La Capra Associates

INITIAL REVIEW OF

INTEGRATED RESOURCE PLAN FOR CONNECTICUT

A JANUARY 1, 2008 REPORT
PREPARED BY

CONNECTICUT LIGHT AND POWER UNITED ILLUMINATING

FOR COMPLIANCE WITH
REQUIREMENTS IN

SECTION 51 OF PUBLIC ACT NO. 07-242

PREPARED BY

La Capra Associates, Inc.
Twenty Winthrop Square
Boston, MA 02110

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EXECUTIVE SUMMARY

On January 1, 2008, Connecticut Light & Power and United Illuminating submitted a report entitled *An Integrated Resource Plan for Connecticut* to the Connecticut Energy Advisory Board for its review. The Companies prepared this report in accordance with Section 51 of Public Act No. 07-242, An Act Concerning Electricity and Energy Efficiency. Section 51 requires the CEAB, in consultation with the Independent System Operator – New England, to review the Companies' IRP and approve it as submitted or as modified. The CEAB must then submit the approved plan to the Department of Public Utility Control for its consideration no later than April 30, 2008.

La Capra Associates offers this initial review of the Companies' IRP to the CEAB as a starting point for its consideration of the Companies' IRP.[1] At the CEAB's request, La Capra Associates has conducted a preliminary review of the Companies' IRP. The objective of this preliminary review has been to assess the extent to which the Companies' IRP provides the information requirements set forth in Section 51.[2]

La Capra Associates has conducted this expedited initial review during January. This review has been facilitated by the Companies' January 4, 2008 presentation to the CEAB and, in addition, the Companies made their IRP team available to meet with La Capra Associates for a day-long technical discussion of the Companies' IRP on January 10, 2008.

Key Observations from the Review

In our view, the Section 51 requirements set a very constructive and comprehensive set of requirements for an integrated resource planning and procurement planning process for Connecticut. It is also our view that Section 51 sets very aggressive timelines for the preparation and review.

At the outset, we observe that the Companies' have made a concerted effort to prepare a planning report that is responsive to the requirements of Section 51. They have prepared a substantial set of assessments in the six months since Public Act No. 07-242 became law. However, the Companies stress the limitations of their work to date and indicate that the January 1, 2008 report:

1 La Capra Associates leads a consulting team which has been retained by the CEA B to assist with the CEAB's review and approval of the Companies' IRP.

2 In parallel with this review for compliance with Section 51, La Capra Associates is proceeding with a technical review of the assessments conducted by the Companies.

- Is a resource planning study, not a procurement plan
- Has limited analysis related to transmission
- Is not a siting analysis for new generation
- Is not a procurement risk management study
- Is not a renewable energy market study

We offer the following key observations on the contents of the Companies' IRP relative to the requirements of Section 51:

1. Planning Assessments: The Companies' IRP fully or partially meet the requirements in five of the six statutory areas.
2. Procurement Plan Requirements: The Companies' IRP fully or partially meet the requirements in four of the five statutory areas.
3. Procurement Plan Considerations: The Companies' IRP fully or partially meet the requirements in six of the seven statutory areas.

A Summary Scorecard reflecting our judgment as to the Companies' IRP Degree of Compliance in each statutory area is attached as Appendix B. The Degree of Compliance noted on Attachment B indicates our view on the level of completeness, and does not indicate whether we have made any determination as to agreement on assumptions or results. Our review of the assumptions and results is ongoing and will be addressed in later stages of the review.

Our primary observations and concerns are:

1. The IRP includes a responsive assessment of the energy and capacity requirements. The Companies conclude that Connecticut does not need added local generation for some time. However, this assessment is premised on an assumption of no retirements.
2. The IRP contains meaningful assessment of the DSM potential needed to eliminate growth in energy in demand. More work is needed on how best to accomplish that goal.
3. The IRP includes a meaningful assessment of economic risks using scenario analysis and modeling of the regional markets. This assessment does not currently assess the risks of potential retirements of older generation and does not integrate transmission planning.
4. The IRP analysis provides an assessment of greenhouse gas emissions and potential costs. The assessment does not consider many other environmental requirements, such as the Clean Air Interstate Rule or the High Electric Demand Days initiative.

5. The Companies have focused their planning on state-wide generation and demand-side resources. The assessments do not consider transmission planning issues.
6. The Companies four recommendations are in the form of recommendations for additional investigation. The IRP does not contain a Procurement Plan or an Action Plan for implementation.

Potential Issues for CEAB's Review and Approval Process

Section 51 provides a 120 day period, through April 30, 2008 for the CEAB to review and approve or review, modify and approve the procurement plan. Based upon our initial review of the Companies' IRP, we offer the following ideas on topics that the CEAB may wish to address in this review process:

- Working with the Companies to:
    1. Better define the actions needed to expand the DSM programs.
    2. Better assess the implications of more stringent emissions regulations on older Connecticut generating units and the associated need for new resources.
    3. Develop an approach to integrate the Companies' IRP with transmission planning needs assessments.
    4. Better assess the in-state renewable energy potential and development challenges.
    5. Better define the costs and benefits of long term contracting and options for implementing that recommendation.
- Working in consultation with ISO New England:
    1. Review the Forward Capacity Market Auction results for Connecticut resource planning implications.
    2. Review recent market congestion information to assess the Companies' finding that congestion is largely mitigated.

Report Structure

This Initial Review Report is structured to parallel the provisions of Section 51. First, Section I of this report describes the scope of review. Next, Sections II through V this report discuss the four subsections and the twenty requirements contained Section 51 subsections (a) through (d) including: Planning Assessments; Procurement Plan Requirements; Procurement Plan Considerations; and, overall objectives for the Comprehensive Procurement Plan. Finally, Section VI offers some suggestions for the CEAB to consider for the 2008 review/approval process or in later cycles of this planning process.

I. SCOPE OF REVIEW

A. Background

Section 51 of Public Act 07-242 (Section 51), An Act Concerning Electricity and Energy Efficiency ("Section 51"), requires Connecticut Light and Power ("CL&P") and United Illuminating ("UI") (together, "the Companies") to review the state's energy and capacity resource assessment and develop a comprehensive plan for the procurement of energy resources. Section 51 requires CL&P and UI prepare this assessment and plan annually, with the first of such assessment and plan to be submitted to the Connecticut Energy Advisory Board ("CEAB") for its review by January 1, 2008. Public Act 07-242, and the requirements in Section 51, became effective on July 1, 2007.

Following passage of PA 07-242, CL&P and UI retained The Brattle Group as consultants and together they prepared *An Integrated Resource Plan for Connecticut.* This January 1, 2008 report (the "Companies' IRP") was submitted to the CEAB for its review.

