



**Comments of the State of Connecticut  
Energy Conservation Management Board (ECMB)  
on the Integrated Resource Plan**

**February 7, 2008**

The Energy Conservation Management Board (ECMB) appreciates the opportunity to review and comment on the Integrated Resource Plan for Connecticut prepared by Connecticut Light & Power and United Illuminating (the Companies). The Plan was prepared pursuant to Section 51 of Public Act 07-242, An Act Concerning Electricity and Energy Efficiency, which requires the electric distribution companies to submit a comprehensive resource plan to the Connecticut Energy Advisory Board (CEAB).

The Integrated Resource Plan has established ambitious yet achievable energy and peak demand savings targets for the demand side management (DSM) programs through 2018 as part of the overall effort to achieve all cost-effective energy efficiency and demand reduction resources, as required by PA 07-242.<sup>1</sup> The Plan was developed in response to the extraordinary challenges that Connecticut is facing from the impact of electric system issues and costs on Connecticut's residents and businesses. The ECMB strongly supports the findings and recommendations in the Plan to aggressively increase cost-effective DSM programs and funding, in order to maximize the benefits for Connecticut.

Specifically, the ECMB recommends the expeditious implementation of the first five years (2009-2013) of the DSM-Focus solution set forth in the Resource Plan. The ECMB also recommends that expeditious ramp up to increased levels of DSM should begin in 2008.

The ECMB respectfully submits the following comments on the Integrated Resource Plan. The ECMB provides two types of comments, focused primarily on the demand side management (DSM) portions of the Plan:

- ECMB comments and recommendations to the CEAB, and
- Specific comments on the Integrated Resource Plan.

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<sup>1</sup> Section 51.c. of PA 07-242 states: "Resource needs shall first be met through all available energy efficiency and demand reduction resources that are cost-effective, reliable and feasible."

## ECMB Comments and Recommendations to the CEAB

- 1. The ECMB strongly supports the first recommendation in the Plan, to “Maximize the use of demand side management (DSM), within practical operational and economic limits, to reduce peak load and energy consumption.”**

The demonstrated performance of DSM programs in Connecticut, the ability of DSM to reduce customer costs and provide other economic and environmental benefits, the increasing customer demand for DSM programs, and the cost-effectiveness of and benefits resulting from DSM all call for an increase in DSM efforts in Connecticut. ECMB strongly recommends that Connecticut maximize the use of DSM by increasing and expanding the Conservation and Load Management (C&LM) programs as quickly as possible, during 2008.

The ECMB also concurs in general with the statement in the Plan, “The potential for increased DSM to reduce customer costs, gas usage, and environmental emissions demonstrated in this analysis suggests that DSM should be pursued more aggressively.” However, the ECMB notes that the benefits of DSM programs and the requirements of PA 07-242 to acquire all cost-effective energy efficiency and demand reduction resources *require* that DSM be pursued more aggressively, not simply “suggest” so.

- 2. The only “economic limit” that should be applied for “maximizing the use of DSM” is the demonstration of C&LM program cost-effectiveness. The current “economic limit” constraining the C&LM programs, i.e., the C&LM program funding level, must be addressed by increasing funding for the programs, in 2008 and future years.**

The C&LM programs are cost-effective, the programs must demonstrate such cost-effectiveness in prospective plans, the plans for cost-effective C&LM programs are reviewed by the ECMB and approved by the Department, and the actual performance and cost-effectiveness of the programs are reported to the ECMB and the Department. The Department and ECMB are diligent, and will continue to be diligent, in assuring that C&LM programs are cost-effective.

The current “economic limit” on the benefits that Connecticut consumers and businesses receive from C&LM programs is the funding level, not the level of cost-effectiveness or the level of potential cost-effective savings. The funding level for C&LM programs must be increased, in 2008 and future years, and the C&LM programs must be expanded significantly in order to achieve all cost-effective energy efficiency and demand reduction resources as required by PA 07-242.

