

November 12, 2010

Nancy McNeil
Regulatory Affairs Officer/Clerk
Nova Scotia Utility and Review Board
1601 Lower Water Street, 3rd Floor
PO Box 1692, Unit "M"
Halifax, NS B3J 3S3

Re: CI# 40103 – U&U Load Control Demonstration NSPI Responses to Information Requests (IRs) – P-510

Dear Ms. McNeil:

Enclosed are the IR responses pertaining to the capital item referenced above. These IRs were received on November 2, 2010.

The employee names and positions provided in UARB IR-3 are considered confidential. Employees of NSPI are entitled to privacy protection, as are employees in other companies and industry. Good human resource practices and privacy legislation requires NSPI to protect certain confidential personnel information and documentation from disclosure.

NSPI discloses these names to the Board in confidence, thereby ensuring that an appropriate prudence review can occur.

Regards,



Lee Thomson-Lutz MBA, CMA
Manager Capital,

Encl.

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Request IR-1:

Documentation for this project includes the executive summary, the NSPI participation agreement and the original NB Power funding application to NR Canada. There appears to have been a number of changes (e.g. in project scope and participants) as the project moved ahead.

(a) Please provide a summary of the major changes that have occurred between the original NB Power application and today.

Response IR-1:

The notable differences from the original application to the current project include: customer participation, partnership and budget.

The original proposal to NRCAN included an overall participation of 750 residential, commercial and industrial customers. The current customer participation targets for the project are broken down for each utility as follows:

NSPI:	up to 1500 residential, 150 commercial
NB Power:	up to 600 commercial
Saint John Energy:	up to 100 residential
Maritime Electric:	up to 50 residential

Through the NRCAN application process it was determined that industrial customers would not form part of the project scope. The parties were then able to adjust their projects to involve more residential and commercial customers.

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1 Response IR-1: (cont'd)

2
3 The following parties had some level of participation in the original application through
4 engagement, or as collaborators, however they are currently not part of the project as applicants:
5 Efficiency New Brunswick, GE Multilin, TransAlta, Canadian Wind Energy Association, the
6 Provinces of Prince Edward Island, New Brunswick, and Nova Scotia, and WEICan.

7
8 The original application to NRCAN proposed a \$38M project budget, seeking \$19 million in
9 Federal funding. When the approved contribution from NRCAN was determined to be \$15.9
10 million, the overall project was scaled to \$32 million.

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Request IR-2:

Please provide the present governance structure for the project. Include in your response a description of each of the committees (e.g. executive oversight committee, working group, project managers, etc), what their responsibilities are, and the process used to arrive at decisions, e.g. the voting structure.

Response IR-2:

The governance structure is comprised of an Executive Oversight Committee (EOC), Program Director, Working Group, Project Management Office and Project Managers. Summaries of each group's key responsibilities are below. Detailed explanations are provided in Schedule "D", 'Governance' of the Participation Agreement (Pages 134-140 of the application).

Executive Oversight Committee

Section 8 of the Participation Agreement (Page 25 of 151) pertains to the establishment of the EOC. The EOC is responsible for monitoring the project status, addressing escalated issues, and carrying out the responsibilities assigned to it under the Participation Agreement. These responsibilities are listed on page 135 of 151 of the application. The EOC is comprised of five voting members from New Brunswick Power (NB Power), Nova Scotia Power Inc. (NSPI), Maritime Electric (MECL), Saint John Energy (SJE) and the University of New Brunswick (UNB). The New Brunswick System Operator (NBSO) is represented on the EOC however, they are not a voting member.

A quorum for the transaction/decision of business at any meeting must contain NSPI, NB Power and one (1) other member. A meeting may not be held in the absence of a representative from either NSPI or NB Power. Questions arising at any meeting of the members shall be decided by a

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Response IR-2: (cont'd)

majority of votes cast. In case of an equality of votes, the dispute resolution process as set out in the Participation Agreement shall govern.

The EOC meets on a quarterly basis in person and monthly via teleconference.

Program Director

The Program Director is responsible for overseeing the project, and is accountable to the EOC. Key responsibilities include acting as liaison to the EOC, ensuring that the Project is designed reflective of each Party's specific project and ensuring that key opportunities are leveraged to maximize cost effectiveness. The Program Director is the key liaison with Natural Resources Canada (NRCAN).

Working Group

The Working Group is made of up of representatives from each of the parties. Their mandate includes the finalization of the overall project design, and monitoring budget and deliverables. The Working Group meets bi-weekly.

Other duties of the Working Group include:

1. Finalization of common cost service providers and approval of selection.
2. Leveraging where cost savings and efficiencies are possible for other Project common costs.
3. Ensuring the Parties' project scope, schedule and deliverables remain on-time and on-budget as set out in the Agreement and in the Federal Contribution Agreement.
4. To develop and maintain a strategic vision for the Project.

