Efficiency Nova Scotia Corporation

IN THE MATTER OF *The Public Utilities Act*, R.S.N.S. 1989, c.380, as amended.

- and -

IN THE MATTER OF An Application to Approve Efficiency Nova Scotia Corporation's Electricity Demand Side Management (DSM) Plan for 2012 [E-ENSC-R-10].

Status of 2010 Evaluation Recommendations
– and –
2010 Savings Verification Study Action Items

July 29, 2011

Contents

Evaluation Recommendations and Status Updates

1. Efficient Products – Retail Program (Power Down CFLs)

Efficient Products – Retail Program (Power Down - CFLs)	
Recommendation	**Status**
PD:CFL-R1. The DSM Administrator should start paring back on incentives for regular CFLs. Concomitantly, the program should shift to an increased focus on specialty CFLs and educating consumers about them. The program should continue offering markdowns on all sizes of specialty CFL packages. These markdowns are the most likely reasons for the proportional increase of specialty CFLs among participants' qualifying purchases.	**PD: CFL-S1.** Agreed and ongoing. Regular CFL incentives have been decreased for 2011 compared to 2010. Specialty CFLs are going to have a larger focus in 2011`s Retail Markdown Program.
PD:CFL-R2. Based on the relative decrease in specialty CFL sales as a proportion of overall sales in 2010, NMR recommends that the future CFL programs consider including in-store giveaway events for specialty CFLs.	**PD: CFL-S2.** Agreed. Will be implemented in the fall campaign.
PD:CFL-R3. The Power Down (PD) program should work with retailers to develop/expand locations where consumers can dispose of CFLs for recycling. Prior to developing a recycling program, the DSM Administrator should develop baseline data on CFL disposals. Note that some retailers already offer facilities for CFL drop off recycling at retail store locations in Nova Scotia.	**PD: CFL-S3.** Establishment of CFL recycling facilities in Nova Scotia or shipping units to Ontario is considered to be outside the scope of the DSM program. However, it is agreed that there is a need to further educate customers. Event staff was given training on this issue and customers were encouraged to contact their local recycling depots for proper recycling of CFLs.
PD:CFL-R4. The PD program should consider offering an incandescent bounty program that offers coupons or rebates upon turn-in of incandescent bulbs.	**PD: CFL-S4.** ENSC will consider this recommendation for 2012.
PD:CFL-R5. The program should evaluate the opportunities for rebating LEDs (other than Christmas lights).	**PD: CFL-S5.** Agreed and ongoing. LED lamps are rebated under the program in 2011.
PD:CFL-R6. NMR recommends that the Program Administrator consider doing a socket saturation study in 2011. This will entail on-site visits to a random sample of households to collect data on socket counts and socket saturation as well as other information on lighting usage and behaviors. This can help understand and clarify the stage of the market on the diffusion curve for energy efficient lighting.	**PD: CFL-S6.** Agreed and in progress. ENSC has engaged Corporate Research Associates (CRA) to conduct a socket study. The survey instrument is currently being prepared and field work will begin in August with a September 30th target for final report of survey results.

Efficient Products – Retail Program (Power Down - CFLs)	
Recommendation	**Status**
PD:CFL-R7. The DSM Administrator should build on its 2010 marketing efforts to ensure that it continues to produce results in future program years. The program should consider developing a longer-term branding strategy to ensure high levels of awareness and participation.	**PD: CFL-S7.** Agreed and ongoing. New branding has been developed.
PD:CFL-R8. To the extent possible, the program should reach agreements with participating retailers that will establish consistent advertising and signage. Recognizing that each retailer will also want to maintain control over and consistency with their own advertising and signage formats, the program should seek to establish minimum requirements regarding the informational content of such displays.	**PD: CFL-S8.** Agreed and ongoing. The program has developed templates for retailers to follow if they prefer to develop their own signage to encourage consistency across retailers.

2. Efficient Products – Retail Program (Power Down – Fixtures, Controls & Appliance)

Efficient Products – Retail Program (Power Down – Fixtures, Controls & Appliance)	
Recommendation	**Status**
PD:F&C, APP-R1. Consider starting the program earlier in the year, to avoid conflicting with the end of year holiday season.	**PD: F&C, APP-S1.** Agreed and ongoing. This year the program will run in May/June and October/November.
PD:F&C, APP-R2. Retailers need to be notified well in advance of program rollout, particularly if the program will include higher efficiency products that are in limited supply. Any notification should include specifics on the products that will be eligible for the program so that retailers can order additional stock. In addition to ensuring an adequate supply of the rebated products, notifying the retailers early allows them to promote the program in the local media.	**PD: F&C, APP-S2.** Agreed. For the 2011 program, retailers were notified well in advance. However, last minute changes were made, where possible, to implement findings from the 2010 evaluation and verification reports.
PD:F&C, APP-R3. The program should consider increased targeted, local area marketing and visits from program representatives.	**PD:F&C, APP-S3.** Agreed and ongoing. Visits from program representatives are occurring with greater frequency in 2011. Targeted, local area marketing will be implemented in the fall campaign.

3. Efficient Products – Retail Program (Power Down – Fixtures & Controls)

Efficient Products – Retail Program (Power Down – Fixtures & Controls)	
Recommendation	**Status**
PD:F&C-R1. The program should consider dropping small products with high free-ridership rates such as indoor light timers. Instead, the program should consider a more intensive customer education campaign regarding the value and benefits of such technologies and energy efficiency in general.	**PD:F&C-S1.** Agreed. Small products with high free ridership have been removed from the campaign in 2011. Customer representatives will be trained to educate customers of the benefits of energy efficient products.
PD:F&C-R2. The Program Administrator should consider re-focusing its efforts for promoting these products to the new construction and major renovation market instead. Programmable thermostats may also be promoted in tandem with installations of new HVAC systems.	**PD:F&C-S2.** The program was launched in early 2011, so these products will continue to be supported in the coming year. Removing these products will be considered for 2012.

4. Efficient Products – Retail Program (Power Down - Appliance)

Efficient Products – Retail Program (Power Down – Appliance)	
Recommendation	**Status**
PD:APP-R1. Free-ridership rates can be lowered by rebating higher efficiency appliances only, such as models rated by the Consortium for Energy Efficiency (CEE) as Tier 3, which have much lower market penetration rates. Free-ridership rates may also be lowered by offering package deals where a consumer would have to purchase both a refrigerator and a clothes washer. This may induce households to replace an additional appliance with a high efficiency model once they are already in the market.	**PD: APP-S1.** Agreed and implemented. Only appliances categorized as 'Tier 3' by CEE are being rebated in 2011.
PD:APP-R2. Retailers need to be notified well in advance of the program rollout, particularly if the program will include higher efficiency appliances that are in limited supply. In addition to ensuring an adequate supply of the rebated products, notifying the retailers early allows them to promote the program in the local media.	**PD: APP-S1.** Agreed. Retailers have been notified of this change. Program delivery agents are working with retailers to ensure an adequate supply of Tier 3 appliances. Implementing this recommendation was a challenge in the May/June period of 2011 because of the short timeframe between 2010 evaluation results and the spring launch of the program.

