EB-2010-0029

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998,* S.O. 1998, c. 15, Sched. B, as amended;

AND IN THE MATTER OF an application by Enbridge Gas Distribution Inc. for an accounting order or orders establishing certain Demand Side Management Deferral Accounts for the years 2010-2014

APPLICATION

1. Enbridge Gas Distribution Inc. ("Enbridge Gas Distribution" or the "Company") is an Ontario corporation with its head office in the City of Toronto. It carries on the business of selling, distributing, transmitting and storing natural gas within Ontario. The Company also undertakes Demand Side Management ("DSM") activities.

2. Enbridge Gas Distribution hereby applies to the Ontario Energy Board (the "OEB" or the "Board"), pursuant to section 36 of the *Ontario Energy Board Act, 1998,* as amended (the "Act"), for an Accounting Order or Orders establishing DSM Deferral Accounts for each of the years of 2010 through 2014 inclusive, in respect of a solar thermal space heating pilot project which the Company proposes to undertake during this time frame.

3. The Company further applies to the Board, pursuant to the provisions of the Act and the Board's *Rules of Practice and Procedure*, for such final and interim Orders and directions as may be necessary in relation to this Application and the proper conduct of this proceeding. The Company respectfully requests that this Application be expedited, such that any Decision and Order granting the approvals sought is received before end of day March 19, 2010.

4. The persons affected by this Application are the customers of Enbridge Gas Distribution. It is impractical to set out the names and address of the customers because they are too numerous.

5. Enbridge requests that a copy of all documents filed with the Board by each party to this proceeding be served on the Applicant and the Applicant's counsel, as follows:

Mr. Norm Ryckman
Director, Regulatory Affairs
Enbridge Gas Distribution Inc.

Address for personal service:	500 Consumers Road Willowdale, ON M2J 1P8
Mailing Address:	P.O. Box 650 Scarborough, ON M1K 5E3
Telephone:	416.495-5499
Facsimile:	416.495-6072
E-mail:	EGDRegulatoryProceedings@enbridge.com

Please quote the name or docket number of the proceeding in all communications.

The Applicant's counsel:

Mr. Dennis M. O'Leary
Aird & Berlis LLP

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Suite 1800, 181 Bay Street
Toronto, ON M5J 2T9

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6. Copies of this Application and supporting materials are being contemporaneously served on all parties to the Company's 2010 Low Income DSM Plan Proceeding (EB-2009-0154) and the 2010 Rate Adjustment Proceeding (EB-2009-0172).

Dated: February 4, 2010, at Toronto, Ontario.

ENBRIDGE GAS DISTRIBUTION INC.

for NWR Robert Bourke

Per:

APPLICATION TO ESTABLISH DSM DEFERRAL ACCOUNTS 2010-2014

Introduction

1. Enbridge Gas Distribution ("Enbridge" or the "Company") has been developing and implementing DSM programs since 1995. Over this period, the Company has been instrumental in introducing and supporting the deployment of new technologies which reduce the natural gas used for space and water heating.

2. In this application, Enbridge is seeking the Ontario Energy Board (the "Board") approval to establish DSM deferral accounts for each of the years 2010 to 2014. The purpose of these accounts is to support a five year pilot technology evaluation project. This project will bring about further reductions in the space heating load for natural gas through the future development of DSM programs modeled on the results of the pilot.

3. In mid-September of 2009, Enbridge applied to Natural Resources Canada ("NRCan") for funding to support the project and funding was approved in January of 2010 (up to a maximum of $3.975 million or approximately 47% of the budgeted costs). Enbridge is now actively seeking supporting funding from other partners and participants. Establishment of the deferral accounts will enable the Company to sign a Contribution Agreement before March 31, 2010 as required by NRCan and to continue to seek funding from other partners while finalizing details of the pilot.

Witnesses: P. Hoey
A. Mandyam

4. As a result of the NRCan deadline of March 31, 2010, Enbridge is requesting that this Application be expedited so that Board approvals are received before end of day March 19, 2010.

   This document provides Background information on the initiative and a full Pilot Project Description, together with a discussion of the expected Outcomes and the estimated Budget.

Background

5. In support of provincial and federal programs and initiatives to reduce Greenhouse Gas ("GHG") emissions, Enbridge has been participating in the development of technologies that further reduce the gas load of residential and business customers. One promising approach which Enbridge has been exploring is the application of solar thermal technology to displace a substantial portion of the space heating load. Initial analysis shows that even greater results are possible when collector technology is combined with seasonal and short term storage in an integrated system at a building or community level.

