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May 7, 2009

VIA E-MAIL

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RE: PSC Case No. 9179 (MAPP CPCN) - OPC Data Request Set No. 1
to PEPSCO/DELMARVA/BGE

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Christopher R. Mellott, Esq.
Gary E. Guy, Esq.
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Gentlemen:

People's Counsel hereby submits its first set of Data Requests in the above-referenced case to Pepco, Delmarva and BGE. You are welcome to send the Companies' respective responses as they are completed instead of waiting until all responses are prepared. We would appreciate receiving your respective responses in as timely and as prompt a manner as is practical and possible but, in any event, please respond fully within ten (10) business days.

Please answer each interrogatory separately in writing. For each response, please state the question being answered. As to each separate answer, identify the person who principally supplied information for the answer.

With respect to data requests which seek the production of documents, the term "document" means any writing whatsoever (including any study, report, memorandum, letter, or any information stored in a computer) in the possession or control, or available from PJM or otherwise, to PEPCO, Delmarva or BGE, and their consultants or counsel. If any document covered by this request is withheld, please identify each such document and the reasons constituting the basis for withholding the document.

In the event there is an objection to any data request, each objection should be communicated in writing and specify the nature of such objection.

All responses to this set of Data Requests should be amended when you obtain information indicating that (a) the response was incorrect when made, or (b) the response was correct when made but is no longer accurate. These Data Requests are deemed to be continuing in nature so as to require updated responses in light of pertinent facts or documents not now in the possession or custody of your companies.

If you deem any information provided in response to these Data Requests to be confidential in nature, Section 2-309 of the Public Utility Companies Article of the Maryland Code requires the Office of People's Counsel to maintain the confidentiality of information that the Commission considers proprietary, commercially sensitive, or otherwise confidential. Accordingly, **please clearly mark confidential, proprietary, or commercially sensitive information.**

All references to workpapers should be understood to include paper and electronic workpapers, computer-model input or output reports, internal memoranda, studies, or publications. In responding to requests for workpapers, the Company should provide both

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(1) workpapers created in the process of undertaking calculations; and (2) workpapers relied on to support input or analytical assumptions.

When providing electronic spreadsheet files, please leave all cell formulas intact; i.e., do not range value cell formulas of spreadsheets provided. In addition, responses to requests for electronic spreadsheet files should include any linked electronic spreadsheets, as well as all other spreadsheet files or workpapers relied on to develop inputs for the requested spreadsheet file.

If you elect to withhold documents due to claims of privilege, you are required to prepare and submit a “**Privilege Log**” in which is stated the date of each document withheld, its title or identifying characteristic, its author, to whom it was written or sent, and a concise but specific summary of the bases of your claim to privilege , with case citations.

Please provide an electronic copy of your responses to the undersigned at GaryA@opc.state.md.us and to Anne Johnson at AnneJ@opc.state.md.us . Please also provide an electronic copy of your responses to this office’s expert consultant, Peter Lanzalotta, at petelanz@lanzalotta.com .

I have copied this email and the attached set of data re requests to all parties listed on the current Service List for Case No. 9179.

I thank you in advance for your kind cooperation in this process, and for all professional courtesies extended.

Very truly yours,

/SIGNATURE/

GARY L. ALEXANDER
Assistant People's Counsel

/gla
Attachment

**OPC DATA REQUEST SET NO. 1
TO APPLICANTS PEPCO, DELMARVA AND BGE
Maryland PSC Case No. 9179
April 30, 2009**

1. Please provide copies of any and all of your responses to Data Requests propounded by any other party (including Staff) or intervenor in this proceeding.
2. If, in any of your responses, you refer to or rely upon a link to any document on the PJM website, please nonetheless provide with your response a hard copy of any such document along with *reference to specific pages and paragraphs* in any such document.
3. If you respond to any of these Data Requests primarily by reference to your response to a Data Request propounded by any party (including Staff) or intervenor other than OPC, please restate that response in full in your answer to OPC's Data request.
4. Referring to the statement on page 2 of Volume 1 of the Needs Assessment that MAPP is a necessary enhancement to ensure the reliability of the electric transmission system in the Mid-Atlantic region and that it will bring reliability and economic benefits to Maryland consumers:
 - a. Provide all documents, studies and analyses that are used as the basis for that statement, including all PJM studies that provide the basis for the belief that MAPP will enhance regional reliability.
 - b. Provide any internal PHI analyses or PJM analyses on the effect on reliability of any alternatives that were considered to MAPP.
 - c. Provide any cost/benefit or analyses of the economics of the MAPP project both as initially configured and in the current DC bay crossing configuration.
 - d. Provide cost/benefit and economic analyses related to all alternatives to MAPP that were considered.
5. Provide a copy of the Commission's Ten-Year Plan of the Electric Companies in Maryland, as referred to in footnote 4 of Volume 1 of the Needs Assessment.
6. Regarding the phased construction schedule referred to on page 6 of Volume 1 of the Needs Assessment, provide all studies and analyses that evaluated the benefits