5. Efficient Products - Appliance Retirement and Replacement

Efficient Products - Appliance Retirement & Replacement (Retirement component R1-R12, Replacement component R13-R16)	
Recommendation	**Status**
AAR-R1. Appliances picked up by any future program have the potential to offer significant energy savings. The DSM Administrator should consider expanding the pilot to a full-scale program.	**ARR-S1.** Agreed and implemented. This program is available province-wide in 2011.
AAR-R2. Any future program should reinforce screening efforts at the participant registration stage to screen out potential free riders.	**ARR-S2.** Agreed. Marketing material has been adjusted to improve identification of free riders. Also, call centre staff is trained to better identify free riders. Some efforts are being made at the registration stage, however logistically this can be difficult to enforce.
AAR-R3. Appliances that are replaced do not save as much energy as appliances that are retired. The DSM Administrator should consider the implications of appliance replacements when considering the costs and benefits of the appliance retirement program. The impact evaluation for 2010 reflects these differences.	**ARR-S3.** Agreed and implemented. Marketing material specifies that only second refrigerators are eligible. The call centre also screens to ensure that applicants are recycling second refrigerators.
AAR-R4. Any future program design should seek to replicate these program elements that were important facets of the appeal of the pilot.	**ARR-S4.** Agreed and ongoing.
AAR-R5. Any future program design should consider the motivations of customers. The combination of ease of participation and pickup services with an incentive provided a strong motivation for customers to participate in the program.	**ARR-S5.** Agreed and ongoing.
AAR-R6. Any future program design should consider reducing the incentive amounts offered for appliances. The incentive structure should also factor in the relative costs and benefits of picking smaller appliances, possibly bundling pickups only with larger appliances.	**ARR-S6.** Agreed. Bundling is being encouraged by the delivery agent and participation in take-back events for smaller appliances was also encouraged. Given the short timeframe between this recommendation and the launch of the program, it was not possible to implement this recommendation in 2011, as the program was already launched. If this program were to be continued in 2012, this recommendation will be taken into consideration.
AAR-R7. When developing its incentive structure, any future program design should also factor in the variation in importance of different secondary appliances to customers.	**ARR-S7.** Agreed and ongoing.

Efficient Products - Appliance Retirement & Replacement (Retirement component R1-R12, Replacement component R13-R16)	
Recommendation	**Status**
AAR-R8. Any future program design should seek to replicate these program elements that were important facets of the appeal of the pilot. tb	**ARR-S8.** Agreed. Please refer to ARR R4.
AAR-R9. Any future program design should consider the motivations of customers. The combination of ease of participation and pickup services with an incentive provided a strong motivation for customers to participate in the program.	**ARR-S9.** Agreed. Please refer to ARR R4.
AAR-R10. Any future program design should consider reducing the incentive amounts offered for appliances. The incentive structure should also factor in the relative costs and benefits of picking smaller appliances, possibly bundling pickups only with larger appliances.	**ARR-S10.** Agreed. Please refer to ARR-R6.
AAR-R11. When developing its incentive structure, any future program design should also factor in the variation in importance of different secondary appliances to customers.	**ARR-S11.** Please refer to ARR-R7.
AAR-R12. Close planning and coordination, and clear lines of internal communications between the multiple organizations will be critical to the success of any future program. The DSM Administrator should include all involved organizations early on in the planning stage and develop internal communications protocols to ensure that all of them are on the same page. Communications protocols could include regular emails shared with all stakeholders and regularly scheduled teleconferences.	**ARR-S12.** Agreed and ongoing.
AAR-R13. The combination of removal services and incentives offered by the program worked together to motivate customers to participate in the program. In any future program, the DSM Administrator should continue to bundle incentives together with services (such as removal services) that make for a compelling value proposition for participants.	**ARR-S13.** Agreed an ongoing.

Efficient Products - Appliance Retirement & Replacement (Retirement component R1-R12, Replacement component R13-R16)	
Recommendation	**Status**
AAR-R14. Any future program should make sure that participants can pay for refrigerators by their preferred method. In addition, the program should seek to reimburse participants in a timely fashion. Additionally, the program may want to consider allowing participants to pay only for the portion of the refrigerators not covered by program incentives. Instead of reimbursing the participant for the rebate amount, the program could work with their appliance vendor so that participants purchase refrigerators at a discount and the rebates are remitted to the appliance vendor.	**ARR-S14.** Agreed and implemented.
AAR-R15. Any future program should explore the following potential opportunities in the multi-family sector: • Affordable housing property owners. This may be one [of] the easiest markets to reach in the multi-family sector. Energy costs are a significant portion of their clients' housing costs and they see it is as part of their core mission to ensure that their properties are energy efficient. • Bundle incentives. Evaluate bundling incentives by requiring participants to retire and replace multiple appliances to receive the incentives, or providing higher incentives for multiple appliances.	**ARR-S15.** Agreed. Data is being collected on subsidized housing facilities to encourage municipal housing authorities to replace inefficient refrigerators in their units. A minimum of three appliances must be replaced.
AAR-R16. To mitigate the split incentives barrier, the program should seek to educate multi-family landlords on the non-energy benefits of improving the energy efficiency of the properties such as increased tenant comfort, higher tenant satisfaction, and reduced tenant turnover.	**ARR-S16.** Agreed and ongoing. The program uses non-energy benefits as a selling feature to landlords.

6. EnerGuide for Existing Houses Program

EnerGuide for Existing Houses Program	
Recommendation	**Status**
EEH-R1. In the near term, the DSM Administrator should consider the possibility of incorporating Delivery Agents into their existing residential programs. The Delivery Agents constitute a valuable resource that could be used for program sales and marketing.	**EEH-S1.** Agreed. Delivery agents are essential to the success of the EEH program. In 2011, through the creation of a trade allies coordinator position at ENSC, delivery agents will receive additional training and opportunities to become active partners in the development and delivery of the program.
EEH-R2. Should there continue to be no federal funds forthcoming from NRCan, the DSM Administrator should conduct a market potential study to gauge customer interest and program opportunity based on the level of funding available from sources within Nova Scotia, including the provincial government and Efficiency Nova Scotia Corporation. The results of this study may be valuable in helping convince Delivery Agents about the market opportunity and the value of working with the program.	**EEH-S2.** Research in market potential and program delivery will continue to be a focus of the EEH program. ENSC`s consultants are currently performing an achievable DSM potential analysis to inform future programming. ENSC will have the opportunity to gauge customer interest during its residential customer energy efficiency forum planned for this fall. The federal government has approved the 2011-12 eco-Energy for Homes program. The federal program will run through March 31, 2012.
EEH-R3. The DSM Administrator will need to work to regain the trust and confidence of Delivery Agents in NRCan. Elements that may help with that include convincing Delivery Agents about the market opportunity.	**EEH-S3.** Agreed, see recommendation EEH-S2.
EEH-R4. Any future program should establish an agreement with NRCan that would allow the Program Administrator and its evaluators to obtain participants' HOT2000 files. As NMR had recommended in its 2009 evaluation, the DSM Administrator should also coordinate with NRCan to introduce a waiver form for participants to sign during the initial audit and the final audit. This form would allow the DSM Administrator access to customer contact information which would aid in program evaluations.	**EEH-S4.** Agreed. Discussions with NRCan to provide access to participants' information are continuing on two fronts. First, a memorandum of agreement between ENSC and NRCan was signed in April, providing ENSC access to participant's files. Secondly, discussions on information sharing are an integral part of the work in updating the Energy Rating System (ERS) and the software through the ERS Policy Advisory Committee.

