6. First Nation Consultations

A number of First Nation bands are in the overall region outlying the Green Electron project as summarized below.

Neither the East site nor the West site lands of the Green Electron Project site are part of any First Nation reserve lands or on lands subject to any pending claims by aboriginal communities. There are two First Nation reserves in the greater region of the project site: Aamjiwnaang First Nation approximately 20 km to the north of the site; Walpole Island First Nation approximately 20 km to the south. There are also; Chippewas of Kettle and Stony Point approximately 55 km from the site and Oneida Nation of the Thames approximately 85 km from the site.

Greenfield South Power Corporation made specific efforts to both identify those First Nations that may have an interest in the Green Electron project and to then specifically consult with these. Identification of potentially interested or affected First Nations was made through meetings with St. Clair Township officials, meetings with the Ontario Power Authority officials and meetings and discussions with MOE officials.

The Table 6.1 below lists the potentially affected First Nations that were identified, distance from the sites, and shows the outreach/consultation made with each of these First Nations as of October 26, 2012 (copies of correspondence can found in Appendix A3).

Table 6.1 - Dates and Means of Engagement of First Nations

First Nation (distance and direction from sites)	Dates of engagement	Means of Engagement
Walpole Island First Nation (20 km south)	July 26, 2012 Aug 13, 2012	Mail Meeting at WIFN
Aamjiwnaang First Nation (20 km north)	July 26, 2012 July and Aug 2012 Sept 25, 2012 Oct 15, 2012	Mail Several voicemails Courier Telephone call
Chippewas of Kettle & Stoney Point (55 km northeast)	Aug 29, 2012 Sept 25, 2012 Oct 15, 2012	Mail Courier Voicemail
Oneida Nation of the Thames (83 km southeast)	Aug 29, 2012 Sept 25, 2012 Oct 15, 2012	Mail Courier Voicemail
Caldwell First Nation	Sept 11, 2012	Mail

(82 km south)	Sept 25, 2012 Oct 15, 2012	Courier Voicemail
Moravian of the Thames First Nation (46 km east)	Sept 11, 2012 Sept 25, 2012 Oct 15, 2012	Mail Courier Telephone call
Munsee-Delaware First Nation (78 km east)	Sept 11, 2012 Sept 25, 2012 Oct 15, 2012	Mail Courier Voicemail
Chippewas of the Thames First Nation (78 km east)	Sept 11, 2012 Sept 25, 2012 Oct 15, 2012	Mail Courier Voicemail

A meeting was held between the proponent and the Chief and officials of the Walpole Island First Nation (WIFN) on August 13, 2012 following which the WIFN provided us with a copy of their standard consultation protocol.

During a telephone call on October 15, 2012 with Chief Chris Plain of the Aamjiwnaang First Nation he indicated that they had not decided whether to comment on the project but likely would.

During a telephone call on October 15, 2012 with Chief Greg Peters of the Moravian of the Thames First Nation he indicated that the project was not in their First Nation’s traditional territory and so no comment would be provided.

7. Conclusion

The government agency consultation program for the environmental screening of the Green Electron Power Project was designed and carried out reasonably in all respects so as to allow the proponent to inform and receive input from all government agencies with jurisdiction or a program interest and with First Nations as related the Green Electron Power Project.

The government agency consultation program elicited response from several government agencies and their input was reasonably addressed in the environmental screening process. Several meetings were held with government agencies to ensure that the project was well understood and that the proponent understood the concerns of the government agencies. A preliminary draft of the Environmental Screening and Review Report was circulated to the Ministry of the Environment, so as to allow detailed technical comments prior to the completion of the reports.

Consultation with government agencies and First Nations will continue throughout all phases of the project as appropriate.

APPENDIX A1 – List of Government Agencies with Jurisdiction or Program Interest

Provincial Agencies

Ministry of Agriculture, Food and Rural Affairs (OMAFRA)
Ministry of Aboriginal Affairs
Ministry of Citizenship, Culture
Ministry of the Environment (MOE)
Ministry of Energy and Infrastructure
Ministry of Municipal Affairs and Housing (MMAH)
Ministry of Natural Resources (MNR)
Ministry of Northern Development and Mines (MNDM)
Ministry of Transportation (MTO)
Ministry of Community and Social Services (MCSS)

Federal Agencies

Canadian Environmental Assessment Agency (CEAA)
Canadian Food Inspection Agency

Environment Canada
Aboriginal Affairs and Northern Development Canada (AANDC)
National Energy Board
Ontario Power Authority
Transport Canada

Municipal Agencies

County of Lambton
St. Clair Region Conservation Authority
Township of St. Clair

APPENDIX A2 – Copies of Correspondence from First Nation Consultations

GREENFIELD SOUTH POWER CORPORATION
2275 LAKE SHORE BLVD. WEST, SUITE 401 **TEL (416) 234-1301**
TORONTO, ONTARIO M8V 3Y3 **FAX (416) 234-8336**

July 26, 2012

Chief Burton Kewayosh
Walpole First Nation
RR#3
Wallaceburg, Ontario
N8A 4K9

Tel (519) 627-1481
Fax (519) 627-0440
email: burton.kewayosh@wifn.org

Dear Chief Kewayosh:

I am very pleased to take this opportunity to introduce myself and our company on account of our recently announced new power plant development now underway for a property on Oil Springs Line in St. Clair Township, west of Ladysmith.

We are a medium-sized established Ontario-based private company of engineers and power project developers/operators that will be constructing and operating this new 300MW natural gas fueled facility under contract with the Ontario Power Authority.

This is a personal follow-up to a recent telephone message to your office as I would be most pleased to meet with you in the coming days to personally acquaint you and your staff with our project in relation to its significant local community and larger area employment, as well as its other economic benefits.

We have scheduled open houses as part of our community out-reach on August 16, 2012 and September 12, 2012 in Courtright but I am hopeful for our first having the opportunity to meet in advance.

I will be making a presentation to the St. Clair Township Council in the evening of August 13th and thus wonder whether you would be available for a brief meeting with me at your office on August 13th at a time convenient to you between 10:00 a.m. and 3:00 p.m.

Looking forward to hearing from you.

Best Regards

Gregory M. Vogt, B. Eng.
President
Greenfield South Power Corporation

cc: Mayor Steve Arnold, St. Clair Township
sarnold1@rogers.blackberry.net

GREENFIELD SOUTH POWER CORPORATION
2275 LAKE SHORE BLVD. WEST, SUITE 401 **TEL (416) 234-1301**
TORONTO, ONTARIO M8V 3Y3 **FAX (416) 234-8336**

July 26, 2012

Chief Chris Plain
Aamjiwnaang First Nation
978 Tashmoo Ave
Sarnia Ontario
N7T 7H5

Tel (519) 336-8410
Fax (519) 336-0382
email: cplain@aamjiwnaang.ca

Dear Chief Chris Plain:

I am very pleased to take this opportunity to introduce myself and our company on account of our recently announced new power plant development now underway for a property on Oil Springs Line in St. Clair Township, west of Ladysmith.

We are a medium-sized established Ontario-based private company of engineers and power project developers/operators that will be constructing and operating this new 300MW natural gas fueled facility under contract with the Ontario Power Authority.

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Best Regards

Gregory M. Vogt, P.Eng.
President
Greenfield South Power Corporation

cc: Mayor Steve Arnold, St. Clair Township
sarnold1@rogers.blackberry.net

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2275 LAKE SHORE BLVD. WEST, SUITE 401
TORONTO, ONTARIO M8V 3Y3

TEL (416) 234-1301
FAX (416) 234-8336

August 29, 2012

Chief Joel Abram
Oneida Nations of the Thames
Customer Care Center
2212 Elm Street
Southwold, Ontario
N0L 2G0

Tel (519) 652-3244
Fax (519) 652-9287
dawn.doxtater@oneida.on.ca

Dear Chief Joel Abram,

I am pleased to take this opportunity to introduce myself and our company on account of our recently announced new power plant development now underway for a property on Oil Springs Line in St. Clair Township, west of Ladysmith. A copy of our public project announcement as it appeared in the Sarnia Observer and the Wallaceburg News is attached for your convenience, should you have missed seeing this at its publication.

We are a medium-sized established Ontario-based private company of engineers and power project developers/operators that will be constructing a operating this new 300MW natural gas fueled facility under contract with the Ontario Power Authority.

We have also scheduled an open house as part of our community out-reach on September 12, 2012 in Courtright and I would be very pleased to see you there should you find the time to attend.

I am hopeful that we might have an opportunity to meet and discuss our project personally should you have any questions or concerns regarding the project. Alternatively, if you prefer we would be pleased to receive any comments you may have.

I look forward to hearing from you at your convenience.

Best Regards,

Gregory M. Vogt, P. Eng.
President
Greenfield South Power Corporation

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2275 LAKE SHORE BLVD. WEST, SUITE 401
TORONTO, ONTARIO M8V 3Y3

TEL (416) 234-1301
FAX (416) 234-8336

August 29, 2012

Chief Elizabeth Cloud
Chippewa's of Kettle & Stony Point
6247 Indian Lane
Kettle & Stony Point FN,
Ontario, Canada
N0N 1J1

Tel (519) 786-2125
Fax (519) 786-2108
fdesk@kettlepoint.org

Dear Chief Elizabeth Cloud,

I am pleased to take this opportunity to introduce myself and our company on account of our recently announced new power plant development now underway for a property on Oil Springs Line in St. Clair Township, west of Ladysmith. A copy of our public project announcement as it appeared in the Sarnia Observer and the Wallaceburg News is attached for your convenience, should you have missed seeing this at its publication.

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TORONTO, ONTARIO M8V 3Y3

TEL (416) 234-1301
FAX (416) 234-8336

September 11, 2012

Chief Louise Hillier
Caldwell First Nation
P.O. Box 388
Leamington, Ontario
N8H 3W3

Tel (519) 678-3831
Fax (519) 322-1533

Dear Chief Louise Hiller,

I am pleased to take this opportunity to introduce myself and our company on account of our recently announced new power plant development now underway for a property on Oil Springs Line in St. Clair Township, west of Ladysmith. A copy of our public project announcement as it appeared in the Sarnia Observer and the Wallaceburg News is attached for your convenience, should you have missed seeing this at its publication.

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2275 LAKE SHORE BLVD. WEST, SUITE 401
TORONTO, ONTARIO M8V 3Y3
TEL (416) 234-1301
FAX (416) 234-8336

September 11, 2012

Chief Joe Miskokomon
Chippewas of the Thames
320 Chippewa Rd.
R.R. 1
Muncey, Ontario
N0L 1Y0

Tel (519) 289-5555
Fax (519) 289-2230

Dear Chief Joe Miskokomon,

I am pleased to take this opportunity to introduce myself and our company on account of our recently announced new power plant development now underway for a property on Oil Springs Line in St. Clair Township, west of Ladysmith. A copy of our public project announcement as it appeared in the Sarnia Observer and the Wallaceburg News is attached for your convenience, should you have missed seeing this at its publication.

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TORONTO, ONTARIO M8V 3Y3

TEL (416) 234-1301
FAX (416) 234-8336

September 11, 2012

Chief Greg Peters
Delaware Nation Moravian of the Thames
RR 3
Thamesville, Ontario
N0P 2K0

Tel (519) 692-3936
Fax (519) 692-5522

Dear Chief Greg Peters,

I am pleased to take this opportunity to introduce myself and our company on account of our recently announced new power plant development now underway for a property on Oil Springs Line in St. Clair Township, west of Ladysmith. A copy of our public project announcement as it appeared in the Sarnia Observer and the Wallaceburg News is attached for your convenience, should you have missed seeing this at its publication.

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President
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TORONTO, ONTARIO M8V 3Y3

TEL (416) 234-1301
FAX (416) 234-8336

September 11, 2012

Chief Patrick Waddilove
Munsee-Delaware Nation
RR 1
Muncey, Ontario
N0L 1Y0

Tel (519) 289-5396
Fax (519) 2895156

Dear Chief Patrick Waddilove,

I am pleased to take this opportunity to introduce myself and our company on account of our recently announced new power plant development now underway for a property on Oil Springs Line in St. Clair Township, west of Ladysmith. A copy of our public project announcement as it appeared in the Sarnia Observer and the Wallaceburg News is attached for your convenience, should you have missed seeing this at its publication.

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TORONTO, ONTARIO M8V 3Y3

TEL (416) 234-1301
FAX (416) 234-8336

Date: September 25, 2012

Subject: Green Electron Power Project

Chief Chris Plain
Aamjiwnaang First Nation
978 Tashmoo Ave.
Sarnia, Ontario
N7T 7H5

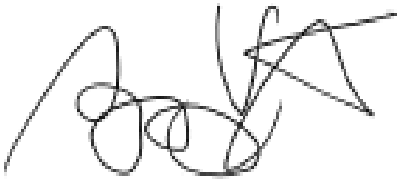
Dear Chief Chris Plain,

We are in the process of finalizing the Environmental Screening and Review Report for the Green Electron Power Project to be built in St. Clair Township, Ontario as per the notice sent to you earlier.

. Please let us know as soon as possible if there are any comments or concerns you may have regarding the Green Electron Power Project.

Thank you for your prompt and diligent attention to this matter.

Best Regards,



Gregory M. Vogt
President
Greenfield South Power Corporation

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2275 LAKE SHORE BLVD. WEST, SUITE 401
TORONTO, ONTARIO M8V 3Y3
TEL (416) 234-1301
FAX (416) 234-8336

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Subject: Green Electron Power Project

Chief Louise Hillier
Caldwell First Nation
P.O. Box 388
Leamington, Ontario
N8H 3W3

Tel (519) 678-3831
Fax (519) 322-1533

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TORONTO, ONTARIO M8V 3Y3 **FAX (416) 234-8336**

Date: September 25, 2012

Subject: Green Electron Power Project

Chief Elizabeth Cloud
Chippewa's of Kettle & Stony Point
6247 Indian Lane
Kettle & Stony Point FN,
Ontario, Canada
N0N 1J1

Tel (519) 786-2125
Fax (519) 786-2108
fdesk@kettlepoint.org

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Best Regards,

Gregory M. Vogt
President
Greenfield South Power Corporation

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2275 LAKE SHORE BLVD. WEST, SUITE 401
TORONTO, ONTARIO M8V 3Y3

TEL (416) 234-1301
FAX (416) 234-8336

Date: September 25, 2012

Subject: Green Electron Power Project

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Chippewas of the Thames
320 Chippewa Rd.
R.R. 1
Muncey, Ontario
N0L 1Y0

Tel (519) 289-5555
Fax (519) 289-2230

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Best Regards,

Gregory M. Vogt
President
Greenfield South Power Corporation

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TORONTO, ONTARIO M8V 3Y3 **FAX (416) 234-8336**

Date: September 25, 2012

Subject: Green Electron Power Project

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Delaware Nation Moravian of the Thames
RR 3
Thamesville, Ontario
N0P 2K0

Tel (519) 692-3936
Fax (519) 692-5522

Dear Chief Greg Peters,

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Gregory M. Vogt
President
Greenfield South Power Corporation

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2275 LAKE SHORE BLVD. WEST, SUITE 401
TORONTO, ONTARIO M8V 3Y3

TEL (416) 234-1301
FAX (416) 234-8336

Date: September 25, 2012

Subject: Green Electron Power Project

Chief Joel Abram
Oneida Nations of the Thames
Customer Care Center
2212 Elm Street
Southwold, Ontario
N0L 2G0

Tel (519) 652-3244
Fax (519) 652-9287
dawn.doxtater@oneida.on.ca

Dear Chief Joel Abram,

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President
Greenfield South Power Corporation

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TORONTO, ONTARIO M8V 3Y3 **FAX (416) 234-8336**

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Subject: Green Electron Power Project

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Munsee-Delaware Nation
RR 1
Muncey, Ontario
N0L 1Y0

Tel (519) 289-5396
Fax (519) 2895156

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Gregory M. Vogt
President
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2275 LAKE SHORE BLVD. WEST, SUITE 401 **TEL (416) 234-1301**
TORONTO, ONTARIO M8V 3Y3 **FAX (416) 234-8336**

Date: September 25, 2012

Chief Burton Kewayosh
Walpole First Nation
RR#3
Wallaceburg, Ontario
N8A 4K9

Dear Chief Kewayosh

Subject: Green Electron Power Project Follow-up

I take this opportunity to follow up on our discussions and meeting of early August and personally update you on our Green Electron Power project.