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Response IR-2: (cont'd)

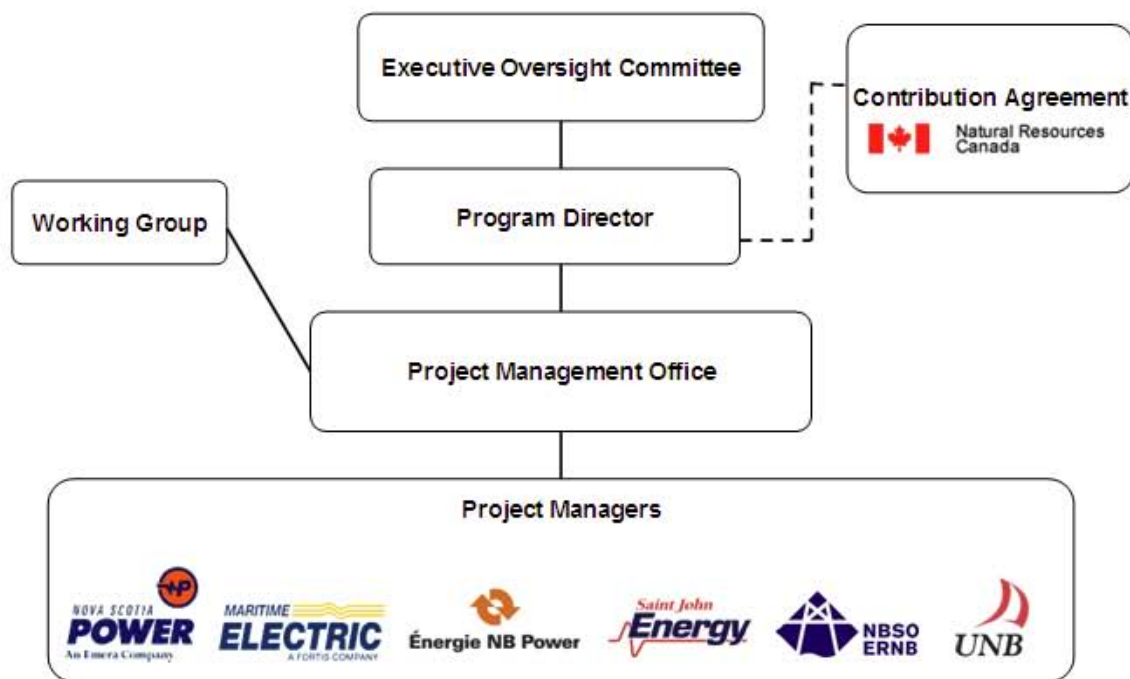
5. To develop a communications plan and protocol for the Project.

6. To report deliverables in an annual report to the Program Director.

Project Managers

The role of the Project Manager is to manage the Project objectives on behalf of their respective organization. Project managers will plan and organize resources, liaise with the Project Management Office, monitor budgets and reporting for their utility. Project Managers meet weekly.

A chart outlining the project structure is below:



REDACTED

Request IR-3:

Please provide a list of members for each participating entity on each of the committees described in IR-2.

Response IR-3:

Executive Oversight Committee

- [REDACTED] - NSPI (Chair)
- [REDACTED] - NB Power
- [REDACTED] - MECL
- [REDACTED] - SJE
- [REDACTED] - UNB
- [REDACTED], NBSO

Working Group

- [REDACTED] - NSPI
- [REDACTED] - NB Power
- [REDACTED] - MECL
- [REDACTED] - SJE
- [REDACTED], UNB
- [REDACTED] - NBSO

Program Director

- [REDACTED], NB Power

CI 40103 - Load Control Demonstration Project (NSUARB P-510)
NSPI Responses to UARB Information Requests

REDACTED

Response IR-3: (cont'd)

Project Management Office

- [REDACTED], Stantec

Project Managers

- [REDACTED], NSPI
- [REDACTED], NB Power
- [REDACTED], MECL
- [REDACTED], SJE
- [REDACTED], UNB
- [REDACTED], NBSO

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Request IR-4:

Why does the UARB approval sheet show a capital contribution of \$5.7m, when the approval request is for \$4.3m?

Response IR-4:

The contribution of \$5.7 million includes \$2.4 million of other funding and \$3.2 million of funding from NRCAN.*

The approval request of \$4.3 million represents the total NS project cost of \$9.3 million less the contributions of \$5.7 million, plus a \$700,000 contingency.

* The discrepancy between the contribution of \$5.7 million and the funding arrangements is due to rounding to the nearest hundred thousand. The figures presented in this information request reflect those presented in the application.

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1 **Request IR-5:**

2
3 **Why is this a capital expenditure and not research and development at shareholders'**
4 **expense? What benefit is there to the ratepayers?**

5
6 Response IR-5:

7
8 This investment will provide NSPI with the infrastructure through which load control can be
9 demonstrated, examined and tested for future deployment. The majority of expenditures for this
10 project include the design and installation of the appropriate materials and technical
11 infrastructure deployed. (i.e. telecommunications, meters, hardware and software). The
12 equipment purchased and used as part of this project is expected to remain in service after the
13 completion of the project.

14
15 Consistent with Accounting Policy 6000, an expenditure which provides a benefit which extends
16 beyond one year and is greater than the defined materiality limits is considered capital.

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Request IR-6:

Reference Page 4 of 151, Project Funding Structure

- (a) Please provide details on the sources of the \$2.4 million of NS Funding.
- (b) Does the total estimate of \$32.1 million include any contingency? If not, please explain why not.
- (c) Please explain what will occur if, part way through the project, it is discovered that to do all of the proposed work, the estimated costs exceeds the \$32.1 million, say by \$1 Million.
- (d) Are there circumstances where NSPI could request an ATO for this project? If so, please provide a description of these circumstances.
- (e) Please confirm, or explain why it cannot confirm, that the \$6.0 million shown for NS Funding (and also shown on page 142 of 151 for NSPI) is \$6.0 million of value and that the NSPI cash input for this project is the amount of this capital work order (\$4.3 million).
- (f) Note 2 of this table states that the "Capital work order is \$3.6M plus a \$700K contingency". However, the detailed estimate on page 3 of 4 of the work order application does not show a "contingency" amount in the total of \$4.29 million. Please explain why there is no contingency amount shown in this estimate.

