federal rules will not be as severe in Maryland as in other States.[87] Like some of the suppliers, P3 asserts the RFP, like a New Jersey statute, will be found to be unconstitutional because it intrudes on FERC's exclusive authority to establish wholesale market prices and it violates the Commerce Clause by discriminating against out-of-state generation.[88] P3 complains about a lack of transparency, and states the Commission should make all bids public and open for comment.[89] EPSA, a national trade association of competitive power suppliers including generators and marketers, also believes that new generation is not needed, and the Commission should rely on the competitive markets to provide the least-cost, long-term solutions.[90] In reaching its conclusion, EPSA relies on the LTER that new generation is not needed until 2019 or 2020, and notes the EmPOWER programs effectiveness in reducing peak demand.[91] EPSA asserts that PJM is maintaining reliability with a cleared reserve margin of over 20%.[92] It points to PJM peak load forecasts for 2015 and 2020 that are 3% smaller than expected just a year ago as further indication that additional generation is not needed.[93] It cites LS Power Development's recent ability to obtain financing for construction of a new generating plant in New Jersey as evidence that the market works to provide new generation without the need for ratepayer subsidies.[94] Mr.

[87] *Comments of the PJM Power Providers Group.*, p. 3.
[88] *Id.*, pp. 3-4, Transcript, pp. 210-211.
[89] *Id.*, pp. 5-6, Transcript, p. 212.
[90] *Comments of the Electric Power Supply Association*, p. 3.
[91] *Id.*, p. 7.
[92] *Id.*, p. 9.
[93] *Id.*
[94] *Id.*, p. 12, Transcript, p. 189.

Shelk of EPSA testified at the hearing that even a small amount of generation, if uneconomic and not needed, has a major impact on the market.[95] RESA, an association of competitive marketers, also recommends an "extensive evidentiary hearing."[96] RESA seems mostly concerned with the cost recovery mechanism for the utilities, and encourages the Commission to place it in a charge on SOS customers, rather than on all customers (which would include customers of third-party suppliers).[97]

Sierra Club

The Sierra Club takes the position that "there is no demonstrated need for capacity in the foreseeable future" as current projections show excess capacity.[98] It included in its written Comments a report by Synapse Energy Economics Inc. which emphasizes the emergence of new supply-side resources in reducing projected need.[99] It argues the current RFP is unduly restrictive and should be opened up to renewable generation, and energy efficiency and demand response resources that are more environmentally friendly.[100] At the hearing, Mr. Hausman testified on behalf of the Sierra Club that renewable generation primarily supplies energy and doesn't help with regard to capacity resources.[101] He urged the Commission to rely on PJM to ensure

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95 Transcript, p. 189.

96 *Comments of the Retail Energy Supply Association*, p. 2.

97 *Id.*, pp. 4-7.

98 *Comments of the Sierra Club and Chesapeake Climate Action Network Regarding the Need for New Generating Facilities to Meet Long-Term Demand for Standard Offer Service in Maryland,* pp. 2, 5-6, Transcript, p 98.

99 *Id.*, Maximizing Benefits: Recommendations for Meeting Long-Term Demand for Standard Offer Service in Maryland.

100 *Id.*, pp. 2-3, 7-17, Transcript, p. 101.

101 Transcript, p. 104.

reliability throughout the region.[102]

Boston Pacific

Boston Pacific, the Commission's consultants in this proceeding, acknowledges that the situation regarding reliability in Maryland has improved since 2007 due to a slowing of load growth, activation of additional transmission, and a substantial addition of demand response.[103] However, Boston Pacific identified four key risks to future reliability: (1) load growth could speed up as the economy recovers; (2) retirement of generating units, especially coal units, could be greater than expected; (3) since Maryland imports 30% of its power, it is very dependent on transmission projects, which could be delayed; and (4) increased penetration of renewable generation could accelerate transmission problems.[104] Boston Pacific notes that the PJM capacity market has failed to bring new generation to Maryland, in spite of the fact that clearing prices in SWMAAC capacity auctions average almost double that of the non-constrained portions of PJM.[105] They recommended the Commission seek new, natural gas-fired, combined cycle generation because it is operationally flexible, clean relative to our current generation mix, and comparatively inexpensive to operate.[106] They suggested the new generation should be limited to SWMAAC because that is the constrained zone that has seen the highest prices, the least generation development, and is at most risk for