As you know, ours is a relatively small project and of similar nature and design to the other larger and now well established existing natural gas fueled electrical power generation plants in region of St. Clair Township. As such, our project has potential for only relatively minor impacts all of which can be effectively mitigated on the project site. We have been working with the Ministry of the Environment in relation to their assessment requirements and are now in the process of finalizing our Environmental Screening and Review Report for the Project. This will be built on one of the two sites for which we provided you and Dean Jacobs information. I will of course keep you apprised of the status of this ESRR report.

I am quite excited about the upcoming next phases of construction and then later, the long operational life of the facility, as I feel these represent opportunities for the St. Clair region in general and therefore your Walpole First Nation. The project will offer more than 200 person years of construction with a start hopefully in early 2013. During the 25 year operational phase, our company will be operating and will employ over 25 full time staff with additional ongoing opportunities for supplies and maintenance services etc from local firms. I do hope that that these opportunities are of interest to Walpole FN.

If you have any comments or concerns on the project at this stage, feel free to contact me.

Best Regards,

Gregory Morgt
President
Greenfield South Power Corporation

Email Correspondence with Dean Jacobs from Walpole Island First Nation:

Bruce Holbein

From: Dean Jacobs [Dean.Jacobs@wifn.org]
Sent: August 14, 2012 1:14 PM
To: Bruce Holbein
Cc: 'Hubert Vogt'; 'Greg Vogt'; 'Ciro Polsinelli'; Jared Macbeth
Subject: RE: Our meeting Yesterday at WIFN
Attachments: WIFN CAP 08 29 09.pdf; DC paper 17July2012 Final Edits.doc

Hi Bruce

Here attached is the WIFN CAP as discussed. Also attached is a copy of my updated consulting and accommodation First Nations in Canada paper. I'm the keynote speaker at the "Navigating the Range of Accommodation Measures in First Nations Duty to Consult" Infonex Inc conference in Toronto on September 11th.

Dean Jacobs
A/Director Heritage Centre and
Consultation Manager
External Projects Program
Walpole Island First Nation
R. R. 3
Wallaceburg, Ontario
N8A 4K9
Heritage Centre location: 2185 River Road North
phone: 519.627.1475
fax: 519.627.1530
email: dean.jacobs@wifn.org

From: Bruce Holbein [mailto:BHolbein@easternpower.on.ca]
Sent: Tuesday, August 14, 2012 12:31 PM
To: Dean Jacobs
Cc: 'Hubert Vogt'; 'Greg Vogt'; 'Ciro Polsinelli'; Jared Macbeth
Subject: Our meeting Yesterday at WIFN

Hello Dean

It was a pleasure to meet you and Jared yesterday and we especially appreciated the brief opportunity to meet Chief Kewayosh.
This opportunity to acquaint you with our company and our St. Clair Township natural gas power project was excellent.

We would also be pleased to see you attend our open houses for the project; the first this Thursday as per the attached. In any event, the information to be presented is attached should you be unable to attend.

Any comments you may have on this material are welcomed.

Regards
Bruce

Bruce E. Holbein B.Sc.(AGR), Ph.D.

1

Table 3.1

First Nations Contact Record

Updated to include telephone conversations that took place on October 15, 2012, inviting the First Nations to meet in order to consult on the Green Electron Power Project:

Walpole Island First Nation Phone: (519) 627 - 1481 Fax: (519) 627 - 0440 Email: burton.kewayosh@wifn.org Chief: Burton Kewayosh Population: 1878 Distance from East Site: 20.30 km Distance from West Site: 19.80 km Mailing Address: RR #3 Wallaceburg, Onatrio N8A 4K9, Canada	Gregory Vogt, President of Eastern Power, met with Chief Burton Kewayosh on August 13, 2012, to discuss the Green Electron Power Project.

Aamjiwnaang First Nation Phone: (519) 336 - 8410 Fax: (519) 336 - 0382 Email: cplain@aamjiwnaag.ca Chief: Chris Plain Population: 706 Distance from East Site: 20.44 km Distance from West Site: 20.10 km Mailing Address: 978 Tashmoo Ave. Sarnia, Ontario N7T 7H5, Canada	Contact Person: Gregory Vogt, President of Eastern Power. Date/Time: October 15, 2012, 10:13 am Spoke With: Chief Chris Plain Gregory Vogt spoke with Chief Plain and the Chief indicated that they will look to see if this is one they will respond to. Since one of the sites is on the Lambton Generating Station property, likely they would respond. But he will see if there is any follow up. Gregory Vogt offered to meet with Chief Plain for consultations on the Green Electron Power Project, however he (the Chief) declined and said that he would see where the file is and would get it back to Eastern Power.

Chippewas of Kettle & Stony Point	
Phone: (519) 786 - 2125 Fax: (519) 786 - 2108 Email: fdesk@kettlepoint.org Chief: Thomas Bressette (Elizabeth Cloud, last chief) Population: 1900 Distance from East Site: 54.85 km Distance from West Site: 55.69 km Mailing Address: 6247 Indian Lane Ontario, Canada N0N 1J1	Contact Person: Gregory Vogt, President of Eastern Power Date/Time: October 15, 2012, 10:16 am Spoke With: Shannon Bressette Gregory Vogt requested to speak directly with Chief Elizabeth Cloud and was informed that she was no longer the current chief and that her successor is Chief Thomas Bressette. Shannon Bressette informed Mr. Vogt that Chief Bressette was unavailable. She informed Mr. Vogt that the file was being handled by their communication officer, Susan Bressette. Mr. Vogt called Susan Bressette and left a voice mail message on her answering machine requesting input on the Green Electron Power Project as well as an offer to meet with her to have consultations on the project.

Chippewas of the Thames First Nation	
Phone: (519) 289 - 5555 Fax: (519) 289 - 2230 Chief: Joe Miskokomon (Vaughn Albert Sr., last chief) Population: 166 Distance from East Site: 77.67 km Distance from West Site: 79.60 km Mailing Address: R.R. #1, 320 Chippewa Road Ontario, Canada N0L 1Y0	Contact Person: Gregory Vogt, President of Eastern Power Date/Time: October 15, 2012, 10:23 am Spoke With: Jacqueline Deleary Gregory Vogt requested to speak directly with Chief Vaughn Albert Sr. and was informed that he was no longer the current chief and that his successor is Chief Joe Miskokomon. Jacqueline Deleary informed Mr. Vogt that Chief Miskokomon was unavailable, however she gave Mr. Vogt the contact information for Fallon and Burch, the co-consultation contacts (519-289-2662 ext. 213). Mr. Vogt called Fallon and Burch and a voice mail message was left offering to meet with them and to have consultations on the Green Electron Power Project and plant in the St. Clair Township.

Munsee-Delaware First Nation Phone: (519) 289 - 5396 Fax: (519) 289 - 5156 Chief: Patrick Waddilove Distance from East Site: 77.55 km Distance from West Site: 79.98 km Mailing Address: R.R. #1, 320 Chippewa Road Ontario, Canada N0L 1Y0	Contact Person: Gregory Vogt, President of Eastern Power Date/Time: October 15, 2012, 10:27 am Spoke With: Jennifer Snake Gregory Vogt requested to speak with Chief Waddilove with an offer to have a meeting and consultations with him regarding the Green Electron Power Project and plant in the St. Clair Township. Chief Waddilove was unavailable, therefore a message of the above offer was left with the secretary, Jennifer Snake.

Caldwell Phone: (519) 322 - 1766 Fax: (519) 322 - 1533 Email: wlh@porchlight.ca Chief: Louise Hiller Population: 300 Distance from East Site: 83.37 km Distance from West Site: 82.39 km Mailing Address: P.O. Box #388 Stn Main Leamington, Onatrio N8H 3W3, Canada	Contact Person: Gregory Vogt, President of Eastern Power Date/Time: October 15, 2012, 10:30 am Spoke With: answering machine A voice mail message was left for Chief Louise Hiller on the First Nation's answering machine offering to meet and to have consultations about the Green Electron Power Project and plant in St. Clair Township.

Moravian of the Thames Phone: (519) 692 - 3936 Fax: (519) 692 - 5522 Chief: Greg Peters Population: 700 Distance from East Site: 45.74 km Distance from West Site: 47.76 km Mailing Address: R.R. #3, 14528 Riverline Road. Thamesville, Ontario N0P 2K0, Canada	Contact Person: Gregory Vogt, President of Eastern Power Date/Time: October 15, 2012, 10:40 am Spoke With: Chief Greg Peters Chief Peters informed Mr. Vogt that he was not familiar with the project. Mr. Vogt provided Chief Peters with background information on the project including site options and site details, including the locations of the sites. Chief Peters said that this was outside of the traditional territory. He stated that if there is no impact then normally they will not respond, however in the future will prepare a form letter in order to save us the phone call. Chief Peters thanked Mr. Vogt for the phone call.

Oneida Nation of the Thames Phone: (519) 652 - 3244 Fax: (519) 652 - 9287 Email: dawn.doxtater@oneida.on.ca Chief: Joel Abram Population: 4000 Distance from East Site: 82.79 km Distance from West Site: 86.62 km Mailing Address: Customer Care Center 2212 Elm Street Southwold, Ontario N0L 2G0, Canada	Contact Person: Gregory Vogt, President of Eastern Power Date/Time: October 15, 2012, 10:48 am Spoke With: answering machine A voice mail message was left for Chief Abram offering to hold a meeting and consultations with him regarding the Green Electron Power Project and the plant in St. Clair Township.

GREENFIELD SOUTH POWER CORPORATION
2275 LAKE SHORE BLVD. WEST, SUITE 401
TORONTO, ONTARIO M8V 3Y3
TEL (416) 234-1301
FAX (416) 234-8336

Date: November 1, 2012

Chief Burton Kewayosh
Walpole Island First Nation
RR#3
Wallaceburg, Ontario
N8A 4K9

Dear Chief Kewayosh:

Subject: Green Electron Power Project ESRR Environmental Report

I am very pleased to update you again on the continuing progress of our Green Electron Power project. As you know, we have been working with the Ontario Ministry of the Environment in relation to their environmental assessment requirements and have now completed all the various studies supporting the findings in the Environmental Screening and Review Report (ESRR) for the Project. This ESRR report is nearing completion for public release in the coming days and we are pleased to provide Walpole Island First Nation an advance copy (draft) of the ESRR for your information and any comments you may have.

The Green Electron Project is a smaller version of the other successful natural gas fuelled power plants in region of St. Clair Township and will be using well established natural gas technology for electrical power generation. Thus, as expected, it has potential for only relatively minor impacts that can be effectively mitigated on the project site. The ESRR provides a full description of the project and the mitigation of its potential environmental effects. We are pleased to be part of the replacement process for Ontario's coal fired generation with clean natural generation as this will improve the overall environment in St. Clair region as well as the rest of the province, to the benefit of us all.

I am excited about the upcoming construction phase and the potential for jobs for members of your First Nation, as well as members of the local community.

If you have any comments or concerns on the project at this stage, feel free to contact me.

Best Regards,

Gregory M Vogt
President
Greenfield South Power Corporation

cc. Mr. Dean Jacobs (with one hard copy of draft ESRR and Appendices)

GREENFIELD SOUTH POWER CORPORATION
2275 LAKE SHORE BLVD. WEST, SUITE 401 **TEL (416) 234-1301**
TORONTO, ONTARIO M8V 3Y3 **FAX (416) 234-8336**

Date: November 2, 2012

Chief Burton Kewayosh
Walpole Island First Nation
RR#3
Wallaceburg, Ontario
N8A 4K9

Dear Chief Kewayosh:

Subject: Green Electron Power Project ESRR Environmental Report

Further to my letter dated November 1, 20012 forwarding a copy of the Green Electron Power Project ESSR Environment Report and Appendices, we have discovered that two reports (Appendices 17.4 and 34.4) were not enclosed with that letter. Please accept our apologies and find enclosed a copy of the missed Appendices.

Best Regards,

Gregory M Vogt
President
Greenfield South Power Corporation

cc. Mr. Dean Jacobs (with one hard copy of Appendices 17.1 and 34.4)

Walpole Island First Nation
Consultation and Accommodation Protocol

A. Purpose and Application

1. This Protocol sets out Walpole Island First Nation's (WIFN's) rules, under its laws and its understanding of respectful application of Canadian law, for the process and principles for consultation and accommodation between WIFN, the Crown and Proponents, about any Activity that is proposed to occur in WIFN's Traditional Territory or that might cause an Impact to the Environment or Health therein or WIFN Rights. WIFN expects the Crown and Proponents to respect this Protocol in all such interactions with WIFN.