Section 51 requires that the CEAB conduct a review of this January 1, 2008 plan. For the 2008 plan, this review process is a 120 day process. The statute contemplates the review to include consultation with ISO New England and a public hearing. At the conclusion of this review, the CEAB is to submit the reviewed procurement plan, with modifications as appropriate, together with a statement of any unresolved issues, to the Department of Utility Control ("DPUC") for its subsequent review as provided in Section 51.

La Capra Associates was retained to assist the CEAB with its review of the January 1, 2008 procurement plan.[3] As the first part of that assistance, La Capra Associates has been asked to conduct a preliminary review of the Companies' IRP within the first 30 days of the review process and to present that preliminary assessment to the CEAB for its consideration by February 1, 2008. The objective of this preliminary review is to assess the extent to which the Companies' IRP provides the information requirements set forth in Section 51.

This report contains La Capra Associates' preliminary assessment of the contents of the Companies' IRP relative to the requirements set forth in Section 51. This report is designed to inform the CEAB on the contents of the Companies' IRP to facilitate the CEAB's consideration of the issues and subsequent work toward a final report that will be delivered to the DPUC on April 30, 2008. The CEAB and other readers of this report should also recognize that the time

[3] La Capra Associates leads a consulting team which also includes subcontractors GDS Associates and Heather Hunt..

available to the Companies to prepare this first annual plan was limited relative the scope of the effort set forth in Section 51, as these requirements became effective on July 1, 2007.

B. Preliminary Review Process

This preliminary review has been conducted by personnel at La Capra Associates. Due to the limited time provided for this preliminary assessment, there was limited opportunity for input to this review from CEAB members or their staff representatives. This review, therefore, represents the initial observations of La Capra Associates and does not necessarily represent the views of the CEAB or any of its members.

This review has been conducted as a technical review. La Capra Associates' expertise in electric utility planning was utilized to assess the contents of the Companies' IRP and requirements of Section 51 from the perspective of professionals with expertise in planning. This assessment did not include any legal review and it is not intended to offer any legal opinions.

The Companies and their consultants from the Brattle Group provided a presentation of the Companies' IRP to the CEAB on January 4, 2008. In addition, the Companies and the Brattle Group made their IRP team available to meet with La Capra Associates for a technical discussion of the Companies' IRP on January 10, 2008. These sessions have facilitated the initial review conducted by La Capra Associates' to gain necessary understanding of the assumptions, methods, and results contained in the Companies' IRP. However, it is important to note that, to date, these discussions with the Companies, while very helpful, have been limited and informal. As such, the observations made in this report will be further developed through continued review of supporting documents and information exchange.

C. Structure of this Preliminary Assessment Report

Section 51 of Public Act No. 07-242 has seven subsections. They set forth requirements relative to the Companies' preparation and filing of the plan. They also detail the CEAB's and DPUC's review and reporting requirements, and cost recovery provisions. The first four of these subsections, (a) through (d), contain requirements relevant to the Utilities' preparation of the annual assessments and procurement plans in consultation with the CEAB. The complete text of Section 51 is included in Appendix A of this report. The assessments contained in this report address only subsections (a) through (d).

In Section II of this report, we provide a review of the contents of the Companies' IRP with the Planning Assessments required to be included in the January 1, 2008 in accordance with subsection 51(b). This subsection sets forth six areas where planning assessments are required.

In Section III of this report, we provide a review of the Companies' IRP with respect to the Procurement Plan Requirements set forth in subsection 51(c). This subsection contains five requirements.

In Section IV of this report, we provide a review of the Companies' IRP with respect to the Procurement Plan Considerations set forth in subsection 51(d). This subsection contains seven areas that are to be considered in the Procurement Plan.

In Section V of this report, we provide a review of the Companies' IRP with respect to the requirements for a Comprehensive Procurement Plan for energy resources in accordance with subsection 51(a).

Section VI includes suggestions for areas of focus in remainder of the CEAB's review and approval process and in preparing the April 30, 2008 procurement plan report to the DPUC.

II. SECTION 51(B): PLANNING ASSESSMENTS

Subsection 51(b) sets forth requirements for six areas of planning assessments that the Companies were to include in the January 1, 2008 report. The planning assessments required in this section are consistent with the planning studies that are conducted as the basis for utility system planning. Special emphasis is placed on assessments that will inform the Connecticut priorities of managing load growth, mitigating environmental impacts of power system environmental impacts, and managing the level and volatility of costs.

For each of the six assessment requirements, we offer a description of the requirement, a description of the treatment of that requirement in the Companies' IRP, and an indication of our impression of the degree of compliance with the requirement. For the degree of compliance, we apply our judgment to indicate one of the following:

FULL	Indicates that the IRP meets or largely meets the requirement
PARTIAL	Indicates that the IRP addresses the requirement in part, but not fully.
LIMITED	Indicates that the IRP has some treatment of the requirement, but that it is largely insufficient to meet the requirement
N/A	Indicates that the requirement is Not Addressed in any manner in the Company's IRP.

A Summary Scorecard for each of these component requirements is included in Appendix B of this report.

The review of the Companies' IRP contained in this report is a review for completeness, not a technical review. For example, an indication that the Utilities' IRP fully complies with the requirement only indicates that an assessment has provided and that the represented approach for that assessment is consistent with our expectations for such an assessment. Degree of Compliance does not indicate whether La Capra Associates has made any determination as to agreement on assumptions or results. Review of the assumptions and results is ongoing at the time of this writing and will be addressed in later stages of the review. In this section, we assess the materials provided by the utilities for each of the six requirements and determine whether the form of that assessment is consistent with (or better than) the type of assessment that is typically provided in utility plans.

A. The Energy And Capacity Requirements Of Customers For The Next Three, Five And Ten Years

Description of the Requirement:

This assessment is a standard utility planning analysis including load forecasting and installed capacity requirements assessments.

Energy and capacity requirements, in total, are determined with load forecasting techniques that estimate the growth in electricity demand over time. This typically includes forecast of energy requirements by month/season/year and of peak demand (i.e., the highest hourly load in each month/season/year). ISO New England now does this form of assessment to set the installed capacity requirements for the Forward Capacity Market three years in advance. The Connecticut Siting Council (CSC) also collects and publishes such forecasts annually.

