STATE OF MAINE
PUBLIC UTILITIES COMMISSION

Docket No. 2008-255

September 17, 2008

CENTRAL MAINE POWER COMPANY and PUBLIC SERVICE OF NEW HAMPSHIRE Request for Certificate of Public Convenience and Necessity for the Maine Power Reliability Program Consisting of the Construction of Approximately 350 Miles of 345 kV and 115 kV Transmission Lines ("MPRP")

EXAMINERS' DATA REQUEST NO. 7

I. GENERAL INSTRUCTIONS

1. Please provide the response to each numbered request on a separate sheet of paper, or papers. Each sheet of paper should be three-hole punched.

2. For each response, please state (1) the name(s) and title(s) of the person(s) responsible for preparing the response, and (2) the name(s) and title(s) of the person(s) who are competent to give testimony concerning the response and all documents produced as part of the responses.

3. Where information requested is not available in the precise form described in the question, or is not available for all years indicated, please provide all information with respect to the subject matter of the question that can be identified in the Utility's Work papers and files, or that is otherwise available.

4. As used in this data request, "available" means within the Utility's knowledge, possession, or control, or within the party's power, capacity or ability to retrieve or obtain from an affiliate, a contractor, or any other source.

II. DATA REQUEST

1. Please provide the "scoring" methodology used to select the recommended transmission solutions from among the alternatives in the TTA, including the factors considered and the weight assigned to each factor.

2. Please provide the final selection matrix used to select the recommended transmission solutions, including the relative scoring for each factor considered.

(a) Please provide the complete comparative cost data analysis of the transmission alternatives studied (five north, five south and 21 substations, per Volume I Page 53). Please provide, at a minimum, tables comparable to MPRP-7, 8 and 9 (Volume I). (b) Please explain how these cost estimates were included in the decision-making process that resulted in the recommended transmission solution.

3. Please provide any written analyses that have been prepared of the comparative costs of the transmission alternatives, including discussions of differences among the alternatives and relative uncertainties.

4. Although many of the cost estimate revisions detailed in Volume II, Page 10, are common to all alternatives, several are not. Petitioners note that these changes are "well within the overall allowance for contingencies" (Volume I, Page 58, Line 20); nevertheless, such changes can impact comparative economics. (a) Please provide an analysis of the cost impact on the various comparative estimates and their potential influence on the selection of alternatives. (b) Please provide any information available on potential additional changes to cost estimates for the stated modifications and any new modifications.

5. Please define the "Societal Costs Scorecard Model" as noted in Volume IX, Exhibit I-3, Page 58.

6. Petitioners offer numerous tables titled "Summary of Evaluation Results" in the Volume IX, Exhibit I-3, Section X and elsewhere. For the information in each of these tables[1], please provide, in electronic spreadsheet form where appropriate, the following: (a) The details of Societal Costs, including each of the elements making up societal costs and the NPV calculation; (b) The details of Illustrative Rate Impacts, including explanations of the derivation; and, (c) Capital Expenditures, including details with and without PTF calculations.

7. For each of the ARCs associated with the backbone and local solutions, please provide a spreadsheet detailing (a) the MACE EE and accompanying adjustments for (b) EE already in the CMP forecast, (c) losses and (d) weather.

8. Please define the impacts on project costs and the economic evaluation of schedule delays, as contemplated in Volume I, Page 100, Line 6.

9. Much of the evaluation is based on 2017 status with some consideration of impacts through 2027. (a) Why and how was 2017 chosen as a pivotal timeframe? (b) To what extent might other dates, had they been selected, have significantly altered the results of the economic evaluation? (c) Please provide copies of any analyses addressing the sensitivity of various dates.

[1] S1, N5 and N5_S1, with and without EE. Lewiston, Midcoast, Winslow-Skowhegan, and Western Maine, with and without VAR. South Portland. MPRP integrated.

10. Petitioners state that "the project must be reviewed as a single package" (Volume I, Page 15, Line 23) on the basis that each element affects other elements. Please describe how Petitioners determined that the proposed solution represents the optimum combination of elements.