B. Definitions

1. Definitions:

   a. **Activity** means any Crown Activity or Proponent Activity.

   b. **Canada** means the federal government or the federal Crown, her Majesty the Queen in right of Canada.

   c. **Crown** means either or both of Canada and Ontario, and any component part of each.

   d. **Crown Activity** means:

      i. New legislation, regulations, policies, programs and plans that provide authority to or are implemented or to be implemented by the Crown;

      ii. Changes to legislation, regulations, policies, programs and plans that provide authority to or are implemented or to be implemented by the Crown;

      iii. Issuance, varying, approval, suspension or cancellation of permits, licenses, authorizations, renewals or anything similar, by the Crown; and

      iv. Anything else authorized or undertaken by the Crown.

   e. **Crown Designate** means such person with or appointed by the Crown to be the lead contact on behalf of the Crown for consultation and accommodation with WIFN in respect of any Activity.

   f. **Day** means a business day and excludes weekends and statutory holidays.

   g. **Emergency Situation** means a situation that is likely to endanger the life or health of any person, or that is likely to result in an environmental catastrophe.

h. **Environment** means the components of the earth, and includes:

   i. land, water and air, including all layers of the atmosphere;

   ii. all organic and inorganic organisms including flora and fauna and humans;

   iii. the physical, social, economic, cultural, spiritual and aesthetic conditions and factors that affect the physical or socio-psychological health of WIFN or any of its members;

   iv. physical and cultural heritage, any structure, site or thing that is of historical, archaeological, paleontological or architectural significance; and

   v. any part or combination of those things referred to in paragraph (i) to (iv), and the interrelationships between two or more of them.

i. **Health** means the physical or socio-psychological health of WIFN or any of its members.

j. **Impact** means any adverse effect that any Activity may cause to the Environment within WIFN's Traditional Territory or the Health of WIFN or any of its members or any WIFN Right.

k. **Information** means, to the extent permitted to be disclosed in accordance with applicable law:

   i. Location (including if possible a map of the site of and area of impact of the Activity if applicable), timing, and as a full a description as possible of the Activity;

   ii. a written draft of the Crown Activity, if applicable;

   iii. known or potential Impacts as a result of the Activity;

   iv. the name and contact information for the Crown Designate;

   v. the name and contact information of the Proponent, if applicable;

   vi. all information and documents provided by the Proponent to the Crown in respect of the Proponent Activity, if applicable; and

   vii. any other information that the Crown and/or Proponent considers relevant.

l. **Notification** means the initial written notice sent to the WIFN Contact by the Crown and/or Proponent, which shall contain as much Information as is in the possession of the Crown and/or Proponent at this stage after reasonable efforts to acquire same.

m. **Ontario** means the provincial government or Crown or Queen in right of Ontario ("Ontario").

n. **Proponent** means the party (which could include the Crown, a corporation, partnership, sole proprietorship, association, organization, person or the like) other than WIFN or a business in which WIFN has majority control or a majority financial interest, that would undertake or is undertaking the Proponent Activity, as the case may be.

o. **Proponent Activity** means any activity pursuant or incidental to anything authorized or ordered by the Crown, or that the Crown is contemplating authorizing or ordering, and does not include any activity of WIFN or a member of WIFN or a business in which members of WIFN have majority control or a majority financial interest which activity WIFN has authorized.

p. **Protocol** means the Walpole Island First Nation Consultation and Accommodation Protocol.

q. **Reserve** means the unceded reserve of WIFN which is Walpole Island Reserve No. 46, which is a reserve as under the *Indian Act* R.S.C. 1985 c. I-5, as amended (the "*Indian Act*"), is referred to in Ojibwe as "Bkejwanong" (where the waters divide), and which forms a large river delta on Lake St. Clair consisting of six islands which are Walpole, St. Anne, Potawatomi, Squirrel, Bassett and Seaway, totaling approximately 24,000 ha./58,000 acres. For the purposes of this Protocol, the Traditional Territory of WIFN does not include the Reserve.

r. **Traditional Territory** means that territory as described in Schedule "A" hereto.

s. **Walpole Island First Nation ("WIFN")** means the aboriginal people within the meaning of section 35 of the *Constitution Act, 1982*, which is a First Nation, and a Band pursuant to the *Indian Act*.

t. **WIFN Contact** means the person appointed by WIFN to whom Notification is sent and who is mandated to ensure that where applicable WIFN Representative(s) is/are appointed in respect the particular Activity referred to in the Notification.

u. **WIFN Representative(s)** means the person(s) appointed by WIFN to participate in the consultation and accommodation process about a particular Activity, and such person(s) must have the authority to act on behalf of WIFN in regard to same.

v. **WIFN Rights** means any of WIFN's or its members' aboriginal or treaty rights or the ability to exercise such rights, or asserted aboriginal or treaty rights (where there is prima facie merit to that asserted right).

w. **WIFN Sustainability** means the ability of WIFN to survive and thrive including through a healthy Environment, through good Health of WIFN and its members, and through respect for and honouring of WIFN Rights.

C. Legal Status

2. No WIFN Right may be abrogated or derogated from through operation of this Protocol other than by proper legal authority of WIFN.

3. Nothing in this Protocol may be construed to limit any consultation or accommodation obligations owed to WIFN by the Crown or any Proponent.

4. Notwithstanding anything in this Protocol, WIFN retains the right to challenge, by way of judicial review or any other legal or other process, any Activity.

D. Context and General Principles to Guide Consultation and Accommodation

5. WIFN is part of the Ojibwe, Potawatomi and Odawa people who together comprise a political and social compact known as the Three Fires Confederacy.

6. The Anishnabeg of WIFN have lived in their Traditional Territory since time immemorial, practicing their ways and living according to their laws and culture. They are a self-defined people.

7. WIFN continues to assert (see Ontario Superior Court of Justice court file no. 00-CV-189329) and exercise aboriginal title and aboriginal rights to and in all parts of its Reserve, and to those parts of its Traditional Territory to which it has not been a party to a treaty, including lands under water in Canadian portions of Lake Erie, Lake Huron, Lake St. Clair, the St. Clair River and the Detroit River (see map attached as Schedule A for parts of Traditional Territory in which WIFN claims Aboriginal title). In all other parts of its Traditional Territory, WIFN maintains treaty rights and maintains aboriginal rights to the extent not explicitly surrendered in the treaty.

8. In addition to aboriginal title, WIFN's rights in its Reserve and Traditional Territory include rights to hunt, fish and trap, to harvest plants for food and medicine, to protect and honour burial sites and other sacred and culturally significant sites, to sustain and strengthen its spiritual and cultural connection to the land, to protect the Environment that supports its survival, to govern itself, and to participate in all governance and operational decisions about how the land and resources will be managed, used and protected.

9. WIFN's laws require WIFN to preserve and even enhance a mutually respectful relationship with the Environment, to co-exist with Mother Earth and protect this relationship. WIFN under its laws has the responsibility to care for its Traditional Territory for future generations, to preserve and protect wildlife, lands, waters, air and resources. WIFN relies on the health of the Environment in its Traditional Territory for its survival. The health of the lands and waters is essential to the

continued existence of WIFN as a people and it and its members' Health, its culture, laws, livelihood, and economy.

10. WIFN is recognized as a respected and principled steward of the Environment. WIFN's input and perspective in any consultation and accommodation process will likely include the use of traditional ecological and cultural knowledge alongside knowledge from western scientific and technical sources.

11. All decisions about any Activity that might cause an Impact must be made carefully and in the best interests of WIFN Sustainability. WIFN has suffered significant adverse effects from development, use and pollution of its Traditional Territory (WIFN's Reserve and main residential community is downstream and down-wind from one of the most industrialized parts of North America) and from taking and using of parts of its Traditional Territory including those to which it asserts aboriginal title.

12. WIFN may decide that consideration of cumulative effects must be included in any consultation and accommodation process. Cumulative effects include not only those of the Activity combined with other existing projects or Activities or residual impacts from past activities, but with other planned Activities.

13. It may be necessary for the Crown and/or Proponent to fund cumulative effects analyses, WIFN land use and occupancy studies, and other relevant studies to enable informed decision-making about any Activity.

14. WIFN expects to play a meaningful role in any environmental assessment ("EA") or related process, including, if WIFN requests, to have a role in establishing the scope and terms of reference for such EAs and to appoint a member to any EA panel review, and to review and comment on environmental impacts statements, and any screening, study or like reports, but EAs and any role that WIFN might take in regard to these do not of themselves satisfy the Crown's or any relevant Proponent's duty to consult with and accommodate WIFN.

15. WIFN recognizes the need to identify and develop new and appropriate ways through which aboriginal and non-aboriginal parties may create sustainable development opportunities from the resources found within WIFN's Traditional Territory. WIFN's understanding of what is "sustainable" is informed by WIFN's traditional knowledge and laws. WIFN's laws require WIFN to assess an Activity by anticipating its potential effects at least seven generations into the future.

16. Consultation and accommodation processes must be designed and implemented with flexibility to reflect the nature and importance of the WIFN Right or Health or elements or conditions of the Environment that could be affected by the Activity, and the seriousness of the possible Impact. WIFN and only WIFN might decide in certain circumstances that it does not require consultation and/or accommodation in respect of an Activity, and it may determine the level of consultation and accommodation it considers necessary (minor, medium, major).

17. It takes time to make good decisions that consider all relevant matters, and it takes time to build and maintain good relations, and sufficient time must be provided for consultation with and accommodation of WIFN by the Crown and Proponents.

18. All parties to consultation and accommodation processes are expected to treat each other with respect and act in good faith, in an honest, transparent and open manner.

19. WIFN must be consulted by the Crown and if applicable Proponents from the earliest stages of any contemplated Activity, so that strategic and long-term planning is facilitated, WIFN's input can be taken into account in the consideration of relevant alternatives to such Activity (including the alternative of no activity), and in the design of such Activity. This should be a significant benefit to the planning exercise, and greatly reduce the potential for conflict at later stages.

20. The Crown and if applicable Proponents must always consult with WIFN with the intent, and where required by WIFN by taking all feasible steps, to accommodate WIFN by substantially addressing all of WIFN's legitimate concerns about the Activity.

21. The Crown may delegate aspects of consultation and accommodation to the Proponent so long as the Crown maintains an oversight role over the entire process unless WIFN requests otherwise.

22. Accommodation will generally include:

    - Prevention and remediation of Impacts to the extent feasible (and where WIFN requires as below, by not proceeding with the Activity),
    - mitigation of Impacts to the extent feasible
    - provision of capacity building and other benefits from the Activity to the extent reasonably feasible
    - provision of compensation and related benefits from the Activity to the extent reasonably feasible in general to compensate for Impacts
    - measures to increase WIFN's comfort with or trust in the Activity, including community monitoring, community liaison or oversight committees, a role on Proponent's board, other decision-making roles, etc.

23. The Crown is expected to fund, and/or ensure funding is provided by any relevant Proponent for all the reasonable costs of WIFN to participate in a meaningful and informed way in any consultation and accommodation process. These costs will be estimated in a workplan and budget provided by WIFN. Template versions of a workplan and budget are attached to this Protocol as Schedules B and C, but these are examples only.

24. In respect of accommodation, WIFN generally expects Proponents to enter into a Memorandum of Agreement ("MOA") or the like in respect of Activities that WIFN expects to result in some, but not significant, Impacts, and to enter into an Impacts Benefits Agreement ("IBA") or the like when WIFN expects significant Impacts but does not decide to stop the Activity. The Crown is expected to work with WIFN when requested to ensure that Proponents meet these expectations. A template version of possible topics to be included in an MOA and IBA are attached to this Protocol as Schedule D, but this is an example only.

25. WIFN has the right to stop any contemplated Crown or Proponent Activity that would likely have a significant Impact.

26. The Crown must not dispose of or grant to any third party any interest in land that is part of WIFN's aboriginal title claim area (see Ontario Superior Court of Justice court file no. 00-CV-189329, and Schedule A to this Protocol), without the prior and informed consent of WIFN.

E. Trigger for Consultations

27. The Crown must consult with and accommodate WIFN and where applicable ensure that the Proponent also consults with and accommodates WIFN, in respect of any Activity, when this duty is triggered.

28. In addition, WIFN expects where possible to engage in consultations and negotiations for accommodation at the strategic-planning level, including in respect of the following:

- co-management of resources (eg: fisheries, wildlife protection plans, and the like)
- protection and management of watersheds and ecosystems
- land use planning for broader areas in the Traditional Territory

29. Consultations with and accommodation of WIFN are triggered when the Crown is contemplating any Crown Activity or is aware of any Proponent Activity that might have an Impact.

30. Unless WIFN otherwise decides, if any Activity has begun or is underway before consultation with WIFN is completed, and such consultation would have been triggered, the Crown and where applicable the Proponent must undertake consultation with and ensure accommodation of WIFN forthwith. WIFN expects the Crown to suspend such Activity where to do so would not cause undue hardship to the Crown or any relevant Proponent, until consultations are completed.

F. Consultation and Accommodation Process

31. ***Step One: Initial Contact***

a. The WIFN Contact is the WIFN Consultation Manager or a person standing in for him, or such other person or office as the Band Council from time to time appoints.

b. All Notifications are to be sent to the WIFN Consultation Manager, with a copy sent to the WIFN Chief. If the WIFN Contact is absent or otherwise unable to fulfill his duties of being the WIFN Contact, and there is no person standing in for him, the Chief shall appoint the WIFN Contact.

c. The Crown Designate must send Notification normally by email and fax to the WIFN Contact, of the contemplated Activity, at the earliest possible stage.

d. The Proponent shall also send Notification to the WIFN Contact of its Proponent Activity, but WIFN expects consultation and accommodation processes to be initiated by the Crown and for the Crown to have oversight unless WIFN otherwise requests.

e. Neither the Crown nor the Proponent are required to send such Notification and engage in the process in this Part, if they are contemplating or taking action to address an Emergency Situation. However, as soon as possible after dealing with the Emergency Situation, the Crown or Proponent must send a Notification or other notice to the WIFN Contact of the action taken to address the Emergency Situation. The Crown and/or Proponent must engage in the process in this Part if such action would have otherwise triggered consultations under this Protocol and it could result in further Impact in the future.

f. The WIFN Contact will where possible confirm receipt of such Notification to the Crown Designate and if applicable the Proponent, within 3 days of receiving it.

g. If the Crown Designate and Proponent if applicable do not receive such confirmation within 3 days, they must contact the office of the Chief and/or the office of the Director of Operations, to determine if the Notification was received and who the WIFN Representative(s) is/are.

32. ***Step Two: Determination of Consultation and Accommodation Needs and Appointment of WIFN Representatives if Applicable***

a. The WIFN Contact will if possible within 3 days of receipt of the Notification, forward to the Band Council or a committee of or a delegate of the Band Council as the Band Council may determine from time to time:

- the Notification;

- a recommendation as to whether consultation and accommodation is required, and if so, the level of same that is likely to required (minor, medium or major);

- if consultation and accommodation is recommended, a request to appoint WIFN Representative(s) for this consultation and accommodation process within 10 days or a shorter period of time as the WIFN Contact reasonably determines is necessary;

and subject to s. 32(b), the Band Council or a committee of or a delegate of the Band Council as the case may be, will make the determination as to whether consultation and accommodation is required. If so, it will determine the likely level of same, and will appoint WIFN Representative(s) and inform them of the likely level of same. If no consultation and accommodation is required, it will instruct the WIFN Contact to provide notice to the Crown and if applicable the Proponent that no consultation or accommodation is required.

b. If no response as above is provided to the WIFN Contact within the requested time, the WIFN Contact will:

- if he recommended that no consultation or accommodation is required, provide notice to the Crown and if applicable the Proponent that no consultation or accommodation is required;

- if he recommended that consultation and accommodation is required, appoint the WIFN Representative(s) and inform them of his recommendation as to the level of consultation and accommodation likely to be required (minor, medium or major).

c. Further steps in this Protocol assume that WIFN has determined that consultation and accommodation are required.

