EB -

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.C. 1998, c. 15 (Schd. B);

AND IN THE MATTER OF an application by Greenfield South Power Corporation for a declaration or a certificate of public convenience and necessity, pursuant to section 8 of the *Municipal Franchises Act*, R.S.O. 1990, c. M. 55.

APPLICATION

EB-

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998*, S.C. 1998, c. 15 (Schd. B);

AND IN THE MATTER OF an application by Greenfield South Power Corporation for a declaration or a certificate of public convenience and necessity, pursuant to section 8 of the *Municipal Franchises Act*, R.S.O. 1990, c. M. 55.

1. The Applicant, Greenfield South Power Corporation ("**Greenfield South**"), applies for a declaration that a certificate of public convenience and necessity is not required for the construction of the GEPP Natural Gas Utilization System described in the application materials and related facilities (the "**Equipment**") under section 8 of the *Municipal Franchises Act*, R.S.O. 1990, c. M. 55. In the alternative, Greenfield South seeks an Order granting a certificate of public convenience and necessity for construction of the Equipment.

2. In 2005, the Ontario Government selected Greenfield South to develop and construct a 300 megawatt natural gas-fuelled electricity generation facility now known as the Green Electron Power Project ("**GEPP**") to provide electricity to the IESO-controlled grid pursuant to a 20-year Clean Energy Supply Contract with the OPA. The Project's original location was Mississauga, Ontario. On July 10, 2012, it was announced that the GEPP would be moved to St. Clair Township, south of Sarnia, Ontario.

3. Construction of the GEPP is well underway. Greenfield South will begin preparations for construction of the Equipment in September 2014. Subject to receipt of the Order being sought in this Application, the Project is expected to be operational for gas commissioning purposes by December 2014.

4. The Equipment will be used transport natural gas to Greenfield South from the Vector pipeline, which runs through the southern portion of Greenfield South's property. The Equipment will include an NPS 8 line of approximately 450 metres running exclusively across Greenfield South's privately-owned property, from Vector's location on Greenfield South's lands to the GEPP on the same lands. The Equipment will not cross any public or third party lands, any roads, or any other pipelines.

5. This Application will be supported by written evidence that will include details of the GEPP and the Equipment. The written evidence will be pre-filed and may be amended from time to time, prior to the Board's final decision on this Application.

6. Greenfield South requests that this proceeding be conducted by way of a written hearing pursuant to Section 32.01 of the Board's *Rules of Practice and Procedure*. There will be few interested parties as the Equipment will be constructed solely on Greenfield South's land. Accordingly, a written hearing will be the most efficient procedure.

7. As permitted by section 32.02 of the Board's *Rules of Practice and Procedure*, Greenfield South further requests that this proceeding be conducted on an expedited basis such that a decision of the Board in this matter may be issued no later than December 5, 2014. Construction of the GEPP is already well advanced and the GEPP is scheduled to be operational for gas commissioning in mid-December 2014. Accordingly, the typical hearing schedule would cause a significant delay in commissioning of the GEPP. Greenfield South did not begin this application at an earlier time because it was only recently concluded that a hearing would be advisable to determine its ability to construct the Equipment. Greenfield South had engaged in ongoing discussions with staff at the Ontario Energy Board for several months in an effort to resolve the ambiguity in the *Municipal Franchises Act* and its application in this case. Board staff only recently concluded and advised Greenfield South that, in staff's view, a hearing would be advisable in this case. Greenfield South respectfully seeks the Board's cooperation to ensure that, if the Order sought is granted, the Applicant's good faith efforts to engage with Board staff will not result in commissioning or construction of the Equipment being delayed to the winter months.

8. Greenfield South further requests that, if necessary, the Board exercise its power under section 7.01 of the Board's *Rules of Practice and Procedure* to abridge the time limits directed by these Rules, Practice Directions or by the Board, on such conditions as the Board considers appropriate.

9. Greenfield South requests that a copy of all documents filed with the Board in this proceeding be served on the Applicant and the Applicant's counsel, as follows:

(a) The Applicant: Greenfield South Power Corporation

Attention: Mr. Hubert Vogt
Greenfield South Power Corporation
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(b) The Applicant's lawyers: McMillan LLP

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DATED at Toronto, Ontario, this 18th day of September, 2014.

Greenfield South Power Corporation
by its lawyers,

Michael Richmond

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Mike Richmond

EB -

ONTARIO ENERGY BOARD

IN THE MATTER of the *Ontario Energy Board Act, 1998*, S.C. 1998, c. 15 (Schd. B);

AND IN THE MATTER OF an application by Greenfield South Power Corporation for a declaration or a certificate of public convenience and necessity, pursuant to section 8 of the *Municipal Franchises Act*, R.S.O. 1990, c. M. 55.

PRE-FILED EVIDENCE

OF THE APPLICANT

GREENFIELD SOUTH POWER CORPORATION

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SECTION 1 - OVERVIEW AND PURPOSE OF APPLICATION

Greenfield South Power Corporation ("**Greenfield South**" or "**the Applicant**") has entered into a 20-year Amended and Restated Clean Energy Supply contract with the Ontario Power Authority ("**OPA**") to construct and operate a new natural gas-fired power plant called the Greenfield Electron Power Plant (the "**GEPP**") with 300 megawatts net nominal capacity. The original Clean Energy Supply contract was awarded to Greenfield South through the Ontario Ministry of Energy's open and competitive request for proposals for 2500 megawatts of new, clean energy.

GEPP's original location was Mississauga, Ontario. On July 10, 2012, it was announced that the GEPP would be relocated to St. Clair Township, south of Sarnia, Ontario.

The OPA has determined, by virtue of having entered into an Amended and Restated Clean Energy Supply in respect of the facility, that the GEPP is necessary and consistent with the Long Term Energy Plan approved by the Ontario Energy Board ("**OEB**"). The GEPP will generate power needed to meet Ontario's projected peak electricity requirements, address electrical transmission system congestion and otherwise contribute to the economic health of the Province of Ontario.

To operate GEPP, Greenfield South will require a natural gas system to deliver natural gas from the natural gas supply point to the generating plant (the "**GEPP Natural Gas Utilization System**"). The GEPP Natural Gas Utilization System includes, without limitation, an NPS 8 inch high pressure steel pipe connected to the Vector pipeline and tap (located on the southern portion of the GEPP property). It will run underground for approximately 450 meters and connect to a metering and pressure reduction station. From that point, it will connect to and service the plant through various works and facilities, including: (1) A high pressure branch to feed the gas turbine via a fuel conditioning skid; (2) A medium pressure system to feed the duct burner in the HRSG; and (3) A low pressure system to feed miscellaneous plant equipment. The entire GEPP Natural Gas Utilization System would be located exclusively on Greenfield South's privately-owned property. It would not cross any public or third party lands, any roads, or any other pipelines.

The GEPP Natural Gas Utilization System will be connected to the Vector pipeline at a tap (the "**Vector Tap**"). Vector Pipeline Limited Partnership ("**Vector**") has already received all necessary regulatory approvals for the Vector Tap through the National Energy Board. Vector advises that the existing pipeline and any reconfigurations of such existing pipeline, including in our case the Vector Tap, are subject to the NEB's Section 58 Streamlining Order. Accordingly, Vector has already been federally authorized to proceed with the Vector Tap and report same to the NEB in its annual submission.

Greenfield South seeks a declaration that a certificate of public convenience and necessity is not required under section 8(1) of the *Municipal Franchises Act* to construct or use the GEPP Natural Gas Utilization System. The GEPP Natural Gas Utilization System is not the construction of "works to supply gas". The Vector Pipeline and the Vector Tap are already (or are to be) located entirely on land owned by Greenfield South. Accordingly, the supply of gas to the Greenfield South property for the GEPP already exists. Greenfield South is merely constructing a system for taking the gas from the delivery point at the Vector Tap on its property and routing it to the natural gas fuelled equipment in the GEPP which are all on this same property. Greenfield South is not aware of any OEB decision finding that a certificate of public convenience and necessity was required in such circumstances, whether the gas user be residential, commercial, institutional or industrial in nature.

In the alternative, Greenfield South seeks a certificate of public convenience and necessity to construct and operate the GEPP Natural Gas Utilization System. The GEPP Natural Gas Utilization System is in the public interest. There is a demonstrable need for the GEPP Natural Gas Utilization System and Greenfield South and its affiliate Eastern Power Limited ("**Eastern Power**") and their respective subcontractors have the experience and capability to construct and operate it.

There are no existing pipeline facilities that service the GEPP. As a result, the construction of the GEPP Natural Gas Utilization System will not duplicate or strand existing facilities and will have no negative effects on Ontario ratepayers. The GEPP Natural Gas Utilization System would have virtually no impact outside of Greenfield South-owned property, as it would not cross any public or third party lands, any roads, or any other pipelines.

In the OEB application bearing file nos. RP-2005-0022, EB-2005-0441, EB-2005-0442, EB-2005-0443 and EB-2005-0473, the OEB granted a certificate of public convenience and necessity for the applicant to construct a gas utilization system which included over 2 km of lateral natural gas pipeline to the nearby Vector pipeline in order to obtain the supply of natural gas for a power plant located near Sarnia, Ontario. The pipeline in that case crossed third party lands, roads, and other pipelines. The case at hand is similar in purpose but much simpler, as Greenfield South is merely seeking to construct a natural gas utilization system on its own property without any request for expropriations or crossings of any existing infrastructure, and the Greenfield South system does not trigger any "Leave to Construct" thresholds.

SECTION 2 - CORPORATE STRUCTURE

The Applicant Greenfield South is the developer and owner of the proposed GEPP and the sole owner of the lands on which the GEPP and the GEPP Natural Gas Utilization System will be situated.

Greenfield South is licensed by the OEB as an electricity generator to own and operate the GEPP, pursuant to EB-2009-0023.

Greenfield South is an Ontario corporation and an affiliate of Eastern Power. Eastern Power is an Ontario corporation that builds, owns, and operates clean and green power generation plants, and is also licensed by the OEB as an electricity generator, pursuant to EB-2003-0093.

Both Greenfield South and Eastern Power are wholly-owned by members of the Vogt family through one or more holding companies. A copy of each of the Greenfield South and Eastern Power OEB licenses is attached at Appendix 1.

Greenfield South intends to draw on Eastern Power's significant experience in the construction and operation of large-scale power generation facilities. Since its inception in 1985, Eastern Power has grown to become one of the largest green energy providers in Ontario. Eastern Power is active in the biogas, biomass, wind and high efficiency natural gas areas of power production. Eastern Power has owned and operated two of the world's largest landfill gas fuelled power plants, both located in the Greater Toronto Area: the Keele Valley Power Plant in Vaughan, Ontario, and the Brock West Power Plant in Pickering, Ontario. These plants have won awards from their local municipalities. Eastern Power Limited directly engineered, constructed and commissioned the Keele Valley Power Plant with primarily its own staff, including project management, engineering, construction management, and construction trades personnel.

Other than a certificate of public convenience and necessity, Greenfield South and Eastern Power have all requisite approvals required under all applicable laws to construct the entire project, including the GEPP Natural Gas Utilization System, including from the Technical Standards and Safety Authority.

Greenfield South and Eastern Power have proceeded with the construction of the GEPP and have to date completed the construction of almost all the foundations, most civil works, have substantially installed heavy, complex power plant machinery including the gas turbine, steam turbine, electrical generators, and a heat recovery steam generator, including casings, modules, and high pressure piping.

Since construction began on the GEPP in July 2013, there have been no lost-time accidents on the project, nor have there been any injuries to any member of the public.

Eastern Power's team on the GEPP currently includes 12 professional engineers, two construction safety officers, as well as qualified construction supervisors and licensed trades persons who have the requisite knowledge, experience and skill to undertake the design, construction and operation of the GEPP Natural Gas Utilization System.

Greenfield South has available the financial resources necessary to complete construction of, and to operate, the GEPP including committed financing for the GEPP from a major Canadian financial institution, to supplement equity financing from Greenfield South and an Amended and Restated Clean Energy Supply Agreement with the OPA.

SECTION 3 - GREENFIELD ELECTRON POWER PLANT

(a) Location

The GEPP will be located in the Township of St. Clair, south of Sarnia, in the County of Lambton. The address of the GEPP is 477 Oil Springs Line, Courtright, Ontario, N0N 1H0, and the legal description is:

> PT LT 26 CON 2 MOORE; PT LOT 26 PL 24 MOORE; PR RDAL BTWEN LT 26 CONC 1 AND LOT 26 PL24 MOORE PART 1 TO 10, 25R1585, CLOSED BY MO28032; S/T L225170, L241804, L820086, L871611, L871615, L872940, L872941, PIN 43308-0105(LT), ST. CLAIR, ONTARIO, CANADA.

A map showing the location of the GEPP is found at Appendix 2.

The Ontario Government has eliminated all coal-fired electricity plants in the province on the basis that new and planned plants, such as GEPP, will provide sufficient energy.

In its July 8, 2005 *10 Year Outlook: An Assessment of the Adequacy of Generation and Transmission Facilities to Meet Future Electricity Needs in Ontario From January 2006 to December 2015* at p. 40, in its discussion of the Province's coal replacement plan, the IESO stated:

> Replacement generation ideally should be located so that the existing import and export capability is not reduced. If replacement resources are located such that they utilize transmission capability that is normally required to deliver imported power, there could be a decrease in the supply available for Ontario consumers, and degradation in overall system reliability. Some offset of import capability with new resources internal to Ontario may be acceptable. Where practical this should be avoided by locating the replacement supply near the load, near existing generation sites or on transmission paths that do not connect the major tie lines to the load centre in the Greater Toronto Area.

A site plan is shown in Appendix 3. Existing land uses are shown in Appendix 4.

(b) Description of GEPP

GEPP is a combined cycle natural gas fuelled generating facility with nominal capacity of about 300 megawatts. It will consist of a 1x1x1 combined cycle power plant train, using:

- One gas turbine generator set fuelled by natural gas;
- One heat recovery steam generator with natural gas duct burner; and
- One triple pressure, reheat, full condensing steam turbine generator set.

A simplified diagram describing the operation of a combined-cycle gas turbine power plant is shown in Appendix 5.

Plant cooling will be provided by a wet mechanical draft cooling tower. The plant will use existing transmission infrastructure, local to the plant, connecting to an existing Hydro One circuit to feed into the IESO-controlled grid.

Natural gas will be the only fuel used. A sketch showing the proposed location of the GEPP Natural Gas Utilization System is shown in Appendix 6.

The project has completed an Environmental Assessment under O.Reg 116/01, which applies to electricity projects. An Environmental Compliance Approval for the project has been issued by the Ministry of the Environment. Greenfield South and/or Eastern Power have obtained the necessary approvals from the Technical Standards and Safety Authority (the "**TSSA**") to allow installation of boilers and pressure vessels, power piping and fuel system components for the project. Applicable agreements have been entered into with utility companies and others including Hydro One Networks Inc. to allow for the interconnection of the GEPP with the high voltage grid as well as other utility services.

Site preparation of the GEPP began in July 2013. As of the date of this application, almost all of the foundations and other concrete structures are completed; almost all structural steel has been erected; several of the floors have been completed and the rest are underway; exterior siding is almost complete; roofing is underway; most major equipment has been installed at site including gas and steam turbines, generators, main output transformers, and heat recovery steam generator. Installation of power piping, electrical cabling and bus work, as well as auxiliary and the balance of plant equipment is underway. Installation of instrumentation and control equipment will begin shortly.

Photos of the plant showing the progress of construction are shown in Appendix 7.

SECTION 4 - GEPP'S FUEL REQUIREMENTS

(a) Peak Gas Consumption

GEPP will be a large consumer of natural gas. Under peak operating conditions, GEPP will be able to consume as much as 2,320 GJ of natural gas per hour. The GEPP Natural Gas Utilization System has been sized to meet this peak hourly gas flow requirement.

The Vector Pipeline has sufficient physical gas transportation capacity to meet this requirement. The Vector Pipeline is a high-pressure pipeline that extends 348 miles from Joliet, Illinois to the Dawn Hub in Ontario. The U.S. portion of the Vector system includes 274 miles of 42-inch diameter pipeline, and 59 miles of 36-inch diameter pipeline. Vector Pipeline connects with multiple pipelines in the Chicago area, including Alliance, Northern Border, and Guardian Pipelines. The Canadian portion is owned and operated by Vector Pipeline Limited Partnership and consists of 15 miles of 42-inch diameter pipeline from the international border to the Dawn Hub. Vector Pipeline commenced commercial operations December 1, 2000. A map of the Vector Pipeline is found at <u>Appendix 8</u>.

Vector Pipeline shippers include U.S. and Canadian gas distribution companies, natural gas marketers and electric power generators. The Vector Pipeline is already the sole gas transportation services provider to the Greenfield Energy Centre, a 1010 megawatt facility that is also located in St. Clair Township. The Vector Pipeline is also the sole gas transportation services provider for a 550 megawatt combined-cycle facility located in Jackson, Michigan, and is one of two suppliers for a 320 megawatt peaking plant in Crete, Illinois.

Vector Pipeline has end-to-end annual capacity of 1,345,800 GJ per day from Chicago to Dawn, and can seasonally transport a larger quantity, up to 1,646,000 GJ per day on the Canadian portion of its system. Because gas on Vector Pipeline generally flows from west to east, gas deliveries at the GEPP will typically be accomplished by dropping off gas that would otherwise flow further downstream to the Dawn Hub. If necessary, Vector Pipeline also has the operational capability to reverse the flow on the pipeline, so that the GEPP could be supplied by physically transporting gas to the plant from Dawn. No additional mainline pipeline capacity will need to be constructed by Vector to supply natural gas to GEPP.

(b) Total Gas Use

GEPP will be capable of operating as either a baseload or an intermediate generating resource on the Ontario power grid. Since GEPP is intended to displace coal-fired generation that traditionally served as a flexible source of power for load balancing and operating reserves, gas consumption will vary both hourly and daily, depending on load conditions and pricing in the power and natural gas markets. Assuming that the plant operates at an annual capacity factor between 20 percent and 50 percent, total annual gas use is expected to be in the range of approximately 4,000,000 GJ to 10,000,000 GJ.

(c) Required Delivery Pressure

The combustion process in a gas-fired turbine requires gas to be delivered to the plant at a relatively high pressure. To avoid the need for GEPP to install and operate additional gas compression facilities, GEPP needs to receive natural gas into its gas conditioning and regulation facilities in the gas yard at the plant, at a minimum pressure of 450 psig. Vector Pipeline can meet this requirement. Vector Pipeline has a maximum operating pressure of 1,000 psig, and generally operates in the range of 700 psig to750 psig on the Canadian part of its system. Based on the length and diameter of certain portions of the GEPP Natural Gas Utilization System, a delivery pressure of 700 psig at the interconnection with Vector Pipeline will provide a delivered pressure of at least 625 psig into the gas conditioning and regulation facilities for the highest pressure equipment at the plant.

(d) Gas Acquisition

Constructing the GEPP Natural Gas Utilization System to connect with the Vector Pipeline will give GEPP several options for supplying fuel to the plant. Under one option, GEPP will be able to purchase delivered natural gas at the inlet to the GEPP Natural Gas Utilization System from sellers holding transportation capacity on Vector Pipeline. Under this scenario, suppliers who would otherwise deliver gas to the Dawn Hub will be able to use Alternate Delivery Point rights under the Vector Pipeline tariff to deliver gas at the GEPP meter. Suppliers holding transportation rights to the Dawn Hub will be able to redirect gas to the GEPP meter without incurring additional charges on the Vector Pipeline. A second option would be for GEPP to purchase gas at the Dawn Hub and deliver the gas to the plant using its own transportation capacity on the Vector Pipeline. The main advantage to purchasing gas at the Dawn Hub is that the Dawn Hub offers a greater number of suppliers and increased transaction liquidity when compared to the market for delivered gas on the Vector Pipeline.

Under either of these options, GEPP will be able to buy gas at a commodity price that is at, or very close to, the Dawn Index. This is true whether GEPP purchases indexed gas under a term arrangement, or buys gas in the day-ahead market. The ability to purchase gas at a price tied to the daily Dawn Index is important to the ability of GEPP to minimize its financial risk under its Amended and Restated Clean Energy Supply contract with the OPA. The contract links the fuel component of the generation costs to the Dawn Index.

In addition to these two principal options, GEPP may also purchase gas at the Chicago Hub or at points in Michigan. GEPP would acquire forward-haul transportation capacity on Vector Pipeline to transport the gas from the point of purchase to the GEPP delivery meter.

Finally, GEPP will have the option of making interconnections with other pipelines in the future, including the TransCanada facilities that are located in the area. Connections to more than one major natural gas transmission system would provide further gas acquisition flexibility for GEPP.

(e) Vector Tap

Vector has executed an Interconnect Agreement pursuant to which Vector has agreed to install the Vector Tap, to which the GEPP Natural Gas Utilization System will be connected. A copy of the Interconnect Agreement is attached as Appendix 9. A detailed description of the Vector Tap can be found at Exhibit B to the Interconnect Agreement.

Vector advises that it does not require a certificate of public convenience and necessity nor OEB leave to construct because Vector and its works are federally regulated and therefore do not fall under the OEB's jurisdiction. The existing pipeline was authorized and approved by National Energy Board Order #GH-5-98 (attached at Appendix 10), and any reconfigurations of such existing pipeline, including in our case the additional of the Vector Tap, are subject to the National Energy Board Order XG/XO-100-2012 (the "**Streamlining Order**", attached at Appendix 11). Accordingly, Vector has already been federally authorized to proceed with the Vector Tap and report same to the NEB in its annual submission.

(f) Pipeline Transportation Services

Service on the Canadian segment of the Vector Pipeline is subject to the terms of Vector's tariff as approved by the National Energy Board. Vector currently provides transportation service under several rate schedules. In addition to standard firm transportation service under Toll Schedule FT-1 Firm Transportation Service and interruptible transportation service under Toll Schedule IT-1 Interruptible Transportation Service, Vector has three services that are specifically designed to meet the needs of gas-fired power generators or other end-users with large, variable loads:

- Toll Schedule FT-H Hourly Firm Transportation Service

  FT-H service allows a shipper to transport gas on the Vector system over a period of hours that is shorter than the standard gas day, and to nominate gas up to one hour before the start of the delivery period. This service would allow a gas-fired power generator to supply a plant that operates only during the peak hours in the electricity market and to react to changes in dispatch. The FT-H toll schedule can be found at Tab 2 of Vector's transportation tariff, which is attached at Appendix 12.

- Toll Schedule MBA Management of Balancing Agreement Service

  Under the MBA service, Vector facilitates hourly balancing of power generator fuel consumption by coordinating physical receipts and deliveries of natural gas at the plant meter and one or more third party balancing points. This allows the power generator to meet its need for operating flexibility by contracting for balancing service from parties who have pipeline or storage facilities connected to the Vector system. The MBA toll schedule can be found at Tab 6 of Vector's transportation tariff, which is attached at Appendix 12.