[102] Transcript, pp. 107-108.
[103] *Evaluation of a Draft Request for Proposals for Generating Capacity Resources Under Long-Term Contract*, pp. 1-2.
[104] *Id.*, pp. 2-3, 17-26.
[105] *Id.*, pp. 7-10 Transcript, p. 43.
[106] *Id.*, p. 30, Transcript, p. 32.

reliability problems.[107] At the hearing, Dr. Roach testified that 30% of Maryland's energy is imported, and is thereby at risk for transmission difficulties,[108] and 90% of the in-state generation is coal or nuclear.[109] Mr. Mossberg of Boston Pacific stated that 9,000 MW out of 12,500 MW, or 72%, of Maryland generation is over 30 years old.[110] They emphasized the need to look long-term since it requires 3 years to build a combined cycle generating plant.[111]

Commission Decision

<u>The Need for New Generation</u>

Among the things that go bump in the night, the thought that the lights might go out in Maryland as a result of our actions, or inactions, during our term as Commissioners is one that keeps us awake. On November 6, 2008, we wrote that "From the time the potential shortfall first was revealed, this Commission has stated publicly, forcefully and unequivocally that a policy of conscious inaction was not acceptable."[112] That statement remains true three-and-one-half years later. Much has changed in the interim, most of it for the good. PJM's peak load forecasts have been reduced and, where prior to 2008 they were seeing a need for new generation in 2012, it has now moved that date back to 2017 – 2020.[113] As was noted by numerous parties, the LTER model's most likely scenario

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[107] *Id.*, p. 31, Transcript, p. 18.
[108] Transcript, p. 22.
[109] Transcript, p. 26.
[110] Transcript, p. 35.
[111] Transcript, p. 39.
[112] *In the Matter of the Investigation of the Process and Criteria for Use in Development of Request for Proposal by the Maryland Investor-Owned Utilities for New Generation to Alleviate Potential Short-Term Reliability Problems in the Sate of Maryland,* Case No. 9149, Order dated November 6, 2008, p. 2.
[113] Transcript, pp. 48-50.

also does not project a need for new generation until 2020. Certainly the evidence in this case indicates the need for new generation is less imminent than it was in 2008.

However, load forecasting is not a science and the forecasts are extremely variable. For example, Staff's analysis notes, "the significant difference for the BGE and the Maryland portion of the DPL transmission zone is approximately 324 MW in 2012, increasing to 767 MW in 2015 as presented in Table A.5, and may represent more than half of the 1,500 MW being considered in this proceeding."[114] Such variability demonstrates the risk of reliance on such projections for when new generation will be needed.

A major source of the variability, and a major source of concern for us, is the always uncertain and now even more uncertain future of our existing coal-fired generation and the coal-fired generation in neighboring states that export electricity into Maryland. PJM categorizes coal generation more than 40 years old and less than 400 MW as at "high-risk" of retirement.[115] Several parties emphasized that 90% of Maryland generation is either coal or nuclear.[116] Of the nearly 5,000 MW of coal generating capacity in Maryland, 70% is more than 40 years old, and thus at "high-risk."[117] Recent EPA Mercury and Air Toxic Standards and the Cross-State Pollution Rule applied to coal-fired plants are likely to lead to the retirement of between 11,000 MW and 25,000 MW of coal-fired capacity in PJM.[118] Although it is likely Maryland's coal-fired

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[114] Staff Comments, p. 6.
[115] PJM Comments, pp. 11-12.
[116] MEA Comments, p. 2; GE Energy Comments, p. 2; Transcript, p. 26 (Boston Pacific).
[117] MEA Comments, p. 2.
[118] OPC Comments, pp. 9, 11.

generation will see less retirements since most of it has had some environmental controls installed to comply with the Maryland Healthy Air Act,[119] there is nonetheless considerable uncertainty about how these new rules will impact Maryland coal-fired generation and the plants in adjoining states that have not taken the same environmental initiative.