The assessment of the requirements for new or additional capacity and energy to meet requirements that cannot be met without new supplies is also typically conducted in this assessment. In this instance, a forecast of energy and capacity that will be available from existing sources is compared to the load forecast to determine any gaps between supply and demand over time.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies have included an assessment of the energy and capacity requirements for the 3, 5, and 10 year periods and for the year 2030 in Section II C of the Companies' IRP. This assessment uses ISO-New England load forecasts to assess the needs requirements in the State, providing projections of total requirements and the need for new supplies for four scenarios. The requirements that the Companies addressed include the Forward Capacity Market Installed Capacity Requirements and the Connecticut Local Sourcing Requirements, as well as consideration of new supplies under development now to meet the Forward Capacity Requirements or the Locational Forward Reserve market requirements.

From the assessment conducted, the Companies conclude that no new generation additions are required in Connecticut over the next decade to meet the Local Sourcing Requirements of the ISO New England Forward Capacity Market, assuming no retirements of existing generation. (Companies' IRP, page 40)

Degree of Compliance: FULL

The Companies have provided an assessment of energy and capacity requirements for each of the time horizons specified in the requirement.

B. The Manner Of How Best To Eliminate Growth In Electric Demand

Description of the Requirement:

We understand this requirement to be seeking a specific assessment of alternatives that would eliminate growth in overall electrical energy requirements, to determine the best approach among those alternatives, and an assessment of how to accomplish that best approach.

The use of the term "Electric Demand" we have assumed to refer to energy savings, based on the use of the terms "electric demand" and "peak electric demand" in requirement 3) in the subsection and in Section 94 (c) of PA 07-242.

This assessment requires an assessment of the potential for energy savings from energy efficiency programs that may be administered by the utilities and could also include consideration of other options, such as pricing options, building codes, or appliance efficiency standards. Studies are often conducted to assess the technical and economic potential for energy efficiency measures that utilities may offer in a demand side management program where the objective is to determine the limits of cost-effectiveness and budgets available for DSM programs. A study with an objective of elimination of load growth is less common and more aggressive.

Lastly, the use of "manner" in this requirement appears to be seeking an assessment of the ways to implement this level of Electric Demand reduction.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies have adapted the 2004 DSM potential study conducted by the Energy Conservation Management Board and other studies that the Companies' have conducted to prepare an aggressive "DSM-Focus" scenario. This scenario does eliminate growth in Electric Demand and Electric Peak Demand. However, the Companies acknowledge "this analysis has not attempted to optimize the type or quantity of DSM programs, but simply evaluated two different levels of specified DSM." (Companies' IRP at Pages 42- 43).

The Companies document the two DSM Scenarios assessed in Appendix D. In this appendix, they describe the sources of the assumptions on the DSM-focus scenario and provide a discussion of issues that would need to be considered in developing a program to increase the level of DSM activity contemplated in this scenario. However, they do make clear that this scenario assessment is not a Conservation and Load Management (C&LM) or a DSM potential study (Companies' IRP Appendix D at page D-22).

The Companies also mention that the Energy Conservation Management Board is planning an update to its 2004 DSM potential study for 2008, which may produce important information for addressing this objective further in the 2008 planning cycle.

Degree of Compliance: PARTIAL

The Companies' assessment shows scenarios that accomplish the elimination of load growth. The Companies have extended the existing available information on the maximum potential for DSM to illustrate the characteristics of the program that would be needed to accomplish the elimination of load growth. The Companies' IRP presentation of this aggressive DSM scenario is helpful new information needed to consider such an aggressive DSM initiative.

The cost effectiveness of and demand reduction actions, whether they be programs offered by the utilities or building code changes does not appear within this report. The report (pages D-1 to D-2) refers to the cost-effectiveness for the DSM Focus plan only as "the estimate assumes that all measures that pass the Total Resource Cost (TRC) test are implemented…".

As is clearly stated in the Companies' IRP, this assessment is not an implementation plan and it has not necessarily developed an optimal (or the "best") approach to accomplish this objective. This assessment does point to additional studies that should be conducted to allow future planning cycles to more fully address this requirement (Companies' IRP, Appendix D, pages D-20 to D-21).

C. How Best To Level Electric Demand In The State By Reducing Peak Demand And Shifting Demand To Off-Peak Periods

Description of the Requirement:

This requirement is the Peak Demand counterpart to the Electric Demand issues addressed in the previous requirement.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies IRP addresses both Peak Demand (capacity) and Electric Demand (energy) aspects of demand-side management in the IRP and the Appendix D.

The Companies' estimates for demand response programs did not have the benefit of using prior potential studies, as the ECMB study in 2004 focused only on energy efficiency measures. This is another area identified for additional study.

Degree of Compliance: PARTIAL

The compliance on this is similar to the prior requirement on Electric Demand for very similar reasons. The Companies' IRP offers an aggressive scenario and information to consider in expanding this resource, however, the information base is not yet sufficient to have a full assessment of the best approach to eliminating growth in Peak Demand.

D. The Impact Of Current And Projected Environmental Standards, Including, But Not Limited To, Those Related To Greenhouse Gas Emissions And The Federal Clean Air Act Goals And How Different Resources Could Help Achieve Those Standards And Goals

Description of the Requirement:

This requirement calls for assessments of current and future environmental regulations as they affect the operation of generation in Connecticut and the region. There are several areas of interest in Connecticut in this regard, including:

1) Greenhouse gas regulations are relevant to this planning process due to the 2009 implementation of the Regional Greenhouse Gas Initiative in the Northern states and the expectations that some form of federal regulation of greenhouse gases will be implemented.

2) The Clear Air Interstate Rule will be placing further restrictions on NO_x and SO_2 emissions in Connecticut.
3) The High Electric Demand Days (HEDDs) program is focusing on reducing NO_x emissions during high peak demand days in ozone non-attainment zones.
4) Clean Air Mercury rules focus on reductions in mercury emissions reductions from coal facilities in Connecticut.
5) Renewable Portfolio Standards establish requirements for renewable energy production in Connecticut and throughout the region.

Rules in each of these areas, both existing and projected, have significant implications for the electric system planning process.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies' IRP includes a scenario analysis approach. The modeling used in this analysis included the assessment of CO_2, NO_x and SO_2 emissions and the tracking of carbon emissions relative to RGGI caps. The model also included the cost of emissions allowances in the operations generation in the region.

In this planning process, the Companies' IRP assumes no retirements of existing generation and no changes in the emissions performance of existing generation units (i.e., no added emission control technologies).

With respect to renewable portfolio standards, the modeling included an assumption that Connecticut and the region would not have sufficient new renewable capacity to meet the RPS requirements. Based on that assumption, Renewable Energy Credits were assumed to be priced at the Alternative Compliance Payment.