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Response IR-6:

(a) Funding for the \$2.4 million may include:

- Other funding partners (e.g. technology partner, government agencies or private funding sources).
- Past investments that contribute to the project.
- Other in-kind contributions (e.g. customer research, NSPI EOC involvement).

Under the Participation Agreement, Nova Scotia Power has until December 31, 2011 to identify the specific sources for this additional funding.

(b) No. NSPI understands that all parties estimated their projects without contingency amounts, and NRCAN's estimate is based on matching these amounts, giving the total estimate of \$32.1 million.

(c) This would most likely mean that the project scope would be reduced to work within the budget envelope. For example, NSPI could scale the project by reducing the number of customers to take part in the demonstration. Another possibility would involve obtaining additional funding from other partners.

(d) No. NSPI does not foresee any circumstances where it would return to the UARB with an ATO for this project.

(e) Confirmed. However, the additional funding may include NSPI's past investments and other in-kind contributions. These may have entailed a "cash" contribution from NSPI in the past, or during the course of normal business operations. These items contribute to the \$2.4 million of additional funding as noted above and are not included in the capital work application.

CI 40103 - Load Control Demonstration Project (NSUARB P-510)
NSPI Responses to UARB Information Requests

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1 Response IR-6: (cont'd)

2

3 (f) The \$700,000 contingency is shown on page 3 of 4 of the work order application, under
4 account "066 – Other Goods & Services".

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Request IR-7:

Reference Page 13 of 151, Table 2

(a) Please provide details on the "contributions" amount of \$5.7 million.

Response IR-7:

Please refer to UARB IR- 4 and UARB IR- 6(a).

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Request IR-8:

Reference Page 20 of 151, Section 3.1 a

- (a) Please explain what happens if the Minister is not satisfied with the project.**
- (b) Provide examples of what might cause the Minister to be unsatisfied with the project.**
- (c) Who pays for increased cost to complete the project if the Minister is unsatisfied, i.e. assume an additional \$1 Million above the \$32 Million budget is required to satisfy the Minister.**

Response IR-8:

- (a) Project funding is provided in quarterly installments. A quarterly report is provided to the Minister on the project status. If unsatisfied, the Minister may delay payments for that quarter until issues causing dissatisfaction are resolved. All projects are also auditable by NRCAN.
- (b) The Minister could be unsatisfied if the project were not to remain on schedule, on budget, or on scope. The following schedules within the Federal Contribution Agreement are in place to ensure expectations for each of the above are met:
 - (i) Schedule A – Statement of Work: outlines the specific objectives and schedule of the project.
 - (ii) Schedule B – Budget: outlines the eligible costs and funding by fiscal year, as well as by nature of the costs.

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1 Response IR-8: (cont'd)

2
3 (iii) Schedule C – Reporting: outlines the specific reporting requirements and
4 terms for payment of claims.

5
6 The project governance provides several mechanisms for monitoring the project status.
7 The governance structure is in place and functioning as designed.

8
9 (c) Schedule “C” of the Participation Agreement (pages 130, 131 of 151) outlines the
10 deliverables of the project for the individual parties. Each utility would be responsible
11 for any costs of overruns attributable to their respective portion of the project.

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Request IR-9:

Reference Articles 5 and 6 of the Participation Agreement (pages 22-24 of 151)

(a) Is it necessary to ensure that the payments that are due under these Articles are secured?

(b) If yes, what arrangements have been made for security?

Response IR-9:

(a) NRCAN funding is secured provided utility claims meet the guidelines for eligible costs in accordance with Treasury Board Guidelines.

(b) The Project Management Office is responsible for ensuring that the guidelines for eligible costs are being followed by all utilities.

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Request IR-10:

Reference Page 24 of 151, Section 6.1

(a) Please explain how profits might arise from this project.

(b) How will these profits be shared among the participants, and, in particular, how would NSPI receive a share of any profits.

Response IR-10:

(a) Profits may arise through the future licensing of intellectual property developed as part of this project.

(b) Section 9.9 of the Participation Agreement (page 26 of 151) outlines that all profits would be shared among the participants. NSPI would receive a pro-rated share of any profits based on its level of financial contribution to the project.

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Request IR-11:

Reference Page 30 of 151, Section 13.1 (g)

(a) Under what conditions may the Minister terminate the agreement?

Response IR-11:

Page 108 of 151, section 1.2 of the Federal Contribution Agreement, details that the Minister could have terminated the agreement had the project not begun by the agreed start date. The project started on schedule.

Beginning on page 111 of 151, Section 11 of the Federal Contribution Agreement outlines scenarios in which the Minister may declare an event of default.

Page 114 of 151, Section 21.1 of the Federal Contribution Agreement, states that if a force majeure event were to cause a delay of greater than 30 days, the Agreement may be terminated.

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Request IR-12:

Reference Page 44 of 151, Paragraph 3 of Executive Summary

(a) Line 4 of the above referenced paragraph mentions WEICan, Efficiency NB, CanWEA and TransAlta. Are these four entities still participating in the project?

(b) If the answer to part a is yes, please explain the role of each of the four entities.

(c) Will Efficiency Nova Scotia be participating in the project in any way? If yes, how? If not, why not?

Response IR-12:

(a) No. WEICan, Efficiency NB, Canadian Wind Energy Association, and TransAlta had some level of participation in the original application through engagement, or as collaborators, however they are currently not part of the project as applicants, or funding partners.

(b) Not applicable.