11. In estimating peak loads, Petitioners have assumed that all customer generation is lost (Vol. I, Page 24, Line 14). (a) Please provide the basis for this assumption. (b) What is the impact of this assumption on load forecasts? (c) To what extent would ARCs become more feasible and the optimum solution change if a reasonable fraction of such generation were assumed to be available, or if CMP were not obligated to serve the load in an emergency?

12. Petitioners assume that new generation is limited to that already in the study queue as of December 2006. (a) Please provide the basis for this assumption. (b) Is this assumption consistent with other responsible forecasts, such as those used by ISO-NE, or with capacity requirements estimated by ISO-NE? (c) Please provide a discussion on the ramifications of this assumption on the proposed solution; i.e., what potential impacts might have resulted from a more liberal assumption?

13. Petitioners consider "net energy revenues to existing Maine generators" as a criterion in the evaluation. Please describe the significance of this parameter in the context of this evaluation and how the comparative results should be judged.

14. Please provide supporting calculations, assumptions and supporting documentation on the base cost estimates of $1 million per mile and $625,000 per mile for 345kV and 115 kV respectively (Volume I, Page 53, Line 12).

15. Please provide the electronic spreadsheets that are the basis for Exhibit E-1 (Volume V).

    (a) Please provide, in electronic spreadsheet form, the calculation supporting the table "MPRP – Summary of Transmission Costs" (Volume IX, Exhibit I-3, Page 15). (b) Please provide the assumptions for the NPV calculations. (c) Please provide the assumptions for the calculations defining the PTF columns.

16. Please provide an analysis of the accuracy of Petitioners' historic estimates for transmission projects and the relation of that experience to Petitioners suggestion that traditional estimating approaches are inadequate (Volume I, Page 59, Line 12).

17. The proposed transmission solution was designed to eliminate the need for the current special protection systems (SPS) (Volume I, Page 70, Line 7). (a) Did this design requirement have an impact on the proposed design? (b) What added costs, if any, resulted from the requirement to eliminate the SPSs?

18. Petitioners suggest that compensation for environmental damage during construction may be required (Volume I, Page 37, Line 17). To what extent have such costs been included in cost estimates and cost analyses associated with the MPRP?

19. Petitioners indicate that there are numerous municipal siting issues that could restrict the building of the MPRP. (a) What contingency plans exist for coping with these potential issues? (b) To what extent have the potential costs associated with these plans been included in project estimates?

20. Petitioners state that information on the "number of dwellings to be acquired and total purchase costs" are included in Exhibit D-2 (Volume I, Page 41, Line 7). (a) Please provide this information as it does not seem to be in Exhibit D-2. (b) Please provide cost information on the amounts included in project estimates for real estate acquisition.

21. Please explain how estimates were adjusted for "special situations", as well as the nature of such situations, as mentioned in Volume I, Page 53, Line 14.

22. Please provide the amounts included in estimates for property tax and an explanation of the underlying requirements and assumptions.

23. Please provide the plan for completion of the probabilistic estimating model, including current status, deliverables, milestones and expected time of completion

24. Petitioners list 9 schedule risks[2] and 7 cost risks[3] in Volume V, Exhibit E-2, Page 2-3. Please provide a detailed account of how each of these risks is reflected in the estimating model. Please include probability distributions or other parameters used to quantify uncertainty and risk.

    (a) Please define a "scenario" as used in the Northbridge Scenario Generator. (b) How many scenarios are typically structured for each cost element? (c) Please provide spreadsheets illustrating the data contained in each scenario for several typical cost elements. (d) How are scenarios related to probabilities for the @RISK calculations?

25. How does the Northbridge Scenario Generator "create hundreds of commodity and labor cost scenarios"? Please provide sample calculations showing data sources and how the data is manipulated to produce a scenario.

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[2] Labor hours, engineering design and scope, labor productivity, labor availability, environmental factors, weather, construction seasons, real estate and equipment lead times.

[3] Material used, cost of material, environmental considerations, commodity costs, labor costs, labor hours and cost of capital.