Two such coal-fired plants falling in the "high-risk" category are C. P. Crane and H. A. Wagner, two plants Constellation agreed to sell in order to mitigate market power concerns from its merger with Exelon.[120] PJM has acknowledged that retirement of either or both of these plants would likely result in potential reliability violations.[121] PJM also acknowledged that their retirement would exacerbate the existing transmission constraint in SWMAAC.[122] There is simply restricted ability to bring electricity to Maryland from the west over the Allegheny Mountains.[123]

In addition, the retirements of coal plants in the PJM region outside of Maryland poses yet another reliability risk, as the lack of in-state electric generation forces Maryland to rely more and more on out-of-state generation and transmission resources. As noted by Boston Pacific, Maryland imported around 30% of its electricity needs during the 2005-2009 period and that amount grew to 35% in 2009 alone.[124] We agree there are great uncertainties and risks associated with transmission planning and that

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[119] P3 Comments, pl 3.
[120] *In the Matter of the Merger of Exelon Corporation and Constellation Energy Group, Inc.*, Case No. 9271, Order No. 84698, p. 104.
[121] PJM Supplemental Comments, p. 4.
[122] *Id.*, p. 5.
[123] Transcript, p. 63.
[124] Boston Pacific Report, p.24.

Maryland is "very susceptible to the risks of transmission planning and approval and transmission outages."[125]

We are also concerned about the extent of Maryland's reliance on demand response to keep peak load demand in check. The evidence indicates that SWMAAC will rely on demand response and energy efficiency for 2,400 MW, or slightly more than 20%, of its total capacity needs in 2014/2015.[126] Staff pointed out that Commercial and Industrial demand response may be close to saturation, and any additional relief by way of demand response is likely to have to come from the residential sector.[127] We note that we are already seeing problems in Maryland with our Curtailment Service Providers being able to meet their contractual commitments for demand response.[128] While we remain strong advocates for demand response as a low cost-effective way to address peak load growth, we are reluctant to rely on it to the exclusion of considering new generation.

We also share Boston Pacific's concern that significant additions of renewable generation will require more diversification of our generation mix. Because it is dependent on sun or wind, renewable generation is intermittent, and cannot help address reliability issues.[129] Maryland has an aggressive RPS that calls for 20% of our generation to come from renewable sources by 2022.[130] This will require other dispatchable

[125] *Id.*
[126] Transcript, p. 156 (CPV).
[127] Staff Comments, p. 13.
[128] *See In the Matter of the Investigation of the Process and Criteria for use in Development of Request for Proposal by the Maryland Investor-Owned Utilities for New Generation to Alleviate Potential Short-Term Reliability Problems in the State of Maryland,* Case No. 9149, Motion of EnerNOC to Amend Agreement for Capacity Resources dated June 28, 2011; Transcript 192-193 (EPSA).
[129] Transcript, p. 25 (Boston Pacific); p. 86 (MEA); p. 104 (Sierra Club)
[130] GE Energy Comments, p. 2.

generation with flexibility to start quickly, a characteristic that our existing coal and nuclear fleet does not have.[131] Nuclear power plants especially do not run in a load-following up-and-down mode. Therefore, successful integration of renewable generation to meet our RPS goal will require additional flexible generation.