of each segment assuming the one or more of the other segments were not built. The benefits should include not only reliability benefits but also economic benefits.

7. Provide the results of the analyses of over 30 MAPP alternatives conducted by PJM that are discussed on page 9 of Volume 1 of the Needs Assessment.
8. According to footnote 10 of Volume 1 of the Needs Assessment, PJM has responsibility to ensure the reliability of the transmission grid in PJM, and Pepco and Delmarva, as transmission owners, are responsible for meeting construction obligations. If return on equity incentives for the MAPP project had not been granted by FERC, provide or describe the plans of Pepco and Delmarva to meet their respective construction obligations?
9. Regarding the load projections from PJM's January 2009 load forecast, referred to on page 10 of Volume 1 of the Needs Assessment:
 - a. Does PJM expect the load projections from PJM's January 2009 load forecast to be lower than the load forecasts used in the analyses done by PJM to justify MAPP?
 - b. Would a lower PJM forecast result in fewer, more, or the same number of reliability violations that signaled the need for MAPP?
 - c. Would a lower PJM forecast result in a delay in the need for MAPP?
 - d. Would a lower PJM forecast change the priority of the alternatives that were considered when MAPP was chosen?
10. Please provide the most current update on the CETO-CETL margins shown on page 12 of Volume 1 of the Needs Assessment reflecting the January 2009 PJM load forecast.
11. Please provide the basis for the statement on page 15 of Volume 1 of the Needs Assessment that VSC HVDC technology promotes competitive markets. Please also explain how VSC HVDC technology promotes competitive markets.
12. Referring to the testimony of William Gausman on page 14, provide a copy of the power flow studies used:
 - i) to analyze the reliability and voltage violations that were of concern when MAPP was approved; and,

ii) to analyze the alternatives considered to address these reliability and voltage violations.

For each power flow study, provide raw case data files and saved case data files compatible with PSS/E 30.1.2.

- 13.** Referring to Mr. Gausman's testimony on page 15 that the stability limits of certain generators will be improved with MAPP:

 - a. Please provide the factual and technical bases for the statement.
 - b. Is this statement still true if not all of the segments are constructed? Please explain, regardless of whether your answer is in the affirmative or the negative.
 - c. Which specific generators are expected to have improved stability limits?
 - d. Provide all documents, studies and analyses related to the generator stability limit issue.
- 14.** Referring to lines 12-15 on page 15 of William Gausman's testimony, are the \$180 million of expected PJM RTO congestion savings additive to the \$230 million of expected Mid-Atlantic congestion savings? Separately, please state the duration of time period during or over which these savings are projected.
- 15.** Referring to page 25 of William Gausman's testimony, please explain how the ability of the MAPP project to address the reliability and thermal violations will depend on the presence of the other high voltage transmission lines that have been approved by PJM, such as PATH, Trail, and Susquehanna-Roseland? Further and separately, please state the extent to which the ability of the MAPP project to address the reliability and thermal violations will (or will not) depend on the presence of these other high voltage transmission lines. Please provide the specific technical bases for your responses.
- 16.** On page 26 of his testimony, William Gausman states that the MAPP segment from Possum Point to Indian River must be in service by June 1, 2013 in order to meet NERC reliability standards:

 - a. Please describe the back-up plan if Pepco and Delmarva become persuaded that this segment will not be built?
 - b. Please describe the back-up plan if Pepco and Delmarva become persuaded that this segment will be built but not in service by June 1, 2013?