(c) At this time, Efficiency NS is not participating in the project. This demonstration project is focused on controlling, and shifting the load requirements of customers to match the intermittency of wind generation, which is a different primary objective from Efficiency Nova Scotia's goal of energy efficiency and conservation (reducing electricity usage). Having said that, this does not preclude the possibility that an area of common interest could be identified as the project moves forward and pilot designs are finalized.

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Request IR-13:

Reference Page 46 of 151. This shows a March 2009 start date.

(a) Why has there been an apparent delay in making this application for approval?

(b) Why is it U & U?

Response IR-13:

(a) The March 2009 start date reflected in page 46 of 151 was the initial project start date contemplated in the original Contribution Agreement between NB Power and NRCAN. The application and approval process which ensued shifted the start date of the project. The Participation Agreement negotiations took place once the Contribution Agreement was signed on May 4, 2010. The process to negotiate the participation agreements (5 parties were involved with this negotiation simultaneously) took longer than anticipated. NSPI did not submit this application until the Participation Agreement document was finalized and signed. NSPI signed the final version of the Participation Agreement on October 1, 2010. NSPI waited until the Participation Agreement was finalized in order to reflect the funding formula between the participating parties.

(b) The Contribution Agreement was finalized and signed with NRCAN on May 4, 2010. As the project scope was contingent on the funding level received from NRCAN this information could not be considered final until the Agreement was signed. The Annual Capital Expenditure Plan for 2010 was submitted to the UARB well before May 2010. As approval is required by November 30, 2010 this project could not be delayed for inclusion in ACE 2011.

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Request IR-14:

Reference Page 50 of 151

(a) The fourth paragraph on this page begins: "Customers will be chosen..." Please provide details on the process of how customers will be chosen to participate in this project.

(b) Please provide details on the present estimate of customer participation among NS, NB, PEI, and among the various rate classes.

(c) Page 50 of 151 says that there will be 750 customers; at page 8 of 151 and page 131 of 151, the reference is to "up to 1500 residential customers". Which is correct, and does that impact the costs? If so, how, and if not why not?

Response IR-14:

(a) Customer enrollment will be on a voluntary basis. Customer research will be used to gauge which customers would be most appropriate and most interested to participate. Research will also determine what, if any, customer incentives may be required to promote participation. The selection process will be refined so as not to include only 'early adopter' participants. The possibility of future rate incentives would only be contemplated if there was a broad deployment of the technology.

(b) The project's customer participation targets are broken down for each utility as follows:

NSPI:	up to 1500 residential, 150 commercial
NB Power:	up to 600 commercial
Saint John Energy:	up to 100 residential
Maritime Electric:	up to 50 residential

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1 Response IR-14: (cont'd)

2
3 (c) The original project proposal to NRCAN stated 750 customers would participate.
4 Through the NRCAN application process it was determined that industrial customers
5 would not form part of the project scope. The parties were then able to adjust their
6 projects to involve more residential and commercial customers. The current target for
7 customer participation at NSPI is up to 1500 residential and 150 commercial. The
8 participation targets were updated in the Participation Agreement based upon discussion
9 with consortium members. The number of customers does impact project costs as it is a
10 key driver of infrastructure such as advanced meters, load control devices, telecom costs,
11 etc. The make up of customers also influences costs. For example, the cost to control
12 loads at a commercial customer may be quite different than residential due to the number
13 and types of loads involved. NSPI has chosen to target both commercial and residential
14 loads in its project.

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Request IR-15:

Reference Page 52 of 151, Section Two, To Reduce GHG Emissions

(a) These sections list reductions required under Canada's GHG plan, for Canada and for the electricity sector. Are these reductions backed up by legislation or are they part of a Federal plan?

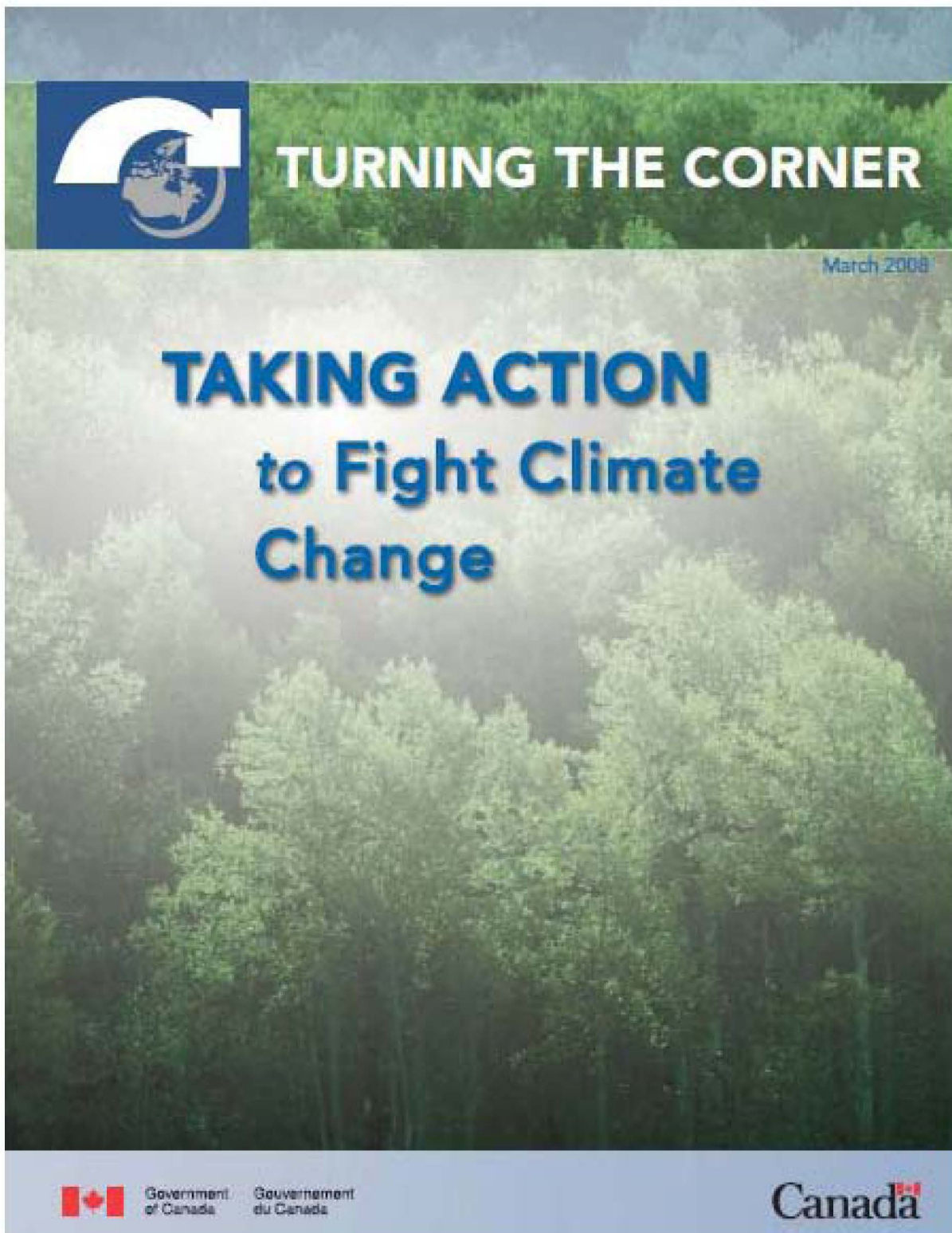
(b) Please provide documentation to support these required reductions, e.g. the Federal plan.