EnerGuide for Existing Houses Program	
Recommendation	**Status**
EEH-R5. Any future program should consider creating a list of contractors who have been pre-approved to work with the EEH program. Pre-approved contractors should be certified in energy efficiency and in installing energy efficient equipment. Customers would still have a choice in contractor selection but would have a readily available list of qualified contractors to from which they can make their choice.	**EEH-S5.** Agreed. A trade allies coordinator position has been staffed at ENSC. This role is intended to act as a liaison with the delivery agents, trades and suppliers. One of the outcomes will be a pre-approved contractor list.
EEH-R6. In order to achieve its market transformation goals, any future program should consider offering training opportunities to trade allies and contractors. These training courses could be required pre-requisites to be added to the pre-approved contractor list and would serve to help create a well-trained and educated contractor pool throughout the province.	**EEH-S6.** Agreed. The new position of trade allies coordinator will work with groups like the Nova Scotia Home Builders Association to create ongoing training ranging from basic house as a system to introduction of new renovation/building techniques, equipment, and materials.
EEH-R7. A new program would have to work hard to build awareness and establish credibility with the public. The DSM Administrator would need to lead the appropriate marketing and outreach effort. While it should coordinate marketing activities with the Delivery Agents, the primary responsibility would need to be with the DSM Administrator.	**EEH-S7.** Agreed. The delivery agents have limited time and resources for this work. The delivery agents are essential partners. ENSC will work together with the delivery agents in regards to tools and resources for marketing activities.
EEH-R8. Before word-of-mouth can become a significant source of program awareness for a new program, it would need to rely more heavily on standard marketing channels such as newspaper, television, radio and internet. NMR also recommends that a new program should increase public awareness through newsworthy activities such as home shows.	**EEH-S8.** Agreed. In 2011, ENSC will be present at various trade shows across the province. ENSC agrees that the EEH program must be prominent at home shows and public presences. Also, ENSC envisions that program staff will be seen as energy “experts” for radio phone-in shows and television news segments. ENSC has begun to market using “social” media. The use of on-line coupons in May proved very successful in generating program participation. The program is also being marketed on a real estate web site.
EEH-R9. The new program should also seek to increase awareness through trade allies who customers might contact when thinking about energy efficient upgrades, e.g., contractors, hardware stores.	**EEH-S9.** Agreed and being considered. Conserve Nova Scotia, who formerly administrated the EnerGuide for Existing Houses program, ran a very successful in-store marketing campaign where building supply staff were trained and in-store marketing materials were provided. This program will be considered for adoption and improved by ENSC.

EnerGuide for Existing Houses Program	
Recommendation	**Status**
EEH-R10. Promotions for the new program should emphasize to customers the opportunities to save on energy bills and to learn about the energy efficiency (or inefficiency) of their homes.	**EEH-S10.** Agreed.
EEH-R11. The new program marketing materials should include the estimated life-time cost savings for measures offered by the program, adjusted based on the rebates and incentives available.	**EEH-S11.** Agreed. Will be considered in the development of future marketing material.
EEH-R12. Promotions for the new program should also include the non-energy benefits. It is possible that customers are unaware of the effect that program upgrades can have on the comfort levels in their homes.	**EEH-S12.** Agreed.
EEH-R13. When promoting and discussing the program with customers, program representatives should keep in mind the relative effectiveness of different measures in terms of uptake and cost per kWh of savings. Where possible, Delivery Agents should seek to focus on promoting the more effective measures such as electronic thermostats, high efficiency air-to-air heat pumps, electric water heater exposed pipe insulation, high efficiency ductless mini split heat pumps, and electric water heater tank insulation.	**EEH-S13.** Agreed. The advantages of educating homeowners will be stressed in all partnerships with the delivery agents and suppliers. This will happen as part of their ongoing training.
EEH-R14. The new program should remove the potential for double counting by applying prescriptive savings only to measures that either cannot be modeled in HOT2000, or have no effect on the EnerGuide rating and energy consumption of a HOT2000 model. Some measures meet these criteria: drain water heat recovery systems, programmable thermostats, and water heater pipe insulation. These measures have no effect on the EnerGuide rating or energy consumption of a HOT2000 model, and therefore cannot be double counted. We suggest that all other measures be modeled in HOT2000 and their savings be calculated through the EnerGuide point system, not through prescriptive savings estimates.	**EEH-S14.** Agreed. In the short term this will be done through administrative improvements to the EEH program. In the longer term this will be part of the incoming changes in the energy rating system and new house rating software. It is anticipated that the proposed new rating software will be “Open Source” which will offer ENSC the opportunity to customize the inputs and outputs to better reflect our desired outcomes.
EEH-R15. The new program should consider coordinating with any new houses program to maintain consistency with regards to prescriptive savings estimates.	**EEH-S15.** Agreed.

EnerGuide for Existing Houses Program	
Recommendation	**Status**
EEH-R16. The new program should clearly identify how savings estimates are developed in the tracking database, and the assumptions that are used for the tracking data savings calculations. This would help evaluators determine the validity of the program's savings estimates.	**EEH-S16.** Agreed and in progress. With the program no longer being shared between ENSC and the Provincial government, savings will be recorded in the ENSC tracking database.

7. Low Income Households Program

Low Income Households Program	
Recommendation	**Status**
LIH-R1. Increase program marketing and outreach efforts to assure a steady, consistent flow of prospective participants. The program should consider expanding to include the rental/multi-unit residential building (MURB) market.	**LIH-S1.** Agreed. There is a MURB pilot in 2011 Efficient Products program, and a new residential program marketing staff member was added early 2011.
LIH-R2. Evaluate the possibility of raising the income eligibility threshold for rural areas. Increasing the pool of potential participants in sparsely populated areas will also provide the added benefit of allowing Delivery Agents to more cost-effectively serve those areas through increased efficiencies of time and travel expenses.	**LIH-S2.** Agreed. This was done in March 2011, with support of the Low Income PDWG sub-committee.
LIH-R3. Consider increasing targeted media advertising of the program. The use of direct contact outreach methods generally limit recruitment to one customer at a time and the program should consider more mass media approaches such as newspaper or other media advertising.	**LIH-S3.** Agreed. Province-wide radio ads were aired in 2010. ENSC is considering ads in newspapers across the province as well as public meetings in the evening (e.g. Town hall meetings). A targeted mail out was done in June 2011 to Heating Assistance Rebate Program applicants.
LIH-R4. Continue to promote the savings benefits of the program with an emphasis that the program is truly free of charge.	**LIH-S4.** Agreed and ongoing.
LIH-R5. Prospective participants should be made aware of the relationship between the measures installed by the program and future cost savings.	**LIH-S5.** ENSC will take this into consideration.
LIH-R6. Also emphasize to participants that the energy saving measures not only provide savings benefits but also improve comfort levels in the home.	**LIH-S6.** Agreed and ongoing.
LIH-R7. As an additional participant recruiting mechanism, the program may want to consider offering a further incentive to participants for recommending the program to their friends and family.	**LIH-S7.** ENSC will consider this recommendation for implementation in 2011 or 2012.

Low Income Households Program	
Recommendation	**Status**
LIH-R8. Identifying eligible participants through the partnership with Service Nova Scotia and Municipal Relations (SNSMR) is efficient and cost-effective. The DSM Administrator should continue to utilize this resource.	**LIH-S8.** Agreed. ENSC will seek to further strengthen the relationship with SNSMR.
LIH-R9. Training and communications of Delivery Agents should clearly explain the eligibility requirements for electrically heated homes in the program.	**LIH-S9.** Agreed. ENSC will continue to have on-going communications with Delivery Agents
LIH-R10. Provide clear guidelines to all program delivery personnel involved in customer contact regarding setting customer expectations from the program. Develop printed leave behinds that clearly describe what the customer should and should not expect from the program.	**LIH-S10.** Agreed.
LIH-R11. Reduce time from participant recruitment to first contact. The Outreach Agents (OA) should be in direct contact with the program administrator regarding applicant follow ups. Set a goal of first contact within four to six weeks.	**LIH-S11.** Agreed. Bi-weekly calls between OAs and the program manager are established.
LIH-R12. The DSM Administrator should establish a single name for the program that is consistently used by everyone involved in program delivery. This is important not only for eliminating customer confusion or misunderstanding but also for building a differentiated brand identity.	**LIH-S12.** Agreed. ENSC began phasing out the government program name as of April 1, 2011 (following closure of Conserve Nova Scotia and transition of LI program to ENSC). Through the phase ENSC now uses both names in correspondence.
LIH-R13. The DSM Administrator should continue to monitor the delivery process in all regions in order to ensure that resources are sufficient to carry out the program as designed.	**LIH-S13.** Agreed. ENSC will establish quality assurance checks together with open communications with DAs.