- Operational Variance Service

  OVS is an add-on service to FT-H that provides a shipper a tolerance to handle differences between hourly nominations and hourly consumption. OVS also allows a shipper to have an imbalance between gas nominations and gas consumption at the end of a gas day. OVS is used by a shipper to balance their gas nominations and gas consumption for variable loads. The OVS toll schedule can be found at Tab 6 of Vector's transportation tariff, which is attached at Appendix from October 2012 is found at Appendix 12.

The maximum monthly reservation charge for FT-H service on Vector Pipeline's Canadian segment (based on a 15-year contract term) is currently $0.5705 per GJ of Contracted Capacity. The usage charge is $0. Vector Pipeline does not retain fuel for gas transportation service within Canada.

GEPP anticipates using a number of the Vector Pipeline services to meet its needs, similar to the nearby Greenfield Energy Centre, which also uses a combination of Vector services to meet its fuel requirements.

(g) Balancing and Storage Services

GEPP will need to manage imbalances between the quantities of gas delivered to the plant and the plant's actual consumption. The extent of the plant's balancing requirements will depend on how the plant is dispatched. Generally speaking these requirements are greater for a peaking plant than a baseload plant. While GEPP is expected to operate initially as an intermediate generating resource on the Ontario power grid, the operation of the plant will change over time as demand increases, electric transmission facilities are modified, and power generation facilities enter and exit the Ontario system. Balancing can be provided through flexibility in gas purchase arrangements, through imbalance tolerance in gas transportation services, or through balancing and storage services.

Vector provides GEPP with access to a variety of competitive balancing and storage services, the ability to contract for a mix of services under flexible terms, as well as the ability to change its mix of services over time in response to changing electric power market demands. The Vector tariff allows shippers to have daily imbalances up to 5% of their Contracted Capacity without penalty. Shippers on the Vector pipeline can also reduce imbalances by netting and trading with other shippers.

Vector currently supplies transportation service to combined-cycle and peaking power plants that require access to third party balancing and storage services in order to operate. Vector provides access to balancing and storage services at the Dawn Hub and is also directly connected to several storage facilities in Michigan. Major storage operators with direct connections to the Vector Pipeline include Bluewater Gas Storage, Washington 10 Gas Storage and DTE Gas Company (formerly Michigan Consolidated). The connection points on the Vector pipeline are shown on the map found at Appendix 8.

As shown in below, these three operators control 255 Bcf of working storage capacity, compared with the 150 Bcf of working capacity operated by Union Gas at Dawn:

Michigan Natural Gas Storage Connected to Vector Pipeline

Facility	**Bluewater**	**Washington 10**	**DTE Gas Company**
Owner	PAA Natural Gas Storage	DTE Energy	DTE Energy
Working Capacity	27 Bcf	90 Bcf	138 Bcf
Withdrawal Capacity	700 MMcf/day	~2,000 MMcf/day	1.9 Bcf/day
Vector Pipeline Interconnect Capacity	500 MMcf/day	1,400 MMcf/day	1.5 Bcf/day

In addition to these direct connections, Vector Pipeline also has indirect access to an additional 800 Bcf of Michigan storage operated by Enbridge, ANR Pipeline, Consumers Gas and other smaller operators. This includes access for Vector customers to the Tecumseh Gas Storage facility in Ontario.

(h) Summary of GEPP Natural Gas Utilization System Cost

The total capital cost of the GEPP Natural Gas Utilization System from the Vector Tap to the related metering facilities near the power plant is estimated to be $500,000. This cost breaks out as follows:

GEPP underground pipe and fittings	$250,000
GEPP Meter & Control Station	$250,000
TOTAL	$500,000

This corresponds to an annualized capital cost of $58,730 over the 20 year term of the Amended and Restated Clean Energy Supply contract, assuming a 10% cost of capital.

A summary of the annual cost of the GEPP Natural Gas Utilization System and associated firm transportation service on the Vector Pipeline to transport gas from the Dawn Hub is set out in Appendix 13. Note that GEPP is able to purchase natural gas at the GEPP meter from suppliers holding transportation capacity on Vector Pipeline.

SECTION 5 - THE GEPP NATURAL GAS UTILIZATION SYSTEM

(a) The GEPP Natural Gas Utilization System Facilities

The GEPP Natural Gas Utilization System consists of an NPS 8 inch high pressure steel buried line totalling approximately 450 meters in length connected at its upstream end to the Vector

Tap, a metering and pressure reduction station located near the GEPP buildings, together with branch piping leading to each of the pieces of natural gas consuming equipment in the GEPP.

As described above, the interconnection with the Vector Pipeline is under the jurisdiction of the National Energy Board. Vector has been federally authorized to construct the Vector Tap, which will connect the GEPP Natural Gas Utilization System to the Vector pipeline. Vector has agreed to the interconnection, as can be seen in the Interconnect Agreement found at Appendix 9.

(b) Selection of GEPP Natural Gas Utilization System Route

All equipment, including the entire GEPP Natural Gas Utilization System and the Vector Tap, will be located on the Greenfield South-owned project site. No equipment will be located on any third party public or private lands, nor will any such equipment cross any natural gas pipeline. A diagram of the proposed tap line and line route is attached as Appendix 6.

The GEPP carried out an Environmental Screening and Review Report ("**ESRR**") pursuant to Ontario regulation 116/01. A copy of this report is attached as Appendix 14. It can also currently be viewed at http://www.greenelectron.ca/electron.php?page=reports.

During the screening process, some potential impacts were identified as requiring further assessment, particularly related to combustion emissions to the atmosphere and noise emissions. None of the potential impacts requiring further assessment were related to the construction of the GEPP Natural Gas Utilization System. The ESRR's evaluation was that the environmental impact of the GEPP Natural Gas Utilization System would be very low, and entirely on Greenfield South-owned property. The impact is low due to the fact that the GEPP Natural Gas Utilization System would only run through an agricultural field without crossing or impacting any watercourse, wetland or area of natural or scientific interest, with the remainder being beside, between, and inside the GEPP buildings.

(c) Detailed Description of Proposed Route

The GEPP Natural Gas Utilization System will run from the southwest corner of the Green Electron Power Project site, entirely over agricultural land on Greenfield South-owned property to the GEPP in the centre of the site, as all shown in Appendix 6.

(d) Design Specifications and Construction Standards

Construction of the GEPP Natural Gas Utilization System involves a number of distinct steps that may result in environmental impacts. These steps include:

- site preparation;
- pipe delivery;
- trenching;
- joining pipe sections;

- lowering the pipe;
- backfilling;
- clean-up and restoration;
- connection to the GEPP metering, pressure-reducing, gas conditioning and gas-burning equipment; and
- testing.

The steps involved in site preparation have been completed and included staking the GEPP Natural Gas Utilization System location, identifying where other utilities are located, and clearing vegetation as required.

A description of the construction, commissioning, operation and maintenance procedures and associated environmental mitigation measures can be found at Appendix 15.

The design specifications for the GEPP Natural Gas Utilization System are as follows:

Design specifications for the High Pressure Section of the GEPP Natural Gas Utilization System (Primarily Underground)

Design Code: ASME B31.1

MATERIALS		
PIPE	NPS	8”
	Specification	A106 Gr B, Sch 80 (below grade)/A333 Gr6 Sch 80 seamless (above grade)
	Diameter	219.1 mm (NPS 8”)
	Wall Thickness	12.75 mm (0.5”)
	Grade	241 MPa (SMYS CSA 245.1)
		118 MPa (MAS B31.1)
	Notch Toughness	Category I
FITTINGS	Specification	ASME B16.20 (600#)
VALVES	Specification	ASME B16.34 (ANSI 600#)
	Opening	Full Port
ELBOWS	Specification	ASME B16.9
	Dimensions	3D Radius (Long Radius)
FLANGES	Specification	ASME B16.5 (600#)
CORROSION CONTROL		

COATING	Specification	CSA Z245.21
	Trenched Pipe	2 Layer External Polyethylene Coating (Yellow Jacket)
	Bored Pipe	Not applicable
CATHODIC PROTECTION	Specification	CGA OCC-1
	Sacrificial Anodes	High-Potential Magnesium
TESTING		
STRENGTH TEST	Test Level	150% of Design Pressure (6.89 MPa)
	Maximum Pressure	10.35 MPa
	Duration	4 hr.
	Medium	Water
LEAK TEST	Test Level	150% of Design Pressure.
	Maximum Pressure	10.35 MPa
	Duration	4 hr.
	Medium	Water
OPERATING CHARACTERISTICS		
OPERATING PRESSURE	Maximum (MOP)	5.75 MPa
	Normal (NOP)	5.38 MPa
STRESS LEVEL	@ MOP	54%
	@ NOP	51%
	@ DP	66%
OTHER		
	Minimum Cover	1.2m

All applicable requirements of the TSSA will be met.

(e) Construction

Design and construction of the GEPP Natural Gas Utilization System will be carried out by Greenfield South and Eastern Power using a combination of their own forces and specialized licensed subcontractors with relevant experience constructing similar high pressure systems.

SECTION 6 - CONSTRUCTION SCHEDULE

Construction of the GEPP is over 50% complete with installation of the civil works almost complete and the installation of the major mechanical and electrical equipment well underway. Photographs of GEPP construction are attached as Appendix 7.

GEPP will need to have natural gas available for plant testing and commissioning by the end of December 2014. To be certain that the gas interconnection facilities will be ready in time for GEPP to meet its obligations under the Amended and Restated Clean Energy Supply contract, and avoid the need for winter construction, GEPP's proposed plan is to begin preparation for the construction of the GEPP Natural Gas Utilization System and metering facilities in September 2014 and to complete such installations by December 15, 2014. To meet this schedule, GEPP has already taken delivery of the piping and expects to receive the other materials shortly.

As provided above, all required financing is already in place and all material permits have already been obtained including the Environmental Compliance Approval and all necessary Building Permits and TSSA approvals.

SECTION 7 - OWNERSHIP AND OPERATION

(a) Ownership

The GEPP Natural Gas Utilization System will be owned by Greenfield South.

(b) Operation and Maintenance

GEPP operations staff and expert consultants, as necessary, will operate and maintain the GEPP Natural Gas Utilization System, and ensure compliance with all applicable environmental and safety regulations. The O&M and regulatory compliance activities related to the GEPP Natural Gas Utilization System will include:

a) developing and maintaining an Operations and Procedures Manual;

b) developing and maintaining an Emergency Response Plan;

c) developing and maintaining an Operator Qualification Program;

d) developing and maintaining a Pipeline Integrity Management Program;

e) completing and submitting reports to government agencies as required;

f) insuring all provided personnel are qualified in the Operator Qualification Program;

g) providing all equipment, transportation, material and supplies necessary to perform routine services;

h) performing and documenting a Class Locations study and update as required;

i) performing and documenting patrols at required frequency;

j) performing and documenting Leak Surveys;

k) documenting and classifying any leaks discovered;

l) performing and documenting all Cathodic Protection System inspections, tests, and surveys at required frequency;

m) performing and documenting valve maintenance at required frequency;

n) performing and documenting Over Pressure Protection testing at required frequency;

o) providing 24/7 Gas Control monitoring of pipeline pressure;

p) providing a phone number for emergency notification;

q) responding to and participating in all agency compliance audits and inspections; and

r) providing labour and supervision for pipeline maintenance.

Tasks performed by plant personnel will include:

a) dehydration equipment operations or maintenance;

b) condensate removal or disposal;

c) communication equipment installation or maintenance;

d) gas measurement equipment installation or maintenance;

e) facility painting beyond routine spot painting;

f) insuring all provided personnel are qualified in the Operator Qualification Program; and

g) providing pipeline emergency response personnel.

Operation of the GEPP Natural Gas Utilization System will be subject to the requirements of the TSSA. Note however that Ontario Regulation 210/01, made under the *Technical Standards and Safety Act, 2000*, only applies to “transmitters” and “distributors” and their “pipeline” systems and “distributors”, which are defined as follows:

> “distributor” means a person who conveys or supplies gas <u>to an end user</u>, but does not include a person who supplies gas to a vehicle or cylinder, and “distribute” and “distribution” have corresponding meanings;

> "transmitter" means a person who supplies oil and gas by pipeline to a distributor, and "transmit", "transmission" and "transmission line" have corresponding meanings;
>
> "pipeline" means a pipe that is used for the transmission or distribution of oil and gas and includes fittings, valves, controls, compressor stations, pressure regulating stations, meter stations and pump stations, but does not include the pipe, fittings, valves or controls of the end user;

Since Greenfield South is the "end user", it is therefore not a transmitter or a distributor, and no part of the GEPP Natural Gas Utilization System, including the 450 metre lateral pipe, is a "pipeline". Accordingly, O. Reg 210/01 does not apply to Greenfield South or to the GEPP Natural Gas Utilization System.

SECTION 8 - LAND MATTERS AND APPROVALS

No land rights or municipal road allowance will be required. The land on which the GEPP Natural Gas Utilization System will be constructed is owned by Greenfield South.

Required TSSA approvals/certificates have been obtained and NEB approval for crossing other pipelines is not required as no such crossings are needed or contemplated.

No Permit to Take Water will be needed since hydrostatic testing will be done only with municipal water – the volume of the largest leg of the GEPP Natural Gas Utilization System is only about 14 cubic metres.

SECTION 9 - PUBLIC INTEREST CONSIDERATIONS

As a natural gas fueled electricity generator, the GEPP requires facilities to connect to the gas transmission system to obtain its fuel.

GEPP has a clearly demonstrated need for the GEPP Natural Gas Utilization System. The generating station needs fuel to generate electricity and the GEPP Natural Gas Utilization System delivers that fuel to each piece of natural gas burning equipment. The GEPP Natural Gas Utilization System or an equivalent GEPP Natural Gas Utilization System would be necessary regardless of the source of natural gas supply, whether from the Vector pipeline or otherwise.

The GEPP Natural Gas Utilization System is a key component of a project that was chosen by the Ontario Government and included in the OPA's Long Term Energy Plan to contribute to the security of electricity supply in Ontario. Construction of the GEPP Natural Gas Utilization System by GEPP is in the interests of the electricity ratepayers of Ontario because it will enable fuel utilization by a new generating facility that will provide cost-effective and environmentally beneficial electricity generation to the Province.

The GEPP Natural Gas Utilization System is located in the franchise area of Union Gas Limited ("**Union Gas**"), but it does not duplicate or strand any Union Gas facilities, given that a similar system would have to be constructed for Union Gas to be able to serve GEPP. The GEPP Natural Gas Utilization System has no adverse impact on Union Gas or its ratepayers.

Through its affiliate and supported by qualified consultants and contractors, the Applicant has the necessary experience and financial ability to construct and safely operate the GEPP Natural Gas Utilization System and manage all of its gas delivery needs.

The GEPP Natural Gas Utilization System will help to ensure that the Applicant achieves the lowest market cost and the greatest operational flexibility possible for the supply and delivery of the natural gas it requires to create an additional 300 megawatts of clean electricity supply for Ontario. The flexibility that the GEPP Natural Gas Utilization System provides is particularly important in light of the changing electricity market in Ontario.

Accordingly, construction of the GEPP Natural Gas Utilization System is in the public interest and a certificate of public convenience and necessity ought to be issued.

SECTION 10 - ORDER SOUGHT

The Applicant seeks:

(i) declaration that a certificate of public convenience and necessity under section 8 of the *Municipal Franchises Act* is not needed for the GEPP Natural Gas Utilization System in the circumstances; or

(ii) in the alternative, a Certificate of Public Convenience and necessity under section 8 of the *Municipal Franchises Act* for construction of the GEPP Natural Gas Utilization System.

APPENDIX 1

Greenfield South and Eastern Power OEB Generation Licenses

Ontario

Electricity Generation Licence

EG-2003-0093

Eastern Power Limited

Valid Until
December 4, 2023

____

Mark C. Garner
Secretary
Ontario Energy Board

Date of Issuance: December 5, 2003

Ontario Energy Board
P.O. Box 2319
2300 Yonge Street
26th. Floor
Toronto, ON M4P 1E4

Commission de l'Énergie de l'Ontario
C.P. 2319
2300, rue Yonge
26e étage
Toronto ON M4P 1E4

1 Definitions 1

In this Licence: 2

"**Act**" means the *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, Schedule B; 3

"**Electricity Act**" means the *Electricity Act, 1998,* S.O. 1998, c. 15, Schedule A; 4

"**generation facility**" means a facility for generating electricity or providing ancillary services, other than ancillary services provided by a transmitter or distributor through the operation of a transmission or distribution system and includes any structures, equipment or other things used for that purpose; 5

"**Licensee**" means: Eastern Power Limited; 6

"**regulation**" means a regulation made under the Act or the Electricity Act; 7

2 Interpretation 8

2.1 In this Licence words and phrases shall have the meaning ascribed to them in the Act or the Electricity Act. Words or phrases importing the singular shall include the plural and vice versa. Headings are for convenience only and shall not affect the interpretation of the licence. Any reference to a document or a provision of a document includes an amendment or supplement to, or a replacement of, that document or that provision of that document. In the computation of time under this licence where there is a reference to a number of days between two events, they shall be counted by excluding the day on which the first event happens and including the day on which the second event happens and where the time for doing an act expires on a holiday, the act may be done on the next day. 9

3 Authorization 10

3.1 The Licensee is authorized, under Part V of the Act and subject to the terms and conditions set out in the Licence: 11

a) to generate electricity or provide ancillary services for sale through the IMO-administered markets or directly to another person subject to the conditions set out in this Licence. This Licence authorizes the Licensee only in respect of those facilities set out in Schedule 1; 12

b) to purchase electricity or ancillary services in the IMO-administered markets or directly from a generator subject to the conditions set out in this Licence; and 13

c) to sell electricity or ancillary services through the IMO-administered markets or directly to another person, other than a consumer, subject to the conditions set out in this Licence. 14

4 Obligation to Comply with Legislation, Regulations and Market Rules 15

4.1 The Licensee shall comply with all applicable provisions of the Act and the Electricity Act, and regulations under these Acts, except where the Licensee has been exempted from such compliance by regulation. 16

4.2 The Licensee shall comply with all applicable Market Rules. 17

5 Obligation to Maintain System Integrity 18

5.1 Where the IMO has identified, pursuant to the conditions of its licence and the Market Rules, that it is necessary for purposes of maintaining the reliability and security of the IMO-controlled grid, for the Licensee to provide energy or ancillary services, the IMO may require the Licensee to enter into an agreement for the supply of energy or such services. 19

5.2 Where an agreement is entered into in accordance with paragraph 5.1, it shall comply with the applicable provisions of the Market Rules or such other conditions as the Board may consider reasonable. The agreement shall be subject to approval by the Board prior to its implementation. Unresolved disputes relating to the terms of the Agreement, the interpretation of the Agreement, or amendment of the Agreement, may be determined by the Board. 20

6 Restrictions on Certain Business Activities 21

6.1 Neither the Licensee, nor an affiliate of the Licensee shall acquire an interest in a transmission or distribution system in Ontario, construct a transmission or distribution system in Ontario or purchase shares of a corporation that owns a transmission or distribution system in Ontario except in accordance with section 81 of the Act. 22

7 Provision of Information to the Board 23

7.1 The Licensee shall maintain records of and provide, in the manner and form determined by the Board, such information as the Board may require from time to time. 24

7.2 Without limiting the generality of paragraph 7.1 the Licensee shall notify the Board of any material change in circumstances that adversely affects or is likely to adversely affect the business, operations or assets of the Licensee, as soon as practicable, but in any event no more than twenty (20) days past the date upon which such change occurs. 25

8 Term of Licence 26

8.1 This Licence is effective on December 5, 2003 and shall expire on December 4, 2023. The term of this Licence may be extended by the Board. 27

9 Fees and Assessment 28

9.1 The Licensee shall pay all fees charged and amounts assessed by the Board. 29

10 Communication 30

10.1 The Licensee shall designate a person that will act as a primary contact with the Board on matters related to this Licence. The Licensee shall notify the Board promptly should the contact details change. 31

10.2 All official communication relating to this Licence shall be in writing. 32

10.3 All written communication is to be regarded as having been given by the sender and received by the addressee: 33

a) when delivered in person to the addressee by hand, by registered mail or by courier; 34

b) ten (10) business days after the date of posting if the communication is sent by regular mail; and 35

c) when received by facsimile transmission by the addressee, according to the sender’s transmission report. 36

11 Copies of the Licence 37

11.1 The Licensee shall: 38

a) make a copy of this Licence available for inspection by members of the public at its head office and regional offices during normal business hours; and 39

b) provide a copy of the Licence to any person who requests it. The Licensee may impose a fair and reasonable charge for the cost of providing copies. 40

SCHEDULE 1 LIST OF LICENSED GENERATION FACILITIES 41

The Licence authorizes the Licensee only in respect to the following: 42

1. The Brock West Power Generation Facility, owned and operated by the Licensee, Eastern Power Limited, at Pickering, Ontario. 43

2. The Keele Valley Power Plant Generation Facility, owned and operated by the Licensee, Eastern Power Limited, at Vaughan, Ontario. 44

3. The Subbor Guelph Plant, owned and operated by the Licensee, Eastern Power Limited, at Guelph, Ontario. 45

Ontario

Electricity Generation Licence

EG-2009-0023

Greenfield South Power Corporation

Valid Until

June 2, 2029

Original signed by

____

Jennifer Lea
Counsel, Special Projects
Ontario Energy Board
Date of Issuance: June 3, 2009
Date of Amendment: April 10, 2014

Ontario Energy Board	Commission de l’énergie de l’Ontario
P.O. Box 2319	C.P. 2319
2300 Yonge Street	2300, rue Yonge
27th. Floor	27e étage
Toronto, ON M4P 1E4	Toronto ON M4P 1E4

Table of Contents **Page No.**

1 Definitions

In this Licence:

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"**generation facility**" means a facility for generating electricity or providing ancillary services, other than ancillary services provided by a transmitter or distributor through the operation of a transmission or distribution system and includes any structures, equipment or other things used for that purpose;

"**Licensee**" means Greenfield South Power Corporation;

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2 Interpretation

2.1 In this Licence words and phrases shall have the meaning ascribed to them in the Act or the Electricity Act. Words or phrases importing the singular shall include the plural and vice versa. Headings are for convenience only and shall not affect the interpretation of this Licence. Any reference to a document or a provision of a document includes an amendment or supplement to, or a replacement of, that document or that provision of that document. In the computation of time under this Licence where there is a reference to a number of days between two events, they shall be counted by excluding the day on which the first event happens and including the day on which the second event happens. Where the time for doing an act expires on a holiday, the act may be done on the next day that is not a holiday.

3 Authorization

3.1 The Licensee is authorized, under Part V of the Act and subject to the terms and conditions set out in this licence:

a) to generate electricity or provide ancillary services for sale through the IESO-administered markets or directly to another person subject to the conditions set out in this Licence. This Licence authorizes the Licensee only in respect of those facilities set out in Schedule 1;

b) to purchase electricity or ancillary services in the IESO-administered markets or directly from a generator subject to the conditions set out in this Licence; and

c) to sell electricity or ancillary services through the IESO-administered markets or directly to another person, other than a consumer, subject to the conditions set out in this Licence.

4 Obligation to Comply with Legislation, Regulations and Market Rules

4.1 The Licensee shall comply with all applicable provisions of the Act and the Electricity Act, and regulations under these acts, except where the Licensee has been exempted from such compliance by regulation.