Response IR-15:

(a) The GHG Emission goals are part of a Federal plan and are not yet included in legislation.

(b) Please refer to Attachment 1.

ATTACHMENT 1
TURNING THE CORNER
“Taking Action To Fight Climate Change”





TURNING THE CORNER

TAKING ACTION to Fight Climate Change

Climate change is a global problem that requires global solutions. Canadians have long known that serious action is required. Previous Governments set ambitious goals for reducing greenhouse gases, yet emissions increased year after year.



Today, our greenhouse gas emissions are more than 25% higher than they were in 1990, putting Canada more than 32% above its Kyoto target. Without immediate action, Canada's greenhouse gas emissions are projected to grow a further 24% by 2020 to reach about 940 megatonnes – 58% above 1990 levels. This is unacceptable. **It's time to turn the corner.**

Our Government is committed to stopping the increase of Canada's greenhouse gas emissions and drastically reducing them. Last April, we released the high-level framework of our *Turning the Corner* action plan for reducing emissions. Since then we have consulted with provinces, environmental groups and industry to develop the details of our plan, which include

- Forcing industry to reduce its greenhouse gas emissions;
- Setting up a **carbon emissions trading market**, including a carbon offset system, to provide incentives for Canadians to reduce their greenhouse gas emissions; and
- Establishing a market price for carbon.

This brochure outlines our action plan to put Canada on a responsible path to reduce greenhouse gas emissions and to address the global threat of climate change.

Canada Must



Turn the Corner

The Government of Canada has established a **national target of an absolute 20% reduction in greenhouse gases** from 2006 levels by the year 2020 – a reduction of 330 megatonnes from projected levels. This is equal to eliminating the combined greenhouse gas emissions from Alberta, Quebec, and Newfoundland and Labrador.

TURNING THE CORNER



With its Turning the Corner plan, the Government of Canada is **taking action** and putting into place, for the first time in Canadian history, one of the toughest regulatory regimes in the world to cut greenhouse gas emissions.

Getting Tough



on Industry's Emissions

Our Turning the Corner plan **requires reductions in emissions of greenhouse gases from big industry**. Greenhouse gas emissions from the industrial sector will be reduced by 165 megatonnes from projected levels by 2020, an amount greater than the combined emissions from the provinces of British Columbia, Saskatchewan, Nova Scotia and Prince Edward Island.

Existing facilities in all industrial sectors will face tough requirements to improve their emissions performance every year. Plants that began operating in 2004 will face even tougher requirements to force them to use cleaner fuels and green technology. New oil sands plants and coal-fired power plants coming into operation in 2012 or later will face the toughest requirements of all.

Growth in the oil sands must occur responsibly. The oil sands are one of Canada's greatest natural resources, and a major engine of our economy, but we have a responsibility to future generations to ensure that they are developed in an environmentally responsible way. Without additional action today, emissions from the oil sands will grow dramatically in the coming years. The Government of Canada will require all oil sands plants to meet a tough new emissions standard. Plants that began operation in 2004 or after will face an even tougher standard based on the use of cleaner fuels. Plants starting operations in 2012 will be required to meet the toughest targets of all which will effectively require putting into place **new carbon capture and storage technologies** to prevent the release of greenhouse gases into the atmosphere. This requirement will also accelerate the development of additional new clean technologies to reduce greenhouse gas emissions.

At the same time, **Canada must reduce emissions from dirty coal-fired electricity generation.** Many Canadians are not aware that, in many provinces, much of the electricity they use at home and at work is generated by coal-fired power plants. The Government of Canada believes that it is simply irresponsible to keep building dirty coal-fired power plants. Coal-fired plants will have to meet a tough new emissions standard. **We will also bring in regulations that will effectively end the construction of dirty coal-fired plants, starting in 2012.** Utilities that want to build coal-fired plants in the future will be required to meet targets based on the use of clean technologies, such as carbon capture and storage.