Low Income Households Program	
Recommendation	**Status**
LIH-R14. The DSM Administrator should review and update the guidebook for determining the manufacture date of refrigerators and freezers. This guidebook should be reviewed with Delivery Agents to ensure that it will meet their needs. Also, some programs use the serial number of the appliance to determine the date of manufacture. The Program Administrator may want to consider using this approach.	**LIH-S14.** Agreed. ENSC will continue to use the serial number. ENSC is discussing with DAs the use of age indicators (appearance, color, style) when manufacture date is not easily determined
LIH-R15. Before implementing any significant changes to the program design, the DSM Administrator should carefully consider the ramifications of the change both from a logistical and financial perspective. Include the Delivery Agents in the determinations regarding making such a change.	**LIH-S15.** Agreed. ENSC discussed this with the DAs and will continue to do so. Conducting pilots will provide further information.
LIH-R16. The DSM Administrator should introduce a unique identifier as early in the customer recruitment process as possible. The unique identifier should also include a field to identify the source of participant name, e.g., Department of Community Services (DCS), Outreach Agent, SNSMR, etc.	**LIH-S16.** Agreed. The source of the participant name is tracked separately.
LIH-R17. The DSM Administrator should consider requiring Delivery Agents to submit only one invoice for each home. This will require that Delivery Agents complete all work associated with a home before submitting an invoice.	**LIH-S17.** ENSC is planning to implement this recommendation for the fall of 2011.
LIH-R18. Integrate Outreach and Delivery Agents as full partners in program delivery. Establish a feedback loop for Outreach and Delivery Agents so that they can stay updated on the status of applications, the progress of work on participant homes, and the response to any participant issues or complaints. This might possibly be accomplished by providing access to an online data tracking system.	**LIH-S18.** Agreed. Bi-weekly calls are ongoing with the OAs. Regular communication continues between the program manager and the DAs.

Low Income Households Program	
Recommendation	**Status**
LIH-R19. Provide a standardized data entry form to all Delivery Agents. If possible, transition program data tracking to an online system that can also be accessed by Delivery Agents.	**LIH-S19.** Agreed. The tracking system is undergoing changes to incorporate this recommendation.
LIH-R20. Continue to require the Delivery Agent to walk participants around their homes after installation is complete and attest to the installation of each measure.	**LIH-S20.** Agreed and ongoing.
LIH-R21. Also utilize the results of quality control activities to identify and address potential discrepancies in measures reported to have been installed by Delivery Agents.	**LIH-S21.** Agreed. ENSC will continue to require verification sheets signed off by the DA and by the client. ENSC is also conducting on-site quality control assessments in 2011.
LIH-R22. Education of low-income consumers on continued energy efficient practices offers a payback in energy savings long after a customer participates in the program. Focus on improving the energy efficiency interest and knowledge of participants by providing educational materials.	**LIH-S22.** Agreed. ENSC is considering redesign of the education component.
LIH-R23. The program has been successful as measured by perceived satisfaction to participants. The DSM Administrator should continue to monitor customer satisfaction, particularly with regards to the energy conservation measures installed, the energy efficiency presentation, and the quality of the work completed.	**LIH-S23.** Agreed. This is part of the third party QA inspections and its importance will continue to be reinforced with DAs.

8. EnerGuide for New Houses Program

EnerGuide for New Houses Program	
Recommendation	**Status**
NH-R1. Under these circumstances, the program has two choices for its future direction. It should consider raising the minimum EG level to 85. This would help provide further separation from the NS building code and limit free-riders. In addition, the program should consider an incremental ratcheting up of participation requirements to an EnerGuide rating of 90 in two to three years. Alternatively, the program should consider exiting from the EnerGuide rating system and provide incentives directly for specific measures. The latter approach could potentially make for a more cost-effective and administratively efficient program.	**NH-S1.** Agreed. Providing a verified third-party energy efficiency rating on a new home has tremendous value. It provides a benchmark for both new and existing homes and could potentially play a role in future housing sales. The Existing Houses program is also tied to the EnerGuide rating system, and at this point there is no plan to exit from this rating system for new houses. The Federal government is developing a new rating system, anticipated to be released in early 2012. As details about that system emerge, ENSC will revise rebate requirements tied to the new energy rating to help ensure that rebates are tied to homes that are using less and less energy.
NH-R2. Before designing any future residential new construction energy efficiency programs, the DSM Administrator should work with building inspectors to understand the training they receive and their experience with enforcing building code. Building inspectors may have valuable insights into how builders choose to adhere to the new building code and the level of rigor required to do so.	**NH-S2.** Agreed. ENSC will discuss this recommendation with the Provincial government and municipal building inspectors.
NH-R3. Continue to build awareness through marketing to homeowners in newspaper and internet advertisements as well as home shows.	**NH-S3.** Agreed. ENSC will continue to market and advertise this program, through home shows, internet and other advertising methods.
NH-R4. NH program marketing to homeowners should continue to emphasize energy cost savings from constructing a house through the program.	**NH-S4.** Agreed. ENSC will continue to promote energy cost savings.
NH-R5. NH program marketing to builders should emphasize the ability to benchmark the energy efficiency of their construction, the market demand for energy efficient homes, and the value of having the EnerGuide label on their houses. Note that if the EnerGuide rating system were not used (i.e., incentives for specific measures mentioned in NH-R1 were used instead), this would not be an option.	**NH-S5.** Agreed. These aspects will be emphasized when marketing to builders.

EnerGuide for New Houses Program	
Recommendation	**Status**
NH-R6. The NH program should develop an information package regarding the upgrades that builders can provide to homebuyers.	**NH-S6.** Agreed. ENSC will put greater emphasis on providing this information to homebuyers. A package previously existed and will be updated as required.
NH-R7. ENSC should work to provide a cohesive program with effective marketing, clear requirements and definitive information about how the program will be administered going forward.	**NH-S7.** Agreed and implemented in 2011.
NH-R8. Builder education and training needs to provide greater detail regarding the Nova Scotia building code, the NH program, and understanding the HOT2000 report and the R-2000 approach.	**NH-S8.** Agreed. ENSC will review the current educational/training opportunities, and will seek to increase knowledge and understanding about this program to builders.
NH-R9. ENSC could work with trainers at Nova Scotia Labour & Workforce Development, to explain more clearly that the PerformancePlus program is an alternative to the prescriptive method.	**NH-S9.** ENSC will consider this recommendation in further detail, and will discuss with Nova Scotia Labour & Workforce Development.
NH-R10. The NH program should work with NRCan to provide additional training to Delivery Agents on reviewing and interpreting HOT2000 reports. The program should also help Delivery Agents understand how they can track and adjust energy savings, particularly for plug load versus building envelope measures.	**NH-S10.** Agreed. ENSC has met with Delivery Agents and discussed the energy tracking aspects of this program. Where possible, ENSC will also seek to work with NRCan in relation to the HOT2000 software and training for Delivery Agents.
NH-R11. The program should work to improve the scheduling and timing of the audit. Regular communication with builders will also help improve satisfaction with this aspect of program delivery.	**NH-S11.** ENSC will discuss this recommendation with the Delivery Agents, as they provide the on-the-ground service, to identify potential methods for improvement.
NH-R12. Solar hot water heaters and water heater tank insulation should always be modeled in HOT2000. Prescriptive savings should not be applied to such measures	**NH-S12.** Agreed. ENSC will consider these changes in 2011.
NH-R13. The program should set a precedent and either instruct auditors to always model CFLs (including their savings in the per EnerGuide point calculations) or never model CFLs.	**NH-S13.** ENSC discussed this issue with auditors, who indicate they currently model CFLs as required by NRCan. Therefore, CFL savings are included in the EnerGuide rating system.