4.2 The Licensee shall comply with all applicable Market Rules.

5 Obligation to Maintain System Integrity

5.1 Where the IESO has identified, pursuant to the conditions of its licence and the Market Rules, that it is necessary for purposes of maintaining the reliability and security of the IESO-controlled grid, for the Licensee to provide energy or ancillary services, the IESO may require the Licensee to enter into an agreement for the supply of energy or such services.

5.2 Where an agreement is entered into in accordance with paragraph 5.1, it shall comply with the applicable provisions of the Market Rules or such other conditions as the Board may consider reasonable. The agreement shall be subject to approval by the Board prior to its implementation. Unresolved disputes relating to the terms of the Agreement, the interpretation of the Agreement, or amendment of the Agreement, may be determined by the Board.

6 Restrictions on Certain Business Activities

6.1 Neither the Licensee, nor an affiliate of the Licensee shall acquire an interest in a transmission or distribution system in Ontario, construct a transmission or distribution system in Ontario or purchase shares of a corporation that owns a transmission or distribution system in Ontario except in accordance with section 81 of the Act.

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7.1 The Licensee shall maintain records of and provide, in the manner and form determined by the Board, such information as the Board may require from time to time.

7.2 Without limiting the generality of paragraph 7.1 the Licensee shall notify the Board of any material change in circumstances that adversely affects or is likely to adversely affect the business, operations or assets of the Licensee, as soon as practicable, but in any event no more than twenty (20) days past the date upon which such change occurs.

8 Term of Licence

8.1 This Licence shall take effect on June 3, 2009 and expire on June 2, 2029. The term of this Licence may be extended by the Board.

9 Fees and Assessments

9.1 The Licensee shall pay all fees charged and amounts assessed by the Board.

10 Communication

10.1 The Licensee shall designate a person that will act as a primary contact with the Board on matters related to this Licence. The Licensee shall notify the Board promptly should the contact details change.

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SCHEDULE 1 LIST OF LICENSED GENERATION FACILITIES

The Licence authorizes the Licensee only in respect to the following:

1. Green Electron Power Project, owned and operated by the Licensee at 477 Oil Springs Line, St. Clair Township, Ontario.

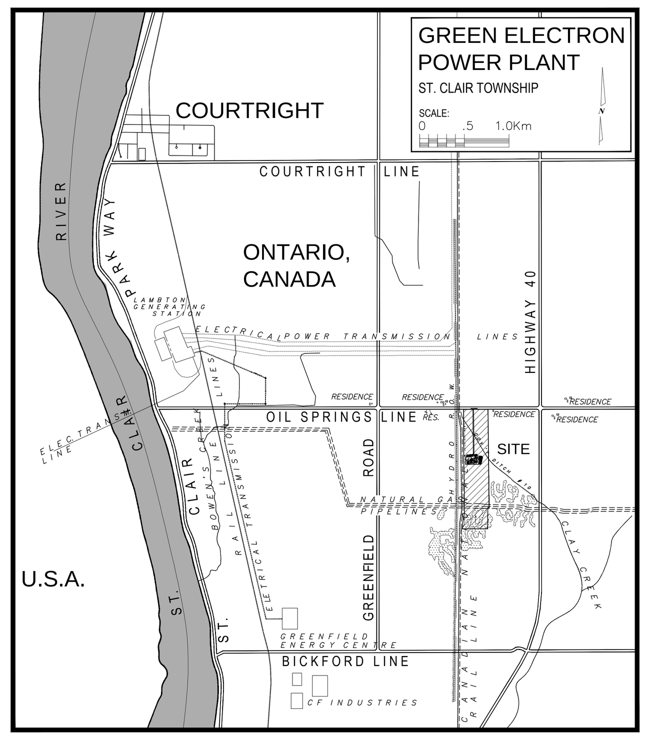
APPENDIX 2

Map showing location of Green Electron Power Plant


Residences
Residences
Ladysmith
Residence
Green Electron
Power Plant
SITE
APPROX 90 Acres
500m
East Site
40

APPENDIX 3

Site Plan



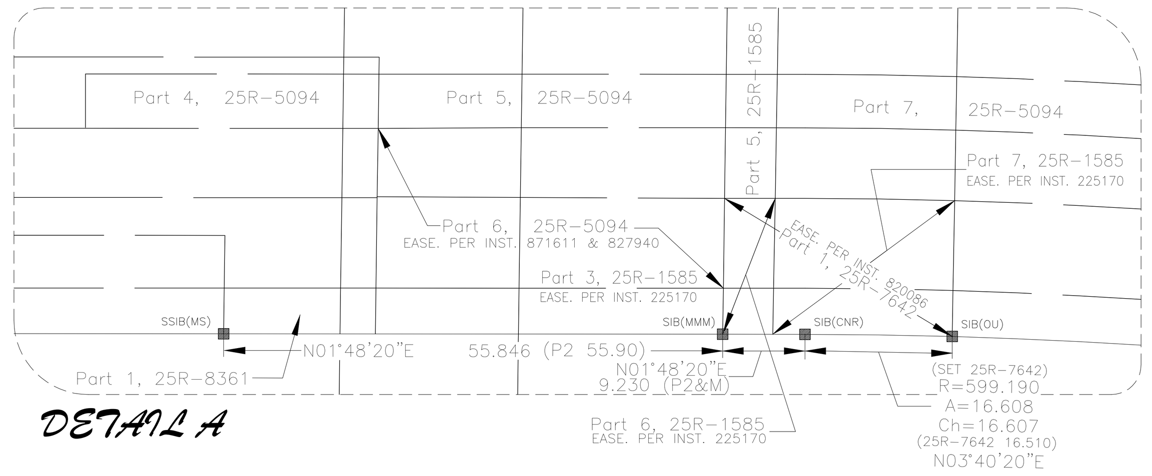
SITE PLAN & BUILDING STATISTICS

ZONE : INDUSTRIAL TYPE 3 M3 Sec 10.3

	REQUIREMENTS	EXISTING	PROPOSED (FINAL)
LOT AREA	40 ha (or existing–Sec. 4.10 a)	36.5ha [90.2 Acres]	36.5ha [90.2 Acres]
MIN. LOT FRONTAGE	45m [147.64']	273.37m [896.88']	273.37m [896.88']
MIN. FRONT YARD DEPTH	153m [501.96']	----------	525.20m [1723.00']
MIN. REAR YARD DEPTH	153m [501.96']	----------	732.5m [2403.20']
MIN. SIDE YARD – WEST SIDE	30.00m [98.43']	----------	30.5m [100.06']
MIN. SIDE YARD – EAST SIDE	50.0m [164.04'] (Minor Variance)	----------	76.5m [250.98']
MAX HEIGHT	38.0m [124.70'] (Minor Variance)	----------	37.5m [123.00]
BUILDING FOOTPRINT AREA			
MAIN POWER HOUSE	–	–	2,599.94m² [27,985.52 SQ.FT.]
PARTS STORAGE/COMP. BLDG.	–	–	371.32m² [3,996.85 SQ.FT.]
PUMP HOUSE	–	–	208.87m² [2,208.25 SQ.FT.]
COOLING TOWER	–	–	944.11m² [10,162.30 SQ.FT.]
DEMIN WATER TANK	–	–	71.62m² [771.00 SQ.FT.]
P&C ENCLOSURE	–	–	52.00m² [560.00 SQ.FT.]
HRSG & STACK	–	–	N/A
TOTAL (COVERAGE)	–	–	4,247.86m² [45,723.58 SQ.FT.]
MAX. LOT COVERAGE %	50	–	1.16
POWER HOUSE GROSS FLOOR AREA (including all buildings,cooloing tower & levels 2, 3 & Op.)		–	5,479.48m² [58,980.63 SQ.FT.]
PARKING	ONE PER STAFF (12±)	–	35 +
LOADING BAY	ONE NEEDED	–	3 PROVIDED

Site Plan Notes:

1. The portions of the driveway within the municipal boulevard will be paved by the applicant.
2. The fire access route will be designed to support load of not less than 11,363 kg per axle and have a change in gradient of not more than 1 in 12.5 over a minimum distance of 15 m.



Metric

Distances shown on this plan are in Metres and can be converted to feet by dividing by 0.3048

INFORMATION ON THIS SITE PLAN taken from:

Surveyor's Real Property Report

PLAN OF SURVEY OF

PART OF LOT 26, CONCESSION 2 AND PART OF THE ROAD ALLOWANCE BETWEEN CONCESSION 1 & 2

GEOGRAPHIC TOWNSHIP OF MOORE

AND PART OF LOT 26, REGISTERED PLAN 24 (MO) TOWNSHIP OF ST. CLAIR COUNTY OF LAMBTON

0 20.00 40.00 80.00 120.00 METRES 200.00

SCALE = 1:1500

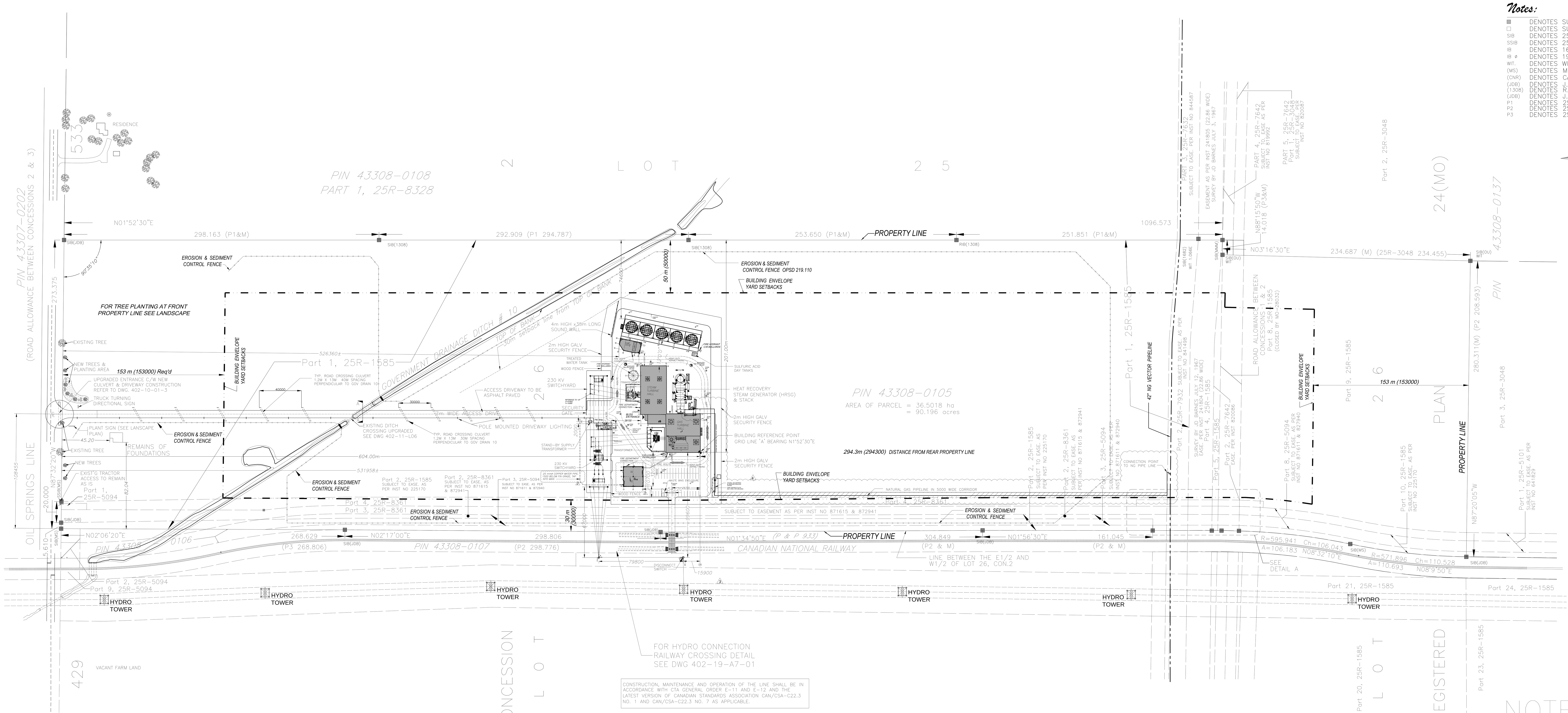
Bearing Reference:

BEARINGS SHOWN HEREON ARE GRID BEARINGS AND ARE DERIVED BY GLOBAL POSITIONING SYSTEM (G.P.S.) USING MINISTRY OF NATURAL RESOURCES MONUMENT Nos. 01019840301 (N 4752125.900, E 381170.467) AND 01019840304 (N 4750756.014, E 384554.253)

BASED ON THE ONTARIO 6° BEING IN ZONE 17 AND HAVING A CENTRAL MERIDIAN OF 81° WEST. DISTANCE SHOWN ON THIS PLAN ARE ADJUSTED GROUND LEVEL DISTANCES AND CAN BE USED TO COMPUTE GRID LEVEL DISTANCES BY MULTIPLYING BY COMBINED SCALE FACTOR OF 0.99973919.

Notes:

■	DENOTES SURVEY MONUMENT FOUND
□	DENOTES SURVEY MONUMENT SET AND MARKED MS
SIB	DENOTES 25mm X 25mm X 1.22m STANDARD IRON BAR
SSIB	DENOTES 25mm X 25mm X 0.61m SHORT STANDARD IRON BAR
IB	DENOTES 16mm X 16mm X 0.61m IRON BAR
IB ø	DENOTES 19mm diameter X 0.61m ROUND IRON BAR
WIT.	DENOTES WITNESS
(MS)	DENOTES MONTEITH & SUTHERLAND LTD., O.L.S.
(CNR)	DENOTES CANADIAN NATIONAL RAILWAY
(JDB)	DENOTES J.D. BARNES, O.L.S.
(1308)	DENOTES R.W. ROBERTSON. O.L.S.
(JDB)	DENOTES J.D. BARNES, O.L.S.
P1	DENOTES 25R–8328
P2	DENOTES 25R–8361
P3	DENOTES 25R–1585



NOTE:

FINISHED GROUND FLOOR '0' DATUM GEODETIC ELEVATION BENCHMARK:

READ '0' = 115.00 = 188.00 (ST. CLAIR TOWNSHIP)

DEVELOPMENT APPLICATION NUMBERS	
DEVELOPMENT TYPE	INDUSTRIAL
LEGAL DESCRIPTION	Part Lot 26, Con 2E, & Part Road Allowance between Con 1&2 Plan 24RP 25R 1585; Parts 1 to 10 TOWNSHIP OF ST. CLAIR

No	DATE	REVISIONS/ISSUED	BY	CHK	APP
4	SEPT 10/14	NATURAL GAS SUPPLY LINE & CONNECTION TO SUPPLIER SHOWN	CP	FI	FI
3	JUly 4/14	DISCONNECT SWITCH POLE MOVED APPROX 1.7M WEST	CP	CP	CP
2	JUNE 17/14	PARTS STORAGE BUILDING UPDATED & 25mm WATER LINE SHOWN	CP	CP	CP
1	APR 2/14	SWITCHYARD REVISED & RAIL CROSSING UPDATED	AD	CP	CP
0	SEP 3/13	ISSUED FOR CONSTRUCTION	AD	CP	CP

ONTARIO ASSOCIATION OF ARCHITECTS
CIRO POLSINELLI
LICENCE 2758

SECTION: ARCHITECTURAL		
SCALE: 1:500	DATE	
DESIGNED: C. POLSINELLI	Oct 30, 2012	
DRAWN: C. POLSINELLI		
CHECKED: C. POLSINELLI	SEP 3/13	
REVIEWED: C. POLSINELLI	SEP 3/13	

CLIENT: EASTERN POWER LIMITED
2275 LAKESHORE BLVD. WEST
TORONTO, ONTARIO, M8V 3Y3
TEL: (416) 234-1301 FAX: (416) 234-8336