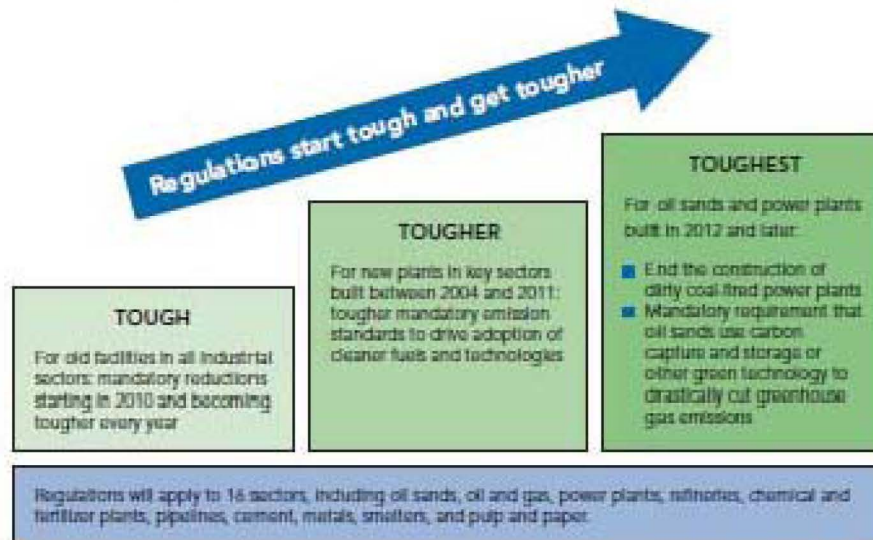


TURNING THE CORNER

These tough regulatory requirements will reduce greenhouse gas emissions from the oil sands and electricity sectors by about 90 megatonnes, or 55% of the total expected reductions of 165 megatonnes from industry by 2020. This will be challenging for these sectors but the Government is confident that they will step up to meet the challenge.

Altogether, our Government's industrial regulations will achieve half of the reductions required to meet our national target of a 20% reduction by 2020. These regulations will change how Canada produces and uses energy, and will impose a price on carbon that will rise over time and impact the entire economy. As such, it will provide important new incentives for innovation and new opportunities to develop Canadian green technologies.

Taking Action on Industrial Greenhouse Gas Emissions



TURNING THE CORNER



Lower Emissions

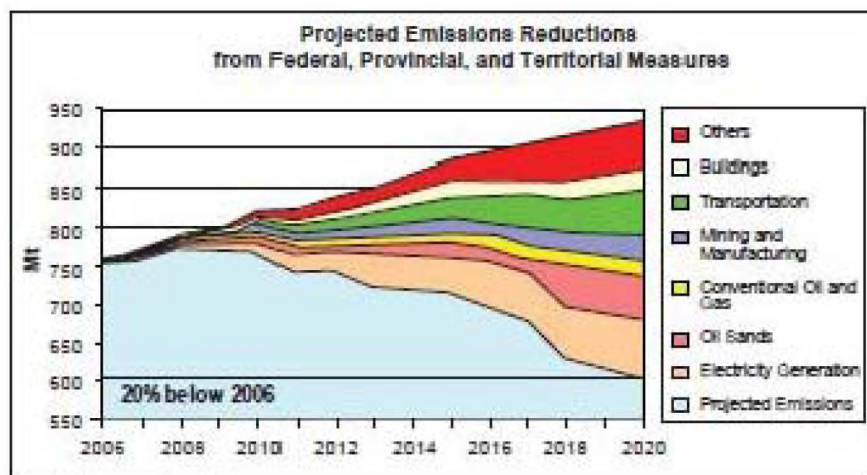


from Vehicles and Buildings

The Government of Canada is taking further action that will cut greenhouse gas emissions from transportation and buildings. These actions include

- **Mandatory renewable fuel** content in gasoline, diesel and heating oil;
- For the first time in Canadian history, **tough new fuel consumption standards** for cars, light trucks and sport utility vehicles;
- **New energy efficiency requirements** for a wide range of commercial and consumer products, such as dishwashers and commercial boilers; and
- New national performance standards that will **ban inefficient incandescent lightbulbs**.

Our government has also launched a broad suite of ecoACTION programs that will complement our regulatory initiatives and stimulate the growth of renewable energy and fuels, energy-efficient homes and buildings, fuel-efficient cars and trucks, and increased public transit infrastructure.



Source: Environment Canada.



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We believe that federal initiatives in these areas can achieve greenhouse gas emissions reductions of 65 megatonnes from projected levels by 2020 – **equivalent to taking over 16 million cars off the road** or eliminating the combined emissions from New Brunswick, Nova Scotia and Manitoba.

Working Together

for Clean Electricity



These tough federal regulatory and other actions are expected to result in greenhouse gas reductions of 230 megatonnes from projected levels by 2020. Yet even with tough new federal regulation, and the promises of some provinces to close dirty coal-fired power plants and increase the use of renewable and nuclear energy, emissions from electricity generation are projected to be 90 megatonnes in 2020 – still the single largest source of greenhouse gases in Canada.

The Government of Canada wants to achieve **additional emissions reductions from the electricity sector** of 25 megatonnes by 2020, equivalent to closing seven large coal-fired power plants. We are therefore setting up a clean electricity task force to work with the provinces and industry to meet this goal. If required, the Government of Canada is ready to use its regulatory powers to ensure that these cuts are achieved.