- c. Provide with specificity the costs of these respective back-up plans?
 - d. Explain how, if the back-up plans need to be implemented, the level of expected economic benefits from MAPP will be affected, whether negatively or positively.
- 17.** On page 40, lines 13-18, of the testimony of William Gausman, reference is made to extended line outages needed for the completion of MAPP:
- a. Identify the specific facilities on which outages would be needed, and describe the approximate expected durations of these outages.
 - b. Will the extended outages necessary to construct the MAPP project produce transmission congestion and the associated higher LMPs? Please explain and provide the bases for your response.
 - c. If your answer to DR 1-14(b) above is in the affirmative, please state whether those cost impacts been reflected in the economics of the project, and provide an itemization of those cost impacts.
 - d. With regard to your responses to DR 1-14(b) and (c) above, if there are cost impacts that are not reflected in the economics of the project, please explain what those impacts are, provide an itemization of those costs and explain why they are not reflected in the economics of the project.
 - e. If not already provided in response to the above set of requests, how much are congestion costs expected to increase as a result of the construction outages?
- 18.** Referring to WMG-1, is the scheduled completion of the construction of the MAPP segments shown here still achievable in a practical sense? If so, how likely are the prospects of them being achievable? If not, please provide the latest completion date estimates and state how that will affect the reliability and economic benefits expected from the project.
- 19.** Referring to page 6 of the testimony of William C. Mitchell, did all three of the reliability criteria used, PJM, transmission owner, and NERC, show the need for the MAPP project at approximately the same time frame for the needed in-service date? If not, provide the differing time frames.
- 20.** Will the addition of MAPP require upgrading the underlying lower voltage systems? If your answer is in the affirmative:

- a. identify the specific upgrades needed, explain the process used to determine that need, and itemize the costs of such upgrades.
 - b. State whether the attendant reliability analyses were performed with the upgrades in place but without the MAPP project.
 - c. Describe with specificity how these lower voltage upgrades affected the CETL-CETO margins.
- 21.** Provide copies of all documents containing, concerning or reasonably related any analyses undertaken to determine whether the addition of MAPP will (or will not) require upgrading the underlying lower voltage systems.
- 22.** Referring to the statement on page 15 of the testimony of William C. Mitchell that MAPP provides the best long term solution to the reliability violations and voltage collapse scenarios expected in 2013:
- a. Describe the three “next best” solutions and describe, respectively for each such “next best” solution, why MAPP was determined or deemed to be a better solution.
 - b. Provide the cost and economic benefit projections from the above-mentioned three “next best” solutions.
- 23.** Regarding Exhibit WCM-1, the Load Deliverability Status Report for MAPP, for each of the scenarios:
- a. Identify with specificity those generating units deemed to be in operation;
 - b. Specify the output level of each operating generating unit;
 - c. Provide the specific location of each operating generating unit;
 - d. Identify with specificity those generating units deemed not to be in operation.
 - e. Specify the maximum available output of each non- operating generating unit.
 - f. Indentify with specificity the location of each non- operating generating unit.
- 24.** Referring to page 6 of the testimony of Steven R. Herling, provide information on the alternatives to MAPP that were considered and provide the reason that the alternatives were not selected instead of MAPP. Was MAPP an alternative that was recommended by PJM or was it recommended by a PJM stakeholder?

25. Regarding page 20 of the testimony of Steven R. Herling, identify by name, employer and title, who makes the decision on projects that should be included in the RTEP that then goes to the PJM Board for approval.
26. Referring to page 24 of the testimony of Steven R. Herling, how will the reliability and economic benefits from MAPP change if any or all of the Trail, PATH or Susquehanna-Roseland projects are not built? Provide all documents and analyses supporting your response.
27. Referring to page 29 of the testimony of Steven R. Herling, assuming that one or more the backbone transmission projects does not go forward:
 - a. Will that affect any of the lower voltage upgrades that interact with the backbone projects to address the reliability concerns in PJM?
 - b. How does PJM address this interaction issue when part of the proposed solution does not get built?
28. On page 39 of his testimony, Steven R. Herling states that MAPP was selected because it had the greatest positive impact on line loadings throughout the 15 year planning horizon:
 - a. Were other factors such as project cost and impact on congestion considered in making this decision?
 - b. How much weighting were these other factors given?
 - c. Describe the other factors that were weighed in making the decision.
29. Please discuss with specificity the impact of the high level of wind resources in the PJM generation queue on PJM's transmission planning.
30. Describe with specificity how the intermittent nature of the wind resources in the PJM generation queue is treated in transmission planning.
31. On page 44 of his testimony, Mr. Herling states that PJM load forecasting does not currently consider voluntary DSM and energy efficiency operations except to the extent they are already incorporated into the historic load forecast or the degree to which such forecasts clear the RPM auction. There is currently an effort by stakeholders representing load to require PJM to give more capacity credit to such resources than has been given previously. Provide the current status of that effort

and state how the positions of the stakeholders in this effort, if adopted, would most likely change the need for transmission resources in the RTEP.