EnerGuide for New Houses Program	
Recommendation	**Status**
NH-R14. It is appropriate to add prescriptive savings for water heater pipe wrap insulation and drain water heat recovery measures to the per EnerGuide point savings calculations.	**NH-S14.** ENSC agrees that prescriptive savings should be applied to measures that cannot be modeled in HOT2000, or that show no energy savings in HOT2000. ENSC has reviewed the measures and those that do not affect the EnerGuide rating (thermostats and domestic hot water pipe wrap) will be added in 2011 to the savings attributed directly to the EnerGuide rating.
NH-R15. The code upgrade baseline home (EnerGuide rating of 80) and the per EnerGuide point savings estimate of 1,032 kWh should be adopted by the new houses program for tracking savings in 2011.	**NH-S15.** Agreed. ENSC will model baseline homes as EnerGuide 80, although further investigation will be conducted to confirm the proper baseline to use. ENSC has increased the point savings estimate from 611kWh to 1,032 kWh.
NH-R16. Consider revising the program objectives and components in order to lower the administrative costs of the program and take advantage of existing energy efficiency measures occurring through the Nova Scotia building code.	**NH-S16.** ENSC will review options on how to make this program more administratively cost effective. Also, the overall program shifted to ENSC, which resulted in a more efficient administration.
NH-R17. The program should consider providing more direct incentives to builders so that they become more invested in effective program administration and energy efficient outcomes.	**NH-S17.** ENSC will further consider this recommendation by seeking ways to have builders more invested in the program.

9. Efficient Products – Direct Install Program

Efficient Products - Direct Install Program	
Recommendation	**Status**
D1-R1. The DSM Administrator should consider using email to contact customers for programs like the DI program. Email is a cheap and effective method for informing customers about a program like this.	**DI-S1.** Agreed and ongoing. When going through retailer and community development associations, email is used. However when contacting businesses directly, phone calls are preferred for the following reasons: (1) Phone numbers are more accessible for the small business community in NS. It is generally the preferred method of contact. (2) Phone contact is easy for the customer, requiring minimal back and forth for the booking. Therefore it is expected that phone contact will result in higher rates of program uptake. (3) The 2011 program relies on past customers participating in a second phase of the program, whereby additional energy efficient products are installed. Since these customers were contacted by telephone in the past, it was determined that a consistent method of communication should be used unless otherwise requested by the client.
D1-R2. Continue to promote the financial benefit of program participation to small businesses, emphasizing energy savings.	**DI-S2.** Agreed and ongoing.
D1-R3. Since the majority of DI program participants have not participated in an energy efficiency program before, it is crucial that the DI program have a positive effect on participants. Otherwise, participants may be reluctant to participate in other energy efficiency programs in the future. The DSM administrator should consider providing customers with updates, perhaps through email, of the energy and cost savings they are experiencing due to participation in DI program.	**DI-S3.** This process would be labour-intensive and is difficult because ENSC does not always have access to post-retrofit billing information. Also, small business owners generally indicate that they would like as little communication as required due to time constraints.

Efficient Products - Direct Install Program	
Recommendation	**Status**
D1-R4. At the time of participant contact, provide additional information or direct participants to other sources of information for identifying other energy efficiency measures they could implement. With the expansion of the SBLS (Small Business Lighting Solutions) program to the entire province, DI installation teams should continue to be prepared to provide region-specific contact information for SBLS delivery agents.	**DI-S4.** Agreed and ongoing.
D1-R5. Current or future program administrators may want to consider a program to offer financing for additional energy efficiency measures, possibly in collaboration with local banks.	**DI-S5.** Agreed. To date we have identified and analyzed the various financing model options, discussed various models with stakeholders and potential partners to determine preferences, gauge interest and identify potential obstacles. The next step is to determine preferred options and approach partners to negotiate.
D1-R6. Consider adjusting incentive levels for CFLs. This may, for example, include free installation services, but the businesses would have to pay for the cost of the CFLs. They may be further attracted to the proposition if the Administrator negotiates with the supplier to obtain favorable prices for the CFLs.	**DI-S6.** With established cost effectiveness and efficiency of this program, the current approach is economic in terms of acquiring the savings of these measures. During the evaluation of the 2010 program, respondents cited lack of time and financing as reasons for not having converted their facility to compact fluorescent lighting or light emitting diode exit signs. Furthermore, the CFL portion of this component of the Efficient Products Program is believed to be approaching the limits of its electricity savings potential.
D1-R7. The DSM Administrator should make an effort to install CFLs in all (100%) available screw-based sockets when visiting customers the first time.	**DI-S7.** Agreed and ongoing. This year's program was expanded to include unlimited specialty CFLs, allowing installers to fill 100% of safely-accessible sockets. In rare cases, the customer does not want certain sockets to be filled with CFLs.
D1-R8. Given the unchanged awareness levels and additional installation plans post program of LED exit lights, this program component should continue to be promoted actively.	**DI-S8.** Agreed and ongoing. The program continued to promote the LED exit light component of the Direct Install program. This recommendation was discussed with the Delivery Agent and opportunities for LED exit sign replacements are being actively sought.
D1-R9. The DSM Administrator should make an effort to install LEDs in all (100%) of available exit lights when visiting customers the first time.	**DI-S9.** Agreed and ongoing. Installers will install LEDs in all suitable and safely-accessible exit light fixtures.

Efficient Products - Direct Install Program	
Recommendation	**Status**
D1-R10. The Administrator of the program should continue to offer the DI program.	**DI-S10.** Agreed and ongoing.

10. Business Energy Rebates Program

Business Energy Rebates Program	
Recommendation	**Status**
BER-R1. While higher levels of free-ridership may be acceptable for a new program that is seeking to gain traction in the market, as the BER program matures, the DSM Administrator should consider including a similar free-ridership screening process for the BER program. The DSM Administrator could limit these checks to larger projects by requiring them only on equipment over $2,000 in cost. In keeping with the nature of the BER program, the free-ridership screening should be limited to a simple form that customers can fill out with project specific information.	**BER-S1.** Agreed. The first attempt to begin screening free-ridership within the BER application form has been implemented. This employs a brief question asking the importance of the program incentive to move forward with the project. This change to the application form took effect on March 15, 2011. The recommended $2,000 threshold has been implemented. Applications under $2000 showing free-ridership are approved and recorded. Applications over $2000 are rejected and recorded.
BER-R2. In 2011, the BER program should continue to build awareness and reach with customers. Contractors and design professionals represent channels that may be effectively utilized to promote the program.	**BER-S2.** Agreed. BER Program staff have developed a 'Trade Allies' initiative to stimulate engagement from vendors and contractors to push more projects forward. A different approach will likely be used for each demographic (i.e. vendor, contactor, etc.). Staff is also planning to draft 'Approved Products' lists for as many measures as reasonable.
BER-R3. When working with customers and training contractors, focus on the energy and bill savings opportunities offered by installation of the program measures.	**BER-S3.** Agreed. ENSC understands that it is important to show customers where energy savings are at the project level, as it demonstrates project value.
BER-R4. The BER should continue to work with customers to avoid creating barriers to program participation. Given the prescriptive and streamlined nature of the program, the DSM Administrator should consider assigning sufficient resources to respond to customer inquiries; and, when appropriate, to elevate customers quickly to the C&I Custom program if their projects appear to be too complex to be quickly approved.	**BER-S4.** Agreed and ongoing. Project approval is now a one-step process, with a program policy that encourages customers to consult ENSC in advance when uncertain about any part or parts of the program, or what measures are eligible.
BER-R5. As the BER program gains traction in the market and grows, it should be careful to maintain its standards for customer service and responsiveness while scaling up operations.	**BER-S5.** Agreed. Additional sales, program delivery and support staff have been added in 2011.