Working Together

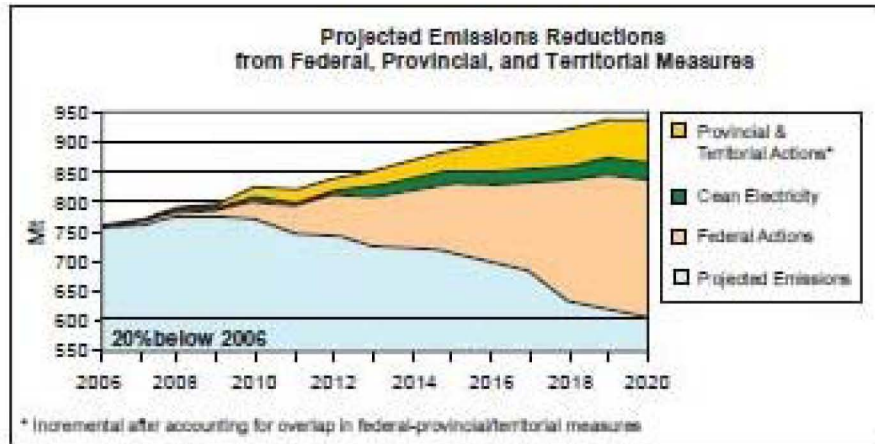
with the Provinces



Provincial governments have already committed to targets that would require achieving greenhouse gas reductions of as much as 300 megatonnes by 2020. Over 200 provincial initiatives have been developed to date to begin achieving those goals. While some of those initiatives overlap with federal actions, they are estimated to provide an incremental 40 megatonnes in emissions reductions by 2020. Most provinces have indicated that they are planning to do even more to meet their own targets. The Government of Canada has provided over \$1.5 billion in new funding to the provinces and territories to support their climate change initiatives.

We are convinced that it is realistic and achievable for provinces and territories to take further action in areas where they have important responsibilities, such as building standards, public transit and urban planning. We expect that the provinces will introduce new measures that will result, at minimum, in an additional 35 megatonnes of reductions in greenhouse gas emissions. This will enable Canada not only to meet but potentially surpass its national target of a 20% reduction in emissions from 2006 levels by 2020.

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Source: Environment Canada.

We All Need to Do Our Part



Canada will play an active role in negotiations to develop a new international agreement on climate change with contributions from all major emitters, including the United States, China and India. We should be seeking to ensure that global emissions are cut at least in half by 2050. The Government of Canada has committed to achieving a 60 to 70% reduction in Canada's emissions by 2050.

At home, we will stop the dramatic growth in our greenhouse gas emissions and cut them by 20% in absolute terms between now and 2020. **This will require all of us to do our part** – federal and provincial/territorial governments, municipalities, industry and individual Canadians. Together, we can meet our target. In doing so, as a country, we will

- Put in place large-scale carbon capture and storage and other exciting green technologies;
- Generate 90% of our power from sources that do not emit greenhouse gases;
- Increase electricity from renewable sources like wind and wave power by 20 times;
- Cut greenhouse gas emissions from coal by more than 50%;
- Increase average fuel efficiency in new cars by 20%; and
- Improve Canada's energy efficiency by some 20%.



TURNING THE CORNER

These and other actions will change the path of Canada's greenhouse gas emissions. **Canada will move from rapid growth to achieve absolute reductions of 20% from 2006 levels – a reduction of 330 megatonnes from projected levels in 2020.**

The challenge to meet these targets by 2020 is great. However, the Government of Canada believes in the commitment, ingenuity and willingness of Canadians to tackle the challenge of climate change while continuing to grow our economy. **Together, we are ready to face the challenge and win.**

www.ecoaction.gc.ca

1 800 O-Canada

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Request IR-16:

Reference Page 70 of 151, "go/no go" decision points

(a) Please provide an update on the "go/no go" decision points for this project.

(b) Please indicate points and/or reasons for NSPI exiting the project and indicate what percentage of this requested capital work order NSPI would have expended at that time. Include in your response whether the reasons for exiting the project would be classified as technical, economic, or legal.

Response IR-16:

(a) Key decision points for the continuation of this project would be the deadline of November 30, 2010 for NSPI to receive approval from the UARB for its capital work order submission, as well as the deadline of December 31, 2011 for NSPI to secure the remaining \$2.4M of funding. Securing this 'Other Funding' will ultimately determine the final scale (scope/ size) of the project. (not a go/no go per se, but a key decision point on the final size of the NS project).

(b) As described in part (a), failure to secure capital funding would be considered an economic reason exit the project. In this scenario, approximately \$117,000 would have been expended (approximately 2.7% of the value of the capital work order).

Section 18.3 of the Participation Agreement (Pages 33 and 34 of 151) allows NSPI to be excused from performing its obligations under the contract if unable to do so because of a force majeure event. Force majeure is outlined in Section 18.1 of the Participation Agreement and is defined as being something beyond a party's reasonable control.

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Request IR-17:

Reference page 82 of 151.

This section describes the innovative nature of the project. If it is such a good idea, why has no- one else in the world done this?

Response IR-17:

In the Maritimes, and in Nova Scotia in particular, there are aggressive targets for renewable energy. This combined with a relatively small operating area and limited connections to the transmission grid make the need for cost effective ancillary services paramount.

NSPI has not conducted research to explore why other parties are not pursuing this initiative. The intermittency of wind generation and the ability to employ specific technology to allow load control as an ancillary service, conditions which are influencing this project, are relatively recent phenomena. These conditions are aligned in this jurisdiction and provide for the viability of this demonstration project.