Degree of Compliance: LOW

The primary emphasis in the Companies' IRP was the tracking of carbon, NO_x and SO_2 emissions.

The emissions issues with existing units have been an area of significant interest to the CEAB and the DEP. The Companies' IRP assessment does not include any assessment of alternatives to continued operation of those existing units that pose the challenges to compliance with CAIR, HEDDs, among others.

The Companies' raise their concerns with respect to the ability of the market to meet the renewable portfolio standards. There is limited information in the plan on the potential for renewables development.

E. Energy Security And Economic Risks Associated With Potential Energy Resources

Description of the Requirement:

This requirement pertains to a potentially broad array of issues that affect the reliability of the power system or the stability of the pricing of electricity. Economic risks include limited diversity in fuels supplies (such as New England's heavy dependence on natural gas), volatile pricing in fuels or in market prices, and exposure to shortage pricing in the event of limited development of new, cost effective supplies. Security has several potential dimensions, including vulnerability to natural disasters, terrorism, fuel supply disruptions, or over reliance on foreign sources of fuel.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies' IRP addressed security and risk in three ways.

The first issue is fuel diversity and the exposure to natural gas price volatility and to natural gas supply disruptions in winter conditions. The primary metric for this is the amount of natural gas in the annual and seasonal fuel mix.

The second issue pertains to the exposure to market prices determined predominantly by natural gas prices. To assess this, the Companies offer a comparative analysis of market pricing to cost of service pricing.

Lastly, the Companies' IRP analysis also featured a scenario analysis approach. This offers the ability to examine a range of comparative metrics of cost and risk under four different views of future market conditions.

These risk issues are featured in two of the Companies' four recommendations. The Companies' recommend (Recommendation 2) the there be an exploration of longer term power contracts with merchant generation and utility owned generation to mitigate the economic exposure to short term market prices. The Companies' also recommend (recommendation 4) that consideration be given to non-gas generation sources (such as coal, nuclear and renewables) to mitigate the gas price and availability risks.

Degree of Compliance: PARTIAL

The Companies have presented significant analyses which illustrate the risk exposures featured in their recommendations. The Companies' analysis leads them to recommend further consideration of risk mitigation issues. The Companies' have offered this IRP as

a planning study and not a procurement plan. Additional work is needed to develop these issues for a procurement plan recommendation.

The report does not contain any observation, conclusions or recommendations on the impact the implementation of and evolution of environmental regulations will have on Connecticut generation.

F. The Estimated Lifetime Cost And Availability Of Potential Energy Resources

Description of the Requirement:

This requirement pertains to two specific aspects of energy resources important to achieving or maintaining reliable and affordable electricity for Connecticut consumers: cost and availability. Potential energy resources refers broadly to the new (or refurbished) supply and demand-side resources to be considered in the plan, including generation facilities producing energy in Connecticut, energy efficiency programs in Connecticut, and transmission projects designed to enhance reliability and/or increase energy exchange capability between Connecticut and its neighboring systems. This requirement provides that the utilities should prepare an assessment of the availability of these resources and the estimated costs to design, construct or implement, and to operate and maintain these resources over their useful lives.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies address these issues in several ways.

For existing generation sources, the Companies assumed that all units would remain available. Their analysis did not include retirement of any generation due to economic obsolescence, poor availability or regulations (such as environmental). More specifically, the utility modeling of The Plans and Scenarios do test internally within the model whether continued operation of all Connecticut generation makes sense economically. The analysis does not assume any investments are made in order to keep these facilities within environmental compliance limits for any emission.

For new generation resources, nuclear, coal, and gas-fired generation were assumed to be available and used in scenario analysis.

Natural gas is assumed to be available. Oil availability is not addressed or presumed in any analysis other than no retirements mentioned of any oil-fired generation in New England.

Renewable resources were assumed to be constrained, such that the Alternative Compliance Payment would determine the costs of the RPS requirement. Appendix E. does provide a levelized lifetime costs of renewable energy based generation

The Companies prepared an assessment of the potential resource availability, building upon a 2004 demand-side resources potential study for ECMB. This is addressed further in Section III B, below.

In terms of costs of energy resources over the lifetime, the analysis incorporates estimates for natural gas and oil based on NYMEX and EIA growth rates. It is not apparent what prices were used for coal, nuclear, biomass or refuse, anywhere in the report.

The lifecycle cost of generation technologies only occurs with those technologies studied within the scenarios, combustion turbines, combined cycle, nuclear and super-critical coal were included. No assessment of the costs and availability of Combined Heat and Power (CHP) based generation.

Degree of Compliance: PARTIAL

The company assembled a reasonable set of planning assumptions for demand-side management resource and major generation facilities. The assessment was limited in the potential estimates for renewable energy resources, combined heat and power, and on the longevity of older, existing generation sources.

III. SECTION 51(C): PROCUREMENT PLAN REQUIREMENTS

Section 51 (C) establishes a first priority for the use of energy efficiency and demand-reduction resources to meet the needs identified for the Procurement Plan to the extent that these resources are cost-effective, reliable and feasible. This section also sets a requirement that demand side resources be considered on an equitable basis with non demand-side resources. In that context, this section specifically identifies five requirements for the contents of the Procurement Plan. For each of the five categories, we offer a description of the requirement, a description of the treatment of that requirement in the Companies' IRP, and an indication of our impression of the degree of compliance with the requirement (using the same method as in the prior section). A Summary Scorecard for each of these requirements is included in Appendix B of this report.

A. Specify The Total Amount Of Energy And Capacity Resources Needed To Meet The Requirements Of All Customers

Description of the Requirement:

This requirement is met with the first of the six assessment requirements in Section 51-B, which is discussed in Section II A above.

Summary of the Treatment of the Requirement in the Companies' IRP:

See description in Section II A above.

Degree of Compliance: FULL

See assessment in Section II A above.

B. Specify The Extent To Which Demand-Side Measures, Including Efficiency, Conservation, Demand Response And Load Management Can Cost-Effectively Meet These Needs

Description of the Requirement:

This requirement refers to a maximum achievable, cost-effective potential study for the range of demand-side measures encompassed in the requirement. This is a common assessment used to inform the development of a comprehensive demand-side procurement plan.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies conducted an assessment of the potential for demand-side resources and included that assessment in the IRP. This assessment was based on an energy efficiency potential study conducted in 2004 for the Energy Conservation Management Board (ECMB). The Companies supplemented and updated this study with more current information and added an estimate of the potential for demand response.

Degree of Compliance: FULL

The Companies' review and adaptation of the existing studies in this area identified the need to conduct a comprehensive update to this study. The Companies note that ECMB is planning such a study in 2008.