- 3. Specifically, the ECMB recommends the expeditious implementation of the first five years (2009-2013) of the DSM-Focus solution set forth in the Resource Plan. The ECMB also recommends that expeditious ramp up should begin in 2008.**

The DSM-Focus solution set forth in the Plan is reasonable and achievable, and the savings resulting from the implementation of the DSM-Focus solution will reduce total customer costs and help meet Connecticut’s climate and environmental goals. The ECMB strongly

recommends the expeditious implementation of the first five years (2009-2013) of the DSM-Focus solution, but beginning as soon as possible in 2008.

As noted in ECMB's specific comments below, the ECMB believes that additional cost-effective savings, beyond the levels summarized by the Companies in the Resource Plan, may be achievable. . However, the ECMB also notes that the precise savings levels for the latter years of the Resource Plan can and should be addressed in more detail in future Resource Plans, which are developed and reviewed annually, based on actual experience gained during the early years of the DSM expansion. Any discussions about opportunities for *higher* DSM savings in the latter years should be deferred to future Resource Plans and should not delay the expeditious implementation of the DSM-Focus solution. The most important thing is to begin the ramp-up and expansion of DSM as soon as possible, in 2008. That is why the ECMB recommends the expeditious implementation of the first five years of the DSM-Focus solution.

Future Resource Plans can be informed by actual experience gained by ramping up and expanding DSM efforts in the early years. DSM is flexible and the goals and funding levels can be adjusted in future Plans, if necessary, based on actual experience over the next few years. Also, any concerns regarding "practical operational limits" can be addressed in future Resource Plans, based on actual experience gained from ramping-up and expanding the C&LM programs. The ECMB submits that the results of actual customer and field experience of such an expansion should be the primary basis to inform judgment in future Resource Plans and in CEAB reviews regarding the level of DSM to be implemented in future years.

- 4. While the CEAB may have concerns about the completeness and level of detail of some portions of the Resource Plan, the DSM portion of the Plan, supported by the successful track record of and expanding customer demand for the cost-effective C&LM programs, is adequate to support a CEAB recommendation to proceed aggressively to implement the first five years of the DSM-Focus strategy.**

The ECMB believes the program concepts and strategies that will be used to achieve the DSM savings targets are based on the sound architecture and proven track record of the current C&LM programs. Working with the ECMB, the Department, other State entities, consumer and business interests, and other stakeholders over the past few years, the Companies, as the C&LM program administrators, have systematically worked to upgrade the current program framework and to develop the next generation of initiatives that will allow electric customers to achieve all cost-effective energy efficiency, and to build a foundation for sustainable energy for residences and businesses in Connecticut.

Appendix D of the Plan provides additional information regarding new and expanded programs strategies, and this information is consistent with ECMB analysis and recommendations, and adequate to support increased DSM efforts in Connecticut.

- 5. Therefore, the DSM portion of the Procurement Plan should be acted on by the CEAB as soon as possible to maximize the benefits to Connecticut and allow the C&LM**

**programs to reach their full potential. Delay would result in a *loss* of benefits to Connecticut consumers and businesses.**

Given the proven track record of the C&LM programs, any delay would be unnecessarily risky to Connecticut's customers and economy and would result in significant lost opportunities.

- C&LM programs are currently in overwhelming demand and are becoming over-subscribed. Connecticut customers may lose some opportunities unless an increased financial commitment is made by the State of Connecticut.
- Connecticut's residents and businesses are extremely impacted by rate increases and supply uncertainty and are asking for solutions now.
- C&LM programs are in a vulnerable transition period with escalating customer demand and expanding programs and strategies, while being severely limited by current budget constraints. The current C&LM budget cannot adequately support the expanding program strategies, nor can it adequately support the critical relationships with vendors, service providers and other trade allies at risk without an increased financial commitment.

Achieving the aggressive goals set forth in the DSM-Focus solution is doable, but only if the C&LM programs can start *soon*, in 2008, to ramp-up and expand, develop and implement program upgrades, market effectively, and develop internal and external energy efficiency and demand reduction service delivery infrastructure.