Furthermore, and of critical importance, we cannot rely on PJM's Reliability Pricing Model to deliver new generation to Maryland.[132] Maryland has not seen any significant new generation constructed here since 2003.[133] Since its inception in 2007, RPM has brought no new generation to Maryland, in spite of the fact that clearing prices for capacity in SWMAAC have averaged almost double those of the non-constrained portions of PJM.[134] As an example, the RPM clearing prices in SWMAAC rose from $110/MW-day in the 2011/2012 delivery year, to $133 in 2012/2013, and to $226 in 2013/2014 (more than eight times the capacity prices paid by ratepayers living in Western Maryland). Despite these exorbitant capacity charges, which have increased energy costs to Maryland ratepayers by hundreds of millions of dollars, *no* new base load generation was bid into the BRA during the 2012-2014 delivery period. Zero. The simple fact is that the one year signal, three years into the future has not provided sufficient certainty for prospective generation suppliers to secure financing in the current economic climate. And we do not find it reasonable to require us, as P3 and the IMM and other generators would, to entrust the reliability of our State's electricity supply entirely to the operation of a capacity market that, by design, seeks to incent long-term

[131] *Id.;* Transcript, p. 228 (GE Energy).
[132] Commissioner Brenner does not join the Commission's discussion in this paragraph.
[133] MEA Comments, p. 3
[134] MEA Comments, p. 3; Boston Pacific Comments, pp. 7-10.

assets solely through short-term price signals. The Federal Power Act does not relegate us or our ratepayers to that binary choice, and we would flout the intent of the General Assembly if we ignored our authority under State law in order to see whether the capacity market construct someday might work. Even the market-approach proponents acknowledge that RPM requires changes.[135]

Our statute requires us to anticipate and meet "long-term, anticipated demand in the State for standard offer service and other electricity supply." PUA, § 7-510(c)(6). The most salient risk factors we have examined, taken individually and cumulatively, point to the potential need for new generation in the 2015-2017 time period. Numerous parties pointed us to the LTER conservative scenario that indicates a need for new generation in Maryland by 2015.[136] We accept these more conservative forecasts and find there is a need for new generation in Maryland by 2015. The evidence is that it requires three years to construct a new gas-fired combined cycle generating plant and have it operational.[137] Therefore, much as Branch Rickey advised "[t]rade a player a year too early rather than a year too late,"[138] we find it reasonable and prudent to act conservatively and *before* a serious reliability crisis occurs. We find, therefore, that we must move forward with the RFP at this time in order to meet Maryland's anticipated

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[135] Transcript, p. 67 (IMM); Calpine Comments, p. 5; PSEG Comments, p. 4; EPSA Comments, p. 12.
[136] Transcript, p. 83 (MEA); OPC Comments, pp. 18-19; Staff comments, p. 18;
[137] Transcript, p. 155 (CPV); p. 39 (Boston Pacific).
[138] http://www.baseball-almanac.com/quotes/quobr.shtml

long-term electricity demands.[139]

Having found there is a need for new generation by 2015, we must still determine how much additional generation is necessary to meet long-term demand in the transmission-constrained portions of the State. The evidence on this question is less well developed. CPV's analysis of the LTER data concludes there is a need for 675 MW in SWMAAC by 2015.[140] Other parties also noted there may be a need for less than the full 1,500 MW called for in the RFP.[141] We also recognize that our Order in the recent merger of Exelon and Constellation requires Exelon to cause construction of 120 MW of gas-fired combustion turbine generation in Maryland by the end of 2015.[142] These incremental megawatts will address peak load, and may not necessarily be built in SWMAAC. The merger Order also calls for Exelon to cause construction of up to another 165 MW of renewable generation to be operational sometime between 2015 and 2022.[143] This renewable generation will not address our reliability need, but may contribute to strains on the transmission system due to their intermittent and locational attributes. When we consider all the evidence in this case, we find there is a need for approximately one new power plant – new generation in the range of 650 to 700 MW in

[139] Some parties have suggested that the RFP will be challenged as unconstitutional. Without briefing the potential issues at length here, we note that the RFP does not set wholesale capacity prices because it requires the generation to comply with all PJM bidding rules and it will not necessarily cause payments from the utilities to the Supplier. In fact, the Supplier may end up paying the utilities. Moreover, §201(b) of the Federal Power Act reserves to the States regulation over generation. With regard to the Commerce Clause, we note that anyone could respond to the RFP, not merely Maryland companies. In addition, because of the transmission constraints in SWMAAC, the new generation must be located there to address the need and there is no other means to address our purpose. Any incidental burden in interstate commerce is not clearly excessive to the local benefits.