Business Energy Rebates Program	
Recommendation	**Status**
BER-R6. The need to make adjustments in incentives is not an unexpected obstacle in the inaugural year of a new program. In the in-depth interviews, the program manager brought up incentives as a potential obstacle for the 2010 program year and said that incentive levels may require adjustments over time based on feedback from participants and other factors. The DSM Administrator should examine the scope for increasing rebate amounts, taking into consideration cost-effectiveness as well as input from customers, contractors, and vendors.	**BER-S6.** Agreed and implemented. Incentive levels have increased from the 2010 levels.
BER-R7. BER participants appear to be a group of customers highly motivated to reduce energy usage and costs but have not been taking action. After participants complete projects through the BER program, the DSM Administrator should take the opportunity to help them identify additional projects to manage their energy usage and reduce costs.	**BER-S7.** Agreed. Sales and program staff regularly follow up with customers to seek opportunities for further participation.

11 Commercial and Industrial Custom (C&I Custom) Program

Commercial and Industrial Custom Program	
Recommendation	**Status**
C&I-R1. The DSM Administrator should continue to include free-ridership checks as part of the C&I Custom program and should consider including similar checks in any other programs developed for the commercial and industrial sectors. The DSM Administrator should continue to monitor free-ridership as part of the C&I program and if free ridership levels continue to rise, consider adjusting the screening procedures used to identify free-riders.	**C&I-S1.** Agreed and ongoing. ENSC implemented a new practice to ensure that program staff talks to all customers about the program, upon receiving any application forms. At this point a free-ridership check is being done and correspondence is being documented. This plan will incorporate a free ridership check in the data system workflow for the particular project.
C&I-R2. The NMR team suggests that the C&I Custom program consider moving to a non-calendar year evaluation schedule. The DSM Administrator should consider creating a program year that allows program staff sufficient time to complete their M&V activities and enter the results into the tracking system. After that, a more rigorous impact evaluation effort can be undertaken for the program.	**C&I-S2.** Agreed. The C&I Custom team has been expanded to include more full-time staff, to overcome staff constraints encountered in 2010. This will allow capacity to deliver the increased number of projects expected in 2011 and to meet measurement and verification requirements of the program. Also, additional M&V training and acquisition of additional test equipment is planned for 2011.
C&I-R3. The Program Administrator needs to more rigorously review their tracking database and ensure that all staff members using the database follow consistent data entry protocols.	**C&I-S3.** Agreed and in the process of being implemented. The DSM database is now up-to-date. The change in C&I Custom project numbers to the database project number ensures that at the creation of the project development agreement a database entry must be made. A standard procedure in filling out project and study entries in the DSM database has been established.
C&I-R4. Conduct training sessions with energy efficiency contractors and design professionals that will educate them on the C&I Custom program. Also work with them to develop marketing tools that they can utilize with customers. Training contractors can be a strong marketing channel for the C&I Custom program, helping to reach those customers who are currently unaware of the program.	**C&I-S4.** Agreed. The newly created role of a C&I Marketing Specialist will help educate consultants, customers and contractors on the program process and our involvement. Involvement in conferences and focus on additional lunch-and-learns will help improve awareness. Exposure at tradeshows and conferences will improve program awareness. ENSC will be co-hosting (with the Association of Energy Engineers) a week-long Certified Energy Manager training course in October of 2011.

Commercial and Industrial Custom Program	
Recommendation	**Status**
C&I-R5. In 2011, the C&I custom program should build on its 2010 program marketing and outreach activities. Contractors and design professionals represent channels that may be effectively utilized to promote the program.	**C&I-S5.** Agreed and ongoing. ENSC is working with contractors and consultants on several levels. Delivery and sales staff have been working together to discuss the program and to seek new opportunities through design professionals. Assistance from the C&I Marketing Specialist will further increase awareness. A Channel Sales Manager was hired in June 2011, to work with equipment distributors, contractors and large clients in an effort to enhance participation in the C&I Custom and C&I Prescriptive programs.
C&I-R6. Continue to focus on the financial benefits of the program when working with customers and training contractors.	**C&I-S6.** Agreed and ongoing.
C&I-R7. Continue to work with customers on a case-by-case basis and provide assistance as they work through the program.	**C&I-S7.** Agreed and ongoing.
C&I-R8. The DSM Administrator should review their customer service processes and ensure that they continue to offer a high level of customer service as part of the C&I Custom program.	**C&I-S8.** Customer service is a key metric ENSC continues to monitor through customer and client surveys. Results and recommendations are implemented as business improvement initiatives.

12 Small Business Energy Solutions Program (formerly Small Business Direct Install Program)

Small Business Energy Solutions Program	
Recommendation	**Status**
SBLS-R1. The SBLS program should continue to require that all materials removed during lighting retrofits be properly recycled and maintain a mechanism for accomplishing this.	**SBLS-S1.** Agreed, a recycling contract is in place for 2011.
SBLS-R2. The DSM Administrator should consider providing participants and trade allies with ‘leave behinds’ that they can provide to interested customers. One possibility may be to provide them with SBLS business cards that contain the contact information for the Delivery Agent in their region.	**SBLS-S2.** Agreed. New ENSC brochures have been printed with all relevant information; window stickers have been included in conjunction with the Business Energy Rebates and C&I Custom programs.
SBLS-R3. The DSM Administrator should continue to promote the financial benefit of program participation to small businesses.	**SBLS-S3.** Agreed. Delivery agents, ENSC sales staff and ENSC Program Advisors continue to promote the program.
SBLS-R4. NMR recommends that the DSM Administrator carefully monitor the implementation of the alternative program design to ensure continued high levels of customer service. The DSM Administrator should also consider developing and instituting minimum criteria for reliability and materials quality for Materials Vendors chosen by Delivery Agents.	**SBLS-S4.** Site visits are being performed on a regular basis throughout all territories. A customer satisfaction survey has been designed and implemented. Materials currently supplied through the program must meet technical specifications that are established by ENSC.
SBLS-R5. At the time of participant contact, the DSM Administrator should continue to provide additional information or direct customers to other sources of information for identifying other energy efficiency measures they can implement.	**SBLS-S5.** Customers are advised of other ENSC programs where applicable (specifically the Direct Install and BER programs). Non-lighting measures (including motors and refrigeration) are being piloted in 2011.
SBLS-R6. The SBLS program is a crucial source of information, assistance and funding for participants. The DSM Administrator should continue to offer the SBLS program to small businesses.	**SBLS-S6.** Agreed, SBES will continue to be offered for the 2011 program year.

Small Business Energy Solutions Program	
Recommendation	**Status**
SBLS-R7. Despite the importance of reducing and managing energy costs to participants and their receptivity to purchasing energy efficient equipment, relatively few respondents reported taking additional actions after participating in the SBLS program. The DSM Administrator should consider expanding program offerings to help small business customers identify and pursue other energy efficiency measures. The DSM Administrator should continue to promote the financial benefit of program participation to small businesses.	**SBLS-S7.** Agreed. Please refer to SBLS-S5. ENSC will continue to promote financial benefits of participation. Non-lighting measures are being piloted in 2011.

Verification Recommendations and Status Updates

1. Specific Action Items

Specific Action Items	
Recommendation	**Status**
R2. … continue to recommend moving measurement more in the direction of electrical measurement and passive (instrumented) monitoring and less in the direction of modeling and social science, though both electrical measurement and social science tools (surveys, interviews, observations, etc.) are important.	**S2.** ENSC selected an evaluator for the 2011 evaluation cycle in late June. Recommendations from the verification and evaluation reports were considered both in preparing the RFP and in selecting the evaluator. Evaluation will continue to move in the direction of electrical measurement and passive monitoring.
R3. For the Appliance Retirement and Replacement Program, two hour monitoring should be applied to an adequate sample of retired refrigerators. In addition, the delivery agent should be required to capture a digital photo image of the machine label so that its age and energy use can be checked on a look-up table	**S3.** In progress. A two hour monitoring process is under consideration; photos are being taken at the recycling facility.
R4. Where survey information is used to establish hours of use, at least some light loggers should be introduced as a check.	**S4.** This will be included in the 2011 evaluation cycle.
R5. - A Nova Scotia socket study be conducted. The socket study is essential for understanding the market transformation dimension of CFL and LED measures and will permit a “socket target” to be set for programs. For example, if the socket study shows an average of 45 sockets for a particular housing type or for the average house, the program target might be set to 36 sockets or some other number to be determined by the DSM Administrator.	**S5.** ENSC has engaged Corporate Research Associates (CRA) to conduct a socket study. The survey instrument is currently being prepared and field work will begin in August with a September 30th target for final report of survey results.
R6. We recommend that the DSM Administrator insure that the evaluator is assigned to make at least some site visits to each program and subprogram each year as a check.	**S6.** ENSC agrees and will implement this recommendation for the 2011 evaluation.