- 32.** On page 6 of his testimony, Paul F. McGlynn refers to generation and load deliverability test procedures.
1. Provide copies of the reports that discuss the results of those procedures as they relate to MAPP.
 2. Provide and describe with specificity the assumptions related to the generating units that were deemed in-service and out-of-service when the studies were conducted.
 3. Provide information on the new transmission projects that were deemed in-service.
- 33.** Referring to Mr. McGlynn's statement on page 30 of his testimony that MAPP was selected because it was the most effective at resolving multiple reliability criteria violations, please state were other factors considered in making the selection such as project cost or impact on congestion? If other factors were considered, please describe them with specificity. If those other factors were not considered, please explain the reasons for their exclusion from consideration. Separately, please state whether multiple smaller projects were considered as alternatives and that might be less expensive than MAPP? If those smaller projects were considered, please describe with specificity the nature and scope of those projects and the reasons why they were deemed unsatisfactory. If those smaller projects were not considered, please explain the reasons for their exclusion from consideration.
- 34.** Referring to Mr. McGlynn's testimony on pages 31-32, was there consideration given to a combination of voltage support equipment and new transmission lines when MAPP was analyzed? If so, please provide details, including facility costs and impacts on congestion. If not, please explain why.
- 35.** Regarding John M. Reynolds' testimony on page 8, please state the duration of (i.e. how long) historic energy efficiency effects take to flow through to the PJM load forecast? Is there any effort made to extrapolate the impact on load of energy efficiency based on some metric such as the number of Energy Star appliances

sold or some other measure through the PJM econometric regression model; and, if your answer is in the negative, please explain why no such effort is made.

36. Is it correct that many of the impacts of the recent economic downturn are not reflected in the PJM load forecast used as a basis for the MAPP analysis as discussed on page 9 of Mr. Reynolds testimony? If your answer is in the negative, please explain why this assertion is incorrect.
37. If the effects of the economic downturn had been reflected in the load forecast used to justify MAPP, would the number of reliability violations used to justify MAPP have changed? Describe, in general, what the impact of using the more recent forecast would likely have been on the need for MAPP and the ability of other projects to address the reliability need for MAPP.
38. Please state, with specificity, the change(s) in the load forecast projections shown on pages 9-11 of Mr. Reynolds' testimony to reflect the January 2009 PJM load forecast.
39. Describe with specificity how the power cost, production cost and consumer payment projections on page 7 of Kenneth K. Collison's testimony would or reasonably might change if the modeling had reflected the lower January 2009 load forecast that reflected some of the impact of the downturn in the economy.
40. Referring to the testimony of Kenneth K. Collison, provide the inputs, assumptions and outputs of the models (MAPs and IPM) used to estimate the power cost, production cost and consumer payment reduction effects of MAPP. Provide this information for the Reference case and the Change Cases.
41. How does the economic mix of generation additions discussed on page 11 of Mr. Collison's testimony compare to the generation additions assumed by PJM in its MAPP reliability analyses?
42. Did ICF perform any sensitivity analyses on fuel price for the impacts of climate change regulation? If so, please provide copies of those analyses. If not, please explain why such analyses were not conducted.
43. Does Figure 4 in Mr. Collison's testimony reflect the effect on customers of the revenue requirement associated with MAPP? If not, please explain why it does

not reflect the effect on customers of the revenue requirement associated with MAPP, and what you contend that it does reflect.