33. ***Step Three: Preparation of Workplan and Budget***

a. The WIFN Representative(s) will review the Notification to determine whether other Information is required in order for WIFN to develop a workplan and budget for consultation and accommodation in respect of the Activity (eg: whether WIFN has enough Information to determine what technical studies it might have to commission, what legal input it might require, what community input it might require).

b. The WIFN Representative(s) will contact the Crown Designate and Proponent if applicable as soon as possible after being appointed, to identify him/herself or themselves, to request other Information that is required if any and to determine when it will be delivered, and to set a target date when a workplan and budget for WIFN's participation in the process will be forwarded by WIFN to the Crown Designate and if applicable the Proponent.

c. If information is to come in stages over the process, then workplans and budgets may be developed for each stage.

d. The WIFN Representative(s) will prepare a draft workplan for the process of consultations and negotiations, and a budget for WIFN to participate in a meaningful and informed way in same.

e. The workplan will generally include:

- Provision of all required Information to WIFN Representative(s): what information, and when it will be provided.
- Collection of required information from WIFN: what information (such as nature and extent of the exercise of affected Rights, and how such Rights or the Environment or Health might be Impacted by the Activity), when it will collected, and then provided to the Crown Designate and if applicable the Proponent.
- Expert analysis or input (if required): what type(s) (such as environmental experts, archaeologists, anthropologists, forestry experts, etc.); nature of the work (which might include field study, review of Information and other relevant documentation, preparation of a report); when each step in the work will be completed.
- Legal analysis or input (if required): nature of the work (including assisting WIFN in the consultation and negotiation process, evaluation of Information and other relevant documentation from experts and others as to the implications on WIFN's Rights of the proposed Activity, and preparation of legal memoranda re same); when each step in the work will be completed.
- Consultation and negotiation meetings: their locations, participants, purposes or goals, and timing.
- Work to be accomplished between each consultation and negotiation meeting (including collection and provision of information, expert and legal analysis and input).
- Internal community consultation: what is required (might include community meetings, development and dissemination of material to community members, staff and administrative work); when this work will be completed.
- Negotiating an MOA and/or IBA or the like with the Proponent (if required).

- Ratification of any MOAs, IBAs or the like by the WIFN Community (if required): community processes, when each step in such processes will be completed.

f. The budget will generally include:

- Expenses to collect, copy and disseminate information.
- Expert fees and expenses (if required).
- Legal fees and expenses (if required).
- Fees or honoraria and expenses for WIFN Representatives for their work in the consultations and negotiations.
- Meeting costs (to book room and provide refreshments etc)
- Internal community consultation costs (booking meeting rooms, refreshments for meetings, creating, copying and disseminating written information packages, administrative and staff work for this).

g. The WIFN Representative(s) will forward the workplan and budget to the Crown Designate and Proponent if applicable as soon as it is completed, generally within 30 days of receipt of the Notification if the Information it contains is sufficient for this purpose.

h. WIFN expects the Crown and Proponent if applicable to abide by the workplan and budget submitted by WIFN, and for the Crown to cover the budgeted costs or to ensure that the Proponent covers such costs.

i. If in the opinion of the Crown and/or Proponent, elements of the workplan or budget are not reasonable, they must send to the WIFN Representative(s) their proposed changes and reasons for same before taking any other steps in the consultation or negotiation process.

j. WIFN expects the Crown and Proponent if applicable to negotiate the workplan and budget in good faith with WIFN, so all parties may arrive at a mutually agreeable workplan and budget.

34. ***Step Four: Follow Workplan and Revise When Necessary***

a. The parties will follow the workplan to the extent reasonable, and WIFN Representative(s) will revise the workplan (and budget if necessary) if circumstances warrant. In case of revision, relevant parts of step three would be repeated.

b. Consultations may take many forms, and parties should be flexible and patient as the process progresses.

c. WIFN often makes decisions with the participation of its members. Workplans may therefore contain provision for internal community consultation. In addition, in some cases there may be need for further consultation with particular families or individuals who might be most affected. The number of meetings and internal consultations will depend on the complexity and significance of the Activity and seriousness of Impacts.

d. The final phase of the process will often involve the negotiation of an MOA and/or IBA, the terms and conditions of which WIFN will analyse to determine whether or not it wishes the Activity to proceed. The WIFN community will often have to ratify or consent to such agreements. The signing of any such MOA or IBA or the like, or if same is not required, the submission by WIFN to the Crown Designate and Proponent if applicable of a letter or other notice stating WIFN agrees the Activity may proceed, constitutes WIFN's consent to the Activity on whatever terms and conditions are contained in the MOA or IBA or letter or the like.

35. General:

a. The Crown and Proponent must disclose all relevant Information to WIFN Representatives as it becomes available, throughout the consultation and accommodation process.

b. WIFN may determine whether it wishes to hold any aspect of consultation and accommodation process with the Crown, the Proponent or both, and expects such parties to respect such decisions if they are reasonable.

c. Any party to consultation and accommodation processes may involve such experts, lawyers or support persons as are reasonably required.

d. Generally, notes of and correspondence related to all consultation and accommodation processes are the responsibility of each respective party.

e. Parties to consultation and accommodation processes may enter into confidentiality agreements and may agree that all discussions and correspondence pertaining to such processes are confidential to the extent allowed by law.

f. If WIFN requires accommodation through negotiations with the Proponent for an MOA or IBA or the like, the Crown is expected to, when requested by WIFN, assist WIFN to ensure that the Proponent engages in such negotiations pursuant to the portion of the workplan and budget that pertain to same. WIFN expects the Crown to not approve the relevant Activity unless and until agreement is reached between WIFN and the Proponent on the MOA or IBA or the like.

g. This Protocol and any MOA, IBA or the like that WIFN might enter into, are all without prejudice to WIFN's claim in Ontario Superior Court of Justice

court file no. 00-CV-189329 and any of its other specific claims and land claims.

SCHEDULE A

Walpole Island First Nation's Traditional Territory (in Canada) consists of the following lands (see also map versions in this Schedule):

1. The Canadian portions of the beds of Lake St. Clair, the St. Clair River and the Detroit River.

2. That part of the Canadian portion of Lake Huron south of a line drawn from the northeast corner of the boundary of the 1807 Treaty of Detroit to the northwest corner of the boundary of Treaty #29 of 1827 (approximately the Canadian portion of Lake Huron south of Goderich)

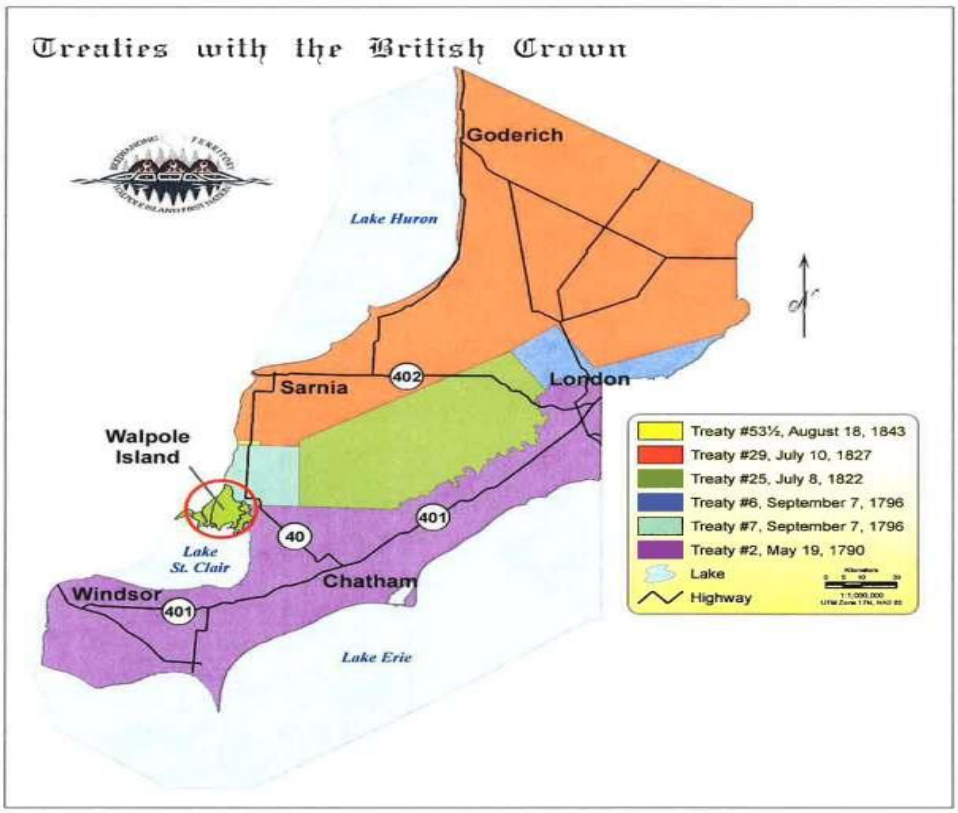
3. That part of the Canadian portion of Lake Erie west of the extrapolation of the eastern boundary of Treaty #2 of 1790 (roughly a line drawn south from London)

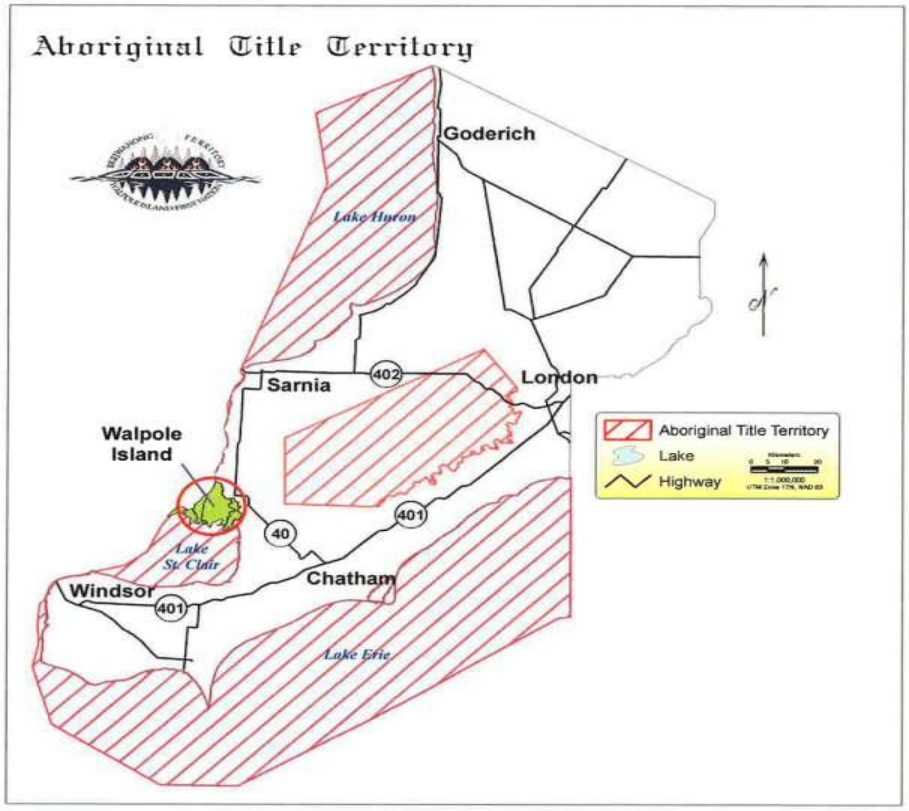
4. For greater certainty, any islands encompassed within the lands described above.

5. The area which was the subject of Treaty 25 on July 8, 1822 (which treaty was not signed by WIFN or its predecessors)

6. The geographic Township of Anderdon

7. The lands subject to the following treaties:
   (a) Treaty #2 (19 May 1790)
   (b) Treaty #6 (7 September 1796)
   (c) Treaty #7 (7 September 1796)
   (d) Treaty #12 (11 September 1800)
   (e) Treaty #29 (10 July 1827)


Treaties with the British Crown
Goderich
Lake Huron
Sarnia
402
London
Walpole Island
401
40
Lake St. Clair
Chatham
Windsor
401
Lake Erie
Treaty #53½, August 18, 1843
Treaty #29, July 10, 1827
Treaty #25, July 8, 1822
Treaty #6, September 7, 1796
Treaty #7, September 7, 1796
Treaty #2, May 19, 1790
Lake
Highway


Aboriginal Title Territory
Goderich
Lake Huron
Sarnia
402
London
Walpole Island
401
40
Lake St. Clair
Chatham
Windsor
401
Lake Erie
Aboriginal Title Territory
Lake
Highway

SCHEDULE B TO WALPOLE ISLAND FIRST NATION

CONSULTATION AND ACCOMMODATION PROTOCOL

Draft Work-Plan for Consultations / Negotiations

STAGE	TASK	DESCRIPTION / COMMENTS	WHO TO COMPLETE	DATE TO BE COMPLETED	STATUS / DATE ACTUALLY COMPLETED
WORKPLAN & BUDGET	Identification of WIFN needs for participation	WIFN Representatives to work with Crown Designate and Proponent to determine WIFN needs to participate in an informed and meaningful way	WIFN Representatives	20 days after receipt of Notification	
	Provision of further information to WIFN	All further information to be provided by Crown Designate and Proponent to WIFN Representatives	Crown Designate		
	WIFN to prepare draft workplan and budget	WIFN Representatives to review all information to determine technical advisors and internal requirements and draft workplan and budget	WIFN Representatives	30 days after receipt of Notification	
	Agreement on Workplan	Parties to negotiate ad agree on workplan and budget	Parties	40 days after receipt of Notification	
CONSULTATION PRE-MEETING 1	Pre- Meeting; Engage Technical Advisors	WIFN to engage technical and legal advisors and experts, provide with agendas, workplan, and terms of engagement (including to interview traditional users to determine potential impacts of Activity, if required)	WIFN Representatives	Prior to First Meeting	

CONSULTATION MEETING 1	Meeting 1	All Parties (or Crown and WIFN if WIFN so requests) to meet to share and review information, raise questions for need for further information, and discuss potential impacts. Deadlines for work and next steps to be determined	All Parties. WIFN Representatives to arrange for meeting.		
CONSULTATION POST MEETING 1	Further questions and answers	Further information shared to respond to questions raised at meeting 1.	All Parties	Within X days of Meeting 1 (and ongoing)	
	Technical reports	WIFN technical advisors and experts undertake technical research and analysis and issue reports. Distribute reports to Crown Designate and Proponent.	WIFN Representatives to oversee and manage	Within X days of Meeting 1	
CONSULTATION MEETING 2	Meeting 2	Discussion of all information shared post meeting 1, and determine any need for further information. Discuss options to ensure that WIFN's concerns are substantially addressed, and measures to ensure this.	All Parties. WIFN Representatives to arrange meeting.		
CONSULTATION POST MEETING 2	Share proposals	Parties to share proposals on ways to address WIFN's concerns, which might include MOA or IBA.	All Parties	X days after meeting 2	

- 3 -

NEGOTIATION	Negotiate MOA or IBA, if applicable	WIFN Representatives, likely with assistance of legal advisor, to prepare draft MOA or IBA and distribute to Proponent and Crown if applicable. Parties to exchange drafts to negotiate MOA or IBA, via email/fax or at in-person meeting(s).	WIFN Representatives	X days after meeting 2	
	Agree on MOA or IBA, if applicable	Parties to negotiation to come to agreement on MOA or IBA terms, possibly with assistance of Crown if WIFN so requests.	All Parties to MOA or IBA	X days after meeting 2	
COMMUNITY CONSULTATION	Meetings in WIFN community	WIFN Representatives to prepare information and present it in community meetings to get input and in some cases the final decision re Activity. Might be more than one meeting required. Crown and Proponent Reps might be requested to attend.	WIFN Representatives		
	Sharing of Community Response	WIFN Representatives prepare and present response re community reaction or decision to Crown and Proponent	WIFN Representatives		
CONSULTATION MEETING 3 3	If required, meeting 3 if outstanding issues	If agreement not reached between parties by this stage, hold another meeting(s) to determine if agreement can be reached and how, and next steps for doing this.	All Parties. WIFN Representatives to arrange for meeting(s		

- 4 -

CONSULTATION AND NEGOTIATION POST MEETING 3	Agreement reached if possible	Steps required to ratify MOA or IBA, or for WIFN to send letter approving Activity or otherwise for agreement between Crown and WIFN re Activity	All Parties. WIFN Representatives to oversee.		