6. In May of 2009, Natural Resources Canada announced the Clean Energy Fund ("CEF") where the Government of Canada

   > will invest a total of $1 billion over five years in research, development and demonstration projects to advance Canadian leadership in clean energy technologies.

   The announcement included $200 million for

   > demonstration projects of renewable and alternative energy technologies and systems.

Integrated renewable and clean energy systems incorporating solar thermal with seasonal and short term storage was one of the technologies identified in the Request for Proposals, particularly those supported by Canadian utilities.

7. In September of 2009 Enbridge submitted a proposal for a pilot project to field test and evaluate different solar thermal collector types and storage technologies in different configurations. In January of 2010, NRCan announced that Enbridge was one of 19 successful proponents from a field of 178 applicants.

8. The $3.975 million commitment from NRCan and the CEF is a one time opportunity. There is no expectation that the Federal Government's support for the CEF will continue beyond the current commitment. Accordingly, the Company anticipates that if it does not proceed with a Contribution Agreement before March 31, 2010, the opportunity to advance this technology will be lost.

9. The Company believes that its application to NRCan was successful in no small part due to its unparalleled experience in successfully undertaking DSM activities from early development and pilot stage through to full program implementation. The NRCan application was successful also given Enbridge's proven ability to engage relevant contractors and participants in full view of the Board and interested stakeholders.

10. On January 11, 2010, NRCan issued a press release which included the following:

> … Nineteen successful projects have been selected in response to a call for proposals under the Renewable and Clean Energy portion of the Clean Energy Fund. Up to $146 million will be invested over five years in these projects to support renewable,

clean energy and smart grid demonstrations with evidence of collaboration among partners and the potential to reduce barriers to technology implementation.

… 8. Residential Implementation of Solar-thermal Heating Systems
Lead proponent: Enbridge Gas Distribution Inc.

Strategic Area: Buildings/Solar
Location: Greater Toronto Area, Ontario

Purpose: The project will use different types of solar collectors and storage technologies to verify and compare their costs, performance and technical qualities. The project has the ability to validate the technology and provide integrated systems at a lower cost to consumers, thereby allowing greater market penetration.

Pilot Project Description

11. The Solar Space Heating initiative is a pilot technology evaluation to test a variety of solar thermal collectors and combined thermal storage alternatives. The pilot will involve the design and development of systems for a number of sites within the Enbridge franchise area. Following installation, the sites will be monitored for three years and the project results made publicly available.

12. Three solar collector technologies will be tested: flat panel, evacuated tube, and concentrating collectors. As well, three types of thermal storage media will be tested: tank storage, geothermal, and thermal mass storage. Eligible sites could include multi-residential buildings, institutional buildings, and neighbourhoods of individual homes.

13. The underlying purpose of the project is two fold:

    - To expand the use of solar thermal technology from its current applications for water heating to include space heating and thus reduce the use of fossil fuels and GHG emissions.

- To increase the potential for thermal storage applications in both new buildings and retrofits and marry the production of solar energy with the varying need for thermal energy during the course of a day, week, or year.

14. The technical objectives of the project are to:

- Investigate the best type of solar thermal collectors for a space heating application to determine an economic and technology winner for future use in wide scale deployment.

- Investigate the best type of thermal storage for short, medium and long term applications to determine an economic and technology winner for future use in wide scale deployment.

- Investigate the best methods for the installation of thermal storage in locations remote of the collection arrays. This will include locations that are either remote or integral with the foundation of the building, depending on whether it is a retrofit or new construction.

- Determine the best integration platform, methods, and operations protocols for the two features of the project (solar thermal collection and thermal storage) which will provide the highest reduction in fossil fuels, GHG and costs.

- Investigate the ability to provide these systems as retrofits to both air and existing hot water heated buildings, primarily residential and then as progress permits for small multi-residential or commercial applications.

- Investigate the ability to incorporate geothermal technologies into the information learned from the first phases of the project to increase the duration effectiveness of the storage technologies.

15. In addition, the project will address other objectives to:

- Assess the technologies using DSM metrics, for example, the Total Resource Cost Test (“TRC”) and the Societal Cost Test (“SCT”).

- Identify institutional barriers to the deployment of the technologies, such as building and other code requirements and municipal permitting.

- Identify issues related to installation procedures, logistics, contracting, and customer impact and satisfaction.