44. Referring to Exhibit KKC-2, ICF's Final Report on the Economic Benefits of the Proposed Mid-Atlantic Power Pathway, on pages 42-43 is a discussion of the assumptions related to environmental standards for NO_x, SO₂ and mercury. Please provide the specific assumptions utilized about, regarding, relating to or concerning environmental standards related to carbon?
45. Please provide copies of all correspondence (whether sent via email, text or other electronic mode, by facsimile or by public or private post) sent by PHI, Pepco, Delmarva and/or BGE to PJM's Transmission Planning Department that concerns or mentions the Regional Transmission Expansion Plan (RTEP) evaluation or consideration of the MAPP transmission line project.
46. Please provide copies of all correspondence (whether sent via email, text or other electronic mode, by facsimile or by public or private post) received by PHI, Pepco, Delmarva and/or BGE from PJM's Transmission Planning Department that concerns or mentions the Regional Transmission Expansion Plan (RTEP) evaluation or consideration of the MAPP transmission line project.
47. Please describe in detail all proposals, including, but not limited to, demand response, additional generation, and alternative technologies, that were identified and considered as potential alternatives to the MAPP line but were ultimately rejected.
48. With regard to DR No. 3 above, please explain in detail the process by which these alternative proposals to obviate the need for the MAPP transmission line project were evaluated and/or considered before being rejected.
49. With regard to DR No. 4 above, please identify the supervisory individuals at PJM, PHI, Pepco, Delmarva and/or BGE with personal knowledge of the process by which these alternative proposals to obviate the need for the MAPP transmission line project were evaluated before being rejected.
50. On Page 11 *et seq.* of his pre-filed Testimony, Steven Herling states that, "The impact of specific elements of PJM's role as an RTO is estimated to produce as much as \$2.3 billion in benefits and economic value for the region PJM serves."

Those benefits, Mr. Herling states further, are derived from reliability savings, generation investment savings, energy production cost savings and grid services (ancillary services) savings.

A. Please state specifically the dollar amounts ascribed, respectively, to each of these (and any other) categories that comprise these benefits and the economic value(s).

B. Please explain in detail how these dollar amounts for each of these categories was derived and calculated.

C. Please provide the dollar amount of the annual operating budget for PJM LLC.

51. On Page 12 of his Testimony, Mr. Herling states that the PJM market area's capacity buffer (or "reserve margin") would need to be higher without the PJM RTO," and thus "consumers avoid the costs of additional generation to meet higher levels of reserves."

A. Please provide the current reserve margin.

B. What would the current reserve margin be without the PJM RTO?

C. Please describe in detail but concisely how PJM calculates what the current reserve margin would be without the PJM RTO.

52. On Page 13 of his testimony, Mr. Herling states that: PJM's centralized dispatch of numerous resources over its expanded territory produces significant efficiencies and cost savings compared with the previous operation of independent control areas across the region. The increasing effectiveness of PJM's dispatch operations also has reduced operating reserve costs.

A. Regarding dispatch, state the dollar amount of the cost of previous operations of independent control areas across the region, and itemize and describe with specificity how that dollar amount was derived.

B. Itemize and describe with specificity the annual costs of centralized dispatch to which you are comparing the costs of the previous operation of independent control areas across the region.

C. Itemize and describe with specificity the dollar value of the reduced operating reserve costs from the year 2005 through to 2008.

53. With reference to Page 13 of Mr. Herling’s testimony, please itemize with specificity the value in dollars of PJM’s “economies in providing services that are essential to the reliability of the electric system . . .” Additionally, please describe concisely but with specificity how those amounts were calculated.
54. With reference to Page 15 of Mr. Herling’s testimony, please identify (by name, employer, job title and years of tenure) all members of the Transmission Expansion Advisory Committee (TEAC”) since 2006.
55. With reference to Page 15 of Mr. Herling’s testimony, please provide copies of all correspondence (whether sent via email, text or other electronic mode, by facsimile or by public or private post) received by PHI, Pepco and/or Delmarva from the TEAC that concerns or is in any manner related to the evaluation or consideration of the MAPP transmission line project.
56. With reference to Page 15 of Mr. Herling’s testimony, please provide copies of all correspondence (whether sent via email, text or other electronic mode, by facsimile or by public or private post) sent by PHI, Pepco and/or Delmarva to the TEAC that concerns or is in any manner related to the evaluation or consideration of the MAPP transmission line project.
57. With reference to Page 15 of Mr. Herling’s testimony, please identify (by name, employer, job title and years of tenure) all members of the Sub-regional RTEP committees which considered or in any way opined on or made recommendations concerning the MAPP transmission line project.
58. With reference to Page 16 of Mr. Herling’s testimony, please provide copies of all comments by stakeholders related to the evaluation or consideration of the MAPP transmission line project and which followed the presentation of analysis assumptions or results to the TEAC.
59. With reference to Pages 19-20 of Mr. Herling’s testimony, please state whether, in the event that the planning process is required to “specify regulated transmission solutions to fill the gap” when transmission needs are “not satisfied through market-driven solutions,” PJM creates its own solutions. If the answer is in the affirmative, provide identify with specificity any such solutions created by PJM.