SCHEDULE C TO WALPOLE ISLAND FIRST NATION

CONSULTATION AND ACCOMMODATION PROTOCOL

DRAFT BUDGET

This Budget may be divided into two parts -- one for Consultation and one for Negotiation – if the Crown pays for Consultation costs and the Proponent pays for costs to negotiate MOA or IBA or the like.

CONSULTATION & NEGOTIATION BUDGET		
ITEM	DESCRIPTION	EXPECTED COST
Administrative Expenses	Copying fees, postage, long distance fees, %age overhead for WIFN administration	
WIFN Representative Fees / Per Diems	Salary recovery, fee, or per diem for each WIFN representative (itemize separately)	
WIFN Representative Expenses	Travel and other expenses	
Consultation / Negotiation Meetings	Meeting rooms, refreshments, etc (list for each projected consultation meeting)	
Community Meetings Expenses	Copying and dissemination of material, meeting rooms, refreshments, elder or other honoraria (list for each community meeting)	
Internal Technical Advisor/ Expert Fees	Describe which kinds of WIFN technical advisors/experts required, their deliverables and their fees	
Internal Technical Advisor/Expert Expenses	Travel and other expenses	

- 2 -

Outside Technical Advisor/Expert Fees	Describe which kinds of outside experts or technical advisors required, their deliverables and their fees	
Outside Technical Advisor/Expert Expenses	Travel and other expenses	
Legal Fees	Describe type of work required and fees for consultations	
Legal Expenses	Travel and other expenses	
TOTAL		

SCHEDULE D TO THE WALPOLE ISLAND FIRST NATION

CONSULTATION AND ACCOMMODATION PROTOCOL

TOPICS THAT MIGHT BE CONSIDERED IN AN MOA OR IBA INCLUDE:

THE PROJECT

- Description of Project: nature of it, timing, location, etc.

ONGOING INFORMATION SHARING AND CONSULTATION ABOUT PROJECT

- What sort of information is to be shared
- How often or at what intervals (triggered by certain events) information is to be shared
- Process for ongoing information sharing and consultation [often committees or working groups comprising First Nation and Proponent representatives are established for this, sometimes with acknowledgement that a Crown representative might also be required]

IMPACTS MONITORING

- Type of monitoring to be done (for example, environmental impacts, impacts on exercise of treaty and aboriginal rights)
- Who is responsible for the cost of monitoring
- First Nation participation in monitoring – how will the First Nation participate?
- Reporting process for results of monitoring

IMPACTS MITIGATION COMMITMENTS AND MEASURES

- Proponent responsibility for preventing, remediating or mitigating any potential or actual impact (on environment or exercise of aboriginal or treaty right) from the Project once made aware of impact
- Once a potential or actual impact has been identified, how prevention, remediation or mitigation measures will be implemented [often a committee is established for this, comprising First Nation and Proponent representatives, sometimes with acknowledgement that a Crown representative might also be required]
- First Nation participation in determining and implementing such measures

- Who will cover costs of such measures
- Responsibility to report on potential and actual impacts once known, and results of prevention, remediation or mitigation measures

DECISION MAKING

- What kinds of decisions about the Project the First Nation desires or must be involved in
- How the decisions will be made [sometimes the First Nation is given seats on the Proponent's Board, or a committee is established comprising representatives of the First Nation and Proponent]
- At what stage this First Nation involvement will begin
- The process for dispute resolution if a dispute arises about the interpretation and application of the agreement

TRAINING, EMPLOYMENT AND BUSINESS OPPORTUNITIES

- Preference for First Nation members to work on the Project [sometimes there is a commitment for a specific number of such persons to be trained and hired]
- Training for First Nation members to work on the Project [sometimes there is a commitment for specified type of training for specific numbers of First Nation members]
- Process for recruitment of First Nation members
- How to enforce the contractual provisions in collective agreements, with subcontractors, and under human rights legislation
- Preference for First Nation-owned companies to be suppliers and subcontractors [sometimes specifying the type of goods and services to be supplied]
- Process for identifying such companies and the Proponent's needs that such companies could supply or service
- Establishment of joint ventures, partnerships etc to run various aspects of the Project

CAPACITY BUILDING FOR FIRST NATION

- Provision of training, resources, programs or funds for the First Nation to build its governance, administration or infrastructure capacity outside the immediate parameters of the Project (establishes ongoing commitment by Proponent to work with the First Nation over time, and provides benefits beyond compensation for impacts from Project to reflect more equitable benefit-sharing with Proponent)

CULTURAL PROTECTION FOR FIRST NATION

- Identification of areas and sites within the First Nation's traditional territory that must be protected from Project impacts (spiritual or sacred sites, burial grounds, important harvesting areas, etc.)
- Need for and process to identify such areas and sites (such as traditional use, archaeological or anthropological studies) and who will fund this
- Measures to ensure such areas and sites are protected
- Other measures to ensure the First Nation's culture is protected while the Project is ongoing

COMPENSATION FOR RESIDUAL EFFECTS AND USE OF TRADITIONAL LANDS

- Set out methods and amounts of compensation [might include: cash or lump sum, royalties or percentage of gross revenue from Project, rental fee for land, shares or warrants in company etc.]

FUNDING TO FIRST NATION FROM PROPONENT FOR ONGOING PARTICIPATION IN AGREEMENT PROVISIONS

- Commitment from Proponent to fund all reasonable and necessary costs for the First Nation to undertake its participation under the Agreement (such as participation in ongoing information-sharing and consultation, in monitoring, in any committees established, in impact prevention and mitigation measures, in its role in training, employment and business opportunities such as identifying members and companies who might participate etc, and for overhead and administration re the above)
- Includes costs for First Nation and any necessary advisors (technical, expert, legal)

DISPUTE RESOLUTION

- Process for dispute resolution [often arbitration is preferred]
- Who will cover costs of this [Proponent often commits to covering its and the First Nation's costs for this process, including legal costs, unless the Arbitrator determines that the First Nation's position is frivolous or vexatious

APPENDIX A3 - Letter from the Water/Wasterwater Specialist from St. Clair Township

The Municipality Sewer Use By-Law:

- *"Can the anticipated effluent generated by this proposed project meet the municipalities sewer use by-laws."*

A: The anticipated effluent generated appears to be within the Sanitary Sewer Use By-Law limits. A sampling schedule will need to be determined in the contract.

- *"Has the proponent, in concert with the municipality, confirmed that the expected quality and quantity of effluent to be treated at the Courtright WWTF will not compromise the current performance and capacity of the WWTF."*

A: The anticipated effluent generated should not compromise the performance of the Courtright WWTF.

- *"Is there sufficient 'uncommitted' reserve capacity at the WWTF"*

A: Yes, there is sufficient 'uncommitted' reserve capacity at the Courtright WWTF.

Thanks,

Nova VanderSlagt
Water/Wastewater Specialist
St. Clair Township
Office 519-867-2993
Cell 519-383-2360
Fax 519-867-3886
nvanderslagt@twp.stclair.on.ca

17.9 APPENDIX 17.9 - Environmental Impact Management Plan

GREEN ELECTRON POWER PROJECT

ENVIRONMENTAL IMPACT MANAGEMENT PLAN

OCTOBER 31, 2012

GREEN ELECTRON POWER PROJECT
ENVIRONMENTAL IMPACT MANAGEMENT PLAN

Revised: October 31, 2012

GREEN ELECTRON POWER PROJECT
ENVIRONMENTAL IMPACT MANAGEMENT PLAN

Revised: October 19, 2012

1. Commitments, Goals and Specific Objectives

The environmental impact of the Green Electron Power Project will be mitigated and managed in accordance with the provisions of this plan. The goal of this plan is to minimize the environmental impact of all phases of the project wherever and whenever feasible. This goal includes the following specific objectives:

a) implementation of all commitments to mitigation identified in the environmental assessment process (see Table 1)
b) review of pollution prevention and impact mitigation options prior to each phase of the project (design, construction, operation and decommissioning)
c) implementation of all measures identified as being technically and economically feasible
d) monitoring of the efficacy of the pollution prevention and impact mitigation measures
e) proactive planning for spills, emergencies or other unexpected events which may have serious environmental impact

2. Implementation and Schedule

This plan is to be implemented in conjunction with the planning and scheduling of the overall project. The Project Manager will ensure that all elements of this plan are reflected in the project schedule and are implemented accordingly.

3. Design Phase

At the start of the detailed design phase the mitigation measures committed to in the environmental assessment process (see Table 1) will be reviewed by the Project Manager, who will then assign responsibility for implementation of those measures requiring design input to appropriate members of the project engineering team. Early in the detailed design phase the key members of the engineering team will conduct a review of the project to identify design features of the project, which may prevent pollution or improve the mitigation of environmental impacts.

This review will address both expected and potential environmental impacts in at least the following areas:

a) Surface and Ground Water
c) Air Quality and Visual Impacts
d) Noise
e) Servicing Requirements
f) Natural Environment
h) Waste Generation and Disposal
i) Spills and emergencies
j) Land Use, Traffic and Other Community Impacts

The design features identified by this review will be evaluated to assess whether each of these is technically and economically feasibility. Any of these design features found to be technically and economically feasible will be incorporated into the design. If the evaluation of technical or economic feasibility must await completion of some detailed design, equipment procurement, or regulatory approval activity, the feasibility of that design feature will be revisited at that time.

The Project Manager will prepare and keep updated a list of the mitigation measures committed to in the environmental assessment, and the design features identified for evaluation by this plan. The list will indicate responsibility for evaluation, status of evaluation, decision on feasibility, responsibility for implementation and status of implementation. The Project Manager will conduct sufficient monitoring of the items on the list to ensure successful implementation of all items.

During the design process the engineering team will be encouraged to identify additional design features which may improve mitigation measure or enhance pollution prevention. Any design features found to be technically and economically feasible will be incorporated into the design. Design features which cannot be implemented without risk of substantial delay to the project in-service date will be deferred until the operations phase.

4. Construction and Commissioning Phase

Prior to the mobilization of any construction forces at the site, the Project Manager and the Construction Site Manager will review the mitigation measures committed to in the environmental assessment process that relate to construction activities so as to identify those measures for which an implementation plan and/or contingency plan needs to be developed. Once key members of the construction team are in place, the responsibility for preparing implementation and/or contingency plans will be assigned and carried out. If the preparation and/or implementation of any plan must await completion of some detailed design, equipment procurement, or regulatory approval activity, the feasibility of that design feature will be revisited at that time.

Early in the construction phase the Construction Site Manager will conduct a review of the construction of the project to identify construction practices which may prevent pollution or improve mitigation of environmental impacts.

This review will address both expected and potential environmental impacts in at least the following areas:

a) Erosion and Siltation
b) Construction Noise, Odour and Dust
c) Construction Traffic
d) Servicing Connections
f) Natural Environment
h) Waste Generation and Disposal
i) Spills and emergencies

These construction practices will be evaluated to assess whether each of these is technically and economically feasibility. Any construction practices found to be technically and economically feasible will be implemented. If the evaluation of technical or economic feasibility must await completion of some detailed design, equipment procurement, or regulatory approval activity, the feasibility of that construction practice will be revisited at that time.

The Construction Site Manager will prepare and keep updated a list of the construction impact mitigation measures committed to in the environmental assessment, and the construction practices identified for evaluation by this plan. The list will indicate responsibility for evaluation, status of evaluation, decision on feasibility, responsibility for implementation and status of implementation. The Construction Site Manager will conduct sufficient monitoring of the items on the list to ensure successful implementation of all items.

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GREEN ELECTRON POWER PROJECT
ENVIRONMENTAL IMPACT MANAGEMENT PLAN

The Construction Site Manager will prepare an environmental procedures manual which will identify all environmentally related mitigation measures and contingency plans applicable to construction, together with implementation steps, monitoring measures, reporting systems, as well as identification of specific responsibilities for implementation and supervision. The manual will apply to all construction activities whether conducted by direct hired forces, contractors or subcontractors.

The manual shall address at least the following matters:

Goals and Specific Objectives
Responsibility for Implementation
Regulatory Approval and Standards
Complaint Investigation and Resolution
Prohibited Construction Practices
Site Security and Control
Temporary Storm Water and Erosion Control Measures
Migratory Bird Impact Mitigation
Tree and Vegetation Protection
Storage of Fuel, Lubricants, Chemicals and Materials
Spills Prevention, Readiness and Response
Housekeeping and Maintenance
Waste Material and Litter Control
Contaminated Soils Response
Engine Idling
Construction Noise
Traffic, Parking and Deliveries
Site Inspection and Impact Monitoring

The Construction Site Manager will ensure that all elements of the environmental procedures manual are followed, and will establish a regular inspection procedure to ensure the efficacy of the measures set out in the manual. If any measures are not found to be adequate, or if unexpected impacts are discovered, the procedures will be revised and remedial measures will be implemented where necessary.

All members of the construction team will be encouraged to identify additional construction practices which may improve any mitigation measure or enhance pollution prevention. Any of such additional construction practices found to be technically and economically feasible will be implemented.

Prior to the start of commissioning, the Project Manager, Construction Site Manager and Chief Operating Engineer will review the status of all mitigation measures applicable to commissioning, including any which were committed to in the environmental assessment process, and any construction practices identified for implementation by this plan which are also applicable to commissioning.

Appropriate responsibility hand-over points for all items in the plan will be defined and implemented.

Early in commissioning the Chief Operating Engineer will conduct a review of the commissioning of the project to identify commissioning and operating practices which may prevent pollution or improve mitigation of environmental impacts.

This review will address both expected and potential environmental impacts in at least the following areas:

a) Surface and Ground Water
b) Air Quality and Visual Impacts
d) Noise
e) Water and Sewage Utilization
f) Natural Environment
h) Waste Generation and Disposal
i) Spills and emergencies
j) Traffic and Other Community Impacts

These commissioning or operating practices will be evaluated to assess whether each of these is technically and economically feasibility. Any of these commissioning or operating practices found to be technically and economically feasible will be implemented. If the evaluation of technical or economic feasibility must await completion of some construction or regulatory approval activity, the feasibility of that commissioning or operating practice will be revisited at that time.

The Chief Operating Engineer will prepare and keep updated a list of mitigation measures and commissioning practices identified for evaluation by this plan. The list will indicate responsibility for evaluation, status of evaluation, decision on feasibility, responsibility for implementation and status of implementation.

The Chief Operating Engineer shall include on the “punch list” of remaining or deficient construction items, any deficiency or incompleteness of any mitigation measure committed to in the environmental assessment (Table 1) or any items of improvement to mitigation or prevention of pollution identified for implementation.

5. Operation and Maintenance Phase

Shortly after the in-service date of the project, the Chief Operating Engineer will conduct a review of the maintenance plans and procedures for the project to identify maintenance practices which could enhance pollution prevention and/or improve mitigation of environmental impacts.