Specific Action Items	
Recommendation	**Status**
R7. We recommend the DSM Administrator direct staff and/or program delivery agents to fully capture relevant baseline information of pre-program equipment tied to exact program replacements. For example, for the Efficient Products Direct Install program, we recommend that for every tenth site, the delivery agent team be directed to bring back all removed bulbs. On each bulb a permanent magic marker would be used as it is unscrewed at the site to record a symbol for the exact type of CFL or LED used as a replacement. These records would be tallied for the year to support existing record keeping with more exact physical detail.	**S7.** ENSC agrees to better capture information on pre-retrofit equipment. However, acquiring space in storage facilities for removed equipment is not currently planned.
R8. Continue the NMR's current practice of clearly separating reporting of sites finished during the program year and sites committed but not completed during the program year.	**S8.** Agreed and ongoing.
R9. The DSM Administrator should direct the evaluator to continue and expand NMR's current practice of clearly designating program designs and logic diagrams to indicate if the program is a Resource Acquisition program or a Market Transformation program (or both).	**S9.** Agreed and will be implemented for 2011 evaluation.

Specific Action Items	
Recommendation	**Status**
R10. According to NMR's analysis, free-ridership in some of the programs is relatively high. […]NMR discusses these problems and proposes some solutions such as selecting equipment from higher Energy Star tiers. … The DSM Administrator or the evaluator as directed by the DSM Administrator should construct a table listing all programs and major subprograms, classify them by Resource Acquisition or Market Transformation program (or both), and state the free ridership rate for each program and major subprogram. The free-ridership rates should then be discussed in terms of the two DSM paradigms and as to which are low enough to be considered normal overhead, which need to be cut back (with strategies for reducing free-ridership to an acceptable goal), and which may be high due to the current stage of market transformation (along with the plan and time line for transformation of the particular market). …the DSM Administrator or the Evaluator needs to address all programs and subprograms with high free-rider rates and explain either how the free-rider rates will be reduced or why they are strategically necessary given current context from a Market Transformation perspective.	**S10.** Agreed and in process. Free ridership in all programs continues to be examined by ENSC. Additionally, programs with a high free ridership rate will be a focus of the evaluation in 2011.
R11. The DSM Administrator should consider whether or not it may be useful to revisit approaches to assessing free-ridership. Currently, NMR is using an improved variant of the Oregon Energy Trust/Research Into Action method. Just as the original multiplicative method used in the first Program Year understated free-ridership, it may be that for certain programs the current method somewhat overstates free-ridership.	**S11.** ENSC is in the process of redefining methodologies and approaches to estimate free ridership and spillover. ENSC is on track to file a study by no later than December 15, 2011, as directed by the Utility and Review Board.
R12. Beginning with the next set of evaluations, a policy on dual baselines should be stated and implemented for each program. This will require consideration of effective useful life (EUL) and remaining useful life (RUL) for each measure and whether or not a code or customary standard is in place to determine replacements in the absence of a DSM program. Currently savings is valued as the difference in energy use and demand between new equipment and equipment replaced.	**S12.** Agreed and to be implemented.

Specific Action Items	
Recommendation	**Status**
R13. …the DSM Administrator direct the evaluator to attach worksheets that support calculations and results for at least one individual example project (reviewed by NMR for uniformity of format and easy interpretation by an external reviewer, and as is normal with project worksheets also signed and dated by the analyst who developed the worksheet). These example work papers would be included as a separate appendix to the 2011 evaluation.	**S13.** This will be implemented for the 2011 evaluation.

2. Individual Program Evaluations

Efficient Products Retail Recommendations

Efficient Products Retail Program	
Recommendation	**Status**
R1. We recommend that the NMR energy savings and demand reduction results for this program be accepted for 2010. Although the spillover results may be high, the baseboard thermostat savings are likely low and the overall result is reasonable for 2010.	**S1.** Agreed.
R2. For the next program cycle, we recommend a ramping up of in-store promotions for specialty CFLs.	**S2.** The fall Retail Markdown campaign will include a specialty CFL giveaway component.
R3. For the next evaluation cycle, we recommend direct monitoring of a small baseboard heater control sample to establish a Nova Scotia value.	**S3.** In the process of being implemented.
R4. For the next evaluation cycle, we recommend NMR partition spillover between program and other market effects.	**S4.** The next evaluation contractor will incorporate.

Appliance Retirement & Replacement Pilot Program

Appliance Retirement & Replacement Program	
Recommendation	**Status**
R1. We recommend that the NMR energy savings and demand reduction results for this program be accepted for 2010.	**S1.** Agreed
R2. This pilot is a promising new program. We recommend exploring ways to continue and expand the pilot.	**S2.** Program was expanded province-wide in 2011.
R3. While the analysis is well constructed for a first year evaluation of a first year pilot program, we recommend that future program evaluations adopt direct appliance metering for a subset of each appliance type. A protocol for metering for multifamily replacement refrigerators from the New York Technical Resource Manual is attached as an appendix to this report. This protocol could serve as a starting point for developing a metering protocol appropriate for Nova Scotia. For the next evaluation of this program there should be enough direct (2 hour) metering to establish correction factors for each appliance (refrigerators, freezers, dehumidifiers). The correction factors could be used to "true-up" modeling procedures. Approximately two hours of monitoring would cover three cycles.	**S3.** In progress, logistics currently under consideration.
R4. We recommend that a digital picture be taken of the label in each machine and used to determine age using look-up tables	**S4.** Implemented, pictures are being taken in 2011.
R5. A potential weak point in recycling programs is that some units might find their way back to the secondary market. Accordingly, we recommend that the evaluator devise an emphasis on spot checks to insure that machines make it all the way through the recycling process.	**S6.** Status: All collected units are barcoded as part of a chain of custody tracking process. All bar codes created will be cross referenced with barcodes received at recycler end to ensure 100% arrival at destination. Also, units are cosmetically damaged to ensure not fit for resale. The program manager is planning to make unannounced, drop in visits to the recycling facility to ensure the proper process is in place.

EnerGuide for Existing Houses Recommendations

EnerGuide for Existing Houses Program	
Recommendation	**Status**
R1. We recommend acceptance of NMR's energy savings and demand reduction results for this program for 2010. The methods used in the analysis were appropriate for the time allotted for the evaluator to complete 2010 program evaluations.	**S1.** Agreed. ENSC is currently using the method recommended by NMR, and will consider other ways to further improve this method in the future.
R2. We recommend that a program in the residential existing houses sector be continued since it is an important sector for achieving effective DSM.	**S2.** Agreed.
R3. We recommend that future evaluations for this sector use actual kWh rather than modeled kWh. The main issue would be timing since twelve to thirteen months would need to pass following the end of a program year to generate the "posttest" actual energy consumption required for the analysis. This analysis should also include collection of demographic/housing characteristics from an accompanying participant and non-participant survey. The high rigor evaluation method used in the 2010 low-income evaluation is an excellent model to apply for the residential existing houses evaluation.	**S3.** ENSC will consider doing so in the future.