60. With reference to Pages 19-20 of Mr. Herling's testimony, please identify and state the underlying facts for all projects submitted to PJM since 2003 when transmission needs were "not satisfied through market-driven solutions" and, thus, the planning process was required to "specify regulated transmission solutions to fill the gap."
61. With reference to Page 22 of Mr. Herling's testimony, please describe with specificity the process by which Transmission Owners "validate" the reliability violations determined by PJM.
62. Please identify all Transmission Owners which "validated" the reliability violations determined by PJM which the MAPP transmission line project is designed to address and alleviate or mitigate.
63. With reference to Page 22 of Mr. Herling's testimony, please provide copies of all documents in which Transmission Owners "validated" the reliability violations determined by PJM which the MAPP transmission line project is designed to address and alleviate or mitigate.
64. On Page 23 of his testimony, Mr. Herling states that more than "\$13.2 billion of transmission upgrades and additions representing over 1400 distinct transmission projects ranging from 69 kV to 765 kV have been authorized by the PJM Board from the inception of the RTEP process in 1999 through December 2008." Please itemize, by year from 1999 through December 2008, the dollar value of the transmission upgrades and additions approved through the RTEP process.
65. On Page 23 of his testimony, Mr. Herling states that more than "\$13.2 billion of transmission upgrades and additions representing over 1400 distinct transmission projects ranging from 69 kV to 765 kV have been authorized by the PJM Board from the inception of the RTEP process in 1999 through December 2008." Please state the dollar amount of that \$13.2 billion in transmission investment that is "used and useful" as of the date of your Response to this DR.
66. On Page 24 of his testimony, Mr. Herling states that, in 2008 the PJM Board approved 450 additional transmission projects. With reference thereto, please state the number of transmission projects approved by the PJM Board in, respectively, 2003, 2004, 2005, 2006 and 2007.

- 67.** On Page 24 of his testimony, Mr. Herling states that “PJM has developed and utilizes a wide range of reliability criteria in the development of the RTEP. PJM performs tests to determine if the transmission system meets such criteria. If a violation is identified, *PJM develops a solution* to that violation to ensure the continued reliability of the transmission system in the future.” To similar effect, on Page 25 of his testimony, Mr. Herling states that, “If violation is identified PJM develops a solution to that violation to ensure the continued reliability of the transmission system in the future.” Yet, on Page 19 of Mr. Herling’s testimony, he states that “PJM’s planning process is fully integrated in that it examines all needs with respect to transmission service and *all solution options proposed through the market place.*” Please explain with specificity this seeming inconsistency.
- 68.** On Page 20 of his testimony, Mr. Herling states that “PJM’s process is comprehensive but does not represent Integrated Resource Planning in the historical context in that there is no one decision-maker choosing between solution options selecting one market-based solution over another market-based solution over regulated solution or vice versa.”
- A. Please define “Integrated Resource Planning” as it is used in the sentence above.
- B. If two different transmission FERC jurisdictional entities each wanted to build the MAPP line, would PJM in any way be able to stop one those entities and, if so, how would that be accomplished.
- 69.** With reference to Pages 24-25 of Mr. Herling’s testimony, list PJM’s reliability criteria that were applied to the MAPP transmission line project. Please note on the list if the criteria were weighted and, if so, state the relative weights that each criterion was assigned.
- 70.** With reference to his testimony on Page 26, please state with clarity what exactly is the “fundamental reason for PJM’s direction to Pepco and Delmarva, along with PHI affiliate ACE, to undertake transmission reinforcements.”
- 71.** Please define the term “reinforcements” as it is used in the phrase “transmission reinforcements” on Page 26 of Mr. Herling’s testimony.

72. With reference to Mr. Herling’s testimony on Page 27 of his testimony in which he states that “the Pepco and Delmarva transmission zones are currently allocated 4.82% and 2.85% respectively of the cost of projects such as the MAPP Project”:

A. If the MAPP line were to be constructed as currently contemplated, budgeted and as currently scheduled, provide the approximate cumulative or total amount that Maryland residential ratepayers in the Pepco transmission zone would ultimately pay for the cost of the MAPP transmission line project. Please either explain or show the calculations for the basis of your response.