16. The project will be carried out in four Phases as illustrated in the table below.

	Activity	Duration
Phase 1	Design and Development	2010-2011
Phase 2	Implementation	2011-2012
Phase 3	Analysis and Reporting	2011-2014
Phase 4	Knowledge Transfer and Dissemination	2014

17. Phase 1 will be managed through an iterative process whereby the individual technologies and the candidate sites will be evaluated for viability at each step of design and development. Only the most promising technologies and candidate sites will proceed to the next step. The table below illustrates the review steps during Phase 1, Design and Development.

	Review Steps
Phase 1a: Design	Technology assessment and simulation
	Economic feasibility
Phase 1b: Development	Participant recruitment and funding contribution
	Site assessment

18. Participating site owners will be project partners. They will provide the sites and on-going access to their property for the purposes of monitoring, testing, upgrading, and operating the project. They will own the equipment and will contribute a portion of

the equipment costs. Other project collaborators such as property development firms, equipment vendors, contractors, consultants, and various levels of government will provide technical information on the equipment and installation as well as guidelines on code and permit requirements.

19. The pilot project will be managed by Enbridge staff. A regular project reporting schedule will be established and an Enbridge/NRCan Steering Committee will monitor progress. In addition, NRCan will review quarterly financial reports and intermediate and annual progress reports. The Phase 1 Report will outline the results of the Design and Development process and describe the components that have been selected for implementation.

Project Outcomes/Benefits

20. The Solar Thermal Space Heating pilot will provide immediate, mid-term and long-term benefits for project participants, green energy industry, and the province and its natural gas consumers as a whole.

    - The pilot will provide immediate energy savings and reductions in gas use for the participating customers; savings in the order of 50% are anticipated over the lifetime of the equipment.

    - The technical knowledge gained on optimal design of integrated systems incorporating both solar collection and storage will identify the most technically efficient, reliable, and cost effective systems and lay the groundwork for widespread deployment of the technology.

    - Experience gained in matters such as installation procedures, logistics, contracting, and customer impact and satisfaction will inform future market participants of site and customer considerations that need to be taken into account when planning installations.

- Experience with building code and permit requirements and environmental assessment requirements (if any) will identify potential institutional barriers that will need to be addressed.
- All the pilot results will be publicly available, contributing to capacity building and knowledge transfer in the solar thermal design and installation industry.
- Pilot project results will inform future DSM program development for utilities in Ontario.
- The pilot will support provincial goals to reduce energy use and emissions resulting from space heating.

DSM Linkages

21. The pilot technology evaluation is a key step in the Company's planning and development of future DSM technologies and activities. In this regard it is similar to previous program development initiatives which have been funded through the DSM budget on an annual basis. This project only differs from those efforts in scale, in duration, and in the extent of external funding which will benefit ratepayers.

22. The project has similarities to the Industrial Sector Pilot Program approved by the Board in the 2010 DSM Plan (EB-2009-0154). Like the Industrial Pilot Program, the budget for the Solar Thermal Space Heating Pilot is proposed to be incremental to the DSM budget for 2010 as determined by the formulaic budget escalator detailed in EB-2006-0021, but still included in rates. Additionally, neither project will impact the formulaic DSM target, or contribute TRC results for the purposes of SSM calculation.

23. One key difference between the Solar Thermal Space Heating pilot proposed in this Application and other DSM initiatives, however, is that the pilot extends for five years, rather than one, and until Phase 1, Design and Development is completed and partner funding secured, the full project budget cannot be finalized.

24. Ultimately, the project is concerned with the core objective of DSM programs: reducing natural gas usage. The pilot will support development of future DSM programs and frameworks by providing insight into questions such as:

    - What technologies can be supported through DSM programs?
    - What is the appropriate type of DSM program at this stage of the technology deployment - resource acquisition or market transformation?
    - What is the most promising market sector for early deployment of the technology and what are the market barriers that need to be addressed?
    - What is the appropriate way to evaluate the benefits of these and similar renewable energy technologies?

Budget and Deferral Account

25. The maximum anticipated budget is $8.5 million over the five year duration of the pilot. As illustrated in the table below, most costs are incurred in Phase 2, Implementation, as the systems are purchased and installed.

26. The NRCan funding is for 47% of the project, to a maximum of $3.975 million. As described above, the project will be designed and developed through an iterative process; activities will be scaled to suit the number of technologies and sites that pass the screening. The following chart provides preliminary estimates of the pilot project costs over the five year time horizon.