## **Specific Comments on the Integrated Resource Plan**

**6. The DSM portion of the Procurement Plan provides an aggressive strategy for effective, cost-effective and comprehensive electric conservation programs that will provide major economic, environmental and societal benefits to Connecticut.** The ECMB and its Consultants worked closely with the Companies to ensure that the DSM portion of the plan embodied the following attributes that will work to ensure major savings and accompanying benefits to Connecticut's citizens and businesses:

- **Sufficient and Sustained Funding.** Unlike the past history of the CEEF programs, funding constraints on Residential and C&I programs will be removed and the upgraded programs would be ramped up to funding and production levels unprecedented in Connecticut. In addition, sustainable funding based on multi-year planning will demonstrate to the market, and its product and service providers, Connecticut's serious commitment to sustainability, allowing the acquisition of all cost-effective energy efficiency, resulting in a fundamental transformation of the energy efficiency market and delivery systems.
- **Bold and Meaningful Savings Goals.** All programs will strive for the highest cost-effective levels of product, system and building performance. All cost-effective approved efficiency measures through comprehensive projects will be pursued. Such

ambitious but attainable goals will provide real and measurable benefits for Connecticut's economy and environment.

- **Comprehensive Energy Efficiency and Demand Reduction Solutions for All Residents and Businesses.** With adequate and sustained funding for C&LM programs over the full 10-year planning period, aggressive marketing and outreach will allow more customers to employ comprehensive energy solutions for their homes and businesses, including those customers who have been under-participating in the current programs.
- **Fuel-Blind Program Design and Delivery.** Full integration of electric and gas program offerings and services, and with oil-industry funded efforts when initiated, will increase the delivery efficiency of programs, increase the benefits to customers, and increase the likelihood of procuring all cost-effective energy efficiency. In addition, the Plan would help ensure the effective integration of energy and load management, demand response, on-site renewables, and distributed generation to benefit Connecticut's residents and businesses.
- **Genuine Market Transformation and Support for Regional/National Codes, Standards and Initiatives.** The aggressive energy and peak demand savings projected under the Resource Plan will rely extensively on CEEF participation in regional and national market transformation, code upgrade, and efficiency standards initiatives over the next ten years. Such fundamental market impacts require broader strategic alliances with other utilities, governmental agencies and industry players to effect market changes by home builders, commercial developers, manufacturers, national/regional accounts, and other market players.
- **Energy Efficiency and Demand Response Infrastructure Development and Jobs.** The long-term perspective of the Plan recognizes that the achievement of the aggressive savings goals set out in the Plan require that the capability of the entire delivery system for energy efficient and demand reduction equipment, design, engineering, performance contracts, installations and quality control must be built-up over the next five to ten years. The DSM program strategies call for supporting efforts for education, training, professional development and other infrastructure development through partnerships with educational institutions, trade and business associations, and other market allies.
- **Effective Use of Under-Utilized/Emerging Technologies, Designs and Practices.** Under its Research, Development and Demonstration program, the enhanced C&LM programs are intended to continuously incorporate under-utilized and market-ready high efficiency technologies into the Residential and C&I programs.

7. **The ECMB believes that the proposed DSM strategy is more than capable of delivering on the aggressive DSM goals and accompanying economic, environmental and societal benefits.** The upgraded CEEF DSM programs presented in the Plan are based on a proven, nationally recognized program architecture<sup>2</sup> that reflects the latest research and thinking in high performance program design and delivery. The Procurement Plan builds on the recent CEEF program enhancements to fully encompass comprehensive energy efficiency and load management solutions for all residents and businesses. This will entail substantial shifts in program direction and an aggressive interaction with Connecticut's market place. The key strategic elements for the DSM programs include:

- **High Performance Programs** – Building on prior efforts, high performance features will be fully incorporated into new construction, remodeling and retrofit programs including high performance technologies and systems, near-zero energy home/building/facility designs, on-site renewables, and integrated load management. The programs will also leverage off of other efficiency/sustainability initiatives, including LEED, EnergySTAR, *AdvancedBuildings*, and Architecture 2030, as part of the evolution toward sustainable, near-zero energy homes and businesses.
- **Home Energy Solutions** – This program will be the principal venue to address cooling and heating loads in existing homes and will be significantly expanded with increased funding levels. The program will continue to be fully integrated with gas utility efforts and, it is anticipated, with any oil-industry efficiency offerings. The program will offer comprehensive retrofit services and induced early replacement/retirement of select consumer HVAC equipment and appliances.
- **Accelerated Replacement of Inefficient Equipment.** Additional elements that promote and facilitate the early replacement of inefficient existing systems and equipment would be implemented. Products targeted would include air conditioners, heat pumps, lighting, motors, HVAC systems/units, industrial processes, appliances, water heaters, and perhaps others including electronics and other plug loads.
- **Energy Management Behavior and Culture Change** – Building on prior experience, the CEEF programs will capture additional and sustainable energy and load savings from building and facility operational, maintenance and commissioning activities for businesses and equivalent programs for residences.
- **Low Income** – This program will offer comprehensive retrofit services to all eligible low income customers. All major customer end uses and equipment will be addressed: heating, cooling, lighting, hot water and appliances. Consistent program services will be offered statewide through coordinated and aggressive promotion by the electric and gas utilities and other interested stakeholder groups.

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<sup>2</sup> ACEEE 2007 “Exemplary Program” recognition: Energy Conscious Blueprint Program, Small Business Energy Advantage Program, and Energy Opportunities Program. “Honorable Mention” awards: Process Reengineering for Increased Manufacturing Efficiency (PRIME) Program and Home Energy Solutions Program.

- **Business Energy Challenge.** The Challenge calls for businesses, both large and small, to commit to aggressive energy efficiency and load reduction goals for a multi-year period during the 2009 – 2018 planning period through high-energy efficiency performing buildings and facility management practices. In exchange, participating businesses will receive a tailored, comprehensive and enhanced service package based on the CEEF C&I Programs. This initiative is expected to be a major driver of “deep and sustainable savings” for the Procurement Plan.
- **Comprehensive Energy Services** – This service overlay to the CEEF programs will provide holistic program delivery and energy solutions via a one-stop, comprehensive portal to assist residences, businesses and industries in effectively utilizing the CEEF C&I efficiency and load management programs, and other allied programs, such as the Connecticut Clean Energy Fund.

Although the ECMB strongly supports the DSM portion of the Plan, and recommends expeditious implementation of the DSM-Focus solution, it has also identified several areas where the Plan falls short of its full potential and could be improved, as noted below. These ECMB concerns can be addressed in future Resource Plans and they should not interfere with the timely review, approval, and implementation of the first five years of the DSM-Focus strategy.

**8. Based on recent experience and increased customer interest in the C&LM programs, the ramp-up period of the DSM plan to full delivery of economic and environmental benefits could be sooner than the four to five years estimated in the Plan. The opportunity for earlier ramp up to full implementation should be supported, and adequate funding should be provided.**

As it now stands in the Plan, the DSM programs reach their full delivery potential in the 4<sup>th</sup> or 5<sup>th</sup> year of the Plan. Given the very strong market demand for the current CEEF programs in response to changing energy economics (the actual savings of the 2007 CEEF programs were about double of the overall savings goals in the 2007 plan)<sup>3</sup> and the strong Legislative commitment to energy efficiency and demand reduction, the ECMB believes that the programs may be able to be ramped up sooner and that the DSM programs could deliver increased benefits to Connecticut’s economy on a more timely basis. In any event, the most important thing is to ramp up and expand the C&LM programs as quickly as possible. If the programs are able to ramp up to full implementation of the DSM-Focus solution sooner, Connecticut would receive the associated benefits earlier. The CEAB should support early ramp up of the C&LM programs, and the CEAB should recommend adequate and flexible funding to support early ramp up to full implementation.

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<sup>3</sup> Preliminary program progress reports from CL&P and UI for the 2007 CEEF Conservation and Load Management Programs.