B. If the MAPP line were to be constructed as currently contemplated, budgeted and as currently scheduled, provide the approximate cumulative or total amount that Maryland residential ratepayers in the Delmarva transmission zone would ultimately pay for the cost of the MAPP transmission line project. Please either explain or show the calculations for the basis of your response.

C. If the MAPP line were to be constructed as currently contemplated, budgeted and as currently scheduled, and per the incentive granted by the Federal Energy Regulatory Commission (“FERC”) to allow “construction work in progress” (“CWIP”) to be included in rate base, (*see* 125 FERC ¶ 61,130), how much additional money per month would be added to the “average bill” of Maryland residential ratepayers in the Pepco transmission zone? Please either explain or show the calculations for the basis of your response.

D. If the MAPP line were to be constructed as currently contemplated, budgeted and as currently scheduled, per the incentive granted by the FERC to allow CWIP to be included in rate base, how much additional money per month would be added to the “average bill” of Maryland residential ratepayers in the Delmarva transmission zone? Please either explain or show the calculations for the basis of your response.

E. What percentage of the cost of the MAPP Project is allocated to the BGE transmission zone?

F. If the MAPP line were to be constructed as currently contemplated, budgeted and as currently scheduled, provide the approximate cumulative or total amount that Maryland residential ratepayers in the BGE transmission zone would ultimately pay for the cost of the MAPP transmission line project. Please either explain or show the calculations for the basis of your response.

G. If the MAPP line were to be constructed as currently contemplated, budgeted and as currently scheduled, and if it thereafter becomes “used and useful,” how much additional money per month would be added to the “average bill” of Maryland residential ratepayers in the BGE transmission zone? Please either explain or show the calculations for the basis of your response.

73. With reference to Page 27 of Mr. Herling’s testimony, with regard only to the MAPP transmission line project, list PJM’s requirements that enable it “to ensure that upgrade construction remains on schedule and required in-service dates are met.
74. With reference to Page 27 of Mr. Herling’s testimony, please explain what is meant by “loop flows within PJM.” Please then explain what is meant by “the extent” of such loop flows in PJM.
75. With reference to Page 30 of Mr. Herling’s testimony, please identify by name, address and transmission owner, the “thirteen separate 500 kV transmission facilities that were found to be overloaded in the 2007 RTEP, beginning as early as 2012.”
76. With reference to those “thirteen separate 500 kV transmission facilities that were found to be overloaded in the 2007 RTEP, beginning as early as 2012,” please provide the most current overload estimation or projection year for, respectively, each of the thirteen separate 500 kV transmission facilities identified in the preceding data request above.
77. On Page 30 of his testimony, Mr. Herling states that “it is the interaction among these projects as well as hundreds of lower voltage transmission upgrades that resolve the entirety of the reliability criteria violations identified in the RTEP. Together these projects ensure compliance with the NERC Reliability Standards and enhance the market efficiency of the PJM grid.” With regard to this statement,
- A. If one of the approved, major backbone transmission projects ultimately is not built, is it your contention that *none* of the reliability criteria violations identified in the RTEP would be resolved? Please begin your response with either a “yes” or a “no,” or “cannot answer either yes or no,” and then provide an explanation for your response.
- B. If some of the “hundreds of lower voltage transmission upgrades” ultimately are not completed, is it your contention that *none* of the reliability criteria violations identified in the RTEP would be resolved? Please begin your response with either a “yes” or a “no,” or “cannot answer either yes or no,” and then provide an explanation for your response.

C. If, in your responses to 34.A or 34.B above, you indicate that at least some of the reliability criteria violations identified in the RTEP would be resolved under the circumstances proposed in the questions, please explain how you would be able to identify which of the violations were resolved and which of the violations were not resolved.