Time did not allow the Companies to conduct a new and comprehensive study for January 1, 2008. In lieu of that, the 2004 work was adapted to provide the best readily available estimate. In context, this assessment complies with the requirement.

C. Specify The Needs For Generating Capacity And Transmission And Distribution Improvements

Description of the Requirement:

This requirement refers to assessments of 1) the adequacy of generation to meet the peak demand and energy requirements of customers, 2) the adequacy of the transmission system to meet reliability criteria and provide customers with efficient access to generation supplies, and 3) the adequacy of the distribution system to reliably serve customers.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies' IRP addresses only the generation component of this requirement, which is discussed in Section II A, above. In this assessment, they conclude that additional generation capacity is not needed in Connecticut in the next decade.

In discussing the limitations of the study, the Companies note that they "...did not provide a cost/benefit analysis of transmission options; and did not compare the economics of transmission vs. generation or vs. demand-side options..." (Companies' IRP, page 48) They also indicate that the generation need analysis conducted did not consider location, only the aggregate amount of capacity needed to meet customer requirements.

In the scenario analysis, the Companies did conduct sensitivity analysis of the market price results with and without the Connecticut portions of the NEEWS proposal.

Degree of Compliance: PARTIAL

The lack of any consideration of the transmission needs in this assessment is a significant limitation of this study. In light of the NEEWS plans and additional transmission needs assessment studies that are underway[4], the potential for interactions between demand-side and generation resources is significant. The requirement for assessment of demand-side resources on an equal footing with non demand-side resources should include transmission and distribution considerations.

D. Specify How The Development Of Such Resources Will Reduce And Stabilize The Costs Of Electricity To Consumers

Description of the Requirement:

This requirement refers to assessments and analyses that will test the proposed plans cost impact on customers, including overall costs and rates and the degree of stability in those costs over time. This requires the calculation of rate impacts and trends or average per unit costs under the future conditions when the various generation, DSM and transmission options are deployed.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies' report and analysis provides information on the per-unit costs of generation service for four different plans across the four scenarios. Average costs per kWh for the full generation service that is needed to meet customer demand were produced for each condition.

To test the cost implications for cost-of-service approaches to procurement, each scenario was evaluated under the Market Regime and the Cost of Service Regime futures.

The Companies observe that their IRP analysis shows that the external factors, such as environmental compliance and the price of fuels, have a greater affect on stability than do the resources chosen.

The Companies' IRP cost analysis focuses on the generation cost components of customers cost of electricity. No cost estimates were included for Transmission, Distribution, Customer Service and System Benefits charges.

[4] At ISO New England's November 2007 Planning Advisory Committee meeting, the scopes for two studies assessing transmission needs in Connecticut were presented. ISO New England, Northeast Utilities and United Illuminating formed a study working group to perform an assessment of the needs for additional transmission in Southwest Connecticut by 2018. ISO New England and Northeast Utilities formed a study working group to perform an assessment of the needs for additional transmission in eastern Connecticut by 2018.

Degree of Compliance: PARTIAL

The Companies use a scenario approach to prepare a comparative assessment of different resource strategies for four different scenarios. These results highlight the range of cost exposure customers have in scenarios with the most reliance on natural gas.

The Companies' IRP does not determine an impact on rates in total or on average across customer classes. The average per unit costs calculated do not capture the effects of changes in T&D or customer service or the impact of changes in sales resulting from the DSM-Focus and the upward pressure on rates that occurs. While the Companies' IRP does show how average generation costs vary by resource plan and by scenario, the attempt has not been made to show how to stabilize rates.

The Companies' IRP points to their results, that under the hypothetical Cost of Service regime, average and total costs are lower than under the market regime. This observation is made without any comment or plan on how the assets can be acquired at Cost of Service.

The Company's recommendations call for further investigation into procurement strategies that would mitigate exposures to volatility in natural gas pricing and in market prices.

E. Specify The Manner In Which Each Of The Proposed Resources Should Be Procured, Including The Optimal Contract Periods For Various Resources

Description of the Requirement:

This aspect of requirements seeks specific plans for the procurement of the resources identified as needed in the resource needs assessments. This requirement seeks the action plan or implementation plan that is recommended to obtain the needed energy resources. Procurement of supplies is the principle mechanism for the Companies given Connecticut's competitive market structure. This requirement seeks the recommended design of the resource portfolio used to secure power supply for customers which, for example, could include a mixture of purchases from the spot market and short-term, medium-term, and long-term contracts.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies' have concluded that there is no need for additional generation resources in Connecticut in the next decade, as discussed in Section II A, above.

The Companies recommend that alternative power procurement structures be explored, such as longer-term power contracts, to stabilize and reduce the cost of the standard offer service. (Companies' IRP, Recommendation 2, page 46). They also recommend that contracting or generation ownership options be considered to mitigate the exposure to natural gas costs and usage. . (Companies' IRP, Recommendation 4, page 47).

The Companies recommend that state regulatory authorities examine methods to maximize the use of demand-side management resources. (Companies' IRP, Recommendation 1, page 45).

Degree of Compliance: LOW

The Companies have presented a planning study, but not a procurement plan. The Companies characterize their work as a resource planning study and make clear that it is not a procurement risk management study (Companies' IRP, page 49).

The Companies' four recommendation point to the need for further work by them or by others to develop procurement strategies and means pertaining to demand-side management, renewable energy, and standard offer service. However, the recommendations do not include proposals for specific procurement actions or programs.

IV. SECTIONS 51-D – PROCURMENT PLAN CONSIDERATIONS

Section 51 (D) specifies seven issue areas that are to be considered in the Procurement Plan. A Summary Scorecard for each of these component requirements is included in Appendix B of this report.

A. Approaches To Maximizing The Impact Of Demand-Side Measures

Description of the Requirement:

This provision calls for an assessment of maximum demand-side resources and consideration of approaches to obtaining that level of savings.