This review will address both expected and potential environmental impacts in at least the following areas:

a) Surface and Ground Water
b) Air Quality and Visual Impacts
d) Noise
e) Water and Sewage Utilization
f) Natural Environment
h) Waste Generation and Disposal
i) Spills and emergencies
j) Traffic and Other Community Impacts

These maintenance practices will be evaluated to assess whether each of these is technically and economically feasibility. Any of these maintenance practices found to be technically and economically feasible will be implemented. If the evaluation of technical or economic feasibility must await completion of some regulatory approval activity, the feasibility of that commissioning or operating practice will be revisited at that time.

The Chief Operating Engineer will prepare and keep updated a list of mitigation measures and maintenance practices identified for evaluation by this plan. The list will indicate responsibility for evaluation, status of evaluation, decision on feasibility, responsibility for implementation and status of implementation.

At least every three years during the operations phase of the project, the Chief Operating Engineer will undertake a review of all of the operating and maintenance practices to identify any changes which may further prevent pollution or further improve mitigation of environmental impacts.

This review will address both expected and potential environmental impacts in at least the same areas as covered by the first review of operating and maintenance practices.

These changes in operations or maintenance practices will be evaluated to assess whether each of these is technically and economically feasibility. Any changes in operations or maintenance practices found to be technically and economically feasible will be implemented

GREEN ELECTRON POWER PROJECT
ENVIRONMENTAL IMPACT MANAGEMENT PLAN

The Chief Operating Engineer will prepare and keep updated a list of mitigation measures and maintenance practices identified for evaluation by this part of the plan. The list will indicate responsibility for evaluation, status of evaluation, decision on feasibility, responsibility for implementation and status of implementation.

6. Decommissioning Phase

It is now not possible to predict precisely when or under what circumstances the project will be decommissioned, but it is unlikely that decommissioning will occur within 20 years. The decommissioning will consist of a removal of some or all of the equipment, buildings and structures, depending on the plans for subsequent use of the site. The greatest impact would likely be as a result of full removal and remediation of the site to allow even the most sensitive of subsequent uses.

Once the decommissioning of the facility is contemplated, the Project Manager will evaluate the decommissioning plan to identify the measures that may be necessary to adequately mitigate the impacts of decommissioning and any measures which may minimize pollution from decommissioning.

This review will address both expected and potential environmental impacts in at least the following areas:

a) Erosion and Siltation
b) Demolition or Construction Noise, Odour and Dust
c) Decommissioning Traffic
d) Decommissioning of Service Connections
e) Natural Environment
f) Waste Generation and Disposal
g) Spills and Emergencies

The Project Manager will prepare and keep updated a list of mitigation measures and pollution minimization measures identified for evaluation by this part of the plan. The list will indicate responsibility for evaluation, status of evaluation, decision on feasibility, responsibility for implementation and status of implementation.

GREEN ELECTRON POWER PROJECT
ENVIRONMENTAL IMPACT MANAGEMENT PLAN

Revised: October 19, 2012

TABLE 1 – LIST OF MITIGATION COMMITMENTS FROM THE ENVIRONMENTAL ASSESSMENT PROCESS

	Commitment	Category of Impact Mitigated
1	St. Clair Region Conservation Authority approval of filling, etc. (East Site only)	- surface water - natural environment
2	No use of ammonia (SCR)	- ground and surface water - natural environment - air quality - vehicle traffic - safety
3	Use of dry low NOx burner technology on gas turbine	- air quality
4	Development of emergency and spill response plan	- ground and surface water - natural environment - safety
5	43 m tall stack	- air quality
6	Good construction practices to mitigate dust	- air quality - nearby land use
7	Spill containment on acid tanks	- ground and surface water - natural environment - safety
8	Gas turbine inlet silencing	- natural environment - nearby land use
9	Stack outlet silencing	- natural environment - nearby land use
10	Plant will meet nighttime noise criteria	- natural environment - nearby land use
11	Sound barriers around transformer areas	- natural environment - nearby land use
12	Migratory bird impact mitigation	- natural environment
13	Efficient use of non-renewable resources	- ground and surface water quality - natural environment - air quality
14	Use of natural gas as only fuel	- air quality
15	Future re-evaluation of cogeneration	- natural environment - air quality
16	Recycling of solid wastes whenever economically feasible	- natural environment -
17	Implementation of Environmental Impact Management Plan (mitigation monitoring and pollution prevention)	- all categories of impact -
18	Maximum practical use of recyclable and reusable materials	- ground and surface water quality - natural environment

GREEN ELECTRON POWER PROJECT
ENVIRONMENTAL IMPACT MANAGEMENT PLAN

Revised: October 19, 2012

B. West Project Site

18. Executive Summary

Division B of this Environmental Screening and Review Report (ESRR) assesses the potential environmental impacts and provides appropriate mitigation measures for the Green Electron Power Project, should it be situated on the West Project Site, i.e. on the north side of Oil Springs Line approximately 1400 m west of Greenfield Road, St. Clair Township, County of Lambton, Province of Ontario, Canada. This ESRR has been prepared in accordance with the requirements of Ontario Regulation 116/01. This project is for a new natural gas-fuelled electrical generation facility of approximately 300 MW on the West Project Site as shown in Figure 1 of Overview Section (above). The proponent is Greenfield South Power Corporation.

An environmental screening and consultation with affected agencies and concerned citizens, was utilized to identify impacts or potential impacts associated with the project in all its life cycle phases of construction, commissioning, operation and decommissioning. This involved direct discussions with agencies and reviews of environmental studies of similar projects.

During the screening process some potential impacts were identified as requiring further assessment, particularly related to combustion emissions to the atmosphere and noise emissions. Consequently, the proponent chose to proceed directly to the environmental review stage and has now completed studies of air emissions, noise and other potential environmental impacts. These studies were instrumental in identifying impacts and effective mitigation strategies for these impacts, so as to ensure that there would be no net negative effects from the project.

The proponent has publicized and held two open houses (August 16 and Sept 12, 2012) to meet and receive comments from any interested local residents or concerned individuals.

With appropriate mitigation measures being implemented, the Green Electron Power Project situated on the West Project Site will not have negative environmental effects. On the basis that this project replaces coal-fired generation in Ontario, the Green Electron Power Project can be concluded to have an overall positive environmental impact.

19 Introduction

19.1 Green Electron Power Project

The Green Electron Power Project involves the construction and operation of a new, clean, natural gas fuelled, electricity generating plant which will facilitate the replacement of coal-fired power generation in Ontario. Under the contract with the Ontario Power Authority, the operating pattern of the power plant will likely be primarily during “shoulder” and “peak” electricity demand periods. The peak and shoulder demand

periods occur typically between morning and evening on summer and winter business days. Current projections therefore indicate that the plant will likely run about 25% of the available hours in a given year. The plant will be able to start-up and reach full load status within 3 hours of request.

The project proponent is Greenfield South Power Corporation and this report has been prepared on its behalf by Eastern Power Limited. Eastern Power has been involved in the design, construction and operation of electrical power generating plants in Ontario since 1988 and Eastern Power Limited is licensed as an electricity generator by the Ontario Energy Board.

The West Project Site is located in St. Clair Township on the north side of Oil Springs Line approximately 1.4 km west of Greenfield Road (see Fig. 19.1 - Site Map). This site is on vacant, industrially zoned land where electricity generation is permitted and in an area that is designated for heavy industrial uses. The site is located immediately south of Hydro One's 230 kV transmission corridor for circuit L28C. All of the plant's electrical output is to be delivered to the existing transmission circuit L28C In addition; natural gas supply services are located near to the site

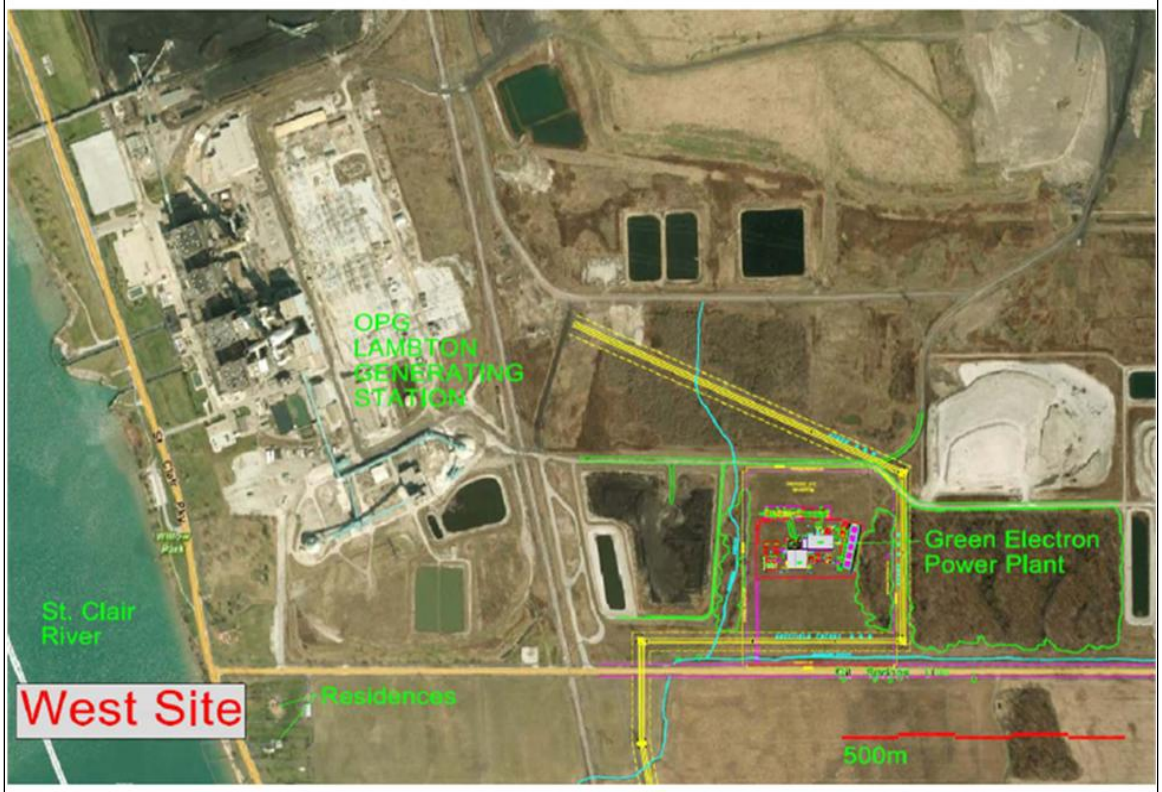


Figure 19.1 - Site Map/Layout for West Site, Green Electron Power Project

The project may have a net, combined generation capacity of approximately 330 MW depending on prevailing weather conditions, manufacturers' design margins, equipment condition, etc. and the facility will include a gas turbogenerator set and a steam turbogenerator set configured as a combined cycle power plant to be fueled entirely with natural gas. Final configuration and/or sizing of key plant equipment may require adjustment during the engineering and procurement phases of the project; however the completed plant will meet all of the performance obligations to the Ontario Power Authority. Any such engineering optimizations would be expected to not materially affect the scope or the conclusions of this Environmental Screening and Review since appropriate "worst case" parameters and assumptions have been used in evaluating the environmental impact of the project.

19.2 Environmental Screening and Review of Green Electron Power Project

This report assesses the environmental impact of the Green Electron Power Project and is being conducted in compliance with Ontario Regulation 116/01 under the Environmental Assessment Act. The project falls under Category B in the most recent (2011) guidelines for O.Reg. 116/01 and therefore requires the project to go through the screening process defined in the guide so as to ensure acceptable overall environmental impact as per the criteria set out in the guide.

The notice of "Commencement of Screening" was first published in the Sarnia Observer on July 30, July 31 and August 1, 2012 and the Wallaceburg Courier on August 9, 2012 (see Appendix 34.7, Public Consultation Report). Screening included initial consultation with the Ministry of Environment and key affected agencies including St. Clair Township, Lambton County and the St. Clair Region Conservation Authority (SRCA). This was followed by additional consultation with key government and public agencies. A presentation of the project was made to the full Council for St. Clair Township by the proponent on August 13, 2102 at which time various council members asked questions as to the nature of the project. Local citizens and elected representatives were invited to two open houses for the project on August 16, 2012 and September 12, 2012. Details of the public consultation and government/agency review processes together with comments and inputs as obtained are included in Appendices G and H, respectively.

The proponent identified some impacts of the project during the screening process (see Appendix A section 34.1, Screening Criteria Results) that required further assessment, namely air and noise emissions. The proponent therefore decided to proceed directly to the environmental review stage without first issuing a finalized screening report. The further review and assessment included separate studies of air emissions, noise emissions and other environmental impact studies that were completed (see Appendices 34.2, Air Quality Impact Study; Appendix 34.3, Acoustical Assessment Report; Appendix 34.4, Existing Ecology and Impact Study; Appendix 34.5, Stormwater Management Study and Appendix 34.6, Archaeological Assessment). The public and various affected public agencies were notified of the commencement of the review stage as per the MOE guideline and all input was incorporated into this ESRR report (see Appendices 34.7 and 34.8).

The results of the initial environmental screening (Regulation 116/01 checklist) can be found in Appendix 34.1. This screening checklist reflects an indication of potential environmental impact of the project at any phase in its life cycle, but prior to applying any mitigation measures. The 'Additional Information' section of the checklist provides direct reference to the appropriate section in this report and to supporting documentation (appended materials), thereby allowing ready review of the impact, the choice of appropriate mitigation strategy and the net impact after mitigation. Net impacts are also summarized in the 'Additional Information' section of the checklist, with these reflecting the overall net impact once the appropriate mitigation measure has been implemented.

20. Project Description

20.1 Project Location

The Green Electron Power Project, should the West Project Site be chosen, will be located in St. Clair Township on the north side of Oil Springs Line about 1.4 km west of Greenfield Road and on about 2 hectares of vacant land that is designated for heavy industrial uses under the St. Clair Township's Official Plan and Zoning By-law. The site is located immediately south of Hydro One's 230 kV transmission corridor for circuit L28C, via which the plant's output is to be delivered to the existing transmission grid.

Natural gas is to be supplied from one of the existing supply lines running just south of the site.

Water for process cooling will be supplied from the Lambton Area Water Supply System (LAWSS) via a lateral connection to the existing 24" line on Greenfield Road and/or by a new lateral line from CF Industries Courtright Nitrogen Complex located about 3 km to the south of the West Site.

Cooling process wastewater will either be discharged for treatment into the municipal wastewater treatment facility to the north in Courtright or be treated on the project site and discharged to the environment under an Environmental Compliance Approval to be issued by the Ministry of the Environment. Treated discharge water will be discharged by one of two routes: by a discharge line to CF Industries where it will be discharged into an existing discharge canal to the St. Clair River or through a new proponent provided outfall to the St. Clair River. The option for a new outfall is regarded only as a potential future option. Both the options for treatment of the wastewater at the Courtright Sewage Treatment Plant and treatment of the wastewater on site with treated water discharge to the canal at CF industries are both potentially viable based on the projected quantity and quality of the wastewater and both options are subject to additional ongoing commercial and approval considerations with the respective municipal and industrial service providers.