78. With reference to Page 31 of Mr. Herling's testimony, please identify by whom each of the respective 30 alternative combinations were proposed.
79. With reference to Page 31 of Mr. Herling's testimony, please explain why there were "approximately" rather than definitively "30 alternative combinations of transmission options. In other words, is Mr. Herling stating that there might have been only 29 or fewer alternative combinations, or possibly 31 or more combinations, but that PJM is unsure of the precise number of alternative combinations actually proposed?
80. With reference to Pages 31-32 of Mr. Herling's testimony, please explain with specificity how PJM's transmission planning support goals of connecting renewable energy facilities to the transmission grid and thereby enables Pepco, Delmarva and BGE – respectively - to comply with EmPOWER Maryland's mandated 15% reduction in demand and energy by 2015.
81. With reference to Pages 31-32 of Mr. Herling's testimony, please explain with specificity when, where and how EmPOWER Maryland's mandated 15% reduction in demand and energy by 2015 has been expressly incorporated into PJM's current load forecasts. Also, please state the page numbers, and provide a copy of the specific pages, in the relevant PJM documents which itemize or show the calculations of this incorporation.
82. With reference to Page 33 of Mr. Herling's testimony, please explain why NERC requires planning horizons of up to only 10 years while PJM requires planning horizons of up to 15 years.
83. With reference to Page 34 of Mr. Herling's testimony, please clearly and separately identify all "generation projects" that have "progressed through the interconnection process and have signed ISAs" as of the date of your response.

84. With reference to Page 34 of Mr. Herling’s testimony, please clearly and separately identify all units that had “previously announced that they would be retired [but] are now expected to return to service as of the date of your response.
- A. Please also explain why these units have now become sufficiently economically viable or profitable to preempt or postpone their previously announced retirements.
85. With reference to Page 35 of Mr. Herling’s testimony, please clearly and separately identify all “generation projects” with signed FSAs that have withdrawn from the interconnection queue.
86. With reference to Page 35 of Mr. Herling’s testimony, please identify with specificity where demand response has increased in certain areas of PJM since 2006.
87. With reference to Page 35 of Mr. Herling’s testimony, please quantify the amount of the increase of demand response in certain areas of PJM since 2006.
88. With reference to Page 36 of Mr. Herling’s testimony, please state when (by year, month and, if available, date of month) PJM expects to *initiate* the “supplemental analyses [that] will need to be performed in order to quantify these impacts with respect to the timing of the need for the MAPP Project.”
89. With reference to Page 36 of Mr. Herling’s testimony, please state when (by year, month and, if available, date of month) PJM expects to *complete* or *conclude* the “supplemental analyses [that] will need to be performed in order to quantify these impacts with respect to the timing of the need for the MAPP Project.”
90. With reference to Page 39 of Mr. Herling’s testimony, he states:
- However PJM considers it unlikely that sufficient amounts of either [new generation capacity or demand side management resources located in the eastern part of PJM] can be implemented in these densely developed metropolitan areas to offset entirely the need for additional backbone transmission capability. The recent slowed pace of net additions of generation capacity in this area particularly when considered together with increasingly stringent environmental restrictions and increasingly

contentious local opposition to siting of such facilities makes it highly unlikely that the need for the addition of new high-voltage transmission capability could be avoided through additional generation capacity in the vicinity of the Delmarva Peninsula Baltimore and Washington D.C.

A. Please provide specific examples and comparisons of how the pace of net additions of generation capacity in this area has slowed recently.

B. Please state the jurisdictions, case names or titles, and case numbers in which has been manifested the contentious local opposition to siting to which you are referring, and also identify the particular parties or entities which represent the contentious local opposition to which you are referring.

C. Please identify with specificity the demand side management resources to which you are referring.

91. With reference to Page 43 of Mr. Herling's testimony, please explain, with specificity, precisely how PJM's planning and expansion process encourages market-driven operating and investment actions for new generation that would prevent and relieve congestion.
92. With reference to Page 43 of Mr. Herling's testimony, please explain, with specificity, precisely how PJM's planning and expansion process encourages market-driven operating and investment actions for new demand side resources that would prevent and relieve congestion.
93. With reference to Page 43 of Mr. Herling's testimony in which he states that "PJM's load forecasting methodology currently accounts for the impact of DSM and conservation efforts only if there is an historical basis for doing so," please quantify the amount and impact of such historical DSM and conservation efforts that is factored into the most current load forecasts.
94. With reference to Page 43 of Mr. Herling's testimony in which he states that the "MAPP Project is somewhat unique in that it is comprised of a number of segments that each enhance the reliability and operational flexibility of the grid," please explain how the MAPP Project differs from the other currently RTEP approved backbone transmission projects. Thereafter, please explain the positive and negative effects of this "uniqueness."