Summary of the Treatment of the Requirement in the Companies' IRP:

High level strategies/approaches are identified in the plan: (a) "aim higher/go deeper," (i.e., strive for the highest efficiency levels in end use consumption that are cost-effective); (b) accelerate the retirement of inefficient customer systems; (c) integrate program design and delivery; and (d) integrate with other state-wide initiatives. No additional detail is provided in the report, but descriptions of these strategies can be found in the Conservation and Load Management Portfolio Plan, DPUC Docket No. 06-10-02, Scenario 2 (Zero load growth) Supplemental Filing by the Companies, dated January 31, 2007:

- The Plan recommends that DSM be pursued more aggressively and that the ramp-up of more aggressive programs should begin in the near term.
- Appendix D of the Plan provides summaries of key residential and non-residential DSM programs designed to meet the aggressive goals of the DSM focus case.
- The Residential program portfolio addresses all of the key market segments and technologies -- Residential Lighting & Appliances, HVAC, Electric Water Heating, New Construction and Low Income and Direct Load Control. The Commercial and Industrial program portfolio is also comprehensive in its coverage of market segments and technologies including New Construction, Small Business, O&M, Codes & Standards, Market Transformation, Emerging Technologies and Load Response

Degree of Compliance: FULL

Program portfolios are comprehensive, and together with the Companies Supplemental Filing referred to in (i) above represent a reasonable consideration of approaches to maximize the impact of DSM measures as required by the Public Act.

B. The Extent To Which Generation Needs Can Be Met By Renewable And Combined Heat And Power Facilities

Description of the Requirement:

This provision is included to assure that the planning process specifically investigate the potential for renewable resources or combined heat and power facilities to meet identified needs for generation.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies included an Appendix to their IRP which discusses their views on the current challenges in meeting the Connecticut and regional renewable portfolio standards. (Companies' IRP, Appendix E) The Companies state that they did not conduct a regional renewable energy market study, indicating that such a study was beyond the scope of their work (Companies' IRP, page 49).

Due to the recent difficulties in securing Connecticut Class 1 renewable supplies, the Companies include a recommendation a re-examination of the Connecticut renewable portfolio standard. (Companies' IRP, Recommendation 3, page 47).

Degree of Compliance: PARTIAL

The Renewable Energy appendix provides a discussion of information on the renewable project activity in Connecticut and the region generated by the Project 100 solicitations and the ISO New England Interconnection queue.

The Companies do not provide any assessments of renewable resource potentials or estimated costs of renewable project development.

The Companies do not provide any information on combined heat and power systems.

C. The Optimization Of The Use Of Generation Sites And Generation Portfolio Existing Within The State

Description of the Requirement:

This provision is included to assure that the planning process consider the future use of the existing generation facilities in Connecticut and the sites that have been or could be used for generation projects.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies conducted a screening analysis of the Connecticut generation units that have operated under a Reliability Must Run agreement with ISO-New England to assess the potential for retirement of these units. (Companies' IRP, Appendix A, page A-6). Using an analysis that considers the going-forward avoidable fixed O&M, the Companies concluded that all of this generation would remain operational throughout the planning period. Based on this assessment, all of the need assessments and market analysis conducted by the Companies for the IRP assumed no retirements of existing generation.

The Companies' IRP does not address the utilization of generation sites and state that their IRP is "not a siting analysis for new generation capacity". (Companies' IRP, page 48).

The Companies included an assessment of the differences between market pricing and an assumed cost-of-service pricing for existing generation. This assessment indicated a substantial differential in cost and lead the Companies to include a recommendation to explore alternative procurement approaches to improve the cost of supply to customers. (Companies' IRP, Recommendation 2, page 46).

Degree of Compliance: LOW

The Companies' IRP does not include any assessment addressing the potential attrition of existing generation in Connecticut. As noted in Section II D above, the planning assessments did not consider environmental issues associated with existing generation other than compliance with the Regional Greenhouse Gas Initiative. The Companies screening on going-forward costs assumed no need for investment for environmental controls or other costs or operating restrictions resulting from more stringent environmental standards.

The absence of an assessment of the plan under possible retirement scenarios is a limitation of this study. The large number of aging power plants in Connecticut has been an issue raised by ISO New England in its regional system planning process. Similarly,

the CSC assessments of Connecticut's loads and resources have reported the magnitude of aging capacity.

D. Fuel Types, Diversity, Availability, Firmness Of Supply And Security And Environmental Impacts Thereof, Including Impacts On Meeting The State's Greenhouse Gas Emission Goals

Description of the Requirement:

This provision includes requirements for assessments of a number of performance measures of the power system pertaining to reliability, security, risk, and environmental performance.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies IRP features a modeling analysis which simulation the operation of the Connecticut and regional power system. This model is structured to provide a number of outputs which are used to assess many of the parameters of this system that would be used to measure performance (e.g., fuel mix, carbon emissions). (Companies' IRP, Appendix G)

The Company's IRP uses this model to examine several scenarios, such that a number of metrics of the system performance can be analyzed. (Companies' IRP, Appendix G).

Degree of Compliance: PARTIAL

The Company has sponsored a significant modeling analysis that provides assessments of many of the factors embodied in this requirement. The limited consideration of environmental factors other than greenhouse gas emissions and of existing unit retirements is reflected in the modeling results, as well.

E. Reliability, Peak Load And Energy Forecasts, System Contingencies And Existing Resource Availabilities

Description of the Requirement:

This provision includes requirements for assessments of a number of measures of generation and transmission system reliability.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies' assessments using forecasts of peak load and energy and the assessment of the need for generation are addressed in Sections II A, III A and III C above.

Degree of Compliance: PARTIAL

As noted in Section II A, the Companies have addressed the forecasting requirements and the reliability requirements for the generation system.

However, *this assessment is limited in its treatment of important transmission issues*. As noted in Section III C, the Companies' IRP does not address the transmission issues imbedded in this requirement. Large generation and transmission elements in Connecticut have given rise to needs for transmission projects and for local forward reserve markets. The issue of retirement of existing generation treatment is also not addressed.

F. Import Limitations And The Appropriate Reliance On Such Imports

Description of the Requirement:

This provision relates to the capability of the transmission system to allow for power imports, principally from New England, to provide Connecticut consumers with a reliable and cost-effective power supply.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies' conducted an assessment of the ISO-New England capacity market to test the need for added local sources. The results of their assessment indicates that aggressive demand-side management, no retirements, and completion of transmission under construction will resolve the significant bottlenecks in Southwest Connecticut and that added capacity needed in New England need not be in Connecticut. (Companies' IRP, page 40)

The Companies' market modeling of Connecticut and New England included detailed representation of transmission transfer limits. This analysis found no significant congestion affecting pricing. (Companies' IRP, page 40)

Degree of Compliance: FULL

The Companies modeling of the capacity market and the energy markets provides significant analysis to address this requirement.

G. The Impact Of The Procurement Plan On The Costs Of Electric Customers

Description of the Requirement:

This requirement is very similar to the requirement in Section 51 c.4, described in Section III D. and thus discussed within this report under that Section III D.

Summary of the Treatment of the Requirement in the Companies' IRP:

This requirement is very similar to the requirement in Section 51 c.4, described in Section III D. and thus discussed within this report under that Section III D.