PROJECT: GREEN ELECTRON POWER PLANT
477 OIL SPRINGS LINE
TOWNSHIP OF ST. CLAIR

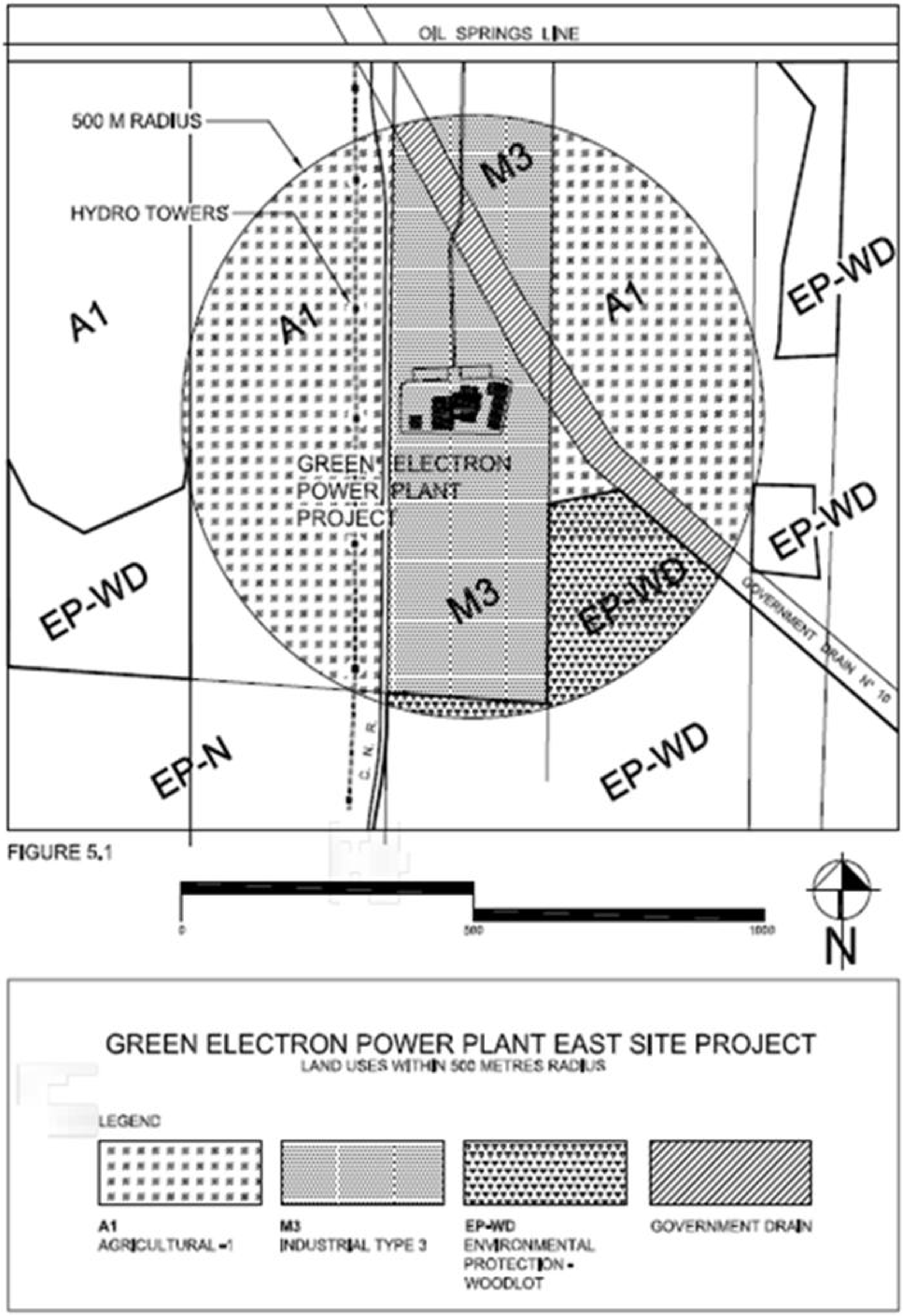
TITLE: SITE PLAN 1:1500

DRAWING CODE: 402-11-01-1 REV 4

APPENDIX 4

Existing Land Uses

Figure 5.1 Land Use Around East Site

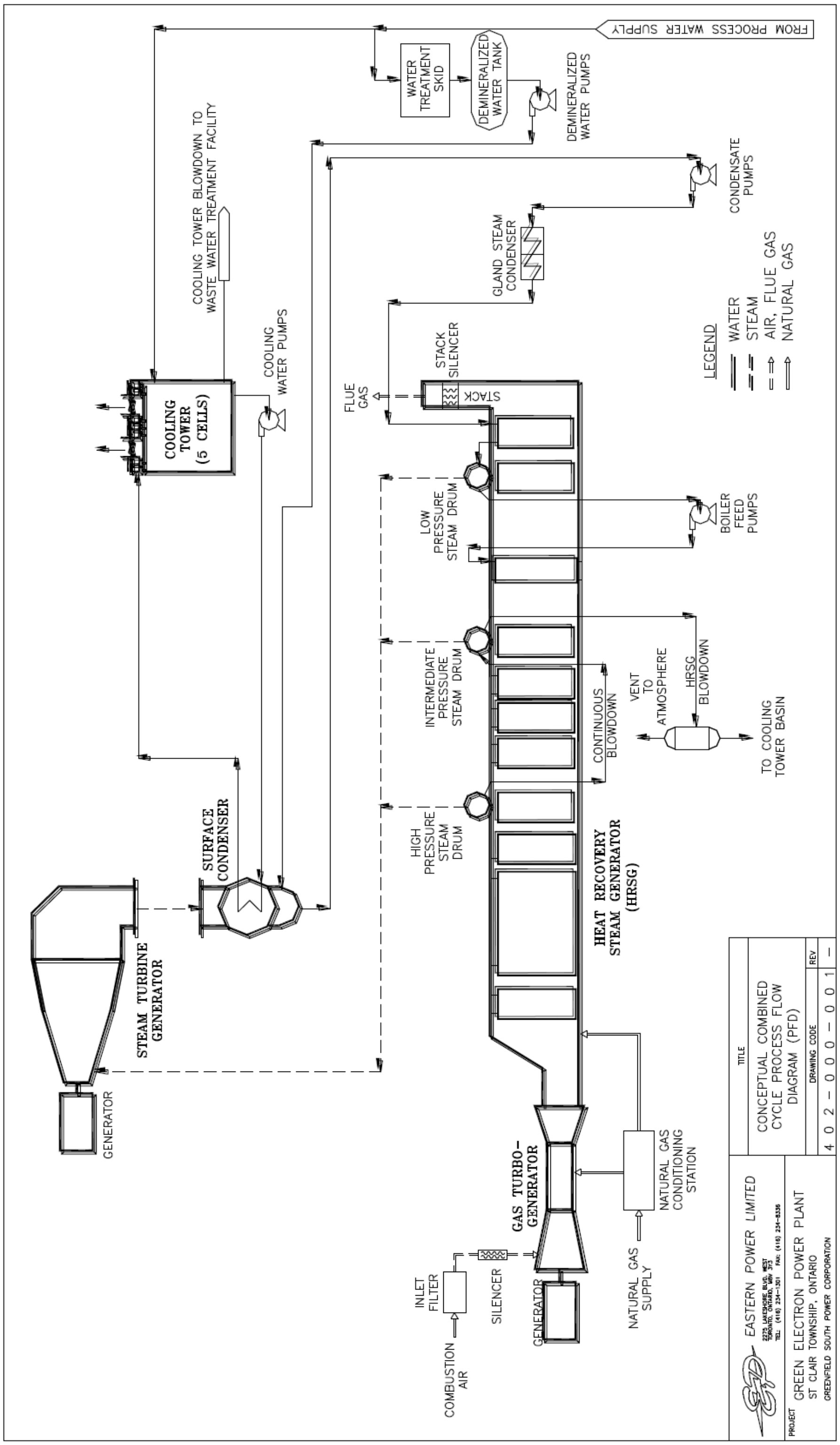


APPENDIX 5

Operation of a combined-cycle gas turbine power plant

Green Electron Project ESRR

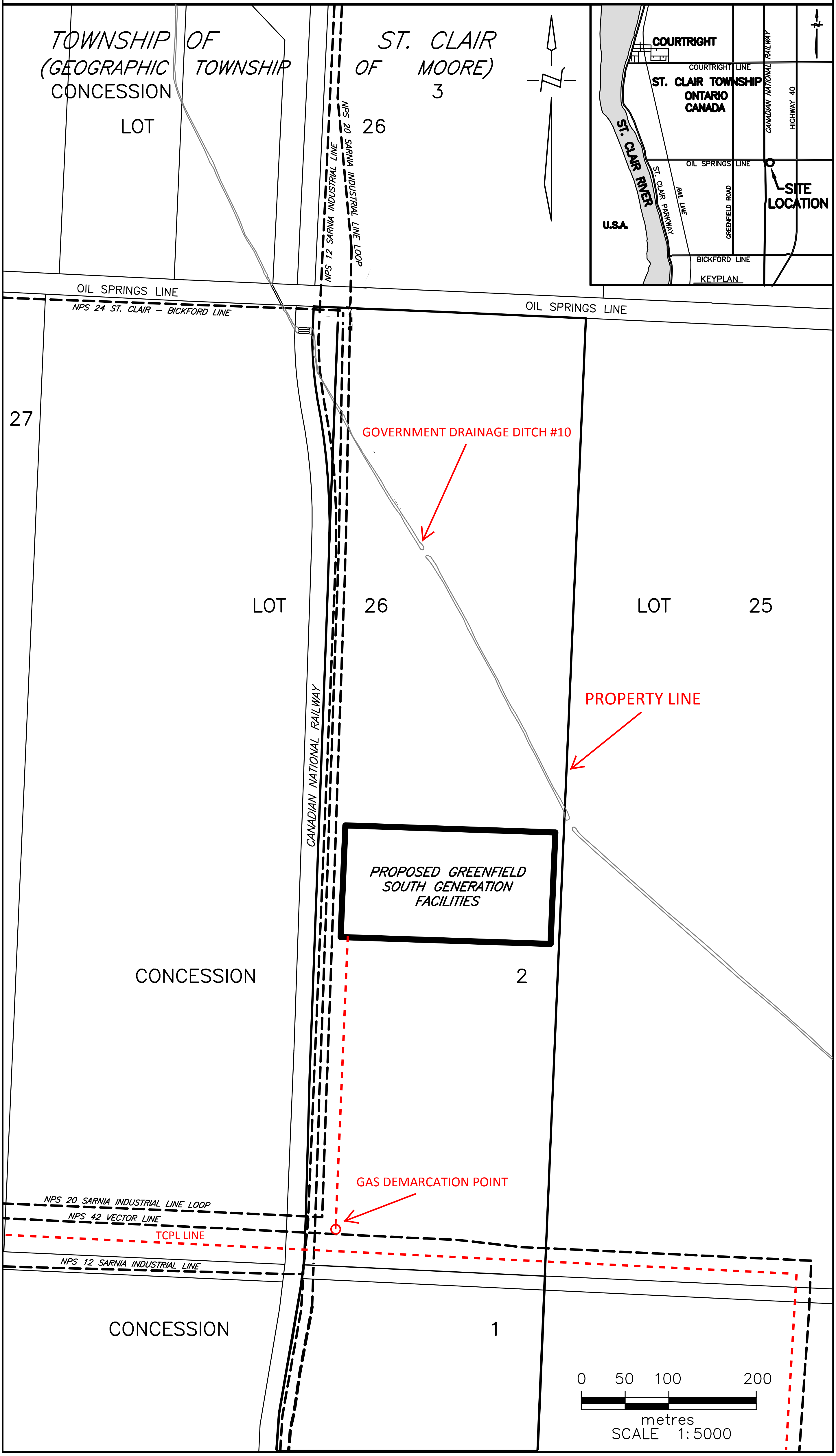
Figure 3.1. Simplified Process Flowsheet Diagram of Green Electron Power Facility



APPENDIX 6

Sketch showing location of GEPP Natural Gas Utilization System

GREENFIELD SOUTH GENERATING STATION PROJECT



APPENDIX 7

Photos showing progress of GEPP construction


08/19/2014


Genie S-125
JLG
09/03/2014


09/03/2014


08/19/2014

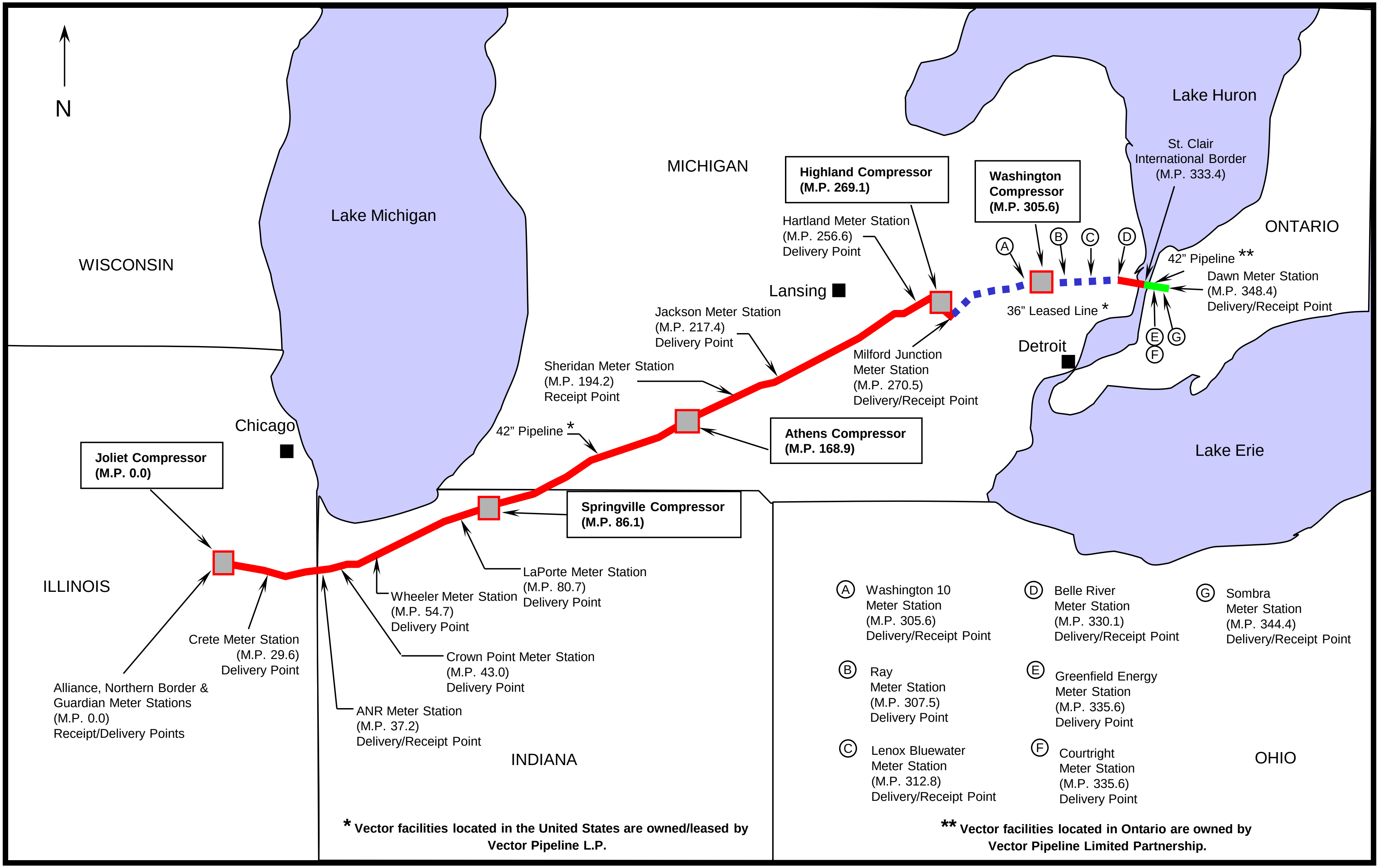

50 tonne
09/08/2014

APPENDIX 8

Map of Vector Pipeline

Vector Pipeline™

Vector Pipeline System Map



APPENDIX 9

Vector Interconnect Agreement

INTERCONNECT AGREEMENT

THIS INTERCONNECT AGREEMENT (the "Agreement") is made and entered into this 8 day of JAN, 2014, by and between Vector Pipeline Limited Partnership ("Vector"), an Alberta limited partnership located at 38705 Seven Mile Road, Suite 490, Livonia, MI 48152, and Greenfield South Power Corporation ("Greenfield South"), an Ontario corporation located at 2275 Lake Shore Boulevard West, Suite 401, Toronto, Ontario, M8V 3Y3. Vector and Greenfield South shall hereinafter sometimes be referred to separately as "Party" or jointly as "Parties."

WITNESSETH:

WHEREAS, Vector owns an existing 42-inch diameter natural gas pipeline system (the "Vector System"), portions of which are located within the Province of Ontario; and

WHEREAS, Greenfield South is developing the Green Electron Power Plant, a 300 Megawatt natural gas-fired combined-cycle power plant located in the Province of Ontario; and

WHEREAS, Greenfield South owns a parcel of property in the Township of St. Clair, County of Lambton, Ontario through which Vector and its right of way traverses; and

WHEREAS, Greenfield South desires to establish an interconnection between the Green Electron Power Plant it is developing and the Vector System, and Vector is willing to establish such interconnection under the terms and conditions set forth herein; and

NOW, THEREFORE, in consideration of the premises and of the mutual covenants and agreements hereinafter set forth, the Parties, each for itself and for its successors and permitted assigns, hereby agree as follows:

1. Interconnect Site. The point of interconnection between the Vector Facilities, as defined below, and the Greenfield South Facilities, as defined below, shall be located between Vector and Greenfield South in the Township of St. Clair, County of Lambton, Ontario, on real property as described in Exhibit A (the "Interconnect Site") attached hereto and incorporated herein by reference. The Interconnect Site and the Vector Facilities and Greenfield South Facilities located on it shall be known collectively as the "Interconnect Facilities."

2. Property Rights. Greenfield South will be responsible for obtaining, by way of deed or easement or other instrument acceptable to Vector, acting reasonably, the real property described on Exhibit A and such attendant rights as are necessary for establishing the Interconnect Site and for the construction, operation and access to the Vector Facilities and the Greenfield South Facilities. Greenfield South will pay for any and all land acquisition costs, recording costs and transfer fees (if any) related to the real estate described in Exhibit A and any other attendant rights obtained by Greenfield South. Greenfield South shall grant to Vector the right of ingress and egress to the Interconnect Site at no cost to Vector as well as rights necessary within the Interconnect Site for construction and operation of the Vector Facilities.

3. Vector Facilities. Vector will design, purchase, construct, install, own, maintain and operate, on the Interconnect Site, the equipment and facilities (collectively, the "Vector Facilities") more fully described in Exhibit B attached hereto and incorporated herein by reference, but which shall generally consist of pressure and temperature transmitters; shut off valve, check valve, overpressure protection valve, tap piping, piping to the above grade insulating flange, a Remote Terminal Unit ("RTU"), gas chromatograph, and other miscellaneous equipment as determined by Vector and such other equipment and facilities required to effectuate the interconnection contemplated herein.

4. Greenfield South Facilities. Greenfield South will design, purchase, construct, install, own, maintain, and operate, on the Interconnect Site, the equipment and facilities (collectively, the "Greenfield South Facilities") more fully described in Exhibit C attached hereto and incorporated herein by reference, but which shall generally consist of gas measurement facilities; ultrasonic and rotary flow meters with electronic flow measurement (EFM); flow control valve (with set points and meter run switching logic to be controlled by Vector's RTU); pressure and temperature transmitters, RTU, control building (with access provided for installation and operation of Vector's equipment), approximately 450 meters of 8-inch diameter pipeline, the Interconnect Site including fences and access drive, and other miscellaneous equipment as determined by Greenfield South.

5. Custody Transfer. The "Custody Transfer Point" at the Interconnect Site shall be located at the above grade insulating flange separating the Vector Facilities from the Greenfield South Facilities as described in Exhibit B. The insulating flange shall be located at or near the edge of the Vector right of way.

6. Design Pressure and Volumes. The Vector Facilities and Greenfield South Facilities shall be designed for (a) a design pressure of 6895 kpag (1000 psig) with a design factor of 0.8 and a location factor of 0.625 per CSA Z662-03 oil and Gas Pipeline Systems; and (b) a flow rate up to 1.7 10^6m^3 (60 MMscf) per day. Vector and Greenfield South shall each be responsible for any overpressure protection equipment on their respective facilities should it be required.

7. Gas and Facilities Loss. Greenfield South shall be responsible for any physical gas loss at the Interconnect Site occurring as a result of the construction of the Vector Facilities, excluding gas lost due to the failure of Vector or its contractors or representatives to follow and adhere to sound and prudent standards and practices common to the natural gas industry during construction or installation of the Vector Facilities. Both Parties shall each be responsible for any physical gas loss occurring during normal operations in their respective facilities after the In-Service Date. If any physical gas loss is caused by the negligence or of a Party, that Party shall be liable for such loss.

8. Operating Pressure. Vector will make deliveries into Greenfield South at Vector's prevailing line pressure, but not to exceed 6895 kpag (1000 psig).

9. Pipeline Data. Vector shall allow Greenfield South continuous access to custody transfer measurement of volumetric, temperature, pressure, gas chromatograph, valve position data and other data as required. Greenfield South shall allow Vector continuous access to check measurement of volumetric, temperature, pressure, valve position data and other data as required.

10. In-Service Date. Vector and Greenfield South agree to use reasonable efforts to complete the interconnection including hot tap and pipeline facilities within eight (8) months of the execution of this Agreement and Greenfield South's acquisition of the real property as described within Section 2 of this Agreement. The "In-Service Date" will be the later of the completion date of the Vector Facilities or the Greenfield South's Facilities and each of the Parties will provide notice to the other Party when their respective facilities are completed.

11. Term. This Agreement shall commence upon execution by both Parties and continue for a period of seven years from the In-Service Date, and may not be terminated during such period by either party for convenience. During the period from year eight to year twenty, Greenfield South shall have the right to terminate this Agreement on 90 days prior written notice. Commencing in year 21, the Agreement will continue thereafter on a year to year basis until either Party terminates this Agreement on 90 days prior written notice of termination to the other Party.

12. Costs and Reimbursement. Greenfield South shall be responsible for all commercially reasonable costs incurred to construct the Greenfield South Facilities and the Vector Facilities.

In the event Vector elects to discontinue the project described herein prior to the Interconnect Facilities going into service, Vector shall reimburse Greenfield South for actual costs and expenses, including, but not limited to reasonable overhead costs, theretofore incurred by Greenfield South, or committed to be incurred by Greenfield South, to construct the Interconnect Facilities prior to such discontinuance, plus any additional costs Greenfield South incurs to connect to an alternate gas source which is similar in scope to the facilities proposed to be installed by Vector pursuant to this Agreement. The limitations of paragraph 23 below shall apply in determining costs.

In the event Greenfield South elects to discontinue the project described herein prior to the Interconnect Facilities going into service, Greenfield South shall reimburse Vector for actual costs and expenses, including but not limited to reasonable overhead costs, theretofore incurred by Vector, or committed to be incurred by Vector, to construct the Interconnect Facilities prior to such discontinuance.

Vector estimates that projected costs, including any overheads and sales and use taxes or other taxes, for which it will seek reimbursement from Greenfield South in respect of the subject-matter of this Agreement (the "Estimated Reimbursement Amount") are $1,125,000. Vector shall invoice Greenfield South for 100% of the Estimated Reimbursement Amount by September 15, 2014 and Greenfield South shall reimburse Vector within 30 days of such invoice. Any over or under charge to the Estimated Reimbursement Amount based on actual costs will be invoiced or paid back to Greenfield South within six months of In-service Date. If Greenfield South owes additional funds, payment will be made within 30 days of invoicing.

In the event that Vector is obligated to provide reservation charge credits to any of its shippers due to the events directly related to the construction of the Interconnection Facilities described herein, Greenfield South shall reimburse Vector within 30 days of receipt of the request for payment for any such reservation charge credits and associated costs (including tax gross up if applicable) as required to ensure Vector sustains no costs in connection with construction of the Interconnect Facilities.

13. Credit. If requested by Vector, Greenfield South shall provide evidence of credit in accordance with Vector's then-current NEB Tariff (the "Tariff").

14. Measurement. All metering of gas quantities delivered and subsequent billing shall be performed by Vector using EFM in accordance with the Tariff. Flowing volumes will be calculated in accordance with industry standards including AGA

Report No 9 and Measurement Canada standards and adjusted for temperature and pressure (using a pressure base of 14.73 psig and a temperature base of 60° F). Gas composition and BTU values will be determined by Vector, will meet the standards of the Tariff and will be utilized for purposes of calculating flow parameters. Data signals for measurement, heating value, gas composition and valve position, etc., will be collected and sent electronically to Greenfield South by Vector in accordance with Exhibit B.

15. <u>Inspection and Testing.</u> Greenfield South will inspect, test and calibrate the meter and flow control instrumentation in accordance with the Tariff and operating procedures and Vector will have the right to witness such inspection, testing and calibration. Greenfield South will provide Vector no less than a one-week prior notice of all scheduled instrumentation inspections, calibration and testing. Vector will have the right to request that a special meter test be made at any time. In the event a test at Vector's request discloses that the meter tested is measuring correctly, or within two percent accuracy (+ or - 2%), Vector will bear the expense of such meter test. The results of all such tests and calibration will be open to examination by Vector and a report of every requested test will be furnished by Greenfield South to Vector. Any meter tested and found to be within two percent accuracy (+ or - 2%) will be considered to be accurate for purposes of determining imbalances, but will be adjusted at once, if required, to register accurately. If, as a result of any test, any meter is found to register in excess of two percent accuracy (+ or - 2%), then the readings of such meter previously taken will be corrected according to the Tariff, and the meter will be adjusted at once to register accurately.

16. <u>Standards.</u> Each Party shall design, engineer and construct, or arrange for the design, engineering and construction of the Interconnect Facilities for which it is responsible under this Agreement in accordance with (i) its engineering standards (including AGA Report No. 9 and Measurement Canada standards); (ii) sound and prudent standards and practices common to the natural gas industry; and (iii) all applicable laws, regulations, rules, certificates, decisions, order and directives of all federal, state and local authorities having jurisdiction over such activities. Each Party shall operate and maintain the Interconnect Facilities for which it is responsible under this Agreement in accordance with sound and prudent practices existing in the natural gas industry and shall comply with all valid and applicable laws, orders, directives, rules and regulations of governmental authorities having jurisdiction.

17. <u>Design and Construction Approval.</u> Prior to constructing the Interconnect Facilities for which it is responsible to construct pursuant to this Agreement, each Party shall submit to the other Party for review, drawings and specifications describing the facilities to be constructed and installed by such Party pursuant to this Agreement. Within ten (10) working days of a Party's receipt of such drawings and specifications, the receiving Party shall notify the submitting Party of any exceptions to such drawings and specifications. To the extent

commercially practicable, each Party shall design, engineer and construct its facilities to address any exceptions noted by the other Party. Each Party shall, at all times during construction of the Interconnect Facilities, have the right to review and monitor the manner in which such Interconnect Facilities are being constructed and installed. If it should reasonably appear to the reviewing Party that any of the construction work of the other Party is endangering the facilities of the reviewing Party, then the reviewing Party shall have the right to object and require that such construction work be stopped until necessary corrections are made and approved by the objecting Party so as not endanger the objecting Party's facilities.

18. Compliance & Records. Vector shall either obtain all permits necessary for the Vector Facilities or direct Greenfield South to obtain such permits on Vector's behalf, in which event Vector shall prepare such permits and fully cooperate with Greenfield South in connection with the submitting of such permits. Vector shall be in compliance with all applicable regulatory permits, including environmental permits, and clearances (including NEB requirements) necessary for the construction, maintenance and operations of the Vector Facilities. Greenfield South shall obtain all other permits for the Interconnect Facilities and be in compliance with all applicable regulatory permits, including environmental permits, and clearances necessary for the construction, maintenance and operation of its Interconnect Facilities. Each Party shall be in compliance with all federal, state, and local laws and regulations which govern the operation of its respective Interconnect Facilities. Each Party agrees to preserve all books, records and related materials relating to the construction and billing of their respective Interconnect Facilities for a period of three years following the in-service date of the Interconnect Facilities, or as long as required by law. Each Party also agrees to preserve all test data and measurement information for at least three years after the date that the test data or measurement information was obtained. Upon reasonable advance notice, each Party further agrees to grant the other Party the right to audit such records during normal business hours.

19. Conflicts. Should any conflict arise between any provision of this Agreement and any provision of the Tariff, the provisions of the Tariff shall control.

20. No Third Party Beneficiaries. Nothing in this Agreement, whether express or implied, is intended to confer any rights or remedies under or by reason of this Agreement to any persons other than the Parties to it, nor is anything in this Agreement intended to relieve or discharge the obligation or liability of any third persons to any Party to this Agreement, nor shall any provision give any third persons any right of subrogation or action over or against any Party to this Agreement.

21. Severability. In case any one or more of the provisions contained in this Agreement shall, for any reason, be held to be invalid, illegal or unenforceable in

any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein; provided however the Parties shall endeavor in good faith to maintain the commercial balance between the Parties as represented in this Agreement.

22. Indemnity. Except to the extent otherwise provided in this Agreement, each Party agrees to protect, defend, indemnify and hold harmless the other Party (as well as the other Party's affiliates, agents, directors, officers and employees) from and against any and all losses, claims, liens, expenses (including reasonable attorneys' fees and costs), damages and demands arising out of, or in connection with, any personal injuries, death to persons or damage to property occurring as a result of, or in any way incident to, the willful misconduct or negligent act by, or omission of, the indemnifying Party or its employees, agents, contractors, subcontractors, and/or any other person for whom the indemnifying Party is responsible at law, in performing its obligations under this Agreement. The Parties each agree that the obligations of indemnification hereunder are mutual and include, but are not limited to, liens by third persons against a Party and its property because of labor, services, materials, or any other subject of lien, furnished to a Party, its assignees or subcontractor, in connection with the work performed by a Party hereunder.