**9. The DSM portion of the Plan falls short in its longer-term vision for the role for energy efficiency, advanced load management, on-site renewable, and energy management behaviors in providing even deeper savings performance in the longer-term (and accompanying benefits to Connecticut's economy).**

The Plan offers aggressive but doable goals for DSM over the next 10 years. However, incremental annual savings in the latter years of the Plan decline, which the ECMB and its Consultants question. Also, the Plan's DSM projections are largely defined by analysis of the 2004 energy efficiency potential study and do not extend beyond this study.<sup>4</sup> The ECMB understands the hesitancy of the Companies to plan beyond the findings of the 2004 study, but the Plan itself acknowledges the following limitations to its analysis and proposals along with limitations to the 2004 study:

- The Plan does not include long-term market transformation impacts that would accrue from the CEEF DSM programs, both as currently designed and as would be upgraded to more high performance standards. In addition, the long-term impacts from codes & standards and effective compliance, especially when strategically linked with CEEF programs, are not captured.
- The 2004 energy efficiency potential study, and thus the Plan, only partially approximate the deeper and broader energy and load savings available from the fuller application of high performance, yet cost-effective, technologies, systems, processes, building designs, and operational practices that are currently in practice.<sup>5</sup>
- Additional savings potential would be available from programs targeted at residential and business behaviors as they relate to energy management, product purchasing, business practices, household behaviors and other related behavior/education-based initiatives. Although such initiatives provide evaluation challenges, considerable progress has been made in this area that is currently applicable.<sup>6 7</sup>
- The 2004 energy efficiency potential study is out-of-date with respect to current energy prices (e.g., typical electric rates have increased by over 60% since the study was completed). Accounting for higher rates, along with improvements in high efficiency equipment costs and performance, would dramatically increase the number, applicability, and customer acceptance of high efficiency measures in all sectors. This situation has also greatly contributed, along with increase awareness to global climate change risks, to a much heightened awareness of, and interest in, energy efficiency and demand reduction

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<sup>4</sup> *Independent Assessment of Conservation and Energy Efficiency Potential for Connecticut and the Southwestern Connecticut Region*, Final Report for the Connecticut ECMB, GDS Associates, Inc. and Quantum Consulting, June 2004

<sup>5</sup> *Getting to Fifty* – web resource for the commercial development community on very high performance buildings including a buildings data base (<http://www.gettingtofifty.org/>)

<sup>6</sup> *2007 Behavior, Energy and Climate Change Conference*, November, 2007, ACEEE

<sup>7</sup> *Energy Management Pathfinding: Understanding Manufacturers' Ability and Desire to Implement Energy Efficiency*, Alliance to Save Energy, 2005.

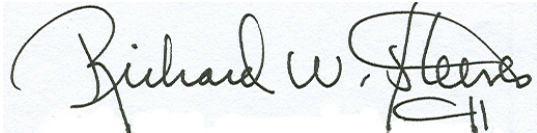
products and services by residents and businesses. The ECMB is pursuing a update of the 2004 study which will be completed in 2008.

- The ECMB's support of more aggressive, yet realistic, long-term DSM potential is corroborated by a meta-analysis of New England efficiency potential studies sponsored by the Northeast Energy Efficiency Partnerships.<sup>8</sup>

Although, the above limitations should and will be addressed (and they can be addressed in future Plans, which are submitted annually), in no way do they detract from the aggressive DSM goals and the innovative program strategies already proposed, nor should they interfere with the timely review, approval, and implementation of the first five years of the DSM-Focus strategy.

Thank you for the opportunity to review and comment on the Integrated Resource Plan, and for the ongoing coordination between CEAB and the ECMB.

For the ECMB,

A handwritten signature in black ink that reads "Richard W. Steeves". The signature is written in a cursive style with a large, stylized "R" and "S".

Richard W. Steeves  
Chairman

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<sup>8</sup> *The Economically Achievable Energy Efficiency Potential in New England*, Northeast Energy Efficiency Partnerships (NEEP), updated – Spring 2005.