Degree of Compliance: PARTIAL

This requirement is very similar to the requirement in Section 51 c.4, described in Section III D. and thus discussed within this report under that Section III D.

V. SECTION 51-A COMPREHENSIVE PROCUREMENT PLAN

Subsection A of Section 51 establishes the requirements for the utilities, in consultation with the CEAB, to conduct a review of the state's energy and capacity resource assessment and develop a comprehensive plan for the procurement of energy resources. In this section, we determine the extent to which the Companies' IRP contains the elements of a procurement plan.

A. Review The State's Energy And Capacity Resource Assessment

Description of the Requirement:

This requirement encompasses the assessments addressed in Sections II A and III A.

Summary of the Treatment of the Requirement in the Companies' IRP:

See discussion in Sections II A and III A, above.

Degree of Compliance: FULL

See discussion in Sections II A and III A, above.

B. Develop A Comprehensive Plan For The Procurement Of Energy Resources

Description of the Requirement:

This overarching requirement in Section 51 is seeking a planning result that provide a sound assessment of the resource needs and a set of strategies and recommended actions for implementation of the plan.

Summary of the Treatment of the Requirement in the Companies' IRP:

The Companies have prepared an analysis and report which they describe as an Integrated Resource Plan. They explain that this IRP is limited in that it:

1. contains limited analysis related to transmission
2. is not a siting analysis for new generation
3. is not a procurement risk management study

4. is not a renewable energy market assessment study

Based on the IRP, the Companies make four recommendations:

1. Maximize the use of demand side management
2. Explore other power procurement structures, such as long-term contracts
3. Evaluation the Connecticut Renewable Portfolio Standard
4. Consider potential ways to mitigate the exposure to the price and availability of natural gas.

Degree of Compliance: LIMITED

The Companies have provided a substantial set of assessments of generation and demand-side resources in a resource planning report, providing meaningful and considered analysis responsive in whole or in part with most of the assessment requirements set forth in Section 51.

The Companies have not offered a Procurement Plan as part of this filing. The recommendations point to further assessments in important areas resulting from the Companies' findings. In particular, the Companies are recommending increased demand side management and alternative power supply contracting, however the Companies' IRP does not contain recommendation on approaches and does not include action plans for implementation of those recommendations.

VI. CONSIDERATIONS FOR NEXT STEPS

Section 51 (e) specifies a process for review, modification, and approval of the Companies' Procurement Plan and a subsequent review process at the DPUC. The relevant portions of this subsection for this 2008 review are as follows:

- *The board, in consultation with the regional independent system operator, shall review and approve or review, modify and approve the proposed procurement plan as submitted not later than one hundred twenty days after receipt.*
- *The electric distribution companies shall provide any additional information requested by the board that is relevant to the consideration of the procurement plan.*
- *The board shall submit the reviewed procurement plan, together with a statement of any unresolved issues, to the Department of Public Utility Control.*
- *The department shall consider the procurement plan in an uncontested proceeding and shall conduct a hearing and provide an opportunity for interested parties to submit comments regarding the procurement plan. Not later than one hundred twenty days after submission of the procurement plan, the department shall approve, or modify and approve, the procurement plan.*

The 120 day period for the CEAB review and approval process will conclude on or about April 30, 2008.

Based on our review of the Companies' IRP, we offer the following suggestions for the CEAB to consider in deciding an approach to this 2008 review, modify, and approval process.

A. Working With The Companies

We offer the following list of issues for the CEAB to consider for action during the remainder of the CEAB review process. This list is neither prioritize nor exhaustive. It is intended to facilitate the CEAB's discussion and prioritization process in framing the direction for the review process.

1) The Companies' Four Recommendations

The companies have included four recommendations in their IRP, paraphrased as follows (See Companies IRP, pages 45 – 47):

i. Maximize the use of Demand-side management

ii. Explore other power procurement structures such as longer term power contracts

iii. Evaluate the structure and costs of Connecticut's RPS

iv. Consider ways to mitigate consumers' exposure to the price and availability of natural gas.

Each of these recommendations is in the form of additional investigation and development. CEAB's approval will need to consider whether to approve and/or modify these recommendations.

2) DSM Strategy and Implementation

Maximum DSM implementation is an explicit focus of Section 51 and is a primary recommendation of the Companies. DSM is, in fact, the only resources that the Companies are recommending for procurement in their IRP. An improved plan for this activity could be a focus of this review process.

3) Environmental Regulations Assessment

The Companies modeling provides a resource to assess RGGI issues and related greenhouse gas emission questions. Action areas could include addition assess of resources in this area.

We determined that the IRP does not address the implication of ozone nonattainment and increasingly stringent requirement that will affect the older oil-fired steam units, I particular. Further work to define the risk factors for this capacity could explore to better assess the risk of loss of existing generation.

4) Transmission Planning Integration

The Companies' IRP has not been integrated with the transmission planning process. The Companies recommendations on DSM will, if successful, have a material affect on load growth. The DSM planning may be influenced by the level of potential avoided T&D and the Transmission Plans may benefit from a better assessment of future DSM.

5) Renewable Portfolio Standards

The Companies' IRP uses recent market results to question the ability of the renewable market in Connecticut to meet RPS targets. This area may warrant further assessment. It is also a recommendation in the Companies' IRP.

6) Long Term Contracting

The Companies' IRP recommends exploring longer term contracting options to mitigate market price and volatility exposure. This appears to be central to the procurement planning process and may warrant further assessment.

B. Consultation Issues with ISO-New England

Section 51 calls for CEAB consultation with ISO New England on the Companies' IRP. The following are a list of issues that, if CEAB wishes to pursue, would be particularly beneficial to obtain input from ISO New England.

1) Forward Capacity Market Auction

The first FCM auction is schedule for early February. The results from that auction may have some direct affect on units that will be operating in Connecticut. In addition, an assessment of the clearing price, the fate of renewable projects and demand response project will provide some insight into the market for and the potential of these resources.

2) Congestion Assessment

The Companies' IRP includes a finding that congestion is being effectively mitigated in Connecticut through added transmission and generation. Given the requirements to address Federally Mandated Congestion Charges, this may be an area where consultation with ISO New England could provide some added information.

Appendix A

Full Text of Section 51 of Public Act No. 07-242

An Act Concerning Electricity and Energy Efficiency

Sec. 51.