23. Damages. Neither Party shall be liable to the other Party for any indirect, consequential, special, exemplary or punitive damages of any nature whatsoever arising out of or related to actions taken or omissions of such Party in connection with this Agreement. With respect to claims and losses for damage, injury or destruction of property, which property is covered by insurance, it is agreed that neither Party shall have any rights of recovery against one another nor against the insurers of either of them, and the rights of recovery are mutually waived.

24. Insurance. Each Party represents that it now carries, and agrees it will continue to carry during the term of this Agreement, Michigan Statutory Workers' Compensation Insurance for Vector and Ontario Workmen's Compensation Insurance for Greenfield South, Commercial General Liability Insurance or Excess Liability Insurance with minimum limits of $1,000,000 per occurrence, and Michigan No-Fault Automobile Liability Insurance (for Vector) with minimum limits of $1,000,000 each accident. Such coverages may be subject to large deductibles or self-insured retentions in accordance with each Party's risk management practices. Upon request, a Party shall provide to the other Party, certificates evidencing that the Party either maintains the above mentioned insurance or is an approved self-insurer.

25. Gas Delivery and Quality. Delivery of natural gas volumes to the Interconnect Facilities will be made pursuant to transportation agreements for the applicable facilities. Gas quality shall meet the standards of Vector's NEB Tariff.

26. Force Majeure. In the event of either of Vector or Greenfield South being rendered unable, wholly or in part, by force majeure to carry out its obligations under this Agreement, except payment of money, such Party shall give notice and reasonably full particulars of such force majeure in writing or by facsimile or telephone followed by written confirmation to the other Party within a reasonable time after the occurrence of the cause relied on. The obligations of the Party giving such notice, so far as it is affected by such force majeure, shall be suspended during the continuance of any liability so caused, but for no longer period as such Party is so affected, and such cause shall so far as possible be remedied with all reasonable dispatch.

The term "force majeure" shall mean acts of God, strikes, lockouts, or other industrial disturbances, acts of public enemy, acts that result in either Party implementing security measures at the Interconnect Site that restrict access to the facilities, wars, blockades, insurrections, riots, epidemics, landslides, lightning, earthquakes, fires, floods, washouts, and restraints of governments and people, present and future valid orders, decisions or rulings of any governmental authority having jurisdiction, civil disturbances, breakage or accident to machinery or lines of pipe, freezing of wells or lines of pipe and any other cause, whether of the kind herein enumerated or otherwise, not reasonably within the control of the Party claiming suspension and which by the exercise of due diligence such Party is unable to prevent or overcome. It is understood and agreed that the settlement of strikes or lockouts shall be entirely within the discretion of the Party having the difficulty, and that the above requirement that any inability to carry out obligations hereunder due to force majeure shall be remedied with all reasonable dispatch shall not require the settlement of strikes or lockouts by acceding to the demands of a party when such course is inadvisable in the discretion of the Party claiming suspension. General economic hardship shall not constitute an event of force majeure.

27. Liability Limitation. Any claims that the Parties may assert against each other that arise from and out of the terms of this Agreement and that are not covered by the insurance maintained by such Party pursuant to Section 24 above will be limited, in the case of Vector, to the assets comprising the Vector Facilities and, in the case of Greenfield South, to the assets comprising the Greenfield South Facilities except as set forth in paragraph 12 above.

28. Assignment. This Agreement or the permission herein granted shall not be assigned or transferred by either Party in any manner, by operation of law or otherwise, without the written consent of the other Party, such consent not to be unreasonably withheld or delayed, provided that Greenfield South may assign its rights and obligations under this Agreement to an affiliate or by way of security to a lender in respect of the Green Electron Power Plant, without the prior written consent of Vector. Subject thereto, this Agreement shall inure to the benefit of, and be binding upon, the successors, assigns, and legal representatives of the respective Parties.

29. Regulatory Approval. This Agreement is subject to the applicable rules and regulations of the regulatory agencies having jurisdiction.

30. Governing Law. This Agreement and the rights and duties of the Parties arising out of this Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario, exclusive of any conflicts of law provisions therein.

31. Waivers. The waiver by either Party of a breach or violation of any provision of this Agreement shall not operate as or be construed to be a waiver of any subsequent breach of the Agreement.

32. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be an original, but such counterparts together shall constitute one and the same instrument.

33. Notices. All notices under this Agreement shall be made in writing and sent by (i) standard mail, (ii) reputable overnight courier, (iii) facsimile, or (iv) electronic mail, with an original to follow by regular mail, and shall, in case of courier, be deemed to be received three (3) days after sending and, in the case of facsimile or electronic mail, be deemed to be received the day indicated on the confirmation accompanying the electronic submission or facsimile. Either party may change its address for notices under this Agreement by providing written notice of such change to the other Party. Notices shall be addressed as follows:

If to Vector:

Vector Pipeline L.P.
c/o Vector Pipeline, LLC
Attn: President
38705 Seven Mile Road
Suite 490
Livonia, MI 48152
United States of America
Phone: (734) 462-0230
Fax: (734) 462-0231

If to Greenfield South:

Greenfield South Power Corporation
2275 Lake shore Boulevard West
Suite 401
Toronto, Ontario M8V 3Y3
Canada
Attn: Hubert Vogt
Phone: (416) 234-1301 x105
Fax: (416) 234-8336

34. Survival. The following provisions shall survive termination of this Agreement according to their terms: Sections 12 (Reimbursement), 13 (Credit), 20 (No Third Party Beneficiaries), 21 (Severability), 22 (Indemnity), 23 (Damages), 24 (Insurance), 27 (Liability Limitation), 30 (Governing Law), 31 (Waivers), and 34 (Survival).

35. Entire Agreement. This Agreement constitutes the entire interconnect agreement between the Parties, and supersedes any prior understandings, agreements, arrangements and representations between the Parties, written or oral, relating to the subject matter hereof.

IN WITNESS WHEREOF, Vector and Greenfield South have executed this Agreement in two (2) duplicate originals by their authorized representatives, effective as of the date first written above.

GREENFIELD SOUTH POWER CORPORATION	VECTOR PIPELINE L.P.
	BY VECTOR PIPELINE, LLC AS GENERAL PARTNER
By:	By:
Printed Name: Gregory M. Vogt	Printed Name: JOHN T DONALDSON, JR.
Title: President	Title: PRESIDENT

Exhibit A – Interconnect Site

The Greenfield South Interconnection shall be located on the following property:

Municipal Address
Pt. Lt. 26 Conc. 2 Moore, South Side of Oil Springs Line, West of Hwy. 40, St. Clair Township, County of Lambton, Ontario, Canada. This property is expected to have the following municipal address: 477 Oil Springs Line, Courtright, Ontario, N0N 1H0.

Legal Description
PT LT 26 CON 2 MOORE; PT LT 26 PL 24 MOORE; PT RDAL BTN LT 26 CON 1 AND LT 26 PL24 MOORE PT 1 TO 10, 25R1585, CLOSED BY MO28032; S/T L225170, L241804, L820086, L841498, L871611, L871615, L872940, L872941, PIN 43308-0105, ST. CLAIR, ONTARIO, CANADA

Exhibit B – Vector Facilities

Hot Tap Valve. A 42-inch x 8-inch hot tap with manual side valve off Vector.

Block Valve. An 8-inch block valve will be equipped with a remotely operated actuator to isolate the Interconnect Facilities from Vector's 42-inch mainline. Vector will have sole access to activate this valve.

Check Valve. An 8-inch check valve between to prevent backflow from Greenfield South into Vector.

Isolation Valve. An 8-inch isolation valve between the tap and the block valve.

Piping. Piping between the Vector 42-inch diameter pipeline and the Custody Transfer Point.

EFM Equipment. A Vector RTU and battery backup system will be located in the Control Building described in Exhibit C. Conduit and cable from Vector's breaker box to the Vector RTU cabinet will be supplied and installed by Greenfield South to Vector's specifications. All terminations and connections shall be by Greenfield South. For certainty, all breaker boxes, cables, seals, fittings terminal blocks, etc. outside of Vector's RTU cabinet shall be provided by Greenfield South and shall be Greenfield South facilities.

Chromatograph. A Daniel gas chromatograph with sample system.

Instrumentation. Vector's instrumentation consisting of raw ultrasonic meter frequency, rotary meter counts, a pressure transmitter and a temperature transmitter shall be installed and terminated by Greenfield South at no cost to Vector. All terminations and connections shall be by Greenfield South. Greenfield South shall supply the transmitters in accordance with Vector's specifications.

Remote Terminal Units (RTU). The RTU will be configured to industry standards, including AGA and Measurement Canada, will be in accordance with the requirements of the Vector Tariff, and will be the source of custody transfer information.

Communication Protocol. To be mutually agreed upon during the design process.

Valve Instrumentation. Greenfield South shall install RF telemetry equipment or a direct burial cable(s) (on which the parties mutually agree), from the Control Building to Vector's block valve and complete all applicable connections with the valve actuator and pressure transmitter(s) in accordance with Vector's specifications. The pressure transmitter(s) will be supplied by Greenfield South in accordance with Vector's specifications.

Satellite. Greenfield South shall install for Vector satellite communication equipment for the primary communication between the Interconnect Facilities and Vector's SCADA and Gas Control. Secondary (backup) service will be via Vector's phone service.

Overpressure Protection. Vector shall be responsible for overpressure protection equipment for Vector's Facilities.

Future Equipment/Facilities. If equipment or facilities that would replace or be in addition to the Vector Facilities described in this Exhibit B are required at the Interconnect Site by either Party, they shall not be installed without the prior written consent of the other Party. Such written consent is not to be unreasonably withheld.

Capitalized terms used in this Exhibit without definition will have the same meaning herein as in the Interconnect Agreement.

Exhibit C – Greenfield South Facilities

Piping. Approximately 450 meters of 8 inch diameter piping will be installed between the insulating flange near the Vector right-of-way and the metering located in close proximity to the Green Electron Power Plant.

Meter Run. One (1) 8-inch ultrasonic, and one (1) 1-inch rotary or ultrasonic meter run and associated meter run piping will be installed and designed in accordance with Vector's design requirements. The meter runs will be used for custody transfer gas volume measurement.

Maximum Design Flowrates:	60 MMscf/d @ 550 psig
Minimum Design Flowrates:	(to be provided during final design)

Meter Skid. The meter skid will contain the meters with probes retractable under pressure, flow control valves and isolation valves. The station design shall not include a meter run bypass, a station bypass, or automatic station blow down. The set points for the flow control valves and meter run switching will be controlled by Vector's RTU.

Pressure and Temperature Transmitters. All transmitters shall adhere to Vector Engineering Standards.

Control Building. A control building with HVAC that is in a separate location or has a fire wall between the electrical / instrumentation equipment, and the meter tubes and Vector chromatograph will house the RTU, breaker box, batteries and battery charger. Greenfield South will obtain phone and electric power service to the control buildings and the Interconnect Site for use by both Parties. Greenfield South will schedule and install dedicated phone service for Vector's exclusive use based on specifications provided by Vector. The control building will be designed to provide space for Vector's RTU, chromatograph and electronics. Greenfield South will provide Vector fulltime access to the portion of the control building containing the Vector RTU and chromatograph by means of a lock which uses Vector's standard key.

Cable and Conduit. Install all necessary conduit and cable from the measurement facilities to the RTU as described above. Conduit shall be galvanized and rigid above grade and PVC coated rigid below grade.

Land and Miscellaneous Facilities. Greenfield South will own, construct and maintain the Interconnect Site, including the fences and access drive. In acquiring the Interconnect Site, Greenfield South will ensure that sufficient land rights are acquired to provide Vector adequate access to the site for construction, maintenance and operations purposes. To that end, Greenfield South will provide Vector sufficient information prior to acquiring the land rights to allow Vector the opportunity to confirm that adequate access will be acquired. Access gate to the Interconnect Site will be double padlocked with a standard lock for each Party to allow fulltime access to the site by either Party.

Overpressure Protection. Greenfield South shall be responsible for overpressure protection equipment for the Greenfield South Facilities.

Other Greenfield South Facilities. Greenfield South shall be responsible for shut off valve, RTU, check valve, and heater and odorization equipment should any of these be necessary.

Capitalized terms used in this Exhibit without definition will have the same meaning herein as in the Interconnect Agreement.

APPENDIX 10

National Energy Board Order #GH-5-98 (Vector Pipeline)

National Energy Board

Reasons for Decision

Vector Pipeline Limited Partnership

GH-5-98

March 1999

Facilities

National Energy Board

Reasons for Decision

IN THE MATTER OF

Vector Pipeline Limited Partnership

Application dated 6 July 1998 for the
Vector Pipeline Project

GH-5-98

March 1999

This report was authored in Standard Generalized Markup Language (SGML) as part of the Board's Electronic Regulatory Filing initiative. Please note that numeric reference points (rather than page numbers) have been used to identify specific document sections. An electronic copy of this document may be obtained by visiting the National Energy Board's web site at www.neb.gc.ca.

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km	kilometre(s)	28
kPa	kilopascals	29
m	metre(s)	30
m^3/d	cubic metres per day	31
MCN	MCN Energy Group Inc.	32

MichCon	Michigan Consolidated Gas Company
MMcfd	million cubic feet per day
MPa	Megapascals
NPS	Nominal Pipe Size
PA(s)	Precedent Agreement(s)
PJ	Petajoules
psi(g)	pounds per square inch (gauge)
TransCanada	TransCanada PipeLines Limited
U.S.	United States of America
Union	Union Gas Limited
Vector or Applicant	Vector Pipeline Limited Partnership
WIFN	Walpole Island First Nation
10^6 m^3/d	million cubic metres per day

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IN THE MATTER OF the *National Energy Board Act* (the "Act") and the Regulations made thereunder; and 47

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IN THE MATTER OF Hearing Order GH-5-98. 49

HEARD in London, Ontario on 18, 19 and 20 January 1999. 50

BEFORE: 51

R. J. Harrison 52
Chair

K. W. Vollman 53
Member

D. Valiela 54
Member

APPEARANCES: 55

G. M. Nettleton 56
M. Henderson
Vector Pipeline Limited Partnership

N. J. Schultz 57
Canadian Association of Petroleum Producers

P. G. Vogel 58
R. Marttila
Gas Pipeline Landowners Association of Ontario - Vector
(formerly St. Clair - Dawn Landowners Association)

59

T. G. Kane, Q.C.
ANR Pipeline Company

60

J. Clark
Enbridge Consumers' Gas

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E. S. Decter
Pan Alberta Gas Ltd.

62

P. R. Jeffrey
TransCanada PipeLines Limited

63

E. Bourgeault
TriState Pipeline Project
St. Clair Pipelines (1996) Ltd.

64

G. Cameron
Union Gas Limited

65

P. G. Vogel
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Walpole Island First Nation

66

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Board Counsel

67

Chapter 1
Introduction

68

1.1 Background

69

By application dated 6 July 1998, Vector Pipeline Limited Partnership ("Vector" or the "Applicant") applied to the National Energy Board (the "Board") pursuant to Part III, section 58 of the *National Energy Board Act* (the "Act") for an Order exempting it from the provisions of sections 29, 30 and 31 of the Act, authorizing Vector to construct and operate a natural gas pipeline in southwestern Ontario. Vector also applied, pursuant to Part IV of the Act, for an Order approving the methodology to be used to derive tolls for transportation service after the proposed facilities are in service and for a determination that it be designated as a Group 2 company for the purposes of financial reporting under the Board's Memorandum of Guidance dated 6 December 1995.

70

The Vector pipeline project is a new international pipeline project that would provide natural gas transmission service between the large market hub located at Joliet near Chicago, Illinois and the existing hub located at Dawn, Ontario. The total project would consist of approximately 552 kilometres of natural gas pipeline. In its 6 July 1998 application, Vector requested approval of the Canadian portion of the Vector pipeline project, which consists of approximately 24 km of 1 067 mm (NPS 42) outside diameter pipeline, extending from a point along the international boundary in the St. Clair River near Sarnia, Ontario to a point near Dawn, Ontario (the "Vector Pipeline"). The location of the Vector Pipeline is shown in Figure 1-1. The initial capacity of the Vector Pipeline would be 28.3 10^6 m^3 (1 Bcf) per day. The pipeline would have a maximum allowable operating pressure of 6 895 kPa (1 000 psi). Vector originally proposed an in-service date of 1 November 1999. Vector estimated the cost of the Vector Pipeline to be $35.4 million.

71

The Board decided to consider this application in an oral hearing and issued Hearing Order GH-5-98 on 7 October 1998, which set out the Directions on Procedure for the hearing. The list of issues that the Board considered at the hearing is included as Appendix I to these Reasons for Decision.

72

On 2 December 1998, Vector revised the in-service date for the proposed facilities from 1 November 1999 to October 2000. Vector submitted that the proponents of the U.S. portion of the project would not be able to provide transportation service between Joliet, Illinois and the international border until October 2000 due to the length of the U.S. regulatory processes. However, Vector indicated that it might conduct an open season to determine whether sufficient market demand exists for interim transportation service ("Stub-Year Service") between Belle River Mills, Michigan and Dawn, Ontario for the period from 1 November 1999 to October 2000.

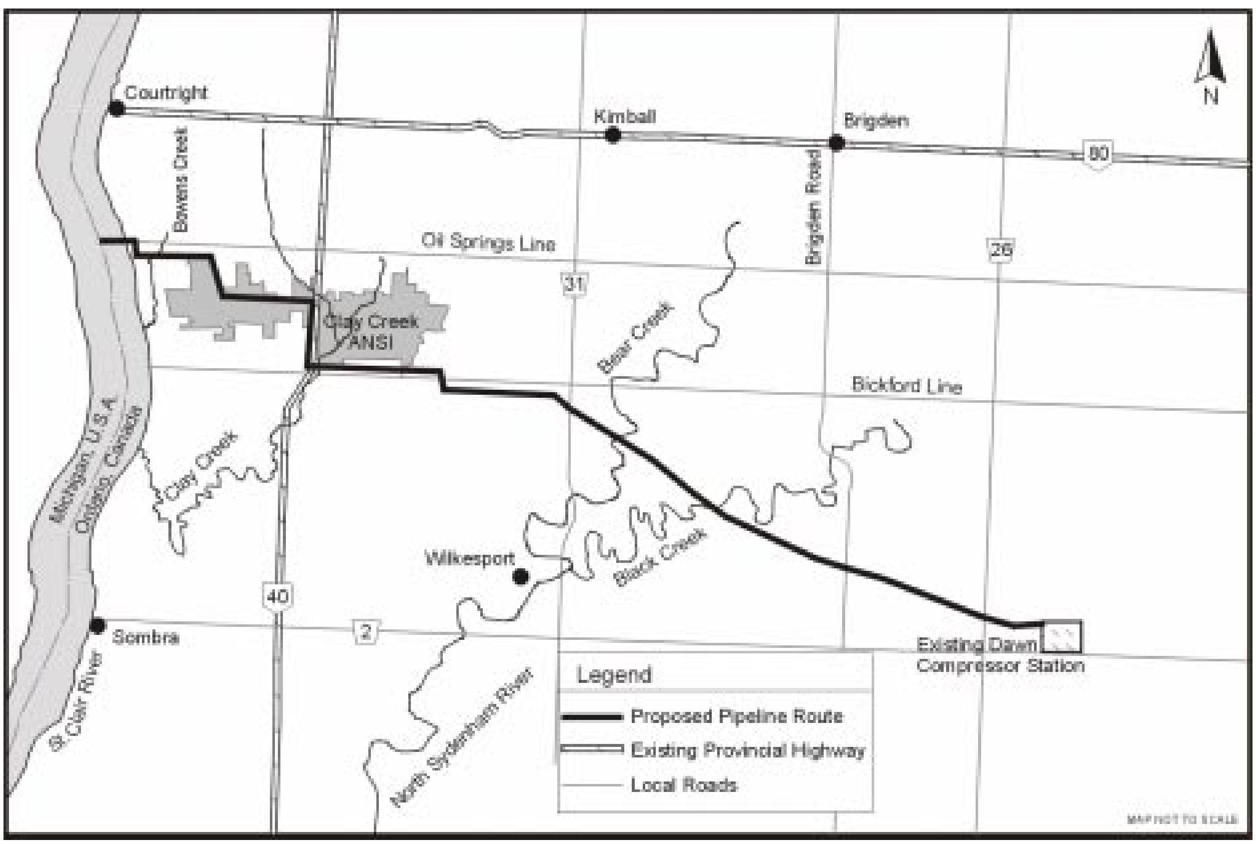
On 9 December 1998, the Canadian Association of Petroleum Producers ("CAPP") filed a motion requesting an adjournment of the hearing, on the grounds that the Stub-Year Service proposed by Vector was of a different character from the one that is the basis of the GH-5-98 proceeding. 73

Following an exchange of correspondence, on 17 December 1998, CAPP withdrew its motion for an adjournment after Vector indicated that a separate toll application would be filed with the Board for the Stub-Year Service, if Vector determined that such a service is warranted. Furthermore, Vector stated that it would accept a condition reflecting this commitment in any approval of the applied-for facilities. 74

The oral hearing was held in London, Ontario on 18, 19 and 20 January 1999. 75

At the opening of the hearing, Vector informed the Board that it had reached agreements with the Walpole Island First Nation ("WIFN") and the Gas Pipeline Landowners Association of Ontario -Vector ("GAPLO-Vector") respectively. Accordingly, WIFN and GAPLO-Vector withdrew from further participation in the hearing. 76

Figure 1-1 Location of the Proposed Vector Pipeline Route **77**



1.2 Environmental Screening 78

The Board conducted an environmental screening of the applied-for facilities in compliance with section 18 of the *Canadian Environmental Assessment Act* (the "CEAA"). In conducting this screening, the Board ensured that there was no duplication in the requirements under the CEAA and the Board's own regulatory process. 79

Chapter 2 Engineering 80

2.1 Facilities Description 81

Vector would design, construct and operate the proposed facilities in accordance with the *NEB Onshore Pipeline Regulations* and CSA Z662-96 "Oil and Gas Pipeline Systems" and all applicable standards, specifications and codes incorporated by reference in that standard. 82

The mainline pipe materials would be manufactured in accordance with requirements of CSA Z245.1-95 "Steel Line Pipe", Grade 483 MPa, Category II. All pipe would be coated with external fusion bonded epoxy coating. The minimum pipe wall thickness would be 16.24 mm at the St. Clair River, roadway and cased railway crossings; 16.42 mm at uncased railway crossings; and 10.59 mm along the general Class 1 pipeline route. Vector would meet all applicable requirements of the CSA Z662-96 and CSA Z245.1- 95 standards for fracture control design of the pipeline. 83

The facilities would also include: 84

- a mainline block valve equipped for automatic and remote operation; 85
- a pig trap with associated valves capable of receiving in-line inspection and cleaning tools; 86
- custody transfer facilities composed of metering, chromatograph equipment and emergency shut-down valves; 87
- a Supervisory Control and Data Acquisition ("SCADA") system; and
- an impressed cathodic protection system. 88

Vector would develop and employ a quality assurance program to ensure that all manufacturers, vendors, contractors and consultants are capable of and are meeting the design and technical requirements specified for the project. Vector would utilize third party inspection, testing and auditing during all phases of the project in the implementation of its quality assurance program goals. 89

2.2 St. Clair River Crossing 90

Vector would cross the St. Clair River using the horizontal directional drill technique. Vector conducted a crossing feasibility assessment and geotechnical investigation of the subsurface geology at both the entry and exit points of the proposed directional drill. Vector submitted that the investigation provided the evidence necessary to demonstrate that the conditions are very similar to those found at a directional drill crossing which was successfully completed by TransCanada PipeLines Limited ("TransCanada") in August 1996. Accordingly, Vector submitted that its proposed crossing is highly likely to succeed. 91

Vector indicated that the directional drill will pass through a thick clay layer, which is ideally suited for the proposed directional drill technique, beneath the St. Clair River and extend approximately 884 m (2900 feet) in length. The drill would be expected to require four passes of the hole opening tools to enable the pull through of approximately 914 m (3000 feet) of pre-built pipeline string. Vector indicated it would have a directional guidance system that, in combination with the specified clearance distances from existing underground and surface facilities, would ensure that the directional drill would be safely conducted within the accuracy and precision limit of 1% of drilled length.