[140] CPV Comments, Exhibit A.

[141] Transcript, p. 93 (Staff); Boston Pacific Report, p. 31.

[142] Case No. 9271, Order No. 84698, p. 105.

[143] *Id.*, pp. 105-109.

SWMAAC – beginning in 2015.

The Bids

Three bidders met the minimum threshold requirements set forth in the RFP, two of which contained multiple pricing options. Invenergy proposed a 549 MW combined cycle facility located in Prince George's County that would be operational on June 1, 2017. Mattawoman proposed a 731 MW combined cycle facility, also to be located in Prince Georges County, that would be operational on June 1, 2016. CPV proposed a 661 combined cycle facility in Charles County and offered a choice of in-service dates of June 1, 2015 or June 1, 2016.[144]

The RFP specified the method by which the bids were evaluated for the final short list evaluation. The bids were modeled in a production cost model to determine their cost to ratepayers throughout the term of the Contract for Differences.[145] Boston Pacific and Siemens Power Technologies International used the PROMOD IV market simulation model for this analysis, using "base case" inputs and four different sensitivities: a high gas price case; a low gas price case; a PJM Net Revenue Case;[146] and a coal retirement case.[147] The modeling ultimately projected average bill impacts for residential SOS

[144] Boston Pacific Bid Memorandum dated April 3, 2012.
[145] RFP, § 6.5.5, p. 16.
[146] In the PJM Net Revenue Case, it is assumed the bids would earn the same net revenues (i.e. market revenues less variable costs) that PJM estimates in calculating its Minimum Offer Price Rule (MOPR) screen. Boston Pacific Bid Memorandum dated April 3, 2012, p. 3.
[147] Boston Pacific Bid Memorandum dated April 3, 2012, pp. 2-3.

customers (based on 1,000 kilowatt hours/month) and assumed a $150/MW-day RPM price.[148] The CPV bid for an in-service date of June 1, 2015 was found to be the best price for SOS ratepayers, with the average impact to residential SOS ratepayers projected to be a *credit* of $0.49/month over the entire life of the contract.[149] Under the model, average residential SOS ratepayers would see a rate payment in the initial years ranging from $2.03/month in 2015 to $1.05/month in 2019, which is projected to change to a rate *credit* for the remaining 15 years of the contract, ranging from $0.32 in 2020 to a high of $2.98/month in 2024. The analysis showed a credit to residential SOS ratepayers over the life of the contract for all cases except the PJM Net Revenue Case, and remained so even if customer migration to third-party suppliers were to increase to 30% in 2015.[150] Based on this analysis, and our finding concerning the amount of need in 2015, we accept only the CPV bid for a 661 MW combined cycle facility located in Charles County to be operational on June 1, 2015.

Cost Recovery

We have given careful attention to the parties' concern that we address the issue of the utilities' cost recovery for their payments (if any) under the Contract for Differences.[151] Considering that our statutory mandate is to meet the long-term demand for SOS service for residential and small commercial customers, we find that the utilities

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[148] Modeling assumes rate impact applies only to SOS customers in the BGE, Pepco and Delmarva service territories, and that 22.5% of residential load is served by non-SOS third party suppliers (based on 2011 data).
[149] *Id.*, pp. 7-8.
[150] *Id.*, p. 9.
[151] Pepco/Delmarva Comments, pp. 30-35; RESA Comments, pp. 4-7.

we direct to enter into these Contracts for Differences should recover the costs through their respective SOS surcharges. We direct that this cost "recovery" is to go both ways: the SOS surcharge will be increased as appropriate to reflect those months in which the utilities have payments due to the Supplier under the Contract for Differences, but likewise the SOS surcharge is to be credited for those months in which the Supplier pays the utility. Because the Boston Pacific modeling indicated the likelihood of a net credit over the life of the Contract for Differences, even when migration of SOS customers to third party suppliers increased to 30% in 2015, we find that cost recovery through the SOS surcharge is appropriate. Because we have found that the new generation is needed in SWMAAC to address transmission constraints, we find that the SOS customers in the SWMAAC area, as well as non-SWMAAC SOS customers located east of the constraint, most appropriately bear the surcharge or receive the credit, since all of those customers will receive reliability benefits from the new generation. Accordingly, we direct BGE, Pepco and Delmarva to enter into a Contract for Differences with CPV in amounts proportionate to their relative SOS load as of the date of execution.[152]

