

MEMORANDUM

To: K. Shea
From: RFP Response Analysis Team
Re: Responses to GSRP/MMP RFP
Date: January 30, 2009

I. Analysis of Proposed Alternatives' Non-Compliance With Qualifications for Consideration

RFP responses must "identify and purport at a minimum to meet statutory and regulatory standards applicable to such proposals." (Preferential Criteria, at 1) One of these statutory criteria is that they propose "alternative solutions to the need that will be addressed by the proposed facility in (the Siting Council) application." (Conn. Gen. Stats. Sec. 16a-7c). Accordingly, the RFP advised potential responders that the CEAB would consider: only proposals that address "the electric system issues" that the GSRP and MMP seek to address. (RFP, at 6)

None of the responses to the RFP "purports" to meet the need addressed by GSRP. The "reliability" benefits of competing projects are measured by "national and regional reliability criteria applicable to the regional bulk power grid, as determined in consultation with the regional independent system operator..." Conn. Gen. Stats. Sec. 16a-7c(f); 16-7(a)(6) None of the proposals claim to achieve compliance with these criteria, which is the fundamental aim of GSRP and MMP. Accordingly none of them "purport" to address the need served by the proposed transmission projects.

Ice Energy

"Ice Energy supports both the need and justification for the GSRP and MMP transmission system projects." (Ice Energy Response, p. 1) It proposes not a substitute to GSRP, but rather makes a "complementary proposal." (Id.) The Ice Energy proposal is, on its own merits, intriguing and quite likely meritorious, but since it is not offered as a substitute for GSRP, it is not considered further in this memorandum.

Towantic

Towantic recognizes that "the main purpose of the GSRP is to address the reliability issues primarily in the Springfield area of Massachusetts *that will make this portion of the grid compliant with federal standards.*" (Towantic Response, Ex. G., GEASE Study, at 14; emphasis added; see also *Id.*, at 16, 17) But the Towantic proposal doesn't claim to serve this purpose – just to "*help to alleviate some of the reliability problems in the Springfield area...*" (Template 16, p. 35; Ex. G, GEASE Study, at 16; emphasis added). Towantic says that by adding capacity in Connecticut, it will reduce the need for imports from Massachusetts. (Ex. G, GEASE Study, at 14; see also, Template 16, p. 35) At the same time, Towantic asserts that it "displaces generation from other less-efficient units with higher emission rates..." (Ex. G, GEASE Study, at 10). Of course, many of these plants are in Connecticut, and displacing them would do nothing to reduce Connecticut's need for additional transfer capacity. Towantic does not explain how the reliability criteria violations that the construction of the Towantic plant would not address could be resolved, other than by construction of GSRP and MMP.

NRG

NRG also does not claim that its plant will make any portion of the grid compliant with federal and regional system security standards. Like Towantic, NRG claims that its plant will help meet some reliability problems by reducing the need for imports. (Template 14) In addition, NRG claims that its plant would free up generation in “northern Connecticut” to support Springfield under certain circumstances (Id.), although there are only a few, small hydro and jet plants in northern Connecticut, which run only in emergencies. Finally, NRG asserts that the Meriden plant would lower east-west flows on the transmission system. (Id.). Thus, like Towantic, NRG claims benefits that assume the addition of net new generation, and at the same time that it will displace existing generation. NRG specifically claims that the Meriden plant will displace Connecticut generation. (Optional Template, “Efficiency Benefits.”) Like Towantic, NRG does not suggest how the many reliability criteria violations that construction of its plant would not address could be resolved, other than by construction of GSRP and MMP.

II. A Preliminary Power-Flow Study Demonstrates that Neither of the Proposed Generation Alternatives Meets the Reliability Need Addressed By the Proposed Transmission Projects

Each of the proposed generators was modeled using a contingency deck and a dispatch used in the studies NUSCO planning previously supplied to LaCapra Associates, modified to reflect the addition of the hypothesized new plant to the system topology. The dispatch selected was one of those used in the previous studies – the one that assumes the most Springfield generation “on” and thus produces the fewest number of pre-project criteria violations, and is most likely to show resolution of those violations by additional generation in Connecticut. This power flow modeling and its results are described and document in the following enclosures, all of which contain CELL.:

Memorandum: “Preliminary Analysis of The Technical Effectiveness of Proposed Generation Alternatives To GSRP.

ATTACHMENT A.1

*Complete N-1 Contingency Analysis Results for Meriden Plant
Complete N-1-1 Contingency Analysis Results for Meriden Plant*

ATTACHMENT A.2

*Complete N-1 Contingency Analysis Results for Towantic Plant
Complete N-1-1 Contingency Analysis Results for Towantic Plant*

ATTACHMENT A.3

*Power-Flow Summary for the Meriden Power Analysis provided as PDF
attachment “Power Flow Summary-Meriden Plant”*

ATTACHMENT A.4

*Power-Flow Summary for the Towantic Power Analysis provided as PDF
attachment “Power Flow Summary-Towantic Plant”*

Neither the Towantic nor the Meriden plant resolves either the N-1 or N-1-1 criteria violations. The results of the power-flow study were consistent with the observation of LaCapra Associates referring to the NUSCO and ICF studies previously provided: "Based upon the material received from CL&P to date, it would appear that significant amounts of NTAs, possibly in excess of 1,000 MW in each of the WMECO and CL&P service territories, would be required to address the identified reliability needs."