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Request IR-18:

Reference page 115 of 151

What if there is no appropriation of federal government funds as described in Article 27 of the Contribution Agreement?

Response IR-18:

If the appropriation of funds from NRCAN is reduced or cancelled, the parties involved have agreed to amend the scope of the project, including the eligible costs of the project. Advanced notice would be received from NRCAN if this were to occur. Funding will be provided to utilities on a quarterly basis. If the appropriation of funds is reduced or cancelled, funding up to the most recent quarter will not be lost.

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Request IR-19:

Reference page 131 of 151.

Under Schedule C Deliverables, the maximum payable to NSPI under the "Fairness Formula" is approximately \$3.2m which is less than the contribution of \$3.6m - why?

Response IR-19:

The \$3.6 million represents the NSPI contribution to the project. This amount plus a \$700,000 contingency make up the \$4.3 million in this application to the UARB.

The \$3.2 million, stated in Schedule C – “Deliverables”, references the maximum amount of the NRCAN funding payable to NSPI, as derived through the Fairness Formula. The Fairness Formula was used to determine allocation of NRCAN funding between the individual utility partners. Please refer to the Response to IR-21 (b) for more explanation of the Fairness Formula.

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Request IR-20:

Reference pages 136-138 of 151

(a) Is the remuneration of the members of the Oversight Committee as outlined included in the costs?

(b) Are NSPI's contributions to the costs of the Program Director and the Project Management Office included in the costs?

Response IR-20:

(a) Members of the Executive Oversight Committee shall be remunerated by their respective organization. NSPI's EOC expenses are submitted to NRCAN as eligible in-kind contributions for the purpose of NRCAN matching. NSPI's EOC expenses are not included in the \$4.3M capital work order.

(b) The cost of the Program Director is included in NB Power's participation in this consortium. The cost of the Project Management Office is included in the common costs of the project, which are covered by shared funding from NRCAN and UNB.

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Request IR-21:

Reference pages 143-144 of 151

(a) Please provide an explanation of the Common and Other Utility Costs in Table 2

(b) Please provide an explanation of the Fairness Formula example and the rationale for it.

Response IR-21:

(a) Common Costs are for services shared by all the participants. Common costs are not funded by the utility partners. Common costs are funded through a portion of the NRCAN and UNB contributions.

Common Costs include those funds budgeted for:

- Consortium and individual utility project management,
- Engagement of stakeholders and customers (i.e. program design, enrollment, and support)
- Technology development (i.e. wind integration models)
- System Integration (i.e. technical architecture and platform for the consortium)
- Pilot (i.e. initial proof of concept)
- Reporting (Quarterly and final reports due to NRCAN)

“Other Utility Costs” are all other Project costs that are not associated with the common services and which are not for the benefit of all Parties.

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Response IR-21: (cont'd)

Other Utility Costs include those funds budgeted for:

- Customer Engagement (i.e. utility specific program design, enrollment, and support)
- System Integration (i.e. software and hardware for the utility)
- Telecommunications (i.e. equipment, infrastructure)
- Residential and Commercial Load Control and Installation (i.e. labour and materials)

(b) The Fairness Formula was used to determine the allocation of funding to the various project partners. The Fairness formula allocates funding based on the following principles:

- (i) Shared funding from NRCAN, UNB is for the benefit of all members. This funding is used first to fund all project common costs that are provided for the benefit of all parties.
- (ii) Any shared funding not allocated to common costs will be allocated to the project partners in proportion to the size of the project in their respective jurisdiction.

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Request IR-22:

(a) Customer load control is being investigated to supply ancillary services for wind integration. Please describe which one or ones of the generally accepted ancillary services will be supplied by this project.

(b) In the absence of this project, what new facilities would be required to provide the ancillary services (as described in the response to part a) to integrate wind generation into the system?

Response IR-22:

(a) The final design of the project may consider the potential of customer load control for application against some or all of the following Ancillary Services:

- Regulation – Dynamically controlled system load could serve to support Automatic Generator Control (AGC) operation as wind integration introduces greater regulating challenges to manage within acceptable bandwidths the Area Control Error (ACE) on tie line operations.
- Voltage Control – Regional load control could provide localized voltage support opportunities which could reduce the dispatch of generators to support system voltage (which could release these generators for services of greater value to overall system reliability).
- Energy Imbalance – Load controlled in blocks to respond to the difference between forecast and actual for system demand or wind generation.

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1 Response IR-22: (cont'd)

- 2
- 3 • Reserve – If generators presently utilized for contingency response are called
4 upon to a greater extent for regulation of new wind resources, this could erode
5 some of their availability to serve in a reserve capacity. Customer load controlled
6 in blocks could be dispatched in the event of a system contingency to supplement
7 existing reserve generating resources.
- 8

9 The project will explore the final design control options to understand the value brought
10 to system operations while understanding the limitations of these demand side resources.

11

12 (b) This is a demonstration project that will endeavour to determine if load control could
13 serve the ancillary services described above. Benefits brought to system operations
14 include greater control of the demand side to offset some of the greater variability being
15 introduced to the generation side by wind based generating resources. Taken to its fullest
16 extent, customer load control could reduce the need for fast acting generation to provide
17 regulation, energy imbalance, or reserve services. The project will examine the scale of
18 this opportunity. The technology also promises to reduce the increasing regulation
19 burden on AGC steam and hydro units which can be expected by the introduction of
20 more wind generation on the NSPI system. The project will explore the potential of the
21 modern control technologies to deliver services that meet these system operation
22 requirements.