Outstanding Motions

Northland Power, Inc. filed a Request to Modify the Request for Proposal to extend the bid date by 157 days and to amend the minimum threshold requirements regarding right-of-way access to electrical and fuel interconnection points. In the

[152] We are mindful of the concerns the utilities expressed about the requirements of the Contract for Differences in their letter dated March 29, 2012, and direct Boston Pacific, CPV, BGE, Pepco, and Delmarva to negotiate appropriate changes in the Contract for Differences and submit any proposed changes to the Commission for approval.

Amended RFP dated December 8, 2011, we extended the bid date until January 20, 2012, which was the maximum extension we could grant and still make an award of bid(s) in time for bidding into the May 2012 BRA. To that extent, Northland Power's Motion was granted in part. Regarding the minimum threshold requirements, these requirements needed to be met if the bidder is to be able to have a project operational in 2015. Accordingly, the balance of the Request is denied.

Eastalco filed a Request to Modify the RFP to eliminate the geographic restriction to SWMAAC because it owns property in Frederick County which it asserts would "provide reliability benefits to SWMAAC" if generation were built there.[153] Because we have found that the new generation need is in SWMAAC to relieve a significant local transmission constraint, and because removing the geographic restriction in its entirety would open the RFP to bidders who propose plants in far western Maryland and it would be difficult to determine the extent to which such bids would provide reliability benefits to SWMAAC, the Eastalco Request is denied.

Pepco and Delmarva filed an Application for Rehearing of our September 29, 2011 Order directing issuance of the RFP. Their Application argues we should make a finding on need, thoroughly consider all available options, and make a finding concerning a cost recovery mechanism before proceeding with the RFP, all of which we have done in this Order. Accordingly, the Pepco and Delmarva Application for Rehearing is partially moot. The Application also asks for a full evidentiary hearing with discovery. We find such an evidentiary hearing is not necessary and that part of the Application is denied.

[153] Eastalco Request, p. 4.

Finally, NRG Energy, Inc. filed a Motion to Postpone Procurement of New Generation until after the divestiture of the plants as part of the merger takes place, and argues that a postponement would allow time for more bidders. Because we have found the need for new generation is in 2015 and waiting for plants to be sold as a result of the merger proceeding will take place too late for bidding into the May 2012 BRA for the 2015-16 delivery period, the Motion to Postpone is denied.

Conclusion

For the reasons set forth above, we find that the long-term demand for electricity in Maryland, and specifically in the SWMAAC zone, compels us to order new generation in the amount of 650 to 700 MWs in the SWMAAC zone in Maryland by 2015. We find that the Bid of CPV Maryland, LLC to build a 661 MW natural gas-fired combined cycle facility in Charles County with an in-service date of June 1, 2015 will provide the needed new generation at the lowest cost to SOS ratepayers, and we accept that bid. We direct BGE, Pepco and Delmarva to negotiate and enter into a Contract for Differences with CPV Maryland, LLC , and to recover their costs (or return their credits) through the SOS surcharge.

IT IS THEREFORE, this 12th day of April, in the year Two Thousand and Twelve,

ORDERED: (1) That, for the reasons set forth herein, Baltimore Gas and Electric Company, Potomac Electric Power Company, and Delmarva Power & Light

Company shall execute a Contract for Differences with CPV Maryland, LLC as specified in this Order, and

(2) All other Motions not granted herein are denied.

/s/ Douglas R. M. Nazarian

/s/ Harold D. Williams

/s/ Lawrence Brenner

/s/ Kelly Speakes-Backman

/s/ W. Kevin Hughes

Commissioners