(a) Please explain in detail how "appropriate correlations between cost variables" (Volume V, Exhibit E-2, Page 5) are developed and reflected in the model. (b) Please include a list of variables and the degree to which any are correlated. (c) How are these correlations reflected in the model's calculations?

26. What specific variables are called upon by @RISK to determine schedule durations for each segment? Please provide a sample calculation.

(a) Please provide the probability distributions used to determine schedule durations. (b) Please identify the "subject matter experts" used to develop these distributions. (c) Please describe the process used by the experts and model developers to create the distributions.

27. Please describe the current status of the MPRP scheduling effort. Are detailed critical path schedules being developed for each part of the work? When will various parts of the detailed schedules be complete? Please provide any detailed schedules that have been completed to date.

28. Petitioners state that "it is unlikely that the entire solution will be available to be placed in-service by the 2012 need date" (Volume I, Page 100, Line 6). Please provide Petitioners analysis of the overall project schedule including likely in-service dates for each component?

29. Petitioners' description of the scheduling considerations associated with the projects included in the MPRP between the Maxcy's Substation and Orrington Substation (Volume I, Pages 96-99) emphasizes the complexity of the scheduling challenge and the notion that time is of the essence. Please describe the scheduling methodology being employed to meet this challenge, including number and type of personnel assigned to the scheduling effort and the tools being used by the planners.

30. Please provide the fundamental assumptions underlying the development of project schedules, including standard durations, seasonal production and productivity variations, prerequisites to the start of construction, resource constraints, sources and availability of personnel, overtime assumptions, and other factors guiding the scheduling effort.

31. Are the probabilistically determined schedule durations in the probabilistic cost model used only for costing purposes, or are they reflected in the project schedule? If they are reflected in the project schedule, please explain how.

(a) How are the Petitioners treating schedule uncertainties? (b) How are such risks being evaluated within the framework of the MPRP schedule? (c) Are any probabilistic tools being used in the scheduling process?

32. To what extent are Proponents developing plans to manage and mitigate schedule risks? To what extent are contingency plans being developed for schedule delays beyond the 2012 target?

33. Petitioners state that "socialization of the costs of the MPRP would relieve Maine customers of over 90% of those costs" (Volume I, Page 17, Line 15). Please provide the analysis, including calculations, that forms the basis for that estimation.

34. "CMP will know what portions of the project will receive PTF treatment prior to the start of construction" (Exhibit I-3, Page 153). Please describe the process by which CMP will obtain this determination and the expected date the information will be received.

35. "Petitioners expect that almost all of the MPRP will be designated PTF" (Volume I, Page 60, Line 10). Please describe what elements of MPRP might not be PTF, why and the potential cost impact.

36. Please provide a copy of the "Transmission Cost Allocation" application prepared for ISO-NE approval (Volume VIII, Page 3).

37. Please provide a description of and show in detail how the La Capra Northeast Market Model estimates future LMPs, including the energy, congestion and loss components.

38. What steps have been taken to assure that the La Capra Associates Northeast Market Model adequately models the regional market? Please provide any analyses that validate the accuracy of the model versus actual observed data.

39. Petitioners state that:

"The construction of the MPRP will not have an adverse impact on Maine LMPs when compared to the NTAs analyzed." (Volume IX, Exhibit I-3, Page 139)
"Within Maine, LMPs are generally lower for the transmission solution than for the NTA scenario until 2027" (Volume IX, Exhibit I-3, Page 150)
The "construction of the MPRP will produce lower LMPs" in Maine (Volume IX, Exhibit I-3, Page 150).
These conclusions appear to contradict the data in the table "Comparison of LMPs" (Volume IX, Exhibit I-3, Page 149).

(a) Please explain this seeming contradiction.
(b) If the data in the latter table are correct, please provide an analysis of how the transmission solution can serve to increase Maine LMPs (versus the NTAs).