During the hearing, no party disputed Vector's submissions with regard to the potential success of the directional drill. 92

Views of the Board *93*

The Board is satisfied that the proposed facilities would be designed, constructed and operated in accordance with the Act, the NEB Onshore Pipeline Regulations, and widely accepted standards. Vector has demonstrated that the design of the facilities would be safe and appropriate for the purposes of the proposed service. *94*

The Board is satisfied that the crossing of the St. Clair River using the directional drill crossing technique is an appropriate method with a high likelihood of success and that Vector would likely complete the crossing in a timely manner and within acceptable limits of accuracy. *95*

Chapter 3 96
Environmental, Land and Socio-Economic Matters

3.1 Environmental Matters 97

3.1.1 Environmental Screening Report 98

The Board completed an environmental screening and an Environmental Screening Report (the "Screening Report") pursuant to the *Canadian Environmental Assessment Act* (the "CEAA") and the Board's regulatory process. The Board provided copies of the Screening Report to those federal agencies that provided specialist advice, to provincial regulatory agencies and other parties referenced in the Screening Report, and to Vector. The Screening Report includes information regarding the environmental conditions to be included in any exemption order granted in respect of this application. 99

The Board has considered the Screening Report and comments received on it in accordance with the GH-5-98 Directions on Procedure. The Board is of the view that, taking into account the implementation of the proposed mitigative measures and the requirements of the proposed environmental conditions to be included in any order issued, Vector's project as described in its application is not likely to cause significant adverse environmental effects. This constitutes a decision pursuant to paragraph 20(1)(a) of the CEAA, and was taken prior to making a decision under Part III of the NEB Act in respect of the applied-for facilities. 100

The CEAA determination and a summary of the comments received are included in Section 7 of the Screening Report. Copies of the comments received have been added as Attachment 2 to the Screening Report[1]. 101

3.1.2 Ministry of Energy, Science and Technology for Ontario 103

The Ontario Pipeline Coordination Committee ("OPCC") negotiated with Vector a set of environmental commitments related to the construction of the proposed facilities. By letter dated 19 November 1998 to the Ministry of Energy, Science and Technology for Ontario, Vector agreed to be bound by the commitments made to OPCC. Vector's undertakings to the OPCC include adhering to provincial requirements for all activities on Crown lands; reporting on construction scheduling; reporting on various aspects of proposed construction, monitoring and mitigation methods for watercourse crossings; adherence to sediment control requirements; compliance with fisheries windows; disposal of construction debris; water well monitoring and complaints resolution; and conducting soil testing and analyses for areas of suspected contamination at proposed water crossings. 104

102
[1] Copies of the Environmental Screening Report are available from the Board's Publications Office, phone (403) 299-3562 or fax (403) 292-5503.

105

Views of the Board

106

The Board encourages and supports negotiated agreements between other regulatory agencies and pipeline proponents, but notes that such agreements do not involve the Board. However, where the public interest is served, the Board may reference in the Screening Report the subject matter of the agreements and associated undertakings. The Board notes that Vector has agreed to be bound by its undertakings to the OPCC.

107

3.1.3 Environment Canada

108

Environment Canada ("EC") submitted a letter of comment, dated 14 December 1998, regarding the proposed facilities in the context of specialist information and advice pursuant to subsection 12(3) of the CEAA. The letter provided observations, concerns and recommendations with respect to several environmental issues.

109

Regarding route selection, EC preferred Vector's proposed route which went south of the main portion of the Clay Creek Area of Natural and Scientific Interest ("ANSI"), as it reduced the amount of woodlot clearing, relative to the alternative potential routes. EC was concerned that one portion of the proposed route west of Highway 40, if constructed on the south side of the existing TransCanada right of way, could reduce habitat for breeding interior forest bird species, and therefore recommended locating the pipeline on the north side of the TransCanada right of way.

110

EC observed that the proposed winter vegetation clearing along the right of way would avoid the potential to disturb or destroy active nests of migratory bird species. EC was also concerned with seed mixes and intends to comment directly to Vector on this matter. As well, EC supports Vector's proposal to continuously monitor slurry volumes and to monitor changes in turbidity levels in the water column downstream, during the proposed horizontal directional drill crossing of the St. Clair River. EC strongly recommended that turbidity levels be continuously monitored. EC also made recommendations regarding the pumping of water onto vegetated areas, hydrostatic testing and erosion control. EC further recommended that it be provided with a copy of Vector's proposed study of species at risk as designated by the Committee On the Status of Endangered Wildlife In Canada ("COSEWIC"), once completed.

111

Given the proposed mitigative techniques, EC expected that any adverse water quality impacts due to erosion, sedimentation or accidental spills would be rendered insignificant. Overall, EC expects that the proposed project will not result in significant adverse environmental effects in areas related to its mandate, such as migratory birds, endangered species, wetland or water quality, if its recommendations are adopted.

Views of the Board *112*

The Board notes that Vector adopted several of EC's recommendations in its evidence and committed to ongoing consultation during the construction phase. As well, Vector must comply with all conditions regarding environmental matters contained in any order granted in respect of the proposed facilities. *113*

3.1.4 Department of Fisheries and Oceans 114

During the hearing, Vector provided a copy of its fisheries report to the Department of Fisheries and Oceans ("DFO") for review and stated that Vector would adopt the recommended method of construction for each watercourse crossing, based on discussions with DFO and the Ontario Ministry of Natural Resources prior to construction. Vector stated that it would apply to DFO for authorization pursuant to section 35(2) of the *Fisheries Act* for each watercourse proposed to be constructed using a wet crossing method. 115

Views of the Board *116*

The Board notes that Vector recognizes and agrees to comply with the recommendations of DFO. As well, Vector must respond to specific concerns with regard to fisheries matters, as outlined in the conditions regarding environmental matters contained in any order granted in respect of the proposed facilities. *117*

3.1.5 Walpole Island First Nation 118

In a 30 October 1998 letter, WIFN raised concerns with the potential environmental impacts of the Vector project on Walpole Island and on the St. Clair River in general. The overriding issue was the potential for toxic sediment release incidents during the construction or operation of the pipeline, and the subsequent impact of impaired water. The WIFN draws water from the St. Clair River for its water supply, downstream of the proposed crossing location, and also has identified the river as a traditional fishery. Specific environmental issues were: the adequacy of Vector's environmental assessment; environmental, technical and safety issues relating to pipeline construction; and the adequacy of technical studies. Following discussion of the above matters, WIFN and Vector arrived at a resolution in the form of a Memorandum of Understanding ("MOU"). The MOU states that WIFN has concluded that the proposed pipeline does not create a risk of significant adverse environmental effects, provided that appropriate design, mitigative measures, monitoring and contingency plans are implemented. The MOU provides for ongoing consultation on environmental matters throughout the life of the project. 119

Views of the Board 120

Vector's MOU with WIFN, when appropriately and adequately carried out, should result in the avoidance and mitigation of possible adverse environmental impacts which WIFN identified. Moreover, compliance with the MOU would be addressed under the appropriate conditions contained in any order granted in respect of the proposed facilities. 121

3.1.6 Gas Pipeline Landowners Association of Ontario - Vector 122

In its intervention, the Gas Pipeline Landowners Association of Ontario - Vector ("GAPLO-Vector"), an association of landowners directly affected by the Vector project, expressed general concerns with tile drains, soil compaction and crop loss. Following consultations in late December 1998 and early January 1999, Vector and GAPLO-Vector reached agreement on amendments to be made to Vector's initial Letter of Understanding ("LOU"), dated 21 December 1998. The issues resolved and reflected in the agreement included further soil studies, topsoil and subsoil handling, wet weather shutdown, depth of pipeline cover, tile drainage, subsidence effects, land restoration, easement re-vegetation, trapped land, and removal of excess material displaced by the pipeline. At the hearing, GAPLO-Vector withdrew from further participation in the proceeding as a result of having resolved its issues with Vector. 123

Views of the Board 124

Vector's LOU with GAPLO-Vector, when appropriately and adequately carried out, should result in the avoidance and mitigation of possible adverse environmental impacts which GAPLO-Vector identified. Moreover, compliance with the LOU would be addressed under the appropriate conditions contained in any order granted in respect of the proposed facilities. 125

3.2 Route Selection 126

Vector followed a two-step process to evaluate route alternatives for the proposed pipeline. The first step was the determination of the location of the St. Clair River crossing, and the second step was the selection of the route from the St. Clair River to the terminus of the pipeline at Dawn. 127

The proposed crossing location of the St. Clair River was selected based on: 128

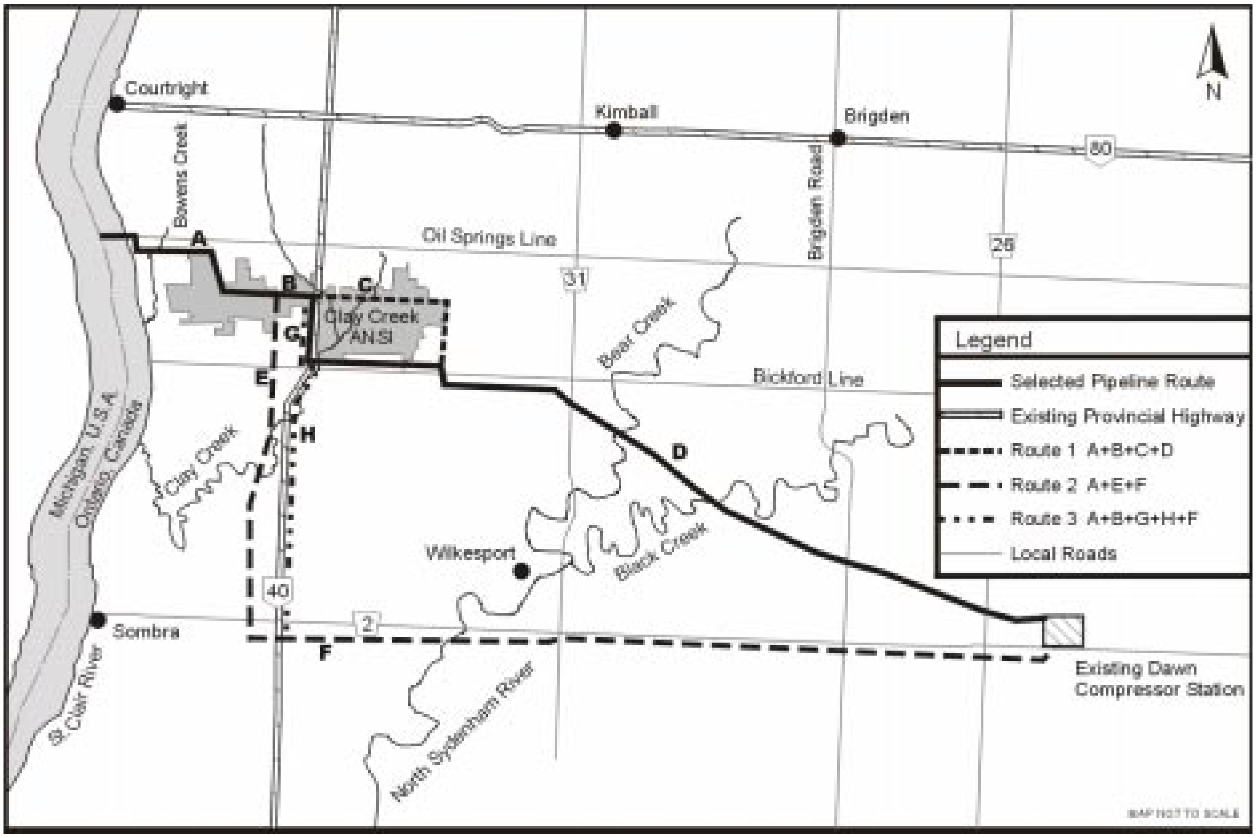
- the shorter distance from the directional drill entry point to exit point; 129
- the established utility corridor on each side of the river; 130
- the suitable topographic conditions for the set up of directional drill equipment; 131
- the geotechnical feasibility for drilling operations; and 132
- the proximity to other successfully drilled river crossings. 133

As shown in Figure 3-1, Vector evaluated four route alternatives from the St. Clair River to Dawn. The primary criterion was to minimize environmental and socio-economic impacts by selecting a route adjacent to existing linear development. Vector also considered: 134

- the length of each route; 135
- engineering factors; 136
- the number of residences within 200 metres of each route; 137
- the area of woodlot to be cleared; 138
- the number of stream crossings; 139
- the area of prime agricultural land and artificially drained land to be crossed; 140
- avoidance of diagonal field crossings; and 141
- avoidance of the Clay Creek Area of Natural and Scientific Interest (the "Clay Creek ANSI"). 142

143

Figure 3-1 Route Alternatives Evaluated by Vector



144

Using these criteria, Vector evaluated four alternative routes and selected the one referred to as Route 4 as its preferred route. Route 4 would place the proposed pipeline adjacent to the existing TransCanada right of way for most of its length with the exception of 4.4 km that would deviate to avoid the largest undisturbed eastern part of the Clay Creek ANSI. Vector submitted that, of the routes considered, this route would affect a relatively low amount of woodlot, avoid the Clay Creek ANSI east of Highway 40, require the least number of watercourse crossings, affect a small area of artificially drained lands and provide one of the shorter distances from the St. Clair River to Dawn. The total length of Route 4 is 24 km.

145

As described in Section 3.1.3 of these Reasons, in a letter to the Board dated 14 December 1998, Environment Canada stated its preference for the route selected by Vector. At the hearing, Vector submitted that it revised the alignment of the proposed pipeline to the north side of the TransCanada right of way west of Highway 40, and that this alignment corresponded with that preferred by Environment Canada.

146

Views of the Board *147*

The Board is satisfied with the route alternatives considered by Vector and finds the proposed route acceptable.

148

3.3 Land Requirements

149

Vector stated that it purchased 2.42 hectares of land on the Canadian side of the St. Clair River. Vector submitted that this land is required for work space associated with the directional drill exit point and to accommodate the pull section of the pipeline. 150

Vector requested the approval of new permanent right of way for the proposed pipeline route. The new right of way would be 20 metres wide for the length of the pipeline. Vector also requires a 15 metre wide temporary work space adjacent to the length of the right of way. Vector stated that it planned to acquire easement agreements and temporary work space in the first quarter of 1999. 151

Vector stated that it requires a 20 m by 20 m surface lease for a valve site on its permanent easement. The preferred site for the block valve is on the east side of Grenfell Road in Lot 27, Concession 2, immediately north of and adjoining TransCanada's existing sales meter station. Vector stated that it is negotiating with the surface owner for either a surface lease or purchase of the land. 152

Vector stated that it requires a 100 m by 100 m surface lease for its Dawn meter station. It proposes to locate the meter station on the north side of and adjoining the existing TransCanada Dawn meter station site. Vector stated that it is in negotiation with the landowner for either a surface lease or purchase of the land for the meter station site. *153*

Views of the Board *154*

The Board accepts the proposed land requirements for the meter station, block valve location, pipeline right of way and temporary work space.

155

3.4 Public Consultation

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Vector stated that a complete and adequate public consultation program was undertaken. Vector initiated an early public notification program in April 1998. The program objectives included: informing affected stakeholders of the proposed project; receiving and incorporating public input into project design; and establishing and fostering a relationship of trust with landowners. To achieve these objectives, Vector carried out a public consultation program consisting of:

- holding a public meeting; 157
- publishing newspaper advertisements; 158
- distributing letters and newsletters to affected parties, interested stakeholders and public agencies; 159
- contacting and meeting local, provincial and federal agencies and First Nations; 160
- contacting and personally visiting all directly affected landowners along and within 30 m of the proposed route; 161
- establishing a toll free number; and 162
- designing and committing to an ongoing consultation process. 163

Vector's application stated that input from various stakeholders was incorporated into the design and routing of the proposed facilities during a three-phased process. The phases were delineation of the study area, the identification and evaluation of alternative routes, and final route selection. 164

Further, Vector stated that, while most public comments on the pipeline route were positive, the public raised topics such as minimizing drainage disruption, wet weather shut down and tree displacement. Vector stated that discussions with landowners were amicable and productive, that the primary outstanding issue was the level of compensation, and that Vector was continuing to work with landowners to resolve concerns. At the hearing, Vector stated that it had worked cooperatively with GAPLO-Vector and resolved all outstanding issues and established a process for ongoing consultation. Discussion of these issues and their resolution is found in section 3.1.6 of these Reasons. 165

Vector also stated that it had consulted with potentially affected First Nations, namely the WIFN and the Chippewas of Sarnia First Nation ("CSFN"). The consultation included direct contacts, and in the case of WIFN, a negotiated Memorandum of Understanding. The CSFN wrote to the Board stating aboriginal interest in the bed of the St. Clair River, but chose not to make representations at the hearing. Further discussion of these matters is found in sections 3.1.5 and 3.5 of these Reasons for Decision. 166

In response to public interest in the proposed project, the Board held a public meeting in Sarnia on 9 December 1998. The purpose of the meeting was to inform interested parties of the Board's public hearing process, pipeline routing practices and land rights matters, and to answer any questions. About 25 landowners and interested persons attended the meeting. 167

168

Views of the Board

169

Based on Vector's public consultation program and given potentially affected parties' expression of satisfaction with the consultation process, the Board believes that the public consultation program was satisfactory. The Board notes Vector's stated commitment to ongoing consultation with GAPLO-Vector and WIFN.

170

3.5 First Nations Issues

171

Vector consulted the two First Nations located in the proposed project area, the CSFN and the WIFN. Contact with CSFN began in April 1998 during the preparation of the environmental assessment and socio-economic impact assessment. On 13 May 1998, CSFN advised that it was not directly affected by the project but was interested in the St. Clair River crossing with respect to a claim of an aboriginal interest in the bed of the St. Clair River. On 15 January 1999, CSFN wrote to the Board advising that, while it would not be making representations at the hearing, it holds responsible for their actions all those who would choose to ignore the claimed interest. CSFN did not raise any specific objections to the Vector route on the grounds of potential environmental effects on the current use of lands and resources for traditional purposes.

172

Vector made initial contact with WIFN through a 17 April 1998 letter, and subsequently met with WIFN on a number of occasions. While WIFN shares CSFN's concern with land claims matters, the main concern that WIFN brought before the Board was the potential project impact on the St. Clair River water quality, and hence on traditional hunting, gathering and fishing activity. More specifically, the concern was with the potential for toxic sediments release as a result of the construction and operation of the pipeline across the St. Clair River.

173

On 18 January 1999, the opening day of the hearing, Mr. Paul Vogel, counsel for WIFN, announced that all issues between Vector and WIFN had been resolved through a constructive consultation program, and WIFN withdrew from further participation in the hearing. Vector filed a Memorandum of Understanding spelling out Vector's environmental and consultation undertakings to WIFN. Both parties expressed mutual satisfaction with the consultation process.

174

Views of the Board

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The Board notes that Vector advised both First Nations of the project early in the planning process and followed-up with an appropriate consultation program, which involved personal contact. The Board believes that Vector's environmental assessment and Memorandum of Understanding would, when appropriately and adequately carried out, avoid and mitigate adverse project impacts on the current use of lands and resources for traditional purposes. The Board notes that compliance with the terms of the Memorandum of Understanding would be addressed under the appropriate conditions contained in any order granted in respect of the proposed facilities.

With respect to the land claims issue, the Board notes that this is a matter outside its jurisdiction. *176*

Chapter 4 177
Gas Supply, Markets and Transportation Contract Matters

4.1 Gas Supply 178

179
Vector has indicated that gas supply will be sourced from the market hub at Joliet, Illinois. Vector's shippers are expected to acquire their gas supply at the Joliet hub through short-term and intermediate-term supply contracts. Natural gas supply for these contracts could come from Western Canada, the Gulf Coast, the Mid-Continent and the Rocky Mountain producing areas.

180
Vector noted that the average daily throughput at the Joliet hub was 99.1 10^6 m^3/d (3.5 Bcf/d) in 1996. Pipeline capacity into the Joliet hub is now 286.1 10^6 m^3/d (10.1 Bcf/d) including the recently completed Northern Border expansion. The Alliance[1] project is expected to add another 37.5 10^6 m^3/d (1.3 Bcf/d) to the hub's capacity by October 2000. Vector expects that there will be some 158.6 10^6 m^3/d (5.6 Bcf/d) of excess capacity into the Joliet hub that Vector's shippers can access for supply requirements in the next few years.

182
Intervenors did not challenge upstream gas supply evidence provided by Vector.

183
Views of the Board

184
The Board notes that the Vector shippers will have access to diversified supply sources in Western Canada, the Gulf Coast, the Mid-Continent and the Rocky Mountain producing areas. These are all established producing areas with significant volumes of remaining established gas reserves. The Board is of the view that these four producing areas will continue to develop additional gas supply from undiscovered potential resources as the market requires during the economic life of the project. In the Joliet hub area, increased available gas volumes can be expected as it appears that there is some underutilized capacity from U.S. pipelines as well as new pipeline capacity from Canada.

185
The Board is satisfied that sufficient gas supply would likely be available to allow the proposed facilities to maintain viable utilization rates.

181
1 NEB Reasons for Decision dated November 1998 on an application dated 3 July 1997 by Alliance Pipeline Ltd. on behalf of the Alliance Pipeline Limited Partnership for the Alliance Pipeline Project.