Low Income Program

Low Income Program	
Recommendation	**Status**
R1. We recommend that the NMR energy savings and demand reduction results for this program be accepted for 2010.	**S1.** Agreed.
R2. This evaluation employed a high-rigor evaluation method which corrects for problems in savings estimation inherent in the HOT2000 simulation software. We recommend that the same or a similar PRISM based and/or regression based approach (both of which are used here) be employed in all future impact evaluations for this program type.	**S2.** If billing analysis is to be used in the future, modifications are needed and more thoroughness is required. ENSC is carrying out an analysis comparing this method to tracked energy savings (from modeling software) and established energy savings per installed measure.
R3. We recommend that a whole house program in the low income sector be continued and gradually enhanced year by year with the goal of increasing energy savings per home.	**S3.** Agreed.
R4. Results should be presented separately for electrically heated homes, homes with partial electric heat, home with electric hot water (but not electric heat), and all other non-electric homes. When all of these types of homes are analyzed together, there is a mixture problem that has a major impact on the result depending on the number of homes with electric heat relative to the number of homes in the analysis. This does not affect the validity of the overall result.	**S4.** Agreed that these groups of homes should be examined separately. ENSC disagrees that this does not affect the validity of the overall result because a combined group was used to establish the baseline consumption for all homes in the Low Income program in 2010. (This leads to the conclusion that the average electrically heated home consumed less than 4,000 kWh per year for heating, which indicates the homeowner is spending ~ $431 per year on space heating). ENSC anticipates that the average NS home uses significantly more than 4,000 kWh per year for space heating.

EnerGuide for New Houses Recommendations

EnerGuide for New Homes Program	
Recommendation	**Status**
R1. We recommend that the NMR energy savings and demand reduction results for this program be accepted for 2010. The methods used in the analysis were appropriate for the time allotted for the evaluator to complete 2010 program evaluations.	**S1.** Agreed.
R2. We recommend that a program in the new houses sector be continued since it is an important sector for achieving effective DSM.	**S2.** Agreed.
R3. We recommend that future evaluations for this sector use actual kWh rather than modeled kWh. The main issue would be timing since twelve to thirteen months would need to pass following the end of a program year to generate the "posttest" actual energy consumption required for the analysis. In new construction there is no actual kWh "pre-test" baseline. However, results of the actual usage "true-up" analysis from a high rigor evaluation for existing houses could be applied as a model correction to the new houses program.	**S3.** Agreed, actual data should be used and then assumptions (models) can be corrected based on actual results.
R4. In this program type there are separate free rider rate for builders and for homebuyers. We recommend these rates not be arithmetically averaged, but that if a single rate is required a study be performed to determine with the builder or the buyer is the responsible party for each home, and melding occur on that criterion.	**S4.** This will be further considered during the 2011 evaluation process. ENSC suggests considering free ridership levels individually for builders and for homebuyers. Subsequently the average for each of the two subsets could be calculated and an approach developed to come up with a final average.

Efficient Products Direct Install Recommendations

Efficient Products Direct Install	
Recommendation	**Status**
R1. It is recommended that specialty CFLs, especially dimmable CFLs be emphasized in the portfolio for the next cycle.	**S1.** Agreed and implemented..
R2. We recommend that the NMR energy savings and demand reduction results for this program be adjusted downwards for 2010 by 10%. This is to compensate for the melding of tracking system results with evaluated results..	**S2.** Agreed.
R3. We recommend that the Power Down Program be continued as an effective non-residential DSM and market transformation effort.	**S3.** Agreed and implemented.
R4. We recommend adoption of the seven process changes developed by the DSM Administrator..	**S4.** . All seven processes have been included in the 2011 program with an adjustment to one process: Cold call visits will be permitted as this activity is vital to the success of the program. Clients of cold call visits will be contacted by the program call centre within 24 hours to verify place of business and confirm lamp installation. This revised process for handling visits ensures the same level of quality assurance but with improved logistical abilities to be more cost and time effective with installer's schedules.
R5. To further tighten accounting for this program, we recommend that each implementation team collect all removed bulbs (for perhaps 10% of sites), having noted with a permanent magic marker the exact type of new bulb inserted into the socket. These are to be sorted and a journal kept of the exact bulbs removed and their exact replacements and reported monthly and at the close of the year.	**S5.** Removing, marking and storing bulbs for 10% of site visits would result in considerably higher cost per kWh for the Direct Install component, because labour and storage costs would increase accordingly. In addition, logistics and execution would add undue administrative burden to the program and may negatively affect energy saving results. However, increased and improved quality assurance now exists as in the form of increased reporting and enhanced quality assurance procedures.

Smart Lighting Choices Recommendations

Smart Lighting Choices Program	
Recommendation	**Status**
R1. We recommend that the NMR energy savings and demand reduction results for this program be accepted for 2010. The evaluation methodology used was consistent with industry standards and fit within the evaluation budget guidelines.	**S1.** Agreed.
R2. We recommend that the Smart Lighting Choices program be continued as an effective non-residential DSM and market transformation effort until an upgrade in lighting codes to T-8 occurs. The problem of discontinuing a successful program prior to updating code was recently shown in New Brunswick where funding for a similar program through lighting distributors was dropped and practice almost immediately shifted back to the less efficient products. For this reason the DSM Administrator should continue its focus on development of legislative code for this technology.	**S2.** Agreed.

Business Energy Rebates Recommendations

Business Energy Rebates Program	
Recommendation	**Status**
R1. We recommend acceptance of NMR's energy savings and demand reduction results for this program for 2010. The methods used in the analysis were appropriate for the time allotted for the evaluator to complete the 2010 program evaluations.	**S1.** Agreed.
R2. We recommend that the program be continued and expanded. The program is new, has been well received, has good potential for meaningful expansion, and fits well beside the C&I Custom program to provide financial incentives to smaller companies for installation of less complex equipment.	**S2.** Agreed.
R3. As stated above, participants in the BER program must first purchase and install energy efficient equipment, and only then may apply for a rebate through the program. Because of the very nature and sequence of activities of the program, and in view of the high percentage of free-ridership calculated for the 2010 program, we concur with the NMR recommendation that some form and level of screening to reduce free-ridership should be reviewed and implemented into the program protocol.	**S3.** Agreed and implemented.

C&I Custom Recommendations

C/I Custom Program	
Recommendation	**Status**
R1. We recommend acceptance of NMR's energy savings and demand reduction results for this program for 2010. The methods used in the analysis were appropriate for the time allotted for the evaluator to complete 2010 program evaluations.	**S1.** Agreed.
R2. We recommend that the DSM Administrator continue to support the program emphasis on baseline measurement and spot metering.	**S2.** Agreed and ongoing.
R3. We recommend that this very successful program be continued into future program cycles.	**S3.** Agreed.

Small Business Energy Solutions (Formerly Small Business Direct Install) Recommendations

Small Business Energy Solutions Program	
Recommendation	**Status**
R1. We recommend that the NMR energy savings and demand reduction results for this program be accepted for 2010. The evaluation methodology used was the best method given the time constraint, the evaluation budget, and the problems in the DSM Administrator's data tracking system which made it impossible to link meters with lighting circuits (and also, for the same reason, to establish a reasonably similar non-participant comparison group) so that the original billing analysis approach could not be used.	**S1.** Agreed. See also recommendation 3.
R2. We recommend that the Small Business Direct Install/Small Business Lighting Solutions Program be continued since its relevance and usefulness for this business sector has been demonstrated across three program and evaluation cycles.	**S2.** Agreed.
R3. We recommend that the DSM Administrator use 2011 to find a solution to the matching of accounts, meters, and circuits for this program type in a form that is easily retrievable and easily interpreted by the Evaluator from the Data Tracking System.	**S3.** Agreed.
R4. We support NMR's recommendation to conduct the 2011 evaluation for this program using on-sites with time of use meeting.	**S4.** Agreed and in place for 2011 evaluation plan.