Year (Jan. to Dec.)	NRCan - Clean Energy Fund	Participants and Others	Total
2010	$280	$317	$597
2011	$3,353	$3,798	$7,151
2012	$83	$94	$177
2013	$83	$94	$177
2014	$176	$199	$375
Total	$3,975	$4,502	$8,477

27. The number and details of the exact sites and the mix of technologies to be implemented will not be finalized until the screening process in Phase 1 is complete. As a result, the total estimated cost of the pilot program is currently not finalized, but it will not exceed $8.5 million.

28. Further, the project partners who own the sites will be expected to make a contribution to the costs of equipment and installation at their site. Enbridge is in discussions with several potential partners but has not yet completed the initial site feasibility screening or the binding agreements with participants. As well, the extent of funding available from provincial and local governments and other partners has not yet been finalized. While the Company is very optimistic that it will be able to

secure financial commitments from third parties which will reduce the total amount of funding required over and above the NRCan commitment, the total DSM cost to be recovered from ratepayers is currently unknown, although the potential maximum is $4.5 million over the period 2010 to 2014.

29. In this context, it is appropriate to provide a mechanism for the recording of the net expenditures made by the Company in a deferral account over the life of the project. It is anticipated that, where appropriate, the Company will seek approval for the clearance of amounts recorded in a specific year's deferral account at the same time that the Company applies for approval for clearance of the same year's other DSM deferral and variance accounts.

30. The NRCan funding commitment is the first to be obtained and the most critical, but, to secure it, a Contribution Agreement must be signed before March 31, 2010 between the Company and NRCan. As a result, Enbridge is seeking expedited approval to establish a DSM deferral account for each of 2010 and subsequent years of the pilot project to 2014. Establishment of the deferral accounts will enable the Company to proceed with the NRCan Contribution Agreement.

31. While the Company will assess the results of the pilot project from both a TRC and SCT perspective, the TRC benefits generated will not be added to other DSM program totals and the Company will not seek any SSM recovery arising from the pilot. The initiative will not impact upon the operation and use of the DSMVA and the Company does not propose to adjust its LRAM formula to account for the impact of the pilot on load during the years 2010 through 2014.

32. Any costs incurred for this pilot are to be outside the pre-approved DSM budget for 2010 and the DSM budget approved in subsequent applications for future years.

33. Costs recorded in the deferral account will be reported in the DSM Annual Report. Consistent with all DSM programs, net costs recorded in the deferral account, after recoveries from program partners, will be cleared to the rate classes represented by the project participants.

34. The Company is committed to full and open disclosure of this project and will report at least annually on the progress of the project and the costs, funding, and potential net cost to ratepayers. NRCan will provide technical resources and financial oversight of the program on behalf of the Government of Canada. This arrangement with NRCan will provide significant level of project scrutiny and ensure that all activities undertaken are technically and economically prudent. The Company proposes to provide the DSM Consultative with an annual informational report in respect of the pilot project operation. The Company welcomes any suggestions that members of the DSM Consultative may have at a future DSM Consultative meeting. Unfortunately, given the NRCan requirement that a Contribution Agreement be executed before March 31, 2010, and to provide sufficient time to allow for the processing of this Application it was not possible for the Company to seek input from the DSM Consultative prior to the filing of this Application. A further consequence of the NRCan March 31, 2010 deadline is that it is not possible to file this Application contemporaneously with its 2011 DSM plan which is not due until the end of April, 2010.

Summary

35. As part of its ongoing DSM program development, Enbridge has been exploring the application of solar thermal technology to displace space heating load. Recently, Enbridge was successful in obtaining NRCan support for a five year pilot project to field test different solar thermal collector types and combined thermal storage in a variety of settings. Systems will be designed, installed and monitored for three years and the pilot project findings will be made publicly available.

36. Results from this pilot project will provide the basis for future DSM program design and will help to build capacity in the solar thermal industry in Ontario.

37. The maximum total program budget over five years is $8.5 million and, in January, 2010 NRCan committed to fund up to $3.975 million of this total. Details of the pilot and resulting budget will be developed through an iterative process; activities will be scaled to suit the types of technologies and number of sites that pass the screening process.

38. Enbridge is actively seeking other funding partners. The NRCan commitment is the first to be obtained and the most critical, but, to secure it, a Contribution Agreement must be signed before March 31, 2010 between the Company and the Government of Canada. As a result, Enbridge is seeking expedited approval to establish a DSM project deferral account for each of 2010 and subsequent years of the project to 2014. Establishment of the deferral accounts will enable the Company to proceed with the NRCan Contribution Agreement.