4.2 Markets 186

Vector submitted the average of three forecasts for the Ontario and Quebec markets using DRI/McGraw Hill, Canadian Gas Association and TransCanada GH-2-97 Facilities Application data. The forecast indicated an average Compound Annual Growth Rate ("CAGR") of approximately 2.1 percent and 1.6 percent over the 1996-2005 period and the 2005-2010 period, respectively. Vector further submitted the average of three forecasts for the U.S. Northeast markets produced by the Gas Research Institute, the U.S. Department of Energy/Energy Information Administration and Cambridge Energy Research Associates, that predicted a CAGR of 2.1 percent over the 1996-2015 period. 187

Vector also filed a National Energy Services assessment of the potential impact on natural gas demand related to developments in the Ontario electricity generation industry. The assessment concluded that deregulation of the electricity industry in Ontario, combined with the reduction of power generation from nuclear assets and the increased electricity demand due to load growth, will lead to significant new gas-fired power generation in Ontario. 188

Vector argued that Eastern Canadian and the U.S. Northeast markets are collectively forecast to require 15.0 to 16.3 10^6 m^3/d (530 to 574 MMcfd) of additional transportation capacity, net of the approved pipeline project capacity, over the 1996 to 2000 period, growing to 52.9 10^6 m^3/d (1 868 MMcfd) over the 1996 to 2005 period. 189

In respect of the U.S. Midwest market, Vector stated that it would be possible for its shippers to access this market through connections with the Michigan Consolidated Gas Company ("MichCon") system and storage facilities in Ontario, in conjunction with services offered primarily by the U.S. portion of the Vector Project. 190

Vector argued that the proposed facilities will be partially used by accessing existing downstream excess capacity, as well as interruptible transportation, exchange mechanisms, winter peaking service and diversions. Vector further argued that, generally, these market services are of a very high quality with few interruptions. In addition, Vector submitted that one of its sponsors, MCN Energy Group Inc. ("MCN"), expects to have a physical requirement for the 5.7 10^6 m^3/d (200 MMcfd) of capacity subscribed by its affiliate CoEnergy Trading Company ("CoEnergy"), in order to use new storage facilities. Vector further submitted that Enbridge Consumers’ Gas Limited ("Consumers’ Gas") is expected to use some of the proposed capacity that Enbridge Inc. ("Enbridge") has contracted for. 191

In the short term, Vector indicated that its proposed system could initially be underutilized, due to lack of sufficient demand and take-away capacity, and it may need to rely on capturing a share of existing market requirements. Vector argued that capturing market share is consistent with a competitive market where there is greater pipeline-on-pipeline competition. 192

193

In the long term, Vector anticipates that its shippers will capture incremental requirements, particularly in light of the projections of market growth for Eastern Canada and the U.S. Northeast markets. Vector further submitted that sufficient transportation capacity downstream of Vector's system will be developed such that it will be used at a high rate, serving both Eastern Canadian and Northeastern U.S. requirements.

194

Vector provided an update on the status of several proposed projects, including the applied-for St. Clair Pipelines (1996) Ltd./TransCanada PipeLines Limited interconnect with the proposed Millennium Pipeline Project at Lake Erie, El Paso Energy's Tennessee Gas Pipeline expansion from Niagara Falls, Portland Natural Gas Transmission System's expansion to supply northern New England, and Union Gas Limited's ("Union") application for an additional 5.7 10^6 m^3/d (202 MMcfd) of capacity on its Dawn to Trafalgar system for 1 November 1999. Vector noted that in aggregate these proposed projects would provide over 42.5 10^6 m^3/d (1.5 Bcf/d) of pipeline expansion downstream of Vector to U.S. Northeast markets.

195

In respect of the evolution of the natural gas market, Vector submitted that Dawn is an emerging market centre. Vector further submitted that the market at the Dawn hub will become more liquid with the construction of Vector and other pipeline expansions. In addition, regulatory changes, particularly regarding title transfers, will increase the liquidity of the Dawn market centre.

196

Vector argued that specific end-user markets are less important for hub-to-hub applications such as Vector's. Vector further argued that subscribed capacity in the form of Precedent Agreements ("PAs") is a fair reflection of the "markets". Vector noted that, in the evolving North American competitive marketplace, the ownership of gas is likely to be transferred several times as it is delivered from the wellhead to the burner-tip, through market centres such as Joliet and Dawn.

197

The Canadian Association of Petroleum Producers ("CAPP") stated that perceived opportunity brings with it evident risks, including the risk that additional firm take-away capacity from Dawn will not materialize within a reasonable period after Vector commences service. For this reason, CAPP requested that, as proposed by Vector in its letter to CAPP dated 17 December 1998, a condition directing Vector not to place the applied-for facilities in service before 1 October 2000 be included in any order the Board may grant. In the event that Vector applies to the Board requesting an earlier in-service date, Vector would have to demonstrate the need and justification for an earlier in-service date.

198

Consumers' Gas, an affiliate of one of the project sponsors (Enbridge), supported the application. Consumers' Gas submitted that the Eastern Canadian market evidence indicates ongoing growth in the traditional residential, commercial and industrial markets and that announced power generation projects represent a significant increase in gas demand in the Eastern Canadian power generation market. Consumers' Gas stated that direct access between the Joliet and Dawn hubs will benefit both shippers and consumers in the form of additional transportation flexibility, improved market liquidity and increased security of supply.

TransCanada and Union did not have substantive objections to the proposed facilities. However, as discussed in Chapter 6 "Other Public Interest Considerations" of these Reasons, TransCanada noted the lack of evidence traditionally required by the Board, and Union raised concerns regarding the process of considering Vector's application. 199

The Ontario Ministry of Energy, Science and Technology ("Ontario") supported the application. Ontario was of the view, based on the information available to it, that the project is supported by the market and is founded on a sound economic basis. 200

Views of the Board *201*

The Board notes that the macro-market requirements forecasts were not challenged by any party. Additionally, Vector's contention that there is some existing high quality downstream capacity, which would be available with few interruptions, was not challenged. Vector's assessment that additional downstream pipeline capacity would be built in the long term was also not challenged. *202*

The Board is satisfied that the forecast growth in demand in the Ontario, Quebec and U.S. Northeast markets would be sufficient to support the proposed facilities over the life of the Project. In addition, the Board finds that Vector's long-term forecast of required incremental pipeline capacity from Dawn to the Ontario, Quebec, and U.S. Northeast markets is reasonable. *203*

The Board is of the view that, in the short term, Vector's proposed system might not be fully utilized. *204*

The Board notes, however, that Vector has determined that the market and downstream capacity will be there in the future, and that Vector and its shippers would take financial risk with respect to any unutilized capacity. This is demonstrated by the Project owners and shippers through the execution of the underpinning PAs. A discussion regarding the firmness of the PAs follows in Section 4.3 "Transportation Contracts". *205*

The Board considered the potential for market growth in the Ontario, Quebec and U.S. Northeast regions in conjunction with the "at-risk" nature of the Project, the experience of the shippers and their affiliates, and the hub-to-hub nature of the proposed service, particularly in respect of the potential for increased market liquidity at the Dawn hub. The Board is of the view that, in this instance, underutilization of the proposed facilities or decontracting on existing network pipelines would likely occur only in the short term. *206*

The Board accepts Vector's submission that incremental downstream capacity at Dawn, Ontario would likely be constructed to accommodate the forecast incremental market demand, resulting in the utilization of the proposed facilities at a reasonable rate over the long term. *207*

To mitigate the risk of additional firm take-away capacity from Dawn not materializing within a reasonable period after Vector commences service, the Board will include, as requested by CAPP and agreed to by Vector, a condition to any order granted, directing Vector not to place the applied-for facilities in-service before 1 October 2000. Should Vector seek an earlier in-service date, it would be required to apply to the Board and demonstrate the need and justification for an earlier in-service date. *208*

4.3 Transportation Contracts 209

Vector conducted an open season between 12 August and 30 September 1997 for the subscription of firm transportation service commencing October 2000. This process resulted in subscriptions by four shippers for about 23.4 10^6 m^3/d (828 MMcfd) or nearly 83 percent of the available firm capacity, for terms of 10 or 15 years as noted in Table 4-1 below. 210

Table 4-1 Vector Open Season Results 211

212

Shipper	Volume 10^6 m^3/d	Volume (MMcfd)	Contract Term (years)
Enbridge Inc.	14.1	500	15
CoEnergy Trading Company	5.7	200	15
Shipper 3	2.2	78	15
Shipper 4	1.4	50	10
Total	**23.4**	**828**	

Vector filed copies of the pro forma transportation PAs that had been entered into with each of the shippers and the pro forma Transportation Agreement that would be executed once the conditions precedent have been met. In addition, Vector filed copies of the executed PAs with its affiliates, Enbridge and CoEnergy. Vector did not file copies of the other two executed PAs with non-affiliated shippers on the grounds that disclosure of the shipper identity could result in competing pipelines interfering with Vector's contracting efforts. Vector did, however, state that it was prepared to file these agreements provided that such information is kept confidential under section 16.1 of the Act. During the hearing, the Board requested Vector to file these two agreements and ordered that the information be kept confidential. 213

Under the terms of the pro forma Transportation Agreement, shippers are required to pay the applicable demand charges regardless of the volumes actually transported on the pipeline. 214

The applicant stated that it had developed a transportation queue for an additional 4.8 10^6 m^3/d (170 MMcfd) but PAs with the shippers in the queue had not yet been signed. 215

Vector submitted that the level of shipper subscriptions represented strong support for its proposed transportation system from Joliet to Dawn. 216

Union argued that the condition in the PAs pertaining to Board of Directors approval was so broad that the agreements were more like letters of intent. Union also submitted that it was not aware of any facilities application where a shipper's contractual commitment had not received Board of Directors approval at the time the application was considered by the Board. For this reason, Union felt that it was unsatisfactory for the Board to be considering an application when the shippers have not confirmed that they want the capacity that constitutes the markets being examined by the Board. 217

Views of the Board *218*

The Board considers the existence of signed long-term transportation agreements to be strong evidence of the need for the Vector Pipeline. The fact that Vector's affiliates, Enbridge and CoEnergy, and the other market participants have made significant financial commitments in undertaking to pay demand charges regardless of the volumes actually transported, satisfies the Board that the Vector pipeline will be used and useful. *219*

The Board notes Union's views about the conditions contained in the PAs relating to Board of Directors' approval. In this connection, the Board recognizes the importance of the shipper commitments in support of the Vector application and, therefore, the Board will include a condition in any order granted requiring Vector to submit copies of the executed Transportation Agreements for the subscribed capacity (i.e., 23.4 $10^6 m^3/d$ (828 MMcfd)) of the pipeline prior to the commencement of construction. *220*

Chapter 5 221
Tolls, Tariffs and Financial Matters

5.1 Negotiated Toll Settlement 222

Vector applied for Board approval of a proposed methodology to derive tolls for transportation service when the proposed pipeline is put in service. Vector also requested to have the proposed toll methodology considered as a negotiated toll settlement for the purposes of the Board's *Guidelines for Negotiated Settlements of Traffic, Tolls and Tariffs* ("Guidelines for Negotiated Settlements") dated 23 August 1994, which include, inter alia, the following provisions: 223

- All parties having an interest in a pipeline company's traffic, tolls and tariffs should have a fair opportunity to participate and have their interests recognized and appropriately weighed in a negotiated settlement. 224
- The settlement process should be open and all interested parties should be invited to participate in the actual settlement negotiations. 225
- The Board will not accept a settlement which contains provisions that are illegal, or contrary to the Act. 226

Vector explained that its proposed methodology calculates tolls on a postage stamp basis for all movements from the international boundary near Sarnia, Ontario to the delivery point near Dawn, Ontario, a distance of approximately 24 km. It stated that the proposed toll methodology incorporates four incentive mechanisms and would involve determining yearly revenue requirements on a forward test-year basis. 227

Vector pointed out that the pipeline venture is currently financed by its partners by means of equity contributions and that the actual method by which the proposed facilities would be financed would be based on the prevailing debt and equity market conditions. 228

5.1.1 Key Provisions of Negotiated Toll Settlement 229

The key provisions of the negotiated toll settlement include the following for a 15-year term transportation agreement: 230

- Demand charges calculated on a per unit-of-capacity basis for recovery of fixed costs, including recovery of indicated operating costs and return on rate base. Commodity charges for recovery of variable costs for volumes actually shipped. 231

- Cost of service components of demand charges as follows: 232
  - Operating costs set at $1.4 million for the first year ("Base Operating Costs"), increasing annually to reflect changes in the Consumer Price Index ("CPI"). 233
  - Depreciation calculated using the reverse sum of the years' digits method, and income taxes calculated on a flowthrough basis. 234
  - Tolls adjusted so that the average annual depreciation rate for the entire term is 5% if a shipper does not extend its contracted term of service. 235
- Rate base components of demand charges as follows: 236
  - Initial tolls based on a rate base of $42 million. 237
  - Deemed capital structure of 55% debt and 45% equity. 238
  - Cost of debt calculated using weighted average of Vector's actual cost of debt. 239
  - Base return on equity set at 11.5%, subject to an incentive adjustment where, within limits of 9.5% and 13.5%, for the primary term, the return is inversely increased or decreased by 0.50% for each + 10% change in capital costs. No change to the base rate of return for + 5% changes in capital costs. 240
- Equal sharing between Vector and current tollpayers of differences between actual incurred operating costs and adjusted base operating costs. 241
- Tolls subject to a cap of CAN 1.3¢/Dth for 15-year term agreements. Rate caps 15% higher for term agreements shorter than 15 years. 242
- Tolls calculated based on 1.07 PJ/day for contracted quantities below 1.07 PJ/day. 243
- Tolls calculated based on 1.07 PJ/day plus one half of the difference between the aggregate contracted capacity and 1.07 PJ/day for quantities above 1.07 PJ/day. 244

The Negotiated Toll Agreement also provides that tolls for gas shipped under transportation agreements with terms of less than 15 years would be 15% above the rate applicable to 15 year agreements. 245

Vector would file new tariffs every year, with tolls to be made effective 1 April of the year in which the filing is made. Vector would apply for interim tolls for the period of 1 January to 31 March of the year. 246

To either refund or collect, on a prospective basis, the variance between interim and final tolls for a calendar year, Vector applied for the following deferral accounts: 247

248

- Return on Deemed Equity Variance;

249

- Operating Cost Performance Benefit Sharing Account; and

250

- CPI Adjustment Account.

251

The three-month variance in each account would accrue carrying charges at Vector's prevailing short term cost of debt rate and be either refunded or collected as appropriate in the next succeeding toll year.

252

Finally, the negotiated agreement provides for interruptible transportation service for which the maximum toll would be up to the 100% load factor derivative of the toll for firm transportation service.

253

5.1.2 Just and Reasonable Tolls

254

Vector submitted that no party challenged either the justness or the reasonableness of its proposed toll methodology. It also submitted that the methodology was negotiated as a package, where it would be inappropriate to consider any one aspect in isolation of the others. Vector suggested that the Board should consider the fact that over 82% of the available capacity has been subscribed for as a strong endorsement of the proposed toll methodology.

255

Vector explained that, when it conducted the open season for the available capacity between 12 August and 30 September 1997, all shippers, affiliate or not, were provided with the same opportunity to participate and enter into precedent agreements on similar terms and conditions of service on the pipeline. Vector submitted that the proposed toll methodology and the results of the non-discriminatory open season fall within the *Board's Guidelines for Negotiated Settlements*.

256

While TransCanada stated that it took no issue with Vector's proposal as filed, it commented that, if the Board approves the 15% toll premium for contract terms less than 15 years, it would be setting a precedent on whether or not toll premiums or discounts based solely on contract length violate section 62 of the Act. TransCanada also expressed its support for a Board finding that term-differentiated tolls do not violate section 62 of the Act.

257

Vector replied that the Board has already approved term-differentiated tolls for Express Pipeline where tolls were set at different rates for different terms of service. Vector also suggested that temporal differences in tolls have been considered indirectly in the Board's guidelines concerning brokering of capacity in the secondary market, where there was a clear indication that different timing in market-competitive conditions can be reflected through different tolls.

258

Views of the Board

The Board has considered Vector's proposed toll methodology and the Guidelines for Negotiated Settlements, dated 23 August 1994. 259

The Board is satisfied that all parties with an interest in Vector's traffic, tolls and tariffs as determined by the negotiated settlement have had a fair opportunity to inform themselves on the details of the settlement. In the Board's view, parties were given a fair opportunity to have their interests recognized and appropriately weighed in the settlement, as evidenced by the manner in which Vector conducted its open season and negotiated the settlement. The public hearing also provided further opportunity for shippers to voice their concerns. 260

The Board considers that, in the context of this application, the terms during which the tolls would be applied are a factor in determining whether the associated difference in the tolls reflects different circumstances and conditions pursuant to section 62 of the Act. Regarding deferral accounts, the Board is prepared to authorize Vector to maintain, for the period that the settlement is in effect, the requested deferral accounts to give effect to the settlement. The Board also authorizes Vector to dispose of the balances in such deferral accounts from time to time in accordance to the terms of the settlement and this Decision. 261

The Board is satisfied that the settlement complies with the Board's 23 August 1994 Guidelines for Negotiated Settlements, and that the methodology for determining tolls set forth in the settlement would result in tolls which are just and reasonable. 262

Decision **263**

The Board finds that the settlement filed by Vector contains a methodology for determining tolls which are just and reasonable. The Board approves the settlement as filed. **264**

5.2 Method of Regulation 265

Vector applied to be treated as a Group 2 company for the purposes of the Board's *Memorandum of Guidance on the Regulation of Group 2 Companies* dated 6 December 1995 ("Memorandum of Guidance") and the Board's *Cost Recovery Regulations*. 266

No intervenor contested Vector's application in that regard. In final argument, however, TransCanada questioned whether the time has now come for the Board to reconsider the distinction between Group 1 and Group 2 companies for reporting purposes in light of increasingly competitive markets and the Board's clear intention to advance further toward full economic deregulation. 267

Views of the Board *268*

The Board acknowledges that, since the issuance of the initial Memorandum of Guidance in 1985, the distinction between Group 1 and Group 2 companies regarding reporting requirements has lessened Group 1 pipelines, typically larger pipelines with many shippers and requiring ongoing financial regulatory monitoring, were subject to elaborate reporting, including Quarterly Surveillance and Performance Measures Reports. However, because of negotiated settlements, certain Group 1 companies were relieved from filing these reports. On the other hand, Group 2 companies are still subject to minimal submission of financial information and are regulated on a complaint basis. *269*

As the Memorandum of Guidance does not identify specific criteria for determining whether a pipeline company should be given Group 1 or Group 2 status, the Board developed a number of guiding factors including (i) the size of the facilities, (ii) whether the pipeline transports commodities for third parties, and (iii) whether the pipeline is regulated under traditional cost-of-service methodology. *270*

Having considered these factors in the circumstances of this case, the Board is of the view that Vector should be designated as a Group 2 company for the purposes of the Memorandum of Guidance. The Board notes that Vector will be required to file its tolls and tariffs with the Board prior to commencement of operation, and annually thereafter as proposed in the negotiated toll settlement. *271*

The Board notes that there is no direct link between the Group 1 or Group 2 designation of a pipeline company for regulatory purposes and the classification of a company for cost recovery purposes. The share of the Board's expense for which Vector would be responsible is established by operation of law and the Board has no discretion to exercise in respect of this matter. *272*

Decision **273**

The Board has decided to regulate Vector as a Group 2 company for the purposes of the Memorandum of Guidance. **274**

275

Chapter 6

Other Public Interest Considerations

276

Vector submitted that the need and justification for the proposed facilities are demonstrated by strong support from shippers through the execution of Precedent Agreements ("PAs"). Vector stated that it was also important to recognize that it would not commence construction of the applied-for facilities for service commencing in October 2000 until transportation agreements for the subscribed level of capacity (i.e., 23.4 10^6 m^3/d or 828 MMcfd) had been executed.

277

Vector said that it will bear all the risk associated with unsubscribed capacity. Therefore, according to Vector, it has significant incentive to provide competitive market-driven tolls for its shippers, and has done so by offering tolls with a price cap.

278

Vector argued that another important aspect which justifies the need for the proposed pipeline facilities, and a finding that the facilities should be considered as being in the public interest, is the fact that Vector will offer a competitive alternative in providing transportation service to growing Eastern Canadian and U.S. Northeastern markets. Having more competitive transportation alternatives generally provides benefits such as increased security of supply and liquidity in Canadian markets, as well as pipe-on-pipe competition for incremental demand requirements. Vector agreed that all the players in a competitive market are at some risk when a new competitor enters the market. Vector submitted that it does not expect excess pipeline capacity into Eastern Canada and the Northeastern United States for any extended period as a result of its proposal.

279

Consumers' Gas argued that the Vector pipeline project will provide seamless natural gas transmission service between the Joliet and Dawn hubs. Direct access between the Joliet and Dawn hub sites provides both shippers and consumers a competitive and alternative means of accessing multiple U.S. and Canadian markets, supply basins, storage providers, and upstream transporters.

280

According to Consumers' Gas, Vector will contribute to the further integration of the natural gas transmission systems within North America and the enhancement of the operational flexibility of interconnecting pipelines. Benefits will accrue to both shippers and consumers.

281

TransCanada submitted that the Vector pipeline project reflects the continued evolution of competition in the pipeline capacity marketplace. The company stated that it does not take issue with any of the details of the Vector pipeline project. However, TransCanada did raise regulatory questions related to the "interface" between the regulator, an incumbent and a new market entrant.

282

TransCanada suggested that the NEB has been prepared to apply a more relaxed public interest test to new market entrants when they declare themselves to be at-risk. However, TransCanada pointed out that, in the GH-3-97[1] decision, the Board stated that "when there is potential for existing shippers to be harmed by a planned expansion, the Board has a heightened responsibility to ensure that the proposed expansion facilities are likely to be needed." TransCanada argued that in pipe-on-pipe competition, the entire network of pipelines is at-risk, i.e., the existence of Vector means that TransCanada shippers could be harmed. So, TransCanada asked how the Board can relax its standards for an at-risk pipeline when shippers on other systems could be harmed.

284

TransCanada did not suggest that the Board return to requiring detailed upstream and downstream transportation, supply and market evidence. Instead, TransCanada advocated that the Board create a level playing field to permit incumbent and new market entrants to compete fairly.

285

According to TransCanada, the Vector proposal is virtually devoid of the evidence traditionally required to satisfy the Board that the new facilities are required by the public convenience and necessity. TransCanada asked "how little does it take?" to gain a finding that a project is in the public interest.

286

Union also expressed concern about the type of evidence that was required to be on the public record in the Board’s consideration of a pipeline application. Union submitted that it was unsatisfactory for the Board and parties to be considering an application where the shippers have not even confirmed that they want the capacity, that is, the "Board of Director approval" provision of the PAs has not been satisfied.

287

TransCanada suggested that a pipeline proposal like Vector invited the question of whether the public interest is broader than ensuring that the pursuit of private interests is done safely with a minimal impact on the environment. The Company contended that, in a competitive environment, the general concept of what constitutes the public interest may need adjustment.

288

As Vector is not the only pipeline proposal that would provide transportation between Joliet and Dawn, TransCanada also raised the question of what criteria the Board would use to approve pipeline projects. "Is it going to be ‘first-come/first-served’? Will the Board merely approve everything and let the market select the ones that go ahead?"

289

TransCanada stated that perhaps a condition should be imposed requiring Vector to demonstrate to the Board’s satisfaction, before construction commences, that at least 50 percent of Vector’s design capacity is contracted to accommodate new or incremental markets. However, TransCanada acknowledged that this type of condition would be too difficult to track and demonstrate.

290

In its concluding remarks, TransCanada wondered whether the questions it had raised are best dealt with in "one-off pipeline proposal applications."

283

1 NEB Reasons for Decision dated November 1998 on an application dated 3 July 1997 by Alliance Pipeline Ltd. on behalf of the Alliance Pipeline Limited Partnership for the Alliance Pipeline Project.