20.2 Description of Project Facilities

The power plant design is based on the well established and successful technology used for natural gas combined cycle power generation throughout the world. A simplified flow diagram of the process for the power plant is shown below as Figure 20.1. The thermodynamic efficiency of the plant will be about 48% which is much higher than for coal fired facilities or simple cycle natural gas facilities.

Gas Turbine Generator Set:

The power plant will utilize one GE 7FA gas turbine generator set fuelled by natural gas. The gas turbine driven generator will be rated nominally at 217 MVA. Dry low NO_x burner technology has been selected to reduce NO_x emissions production. With dry low NO_x burner technology, the use of selective catalytic reduction (SCR) technology is not required or recommended because it can lead to other particulate emissions. Dry low NO_x technology also avoids hazards related to ammonia handling that would be necessary with SCR utilization. Additionally, SCR technology is best suited to non peaking facilities that are in regular operation as SCR technology is designed to operate efficiently only under continuous operation.

Heat Recovery Steam Generator:

The power plant design is based on the use of a water-tube, heat recovery steam generator (HRSG) equipped with a supplementary natural gas duct burner. The HRSG will be shop-constructed and site assembled. The HRSG will be rated to deliver all of the steam required by the steam turbine generator.

The steam generating system will include an economizer, multiple pressure cycles (high pressure, intermediate pressure and low pressure steam re-heaters), pressure relief valves as well as other "trim" valves and piping.

Steam Turbine Generator Set:

The power plant will utilize one Fuji steam turbine generator set. The unit is "packaged" with all accessories so as to reduce site installation time. The steam turbine driven generator will have a nominal rating of 158 MVA.

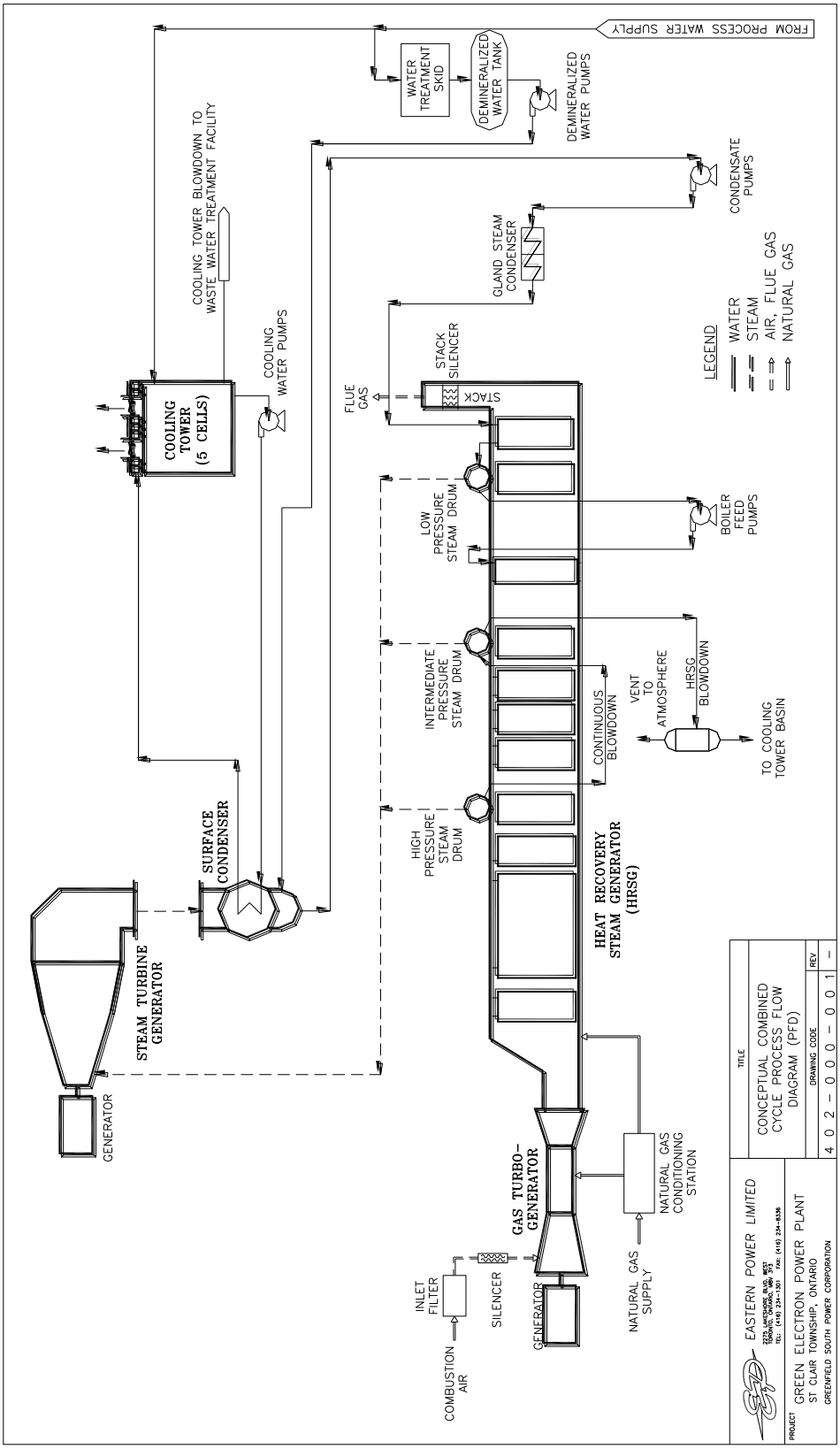
Condenser and Boiler Feed Water Systems:

The condenser will be a shell and tube unit. The condenser will be designed to maintain the backpressure required by the full load on the steam turbine. A wet surface versus a dry condenser design was selected on the basis of lower noise emissions with the wet design, i.e. reduced requirement for air volume and associated noise-emitting blower fans. The condenser is expected to evaporate up to approximately 100 litres/second of water when it is operating, with up to approximately 20 litres/second released as blow-down wastewater for treatment and discharge. Since the highest expected daily duty of the plant is about 12 hours, the daily make up from the municipal water supply is expected to be around 50 litres/second.

The boiler make-up water treatment system will use reverse osmosis, softener, and electronic deionizer units to upgrade city water to the needed high purity. The closed-loop condensate and boiler feed-water system will consist of a condensate hot well, a holding ejector, boiler feed pumps and condensate return pumps. The use of advanced

electro-deionizer regeneration technology largely eliminates the need for sulphuric acid and caustic soda chemical feeds.

Figure 20.1. Simplified Process Flowsheet Diagram of Green Electron Power Facility



Electrical System:

The electricity will be generated at 18kV by the combustion turbine generator and at 13.8kV by the steam turbine generator. This power will flow through generator step up transformers to feed the power plant's internal loads (via the tertiary winding of the steam turbine generator step up transformer) and then the remainder will be exported to the Hydro One transmission system at 230 kV via the facility's high voltage switchyard .

The high voltage substation will include hot-dip galvanized steel terminal structures with circuit breakers , disconnect switches, bus, bus supports, lightning arrestors, connectors, cables, trays, etc., as well as the main output transformers. The substation will be located adjacent to the generating plant and will be enclosed by a barbed-wire fence.

The main output transformers will be oil-filled and rated at about 250MVA and 200MVA respectively with two stages of fan cooling. The transformers will be equipped with a no-load tap changer, as well as temperature, pressure and oil level instrumentation.

Switchgear line-ups will include electrically operated generator circuit breakers and medium and low voltage circuit breakers and fused disconnects to isolate the medium voltage and low voltage switchgear and motor control centres. Current transformers and potential transformers for metering and protection will also be mounted in the switchgear. Cables or bus bars meeting the electrical safety codes will be used to connect the generators, switchgear, and transformers.

A construction phase service and back-up power source connection for the plant will be provided from the existing adjacent electricity distribution system of Hydro One Networks Inc.

A relaying and metering panel will be provided to house the relaying and protection equipment, which will meet the requirements of Hydro One and the IESO, including high speed, high band width communication capability, if necessary. The medium voltage station service transformers will be of a dry-type and will be located indoors. Low Voltage Switchgear will be provided on the secondary side of the unit auxiliary transformers to feed power to the motor control centres.

Civil Works:

The plant building will be a braced steel structure enclosed with pre-finished metal siding. The roof will consist of a metal roof and/or built-up membrane roofing. The operating floor and mezzanine floors will be of reinforced concrete construction, and the other platforms and walkways will be of steel grating. The steam turbine bay will be served by an electrically-operated, overhead crane. Windows and louvers will be provided as required for appearance and function. Acoustical and/or weather enclosures will be provided where required. The building design includes advanced acoustical suppression design features including turbine enclosures within buildings along with noise suppression building insulation and muffling/silencing features, as were initially designed for urban setting requirements and is thus well suited to meet rural noise suppression needs for the West site.

The area surrounding the plant will be graded to facilitate proper drainage of rainwater. Asphalt pavement will be provided for primary walkways, driveways, and staff parking lot. Gravel paving will be used for secondary areas. Landscaped areas will consist of seeding of grass and planting of trees and shrubbery to meet the municipality's site plan approval requirements. A chain link fence will be provided around the plant area and electrical substation. Portions of the balance of the property will be left undisturbed in the case of the woodlot and other portions may be utilized as out-leased agricultural cropland.

The developed area for the facility on the overall West site is shown in Figure 19.1. This area represents approximately 22% of the entire property area. Importantly, Stormwater flows on all non-developed areas of the site will not be collected and existing natural flows will be retained as per pre-existing conditions. Stormwater collected from covered surfaces will be routed to the basin of the facility cooling system for use/treatment Thus, the stormwater management system as related to covered surface collection will not be subject to a separate MOE compliance approval permit for discharge, i.e., as affected stormwater requiring collection and potential treatment will be covered as part of the MOE sewage discharge permit (see below).

Water Supply and Wastewater discharge:

Building supply water will be from the municipal supply line running along Oil Springs Line. Water for process cooling will be supplied by lateral lines from either the existing large diameter municipal line on Greenfield Road to the west or from CF Industries to the south/west.

Domestic sewage (toilets. showers) from the facility will be connected to an on-site septic treatment system or combined with industrial wastewater for conveyance should the latter be routed for treatment in the Courtright Sewage Treatment Plant (see below).

Process wastewater will either be discharged for treatment into the municipal wastewater treatment facility in Courtright or be treated on the project site and discharged to the environment under an MOE Environmental Compliance Approval. Treated discharge water from the site will be discharged by a discharge line to CF Industries where it will be discharged into an existing outfall discharge canal to the St. Clair River.

Instrumentation and Controls:

The plant control system will be designed so that the plant can be operated fully from the control room, where the status of all systems can be monitored.

Electrical and Natural Gas Interconnection:

The plant will be electrically interconnected with the 230 kV circuit L28C of Hydro One immediately north of the West site as shown in Figure 20.2 and for back-up power it will

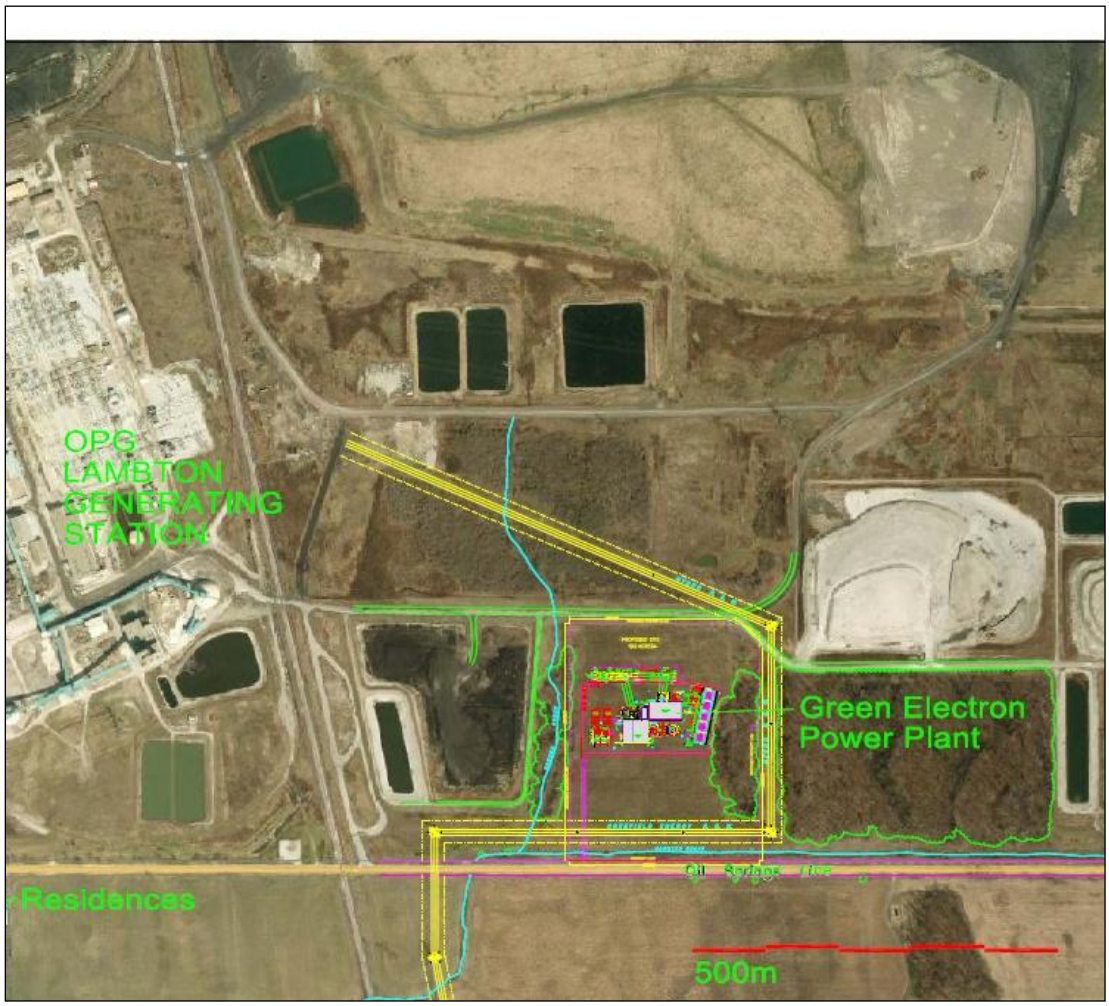
also be interconnected with the distribution circuits of Hydro One Networks Inc. The plant will receive natural gas from one or more of Union Gas Limited, TransCanada Pipelines Limited or Vector Pipeline Limited Partnership with connection via a lateral connection to nearby pipelines located south of Oil Springs Line.

20.3 Site Layout Constraints

The project property comprises approximately 7.7 hectares. The location of the plant on the property has been optimized to include several important considerations, including the lay-down and staging areas required during construction (2 hectares), access drives, set-backs, distances to the nearest residential points of impingement and reception for emissions and noise, visual site lines, and maintaining the ecological function of the naturalized areas in the vicinity. Further consultations with St. Clair Township and/or the St. Clair Region Conservation Authority (SCRCA) may result in further optimization of the site plan.

The conceptual layout of the plant is shown in Figure 20.2. This layout with services interconnections may be adjusted as the design is finalized and site plan approval is obtained. Any such adjustments will not negatively affect the conclusions of this Environmental Screening and Review Report.