(a) The electric distribution companies, in consultation with the Connecticut Energy Advisory Board, established pursuant to section 16a-3 of the general statutes, as amended by this act, shall review the state's energy and capacity resource assessment and develop a comprehensive plan for the procurement of energy resources, including, but not limited to, conventional and renewable generating facilities, energy efficiency, load management, demand response, combined heat and power facilities, distributed generation and other emerging energy technologies to meet the projected requirements of their customers in a manner that minimizes the cost of such resources to customers over time and maximizes consumer benefits consistent with the state's environmental goals and standards.

(b) On or before January 1, 2008, and annually thereafter, the companies shall submit to the Connecticut Energy Advisory Board an assessment of (1) the energy and capacity requirements of customers for the next three, five and ten years, (2) the manner of how best to eliminate growth in electric demand, (3) how best to level electric demand in the state by reducing peak demand and shifting demand to off-peak periods, (4) the impact of current and projected environmental standards, including, but not limited to, those related to greenhouse gas emissions and the federal Clean Air Act goals and how different resources could help achieve those standards and goals, (5) energy security and economic risks associated with potential energy resources, and (6) the estimated lifetime cost and availability of potential energy resources.

(c) Resource needs shall first be met through all available energy efficiency and demand reduction resources that are cost-effective, reliable and feasible. The projected customer cost impact of any demand-side resources considered pursuant to this subsection shall be reviewed on an equitable basis with non demand-side resources. The procurement plan shall specify (1) the total amount of energy and capacity resources needed to meet the requirements of all customers, (2) the extent to which demand-side measures, including efficiency, conservation, demand response and load management can cost-effectively meet these needs, (3) needs for generating capacity and transmission and distribution improvements, (4) how the development of such resources will reduce and stabilize the costs of electricity to consumers, and (5) the manner in which each of the proposed resources should be procured, including the optimal contract periods for various resources.

(d) The procurement plan shall consider: (1) Approaches to maximizing the impact of demand-side measures; (2) the extent to which generation needs can be met by renewable and combined heat and power facilities; (3) the optimization of the use of generation sites and generation portfolio existing within the state; (4) fuel types, diversity, availability, firmness of supply and security and environmental impacts thereof, including impacts on meeting the state's greenhouse gas emission goals; (5) reliability, peak load and energy forecasts, system contingencies and existing resource availabilities; (6) import limitations and the appropriate reliance on such imports; and (7) the impact of the procurement plan on the costs of electric customers.

(e) The board, in consultation with the regional independent system operator, shall review and approve or review, modify and approve the proposed procurement plan as submitted not later than one hundred twenty days after receipt. For calendar years 2009 and thereafter, the board shall conduct such review not later than sixty days after receipt. For the purpose of reviewing the plan, the Commissioners of Transportation and Agriculture and the chairperson of the Public Utilities Control Authority, or their respective designees, shall not participate as members of the board. The electric distribution companies shall provide any additional information requested by the board that is relevant to the consideration of the procurement plan. In the course of conducting such review, the board shall conduct a public hearing, may retain the services of a third-party entity with experience in the area of energy procurement and may consult with the regional independent system operator. The board shall submit the reviewed procurement plan, together with a statement of any unresolved issues, to the Department of Public Utility Control. The department shall consider the procurement plan in an uncontested proceeding and shall conduct a hearing and provide an opportunity for interested parties to submit comments regarding the procurement plan. Not later than one hundred twenty days after submission of the procurement plan, the department shall approve, or modify and approve, the procurement plan. For calendar years 2009 and thereafter, the department shall approve, or modify and approve, said procurement plan not later than sixty days after submission.

(f) On or before September 30, 2009, and every two years thereafter, the Department of Public Utility Control shall report to the joint standing committees of the General Assembly having cognizance of matters relating to energy and the environment regarding goals established and progress toward implementation of the procurement plan established pursuant to this section, as well as any recommendations for the process.

(g) All electric distribution companies' costs associated with the development of the resource assessment and the development of the procurement plan shall be recoverable through the systems benefits charge.

Appendix B

Summary Scorecard

Plan Compliance with the Requirements of PA 07-242

Section 51(b): January 1, 2008 Plan Contents

Section 51, Part (b): On or before January 1, 2008, the companies shall submit to the Connecticut Energy Advisory Board an assessment of:	
Requirement	**Degree of Compliance**
1) the energy and capacity requirements of customers for the next 3, 5 and 10 years	**FULL**
2) the manner of how best to eliminate growth in electric demand	**PARTIAL**
3) how best to level electric demand in the state by reducing peak demand and shifting demand to off-peak periods	**PARTIAL**
4) the impact of current and projected environmental standards, including, but not limited to, those related to greenhouse gas emissions and the federal Clean Air Act goals and how different resources could help achieve those standards and goals	**LOW**
5) energy security and economic risks associated with potential energy resources	**PARTIAL**
6) the estimated lifetime cost and availability of potential energy resources	**PARTIAL**

Appendix B

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Summary Scorecard

Plan Compliance with the Requirements of PA 07-242
Section 51(c): January 1, 2008 Plan Contents

Section 51, Part (c): Resource needs shall first be met through all available energy efficiency and demand reduction resources that are cost-effective, reliable and feasible. The projected customer cost impact of any demand-side resources considered pursuant to this subsection shall be reviewed on an equitable basis with non demand-side resources. The procurement plan shall specify:	
Requirement	**Degree of Compliance**
1) the total amount of energy and capacity resources needed to meet the requirements of all customers,	**FULL**
2) the extent to which demand-side measures, including efficiency, conservation, demand response and load management can cost-effectively meet these needs,	**FULL**
3) needs for generating capacity and transmission and distribution improvements,	**PARTIAL**
4) how the development of such resources will reduce and stabilize the costs of electricity to consumers, and	**PARTIAL**
5) the manner in which each of the proposed resources should be procured, including the optimal contract periods for various resources.	**LOW**

Appendix B

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Summary Scorecard

Plan Compliance with the Requirements of PA 07-242
Section 51(d): January 1, 2008 Plan Contents

Section 51, Part (d): The procurement plan shall consider	
Requirement	**Degree of Compliance**
1) Approaches to maximizing the impact of demand-side measures;	**FULL**
2) the extent to which generation needs can be met by renewable and combined heat and power facilities;	**PARTIAL**
3) the optimization of the use of generation sites and generation portfolio existing within the state;	**LOW**
4) fuel types, diversity, availability, firmness of supply and security and environmental impacts thereof, including impacts on meeting the state's greenhouse gas emission goals;	**PARTIAL**
5) reliability, peak load and energy forecasts, system contingencies and existing resource availabilities;	**PARTIAL**
6) import limitations and the appropriate reliance on such imports; and	**FULL**
7) the impact of the procurement plan on the costs of electric customers.	**PARTIAL**