Views of the Board 291

Based on the evidence of the available supply, markets and shipper commitments, which will be required to be confirmed prior to construction, the Board finds that the proposed project is economically feasible. 292

In addition to economic feasibility, however, there are other public interest considerations which have benefits and costs. In general, the public interest is served by allowing competitive forces to work, except where there are costs that outweigh those benefits. The economic benefits of Vector relate to increased competition and the additional transportation option it offers to shippers. Competition usually results in increased economic efficiency, choice and competitive rate structures. Supporting market choice is consistent with views previously expressed by the Board in MH-2-97[1] *and which apply here as well: the market should be permitted to operate; undue influence on the market should not be exercised by any individual or small group of individuals; and shippers must be permitted to exercise choice to have access to alternative means of getting their products to market. The Board is also of the view that Vector will contribute to increased security of supply and liquidity in Canadian markets.* 293

The economic costs of Vector concern the negative impacts on third parties. The Board accepts TransCanada's argument that, when capacity is added to a market, all pipelines and shippers in that market are potentially at-risk. Risk is an essential element of competition. It should be noted that it is generally incumbents that have a competitive advantage in offering expanded capacity, because they are able to expand in smaller increments than a greenfield pipeline and can normally "roll-in" tolls. TransCanada argued that some of its shippers could be harmed because of Vector. However, Vector does not expect a lengthy period of excess pipeline capacity in Eastern Canada. The Board finds no evidence of the certainty or magnitude of potential harm and is not persuaded that it would be significant. 295

With respect to TransCanada's concerns related to levelling the playing field between incumbent pipelines and new market entrants, the Board notes that, after raising the concerns, TransCanada itself questioned whether this hearing was the appropriate forum for dealing with such matters. Nor did TransCanada oppose the proposed Vector project based on these concerns. The Board concluded that the record before it in this proceeding is not sufficient to permit findings on these broad concerns and, in any event, that it can dispose of Vector's application without such findings. 296

294

1 NEB Reasons for Decision dated October 1997 on an application dated 12 May 1997 by Novagas Canada Ltd. requesting that the Board inquire into the practices of Westcoast Energy Inc. with respect to gas shipping arrangements at Taylor, British Columbia.

Other potential costs of the Vector Pipeline Project include negative environmental impacts and negative impacts on landowners. Despite the finding that the environmental impacts of Vector are mitigable in terms of the requirements of the Canadian Environmental Assessment Act, Vector would create some disturbance to the land and waterways it crosses. Similarly, even though landowners are satisfied with Vector's arrangements with them, they would not be impacted at all if Vector were not built. *297*

It is difficult to quantify the value of leaving a particular corridor and its landowners undisturbed, just as it is difficult to measure the benefits of competition and choice. In the circumstances of the Vector Pipeline, the Board finds that the proposal's benefits will likely outweigh the costs, and therefore the project is in the public interest. *298*

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Chapter 7
Disposition

300

The foregoing Chapters constitute our Decisions and Reasons for Decision in respect of the application heard before the Board in the GH-5-98 proceeding. The Board has decided, pursuant to section 58 of the Act, to issue an Order granting Vector exemption from sections 29(1), 30(1)(a) and 31 of the Act in respect of the proposed Vector Pipeline.

301

The Board has not granted Vector an exemption from the requirements of section 47 of the Act. Vector will therefore be required, before initiating service, to apply to the Board for leave to open the pipeline.

302

R. J. Harrison
Presiding Member

303

K. W. Vollman
Member

304

D. Valiela
Member

305

Calgary, Alberta
March, 1999

Appendix I 306

List of issues

In the Directions on Procedure, the Board identified, but did not limit itself to, the following issues for discussion during the hearing: 307

1. The economic feasibility of the proposed Vector Pipeline Project and, in particular, the unique nature of the hub-to-hub pipeline service. 308

2. The potential environmental effects and socio-economic effects of the proposed Vector Pipeline Project including those factors outlined in subsection 16(1) of the *Canadian Environmental Assessment Act.* 309

3. The appropriateness of the location of the proposed facilities, land requirements and land rights acquisition process. 310

4. Vector's request to be regulated as a Group 2 company, as described in the Board's Memorandum of Guidance dated 6 December 1995. 311

5. The safety and the design of the proposed facilities. 312

6. The terms and conditions to be included in any order which may be granted. 313

7. The reasonableness of the proposed tolling methodology. 314

Appendix II 315

Order XG-V16-15-99

IN THE MATTER OF the *National Energy Board Act* (the "Act") and the Regulations made thereunder; and 316

IN THE MATTER OF an application, pursuant to section 58 and Part IV of the Act, by Vector Pipeline Limited Partnership ("Vector"), filed with the Board under File 3400-V016-001. 317

B E F O R E the Board on 22 March 1999. 318

WHEREAS the Board has received an application dated 6 July 1998 made pursuant to section 58 of the Act from Vector for the construction and operation of 24 km of 1 067 mm outside diameter natural gas pipeline extending from a point along the international boundary between the State of Michigan, USA and the Province of Ontario, Canada in the channel of the St. Clair River to a point of connection near Dawn, Ontario (the "Vector Pipeline") at an estimated cost of $35.4 million; 319

AND WHEREAS pursuant to the *Canadian Environmental Assessment Act* (the "CEAA"), the Board has considered the information submitted by Vector and has performed an environmental screening of the proposal and has considered all comments received in accordance with Hearing Order GH-5-98 regarding the CEAA environmental screening document and the information submitted by Vector; 320

AND WHEREAS the Board has determined, pursuant to paragraph 20(1)(a) of the CEAA, that taking into account the implementation of Vector's proposed mitigative measures and those set out in the attached conditions, the proposal is not likely to cause significant adverse environmental effects; 321

AND WHEREAS the Board has examined the application pursuant to Hearing Order GH-5-98 and considers it to be in the public interest to grant the relief requested; 322

IT IS ORDERED that the project described as the Vector Pipeline and related facilities are exempt from the provisions of sections 29(1), 30(1)(a) and 31 of the Act, upon the following conditions: 323

1. The pipeline facilities in respect of which this Order is issued shall be the property of and shall be operated by Vector. 324

2. Unless the Board otherwise directs: 325

   (a) Vector shall cause the approved facilities to be designed, manufactured, located, constructed and installed in accordance with those specifications, drawings and other information or data set forth in its application, or as otherwise adduced in evidence before the Board, except as varied in accordance with subsection (b) hereof; and 326

(b) Vector shall cause no variation to be made to the specifications, drawings or other information or data referred to in subsection (a) without the prior approval of the Board. 327

3. Unless the Board otherwise directs, Vector shall implement or cause to be implemented all of the policies, practices, recommendations and procedures for the protection of the environment included in or referred to in its application, the environmental reports filed as part of its application, its undertakings made to regulatory agencies, or as otherwise adduced in evidence before the Board during the GH-5-98 proceeding. These undertakings include the ones made by Vector during the GH-5-98 proceeding, which are described in Schedule A to this Order. 328

Prior to Construction 329

4. Unless the Board otherwise directs, Vector shall, at least 30 days prior to the commencement of construction of the approved facilities, file with the Board for approval an Environmental Protection Plan ("EPP"). The EPP shall be developed in consultation with regulatory agencies, stakeholder groups, interested parties and landowners. The EPP shall include: 330

(a) any specific mitigative measures which are developed as a result of the pre-construction surveys; and 331

(b) an updated Environmental Effects and Mitigation Measures Summary identifying all relevant environmental issues and the respective mitigative measures to be implemented to render any environmental effects insignificant. 332

5. Unless the Board otherwise directs, Vector shall monitor, both before and after construction, all water wells within 100 m of the proposed right of way, for water quality and quantity. 333

6. Unless the Board otherwise directs, Vector shall, at least 10 days prior to the commencement of construction of the approved facilities, file with the Board a detailed construction schedule or schedules identifying major construction activities and shall notify the Board of any modifications to the schedule or schedules as they occur. 334

7. Unless the Board otherwise directs, Vector shall file with the Board, at least 10 days prior to the commencement of construction, a detailed list, including job descriptions and qualifications, of the personnel who will be responsible for the inspection of the various pipeline construction operations. 335

8. Unless the Board otherwise directs, Vector shall file with the Board copies of any permits, approvals or authorizations, which contain environmental conditions, issued by regulatory agencies for the applied-for facilities, along with an updated list showing the status of these permits, approvals or authorizations, as they are received. In addition, Vector shall maintain up-to-date files containing any such information at relevant construction offices. 336

9. Unless the Board otherwise directs, Vector shall construct the crossings of watercourses containing flow at the time of the crossing in the North Sydenham River watershed, including Black, Bear and Booth Creeks, using a dry crossing method, and shall file with the Board the results of relevant consultation with federal and provincial agencies. 337

10. Unless the Board otherwise directs, Vector shall, at least 21 days prior to the commencement of construction of each wet watercourse crossing (i.e., an open cut crossing method through a flowing watercourse), submit the following additional information to the Board for approval: 338

 (a) a construction schedule for the crossing; 339

 (b) the construction design of the crossing; 340

 (c) the proposed duration of the construction of the crossing; 341

 (d) in-stream timing restrictions identified by regulatory agencies; 342

 (e) an erosion and sediment control plan; 343

 (f) the predicted zone of influence for the potential effects of sedimentation; 344

 (g) detailed fish habitat mapping, including the identification of sensitive habitats, within the zone of influence; 345

 (h) the site-specific mitigative and restorative measures to be employed as a result of consultations with regulatory agencies; 346

 (i) a detailed pre- and post-construction monitoring program protocol for fish species and fish habitat, including the identification of responsibilities and schedule; and 347

 (j) the status of approvals, including any environmental conditions imposed on approvals which have been received. 348

11. Unless the Board otherwise directs, Vector shall, prior to the commencement of construction of any of the approved facilities, demonstrate to the Board's satisfaction that, in respect of the transportation of firm volumes on the Vector system, transportation contracts have been executed for the subscribed capacity (i.e., 23.4 10^6 m^3/d (828 MMcfd)). 349

12. Unless the Board otherwise directs, Vector shall, at least 30 days prior to the commencement of the construction of any of the approved facilities, file with the Board for approval a copy of the final St. Clair River Water Quality Monitoring Program and the results of all relevant consultation with federal agencies, provincial agencies and the Walpole Island First Nation. 350

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During Construction

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13. Unless the Board otherwise directs, Vector shall, during construction, maintain for audit purposes at each construction site, a copy of the welding procedures and non-destructive testing procedures used on the project together with all supporting documentation.

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14. Unless the Board otherwise directs, Vector shall, at least 10 days prior to the disposal of any drilling waste, file with the Board all information which was required of Vector to meet all relevant regulatory requirements and guidelines.

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15. Unless the Board otherwise directs, Vector shall, at least 5 business days prior to the first disposal of drilling wastes, in the case of substances in the drilling waste which exceed limits prescribed by the provincial requirements and guidelines contemplated in Condition 14 hereof, provide the Board with the data analysis as to any such substances, together with any plans for any mitigation with respect thereto which would be required to comply with such requirements and guidelines.

355

16. Unless the Board otherwise directs, in the event that any specialized habitat for wildlife, significant plant communities, or any plants or wildlife with a designated status are discovered during construction, Vector shall, in consultation with the appropriate regulatory agencies, implement the appropriate mitigative measures, and shall immediately notify the Board of such action.

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17. Unless the Board otherwise directs, Vector shall file with the Board the results of any consultation with the Ministry of Natural Resources regarding wetlands, and shall ensure that any wetlands disturbed by construction and construction-related activities are restored to their original contours and function.

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Post Construction

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18. Unless the Board otherwise directs, Vector shall, at least 21 days prior to the commencement of the hydrostatic testing portion of the project, file with the Board the information required by the Board's *Onshore Pipeline Regulations* and any specific mitigative measures that Vector intends to use for hydrostatic testing.

359

19. Unless the Board otherwise directs, Vector shall, at least 15 days prior applying for leave to open the pipeline, file with the Board, for approval, the operations and maintenance manuals and emergency procedures.

20. Unless the Board otherwise directs, Vector shall file with the Board and submit to Environment Canada and the Department of Fisheries and Oceans a post-construction environmental report within six months of the date that the approved facilities are placed in service. The post-construction environmental report shall set out the environmental issues that have arisen up to the date on which the report is filed and shall: 360

(a) indicate those issues resolved and those unresolved; 361

(b) describe the measures Vector proposes to take in respect of the unresolved issues; 362

(c) provide a detailed summary of any problems encountered during the directional drilling activities and the measures taken to deal with those problems, including the effectiveness of those measures; 363

(d) provide a report of the results of the water quality monitoring program and all other monitoring requirements identified in these conditions, conducted before, during and after construction, including all data acquired; and 364

(e) describe the effectiveness of the reclamation measures at the directional drill staging areas. 365

21. Unless the Board otherwise directs, Vector shall file with the Board and submit to Environment Canada and the Department of Fisheries and Oceans, on or before the 31 December that follows each of the first two complete growing seasons after the post-construction environmental report referred to in Condition 20 (the "Report") is filed: 366

(a) a list of the environmental issues indicated as unresolved in the Report and any that have arisen since the Report was filed; and 367

(b) a description of the measures Vector proposes to take in respect of any unresolved environmental issue. 368

General 369

22. Unless the Board otherwise directs, Vector shall not place the applied-for facilities in service before 1 October 2000. In the event that Vector applies to the Board requesting an earlier in-service date, Vector shall file with the Board and serve upon all GH-5-98 interested parties information that demonstrates the need and justification for an earlier in-service date. 370

23. Unless the Board otherwise directs prior to 31 December 2001, this Order shall expire on 31 December 2001 unless the construction of the approved facilities has commenced by that date.

NATIONAL ENERGY BOARD

Michel L. Mantha
Secretary

372

Schedule A

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During the GH-5-98 proceedings, Vector committed to the following undertakings related to certain environmental issues:

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(i) To conduct a survey of culvert and other drainage facilities within proximity of the proposed horizontal directional drill areas to identify any that could lead to inadvertent returns to the St. Clair River of drilling mud and sediments from surface disturbance, and to file the results of the survey with the Board.

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(ii) To conduct detailed surveys for breeding birds, plants and reptiles along the proposed pipeline route during 1999, focussing on provincially rare and COSEWIC-listed species, and to file the results with both Environment Canada and the Board by the end of 1999.

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(iii) To develop a mitigation plan, in consultation with Environment Canada and the Ministry of Natural Resources, for each species of special status that may be affected by the construction and operation of the pipeline, and to file these plans with the Board.

377

(iv) To conduct a survey of those watercourses containing flow during the pre-construction validation exercise, following the same methods as outlined in Vector's 1998 Fisheries Assessment (Exhibit B-24), and to file the results with the Board.

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(v) To file with the Board for approval the proposed crossing method for each watercourse.

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(vi) To carry out bank revegetation using bio-engineering techniques, where practical and in consultation with Environment Canada, the Department of Fisheries and Oceans, and the Ministry of Natural Resources.

APPENDIX 11

National Energy Board Order XG/XO-100-2012 (Streamlining Order)

National Energy Board

Office national de l'énergie

File: AD-GA-ActsLeg-Fed-NEBA-01 01
1 August 2012

To: All Oil and Gas Pipeline Companies under the National Energy Board (Board)
All Interested Parties.

Section 58 Streamlining Order

The Board has revoked Streamlining Order XG/XO-100-2005, dated 7 July 2005, and replaced it with XG/XO-100-2012 (attached). This revocation and issuance of a new Streamlining Order was required due to the enactment of the *Canadian Environmental Assessment Act, 2012* (CEA Act 2012) on 6 July 2012, which resulted in the former *Canadian Environmental Assessment Act* (CEA Act) being repealed.

Streamlining Order XG/XO-100-2012 effectively provides the Board's approval for the construction and operation of certain classes of oil and gas projects regulated under the *National Energy Board Act* (NEB Act) that satisfy the criteria listed in Schedule A of the Order.

Changes from the prior Order include:

- deleting references to the former CEA Act in the Order and Schedule A, as the CEA Act 2012 does not apply to these classes of projects;
- updating the criteria in Step 2 of Schedule A to be consistent with the criteria for self-assessment of risk as identified in the Board's Online Application System (OAS);
- adding a reference to "federal lands" in Step 2 of the Schedule A to meet requirements under section 67 of the CEA Act, 2012;
- adding a reference in Step 2 to "wildlife area" and "migratory bird sanctuary", as defined in the *Regulations Designating Physical Activities*, CEA Act 2012;
- adding references to the OAS in Schedule A to provide more guidance to companies;
- revising the wording in the sunset clause to provide clarity to the companies, in the event that the streamlined project does not commence within one year of the project having been determined by the company to satisfy the criteria set out in Schedule A of this Order; and
- minor wording changes to increase consistency and readability.

Projects undertaken pursuant to the Streamlining Order are required to comply with all applicable Acts, rules, standards and regulations (e.g. the *Onshore Pipeline Regulations, 1999* as amended from time to time). These projects continue to be subject to the Board's oversight, including inspections and audits.

…/2

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The Board is satisfied that streamlined projects would not present concerns with respect to safety, security and the environment. Such projects would be located on lands where there is an agreement in place to allow companies to undertake streamlined activities and they are not likely to adversely affect the rights of shippers or other directly affected persons.

Reporting requirements are set out in the attached Order. The issuance of Streamlining Order XG/XO-100-2012 does not mean that expenditures have been approved for inclusion in the rate base. Companies and persons wishing to include such expenditures in rate bases are required to justify the expenditures under Part IV of the NEB Act.

If you have any questions related to the Streamlining Order, please contact the Applications Business Unit at 403-299-3692 or 403-299-3730, or toll-free at 1-800-899-1265.

Yours truly,

Sheri Young

Sheri Young
Secretary of the Board

Attachment

National Energy Board | Office national de l'énergie

ORDER XG/XO-100-2012

IN THE MATTER OF the *National Energy Board Act* (NEB Act) and the regulations made thereunder; and

IN THE MATTER OF exemptions relating to certain classes of oil and gas pipeline facility projects under National Energy Board jurisdiction pursuant to sections 18 and 58 of the NEB Act.

BEFORE the Board on 19 July 2012.

WHEREAS the Board issued Order XG/XO-100-2005 on 12 July 2005, with respect to streamlining the section 58 process;

AND WHEREAS the Board has determined that certain changes to Streamlining Order XG/XO-100-2005 are required as a result of the 6 July 2012 enactment of the *Canadian Environmental Assessment Act, 2012,* which resulted in the former *Canadian Environmental Assessment Act* being repealed;

AND WHEREAS the Board is satisfied the projects that can be streamlined according to the criteria set out in Schedule A are routine in nature for oil or gas pipelines for which an Order or Certificate has been issued by the Board, and are not related to commodity pipelines or to pipelines transporting sulphur or sulphur compounds for sales or disposal beyond the property limits of a gas plant;

AND WHEREAS the Board has considered all directly related relevant matters, including environmental matters, related to projects streamlined according to the criteria set out in Schedule A pursuant to Part III of the NEB Act;

AND WHEREAS the projects streamlined according to the criteria set out in Schedule A would be designed, constructed and operated in accordance with applicable regulations made pursuant to the NEB Act;

AND WHEREAS the Board is satisfied that projects streamlined according to the criteria set out in Schedule A would not likely affect the interests of persons other than those to whom a prior Order or Certificate was issued;

…/2

AND WHEREAS the Board considers it to be in the public interest to grant an exemption Order in respect of the projects streamlined according to the criteria set out in Schedule A;

IT IS ORDERED that Order XG/XO-100-2005 is hereby revoked;

IT IS FURTHER ORDERED that, pursuant to sections 18 and 58 of the NEB Act, the projects listed and streamlined according to the criteria set out in Schedule A, attached to and forming part of this Order, are exempt from the provisions of sections 30, 31 and 47 of the NEB Act, upon the following conditions:

1. Unless the Board otherwise directs, pipeline companies and persons under the Board's jurisdiction must, for those projects satisfying the criteria set out in Schedule A:

    a) advise the Board in writing 10 business days prior to construction of any planned projects on the eligible projects list (Step 1 of Schedule A) for which the anticipated expenditure is greater than $1,000,000. Such reports must include a statement describing the project(s), including location(s), and the estimated cost;

    b) serve copies of the reports required pursuant to condition 1(a) on the Section 58 Interested Parties List in the event that the project is to be undertaken by a Group 1 pipeline company;

    c) report annually, on or before 31 March of each year, on construction, installation, or procurement and any expenditures undertaken for each project pursuant to this Order, as well as the total number and total cost of the listed projects; and

    d) report immediately, in writing, to the Board on any air, soil or surface/ groundwater contaminants, or any hazardous wastes, as defined in section 1 of the *Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations* under the *Canadian Environmental Protection Act*, that are found during activities related to the construction or installation of the project(s), and provide a detailed description of the proposed containment, handling and/or disposal methods.

2. All pressure testing must be hydrostatic pressure testing and the pressure test reports must be prepared in accordance with Guide AA of the Board’s Filing Manual. These reports are not required to be filed with the Board, but must be retained for audits conducted by the Board.

3. Unless construction on a specific project has commenced under this Order within one year of the project having been determined by the company to satisfy the criteria set out in Schedule A of this Order, the company must reconsider the criteria set out in Schedule A to determine if the specific project continues to satisfy the criteria. If the specific project does not continue to satisfy the criteria, the company must apply for approval of that project under section 58 of the NEB Act.

NATIONAL ENERGY BOARD

Sheri Young

Sheri Young
Secretary of the Board

Schedule A:
Process for Identifying and Reporting on Projects Subject to Streamlining Order XG/XO-100-2012

Schedule A is to be used to determine whether a project under the *National Energy Board Act* is subject to Streamlining Order XG/XO-100-2012 (the Order).

However, Companies and persons may be required, either upon request of the Board or during a Board inspection or Board audit, to demonstrate that projects undertaken pursuant to the Order were properly subject to this Order. Companies and persons are also reminded of the reporting requirements pursuant to condition 1 of this Order.

It is important to note the following:

- In determining whether a project under the *National Energy Board Act* is subject to the Order, Companies shall ensure that the project is within the list of eligible projects listed in Step 1.

- The Order only applies to projects on an existing oil or gas pipeline for which a Board Certificate or Order[1] is in place and does not apply to commodity pipelines or to pipelines transporting sulphur or sulphur compounds for sale or disposal beyond the property limits of a gas plant.

- Projects subject to the Order shall be designed, constructed, and operated in accordance with regulations made pursuant to the *National Energy Board Act.*

- The Order applies only to projects and associated ancillary facilities which satisfy **ALL** the criteria set out in Schedule A.

- Operations and maintenance activities are defined within the National Energy Board's "Operations and Maintenance Activities on Pipelines Regulated under the *National Energy Board Act:* Requirements and Guidance Notes". Operations and maintenance activities are not included under the Streamlining Order as they do not require an application under section 58 of the *National Energy Board Act*. The Board recommends that Companies review the requirements and guidance notes for operations and maintenance activities to determine if notification of these activities is required.

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[1] The Company proposing the project eligible for streamlining must hold in its name the Order or Certificate issued by the Board.