40. With respect to the calculation of Maine LMPs (Exhibit I-3, Page 139ff), please explain (a) any correlation between congestion and losses and (b) the impact such a relationship has on Petitioners' analysis of LMPs. For example, if congestion is reduced, thereby permitting increased exports from the high

generation area (Maine) to the high load area, to what extent is the impact of reduced congestion offset by higher losses?

(c) Please describe in detail the methodology for loss determination and allocation in ISO-NE and in the MPRP estimates. (d) Please explain how loss determinations and allocations eventually translate into customer retail rates.

41. For the loss calculations used by the ISO-NE and summarized in Table MPRP-6 (Volume I, Page 50), please provide the assumptions for each of the nine load / generation / import combinations.

(a) (i) Please provide the detailed calculations, in electronic spreadsheet form as available, for the savings attributed to loss reductions from each of the nine combinations as discussed in Volume I, Page 51. Please provide separate calculations for energy and capacity. (ii) Please explain how the data provided rolls up to an estimated savings of $35 million to $60 million as stated in Volume I, Page 52, Line 4.

(b) (i)For the loss calculations in Table 7-12 of the TAA (Volume VIII, Exhibit I-2, Page 96), please define the interface levels (I1, I2, I3). (ii) Please describe the assumptions for the base case. Are Tables 7-12 and 7-13 savings at the time of 2017 peak load only?

42. Please define the "Modified Societal Cost Test" as used in the Table in Volume IX, Exhibit I-3, Page 53.

43. Please provide details of the regional economic benefits described in Volume IX, Exhibit I-3, Page 138. Please provide the calculations and components of the savings estimates.

44. Petitioners' analysis of the MPRP's impact on regional emissions in 2027 (Volume IX, Exhibit I-3, Page 151) suggests that MPRP leads to no real benefit in this regard. Since it has been suggested that a key benefit of MPRP has been the facilitation of clean generation in Maine and clean imports from Canada, please explain why reduced regional emissions do not result from the MPRP.

45. Please describe Petitioners' plans, if any, to use the analysis of the probabilistic estimating model for purposes of identifying, managing and mitigating potentially high impact project risks.

46. Please provide any analyses, including risk assessments, of the chance that the acquisition of the required 455 remaining parcels (Volume V, Exhibit D-2, Page 3) could delay the MPRP completion.

47. Please provide any analysis, including risk assessments, that municipal siting issues could delay the MPRP completion.

(a) Please provide any risk assessments and impact analysis on the potential that the MACE will not be achieved. (b) CMP states that "additional

capacity to carry out DSM programs" will be required (Volume IX, Exhibit I-3, Page 154). Please provide the plans for how such capacity will be developed and implemented.

48. Please provide an assessment of the risk that additional elements may not be considered PTF.

49. (Volume I, Page 25, Table 4) This table shows an approximate 2.3 percent load growth continuously occurring from 2008 through 2017. What is the comparable projection for system peak load growth that has been most recently used by ISO in its planning exercises?

50. (Volume I, Page 22, Lines 1-12) CMP removed all existing SPS's from its analysis to better understand how the underlying transmission system responds. Are the existing SPS's within the CMP system in essence Non Transmission Alternatives (NTAs) themselves?

51. Was the initial basis for development of the SPS's a means of dealing with system reliability needs in a less expensive way than transmission construction?

52. Why were they (SPS's) either not added back in to the proposed system or alternatively considered as a part of the NTA analysis.

53. Regarding the conclusion at Volume I, page 3, lines 20-21, that the transmission solution proposed produces energy benefits to the rest of New England that exceed the entire cost of the project , would this conclusion change if MPRP were to be approved but without segment 27, the third 345 kV connection to PSNH.? Please explain.

54. Volume V, Exhibit D-1, Page 2 of 5: Please provide a more detailed explanation of the factors that support the decision to build the new 115 KV Section 254 to 345 KV standards. Please also provide a detailed cost comparison analysis that breaks down any incremental difference in overall construction cost associated with building Section 254 at 345 KV standards versus 115 KV standards.

Dated: September 17, 2008

Respectfully submitted,

James A. Buckley
Hearing Examiner