III. Economic Claims Made By NRG and Towantic

Neither company complies with the instruction of Template 6a:

Please provide indicative estimate of any revenue incremental streams, over and above market or other revenues, expressed in terms of \$ per summer kW per year, that the bidder wishes to assign to its capacity for over the life of the project.

Towantic's response to this instruction relies on a proposed contract previously submitted to CL&P, the terms of which it will not disclose (See, Towantic Response, Template 7, at 17; Template 16, at 32-34; Ex. F, Brattle Report (redacted) at 1). This contract can not be disclosed to NUSCO Planning because of a confidentiality agreement between CL&P and Towantic.

It appears that both Towantic and NRG propose 15-year contracts pursuant to which the net direct costs associated with each plant will exceed \$20 million per year (in the best case), premised, in part, on Connecticut's EDC's and their customers bearing the risk of volatility in what NRG identifies as "variable costs of production (fuel, emissions costs, etc.)." (Template 6a) Moreover, both Towantic and NRG rely heavily on forecasts of future avoided costs for their claims that, over the life of the contracts, Connecticut electric customers would realize net benefits from the proposed contracts. It is difficult to evaluate these projections given the lack of detail in the proposals, and the long forecast period.

Towantic also asserts that GSRP – and the other NEEWS projects - would provide no economic benefits to Connecticut customers (only compliance with governing reliability standards.) See, e.g. Towantic Response, Ex. G, GEASE Report, at 14-16. It is true that CL&P has consistently characterized GSRP and the other NEEWS projects as reliability projects, which would have only collateral economic benefits; and that CL&P has not attempted to quantify future benefits from avoided costs. See, e.g., CL&P's Interstate Reliability Project Municipal Consultation Filing, Vol. 1 at IV-14.¹ However, that is not to say that transmission reliability projects do not have economic benefits. The same kind of forecasts of future avoided cost savings that appear in Exhibit F to the Towantic response, an analysis by the Brattle Group of the proposed Towantic contract (appropriately hedged with disclaimers) can be developed for transmission reliability projects. Johannes Pfeifenberger, the author of the Brattle Group estimate, has

¹ "CL&P can not predict the congestion cost savings that the Project and the other NEEWS projects will bring, because that amount will depend on many variables including changing market rules, generation additions and retirements, load growth, and the success of increased conservation efforts...[T]he economic benefits of relieving congestion can be estimated retrospectively...[I]n its first full year in service, the Bethel to Norwalk 345-kV project reduced congestion costs by approximately \$150 million..."

emphasized this point. See, Pfeifenberger and Newell, *Evaluating the Economic Benefits of Transmission Investments*, May 3, 2007 (copy enclosed).

However, unless and until a non-transmission alternative to a proposed transmission reliability project is shown to resolve the reliability need addressed by the transmission project, there is no occasion to analyze the economic benefits of the transmission and non-transmission alternatives.

IV. Environmental Issues

Some information concerning the environmental impacts of the two generation proposals can be gleaned from a review of the Connecticut Siting Council proceedings concerning them (CSC Docket 190 for Meriden and Docket 192 for Towantic, both decided in 1999). The Opinions in each case reflect that the Council (in the case of Meriden, a majority of the Council) determined that the then-perceived market need for the each of the proposed generators outweighed their anticipated environmental effects. However, that is not to say that the Council concluded that the generators would have no environmental effects. To the contrary, in each case, the decision papers identify numerous impacts.

In the case of the Meriden plant, Brian Emerick, the designee of the Commissioner of Environmental Protection and Vice Chairman Colin Tait dissented from the grant of a certificate because they found the visual and ecological impacts of the proposed plant to be unacceptable. Although NRG includes the Findings of Fact, Opinion, and Decision and Order of the Council in its RFP Response, it omits the Dissenting Opinion. A copy is provided with this memorandum.

In any case, that the environmental impacts of the generation projects were not considered to be sufficient reason to deny certificates for them in 1999 says nothing about the environmental effects of those proposals and as compared to the effects of GSRP. Such a comparison will be challenging because the effects are, in many respects, quite different.

Even where the claimed environmental effects of the projects are similar, comparison is challenging. For instance, while both generation projects will be powered by fossil fuel, the developers claim that they will improve air quality because they will displace older, dirtier plants. On the other hand, we believe that one of the benefits of the NEEWS transmission projects as a whole is that they will provide access to remote sources of generation, including low-emission and renewable sources. A comparison of the positive environmental effects of the NEEWS projects to those of each of the generation projects thus requires predictions of the likely generation dispatch that each of them will produce over a long period into the future.