Figure 20.2 Preliminary Project Layout and Interconnection



20.4 Project Life Cycle Phases

The key phases of the project and relative timing for these are shown in Table 20.1.

Table 20.1 Green Electron Power Project Phases

Project Phase	Activity Description	Estimated Duration	Comment
Construction	grading, excavation, building erection, equipment installation	21 months	Typical industrial construction methods; Construction laydown areas to be landscaped (trees/grass) at end of construction
Commissioning	testing and first operation of	3 months	frequent start and stops and episodic noise from

	equipment		line cleanings etc
Operation	operation and maintenance of equipment	25 years	Peaking operation mode expected
Decommissioning	removal of equipment	-	Plant and equipment is potentially recyclable

21. Surface and Ground Water Impacts

21.1 Surface Water

None of the West Project Site lies within the St. Clair Region Conservation Authority (SCRCA) fill regulation zone. The elevation grade level of the facility footprint may be raised to a similar elevation as that existing at Oil Springs Line.

The facility may consume water supplied by Lambton Area Water Supply or by CF Industries, each of which sources their water from the St. Clair River. The quantity to be used by the facility is well below 19 million liters per day and thus no notification under the Great Lakes Charter will be required.

Should industrial wastewater be routed to the sewage collection and treatment facility in Courtright, Green Electron facility domestic sewage will be combined with this industrial discharge for conveyance and treatment at the Courtright Sewage Treatment Plant. This will have no negative impacts to surface or groundwater on or off the West site and will not require a MOE discharge permit.

Should treated industrial wastewater be treated at the facility and routed to the drainage canal at CF Industries this discharge will be subject to an MOE approval. For this CF Industries canal discharge option, the potential residual contaminants in the treated wastewater primarily result from evaporative concentration of essentially pre-existing river water dissolved solids. These have been reviewed, as has the assimilative capacity on the canal receiver and the St. Clair River with a defined mixing zone. This review has shown that the process waste water flow comprises less than 0.0004% of the flow of the St Clair River and thus is well within the assimilative capacity of the receiver within a reasonable mixing zone. It is understood that treatment/discharge at CF Industries canal would require MOE compliance approval. GSPC recognizes that for this approval an application for this would be made detailing the treatment process train and treated water quality in relation to establishing approval conditions. An application for such approval would follow this ESRR

Storm water from the site currently recharges groundwater through infiltration while surface excess drains directly into the Hawkins Drain or to Bowens creek directly. The project will result in approximately 25% of the project property being covered with buildings or non-porous paving. Stormwater collected from impervious surfaces will be collected to the basin of the cooling basin for use while stormwater on the balance of the site will be allowed to drain as to pre-existing conditions. Details of the storm water management plan can be found in Appendix 34.5.

The stormwater control methods used by the project will be in accordance with the Ministry of the Environment's "Stormwater Management Planning and Design Manual" (MOE, 2003). Collected stormwater will be utilized for cooling such that any discharge of this would be within the industrial wastewater discharge stream. Thus, stormwater management in relation to that stormwater collected from covered surfaces will not require a MOE stormwater discharge permit. Stormwater from the balance of the non-developed/non-disturbed portion (approximately 75% area) of the site will remain routed as to pre-existing natural conditions.

Given the above provisions, the project will not have net negative impacts on surface waters.

21.2 Ground Water

There is no plan for any taking of groundwater by the project.

Neither the construction nor operation of the plant is expected to result in the release of any substances that will impact ground water. The built-upon, plus non-porous paved footprint of the project will be about 2 hectares. Thus with landscaped areas across the balance of the project property there will not be significant impact on groundwater recharge.

Therefore, the project will not have negative impacts to ground water.

21.3 Sedimentation and Soil, Shoreline or Riverbank Erosion

Prudent measures in accordance with the MOE/MNR "Guidelines on Erosion and Sediment Control for Urban Construction Sites" and the MOE Guidelines for "Evaluating Construction Activities Impacting Water Resources" will be taken to prevent sedimentation and/or erosion of soil during construction, including appropriate run-off control, grading and paving practices, and the use of geo-fabrics. These measures will be detailed in an erosion control plan to be completed prior to the commencement of construction. The overall site will be landscaped so that open areas will not be subject to erosion. Stormwater drainage works for the project will be engineered to prevent significant sedimentation or erosion of soil. Details on stormwater management can be found in Appendix 34.5.

With the above measures, the project will not have negative impacts related to soil erosion.

21.4 Accidental Spills

The project will use a variety of liquids during construction and operation. Some liquids will be used in such small quantities so as not to pose a significant risk of environmental impact. An example of this is the use of small amounts of incidental cleaning solvents such as varsol. Other liquids will be used in larger quantities but will be stored indoors in

suitable storage tanks that will be designed to prevent accidental spills, (e.g. turbine lubricating oil tank and sodium hypochlorite tank) and the risk of environmental damage due to spills will therefore be virtually eliminated.

Risks of ammonia release to the environment from spillage, fugitive gaseous release or from emissions of by-product ammonium compounds have been avoided through the adoption of dry low NOx mitigation technology instead of selective catalytic reduction (SCR). SCR use would have required substantial ammonia transport and use on the site (see section 23.1 for additional details).

To ensure expeditious response to any spill, a spill response contingency plan will be developed and followed. The plan will include prompt notification of any spills to the Ministry of the Environment Spills Action Centre and municipal authorities as required, specific mitigation measures for various possible scenarios, protocols for maintenance of spill response supplies and equipment, and training for operating staff on spill response procedures.

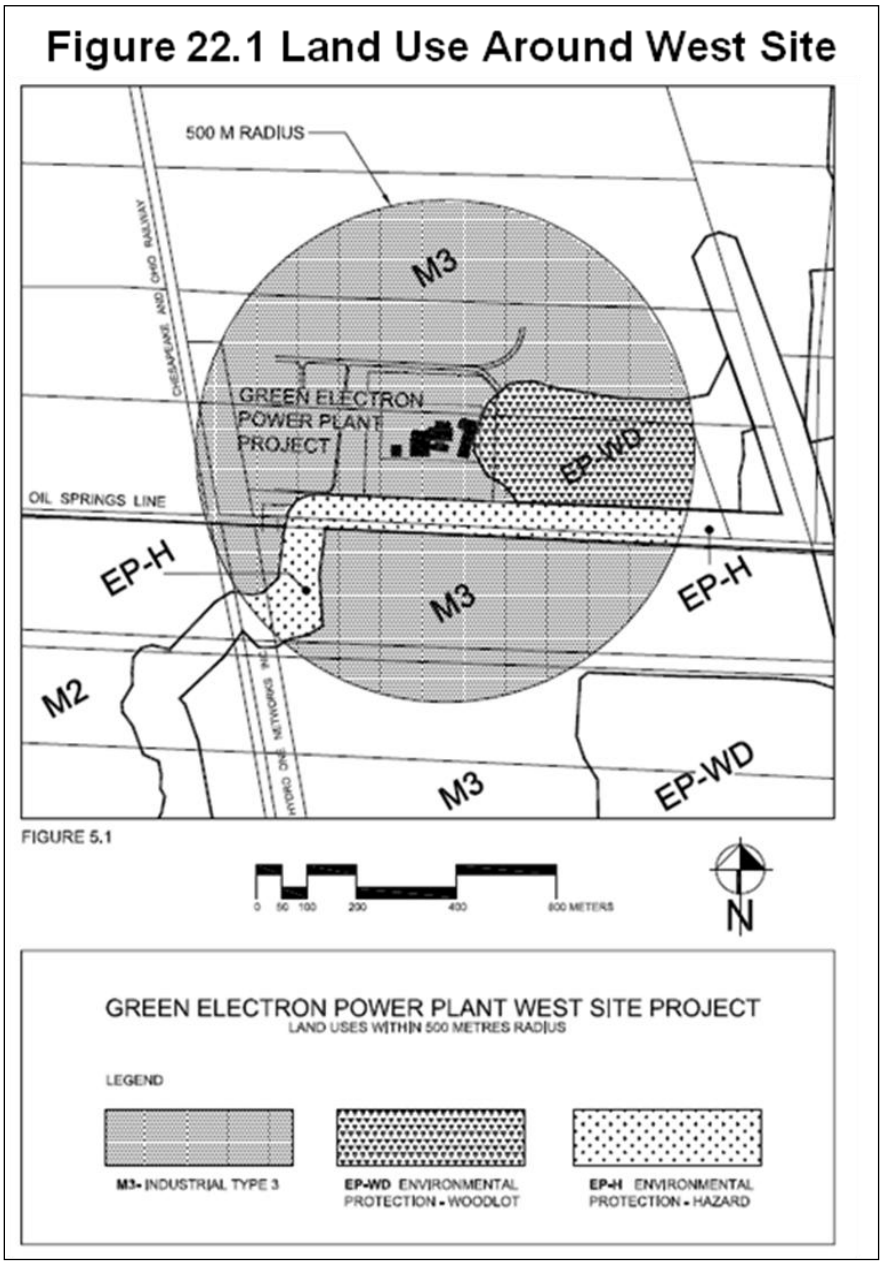
In addition, accidental releases of contaminants to the environment including surface water in Hawkins Drain will be prevented through practice of an Environmental Impact Management Plan as provided in Appendix 34.9 over the entire project life.

The above measures will ensure the project will not have net negative impacts arising from accidental spills.

22. Land Use Impacts

22.1 Residential, Commercial and Institutional Land Uses within 500 metres

Figure 22.1 shows the current land uses near the West project site and especially within the 500 metres zone as prescribed in the MOE screening guidelines. None of the area within a 500 metre radius zone around the project currently has designated residential land uses or zoning. Approximately 80% currently has industrial zoning and approximately 20% currently has environmental protection designation pertaining to the drainage ditch and wooded areas. The development footprint is outside of these more sensitive use areas. There are no institutional or commercial land uses within 500 metres of the project.



Most of the land uses within the 500 metres radius zone of the West site project are zoned for industrial uses (80%). There are also infrastructure uses including electrical transmission corridors and Oil Springs Line road.

Compatibility of the facility with land uses within the prescribed 500 meter zone was achieved through design and mitigation features, specifically implemented to minimize the key impact factors including; noise, odour, dust, vibration, aesthetics and operational intensity. The impact of the facility on surrounding land uses was also evaluated against the criteria set out in MOE Guideline D–6, *Compatibility Between Industrial Facilities and Sensitive Land Uses*.

The project's operating noise impacts with mitigation measures will meet the stringent MOE rural nighttime criteria in the provincial and municipal noise regulations (see Section 23.5 and Appendix 34.3 for details). The plant's net mitigated noise level at any sensitive receptor will not be audible above local background noise during the day time on non-holiday weekdays, which is when the plant is primarily expected to operate so as to meet the peak and shoulder demand for electricity. Therefore the project's noise impacts are characteristic of a Class II industrial facility under MOE Guideline D–6.

The project's odour and dust emissions impacts are detailed in Section 23.4 and are expected to be infrequent and not intense. For comparison purposes, Class II industrial facilities under the MOE Guideline D–6 include even those with frequent and occasionally intense odour and/or dust emissions.

The plant's primary rotating equipment will be highly balanced and will not cause any ground-borne vibration that would be perceived off-property. Class II industrial facilities under MOE Guideline D–6 include those with possible ground-borne vibrations that are not perceived off property.

The height and massing of the project's buildings and structures achieves a massing that is acceptable given the zoning and set-backs. The building height and stack height will also be in character with surrounding industrial, neighbouring Lambton OPG generating station and high voltage transmission corridor uses as is detailed in Section 26.1.

The project will not include outside processing or outside storage of raw materials, finished products or waste materials. Class II industrial facilities under MOE Guideline D–6 permit outside storage and open processing.

The plant will result in visible water vapour plumes from its stack and condenser circuit during colder weather, the impact of which is detailed in Section 23.1 and Appendix 34.2. Given that the plant is expected to operating only during periods of peak and shoulder demand for electricity and that the water vapour plumes will not be visible in warmer weather, the project will have only periodic outputs of minor annoyance that are characteristic of a Class II industrial facility under MOE Guideline D–6.

The project's operational intensity will be a function of the timing, quantity and characteristics of personnel and vehicle movements due to plant staffing, plant deliveries and plant shipping. The personnel and vehicle movements due to the project are detailed in Section 27.7. Vehicle movements due to the project will occur predominantly during the daytime on non-holiday weekdays, and will typically only use Oil Springs Line and Highway 40 (an existing 4 lane highway), i.e., as opposed to using the St. Clair Parkway road. These impacts are characteristic of a Class II industrial facility under MOE Guideline D–6, which allows for shift operations and frequent movement of heavy trucks primarily during daytime hours.

Based on the application of all of the criteria set out in MOE Guideline D–6, the facility is a Class II Industrial Facility by virtue of its medium scale, the periodic outputs of minor annoyance (i.e. vapour plume visibility only during colder weekday hours and noise occasionally audible off property) and truck movements during daytime hours only.

MOE Guideline D–6 indicates that a Class II industrial facility is expected to have a zone of potential influence of 300 m and recommends a minimum of 70 m separation from sensitive land uses. The Green Electron Power Project facility sources of emissions will be at least 400m from the closest sensitive land use, which is therefore greater than the minimum separation distance recommended in MOE Guideline D–6.

Therefore, through appropriate design and West site layout features and through the incorporation of the mitigation measures as described above, the project will have no net negative impact on the residential and commercial land uses within 500 metres of the project. The project will also meet the separation distance from sensitive land uses as recommended in MOE Guideline D-6.

22.2 Consistency with Provincial Policies or Objectives

The project is consistent with the March 1, 2005 Provincial Policy Statement (PPS) issued under Section 3 of the Planning Act (Ontario Municipal Affairs and Housing, 2005). This PPS promotes optimum use of existing infrastructure, and preservation of employment areas. These policy objectives will be met, as the project is to be located so as to provide optimum use of the existing infrastructure for high voltage electricity transmission and high pressure natural gas supply. The PPS also promotes the protection and wise use of the natural environment, water, agriculture, minerals, petroleum, aggregates and cultural resources. Sections 24, 25, 26 and 27 of this report describe how the project is consistent with these policies. The PPS further directs development away from natural or human-made hazards, and the project will not be located in any area of known flooding, erosion, or human-made hazards.

Additionally, the project is consistent with the Places to Grow Act in that the project would make efficient use of existing infrastructure (water, sewage, electrical transmission, and natural gas pipeline), that the project would use an employment area for employment use, and that the project is located within an area designated for growth.

The project is therefore in-line with the policies and objectives of the Places to Grow Act and other provincial policies or objectives aimed at improving the quality of life in Ontario.

22.3 Consistency with Municipal Land Use Plans, Policies and By-Laws

The site is currently zoned for manufacturing (M3) by St. Clair Township and designated for employment uses in its official plan and that of Lambton County.

St. Clair Township has confirmed that the power plant use would be permitted on the site as currently zoned, and that no amendment to the official plan or zoning bylaw will be needed. Severance will be required and minor variances as to setbacks are expected in consultation with St. Clair Township planning officials. The project will therefore have no net impact due to any lack of consistency with existing land use plans, policies and by-laws.

22.4 Impact on Hazardous, Unstable or Contaminated Lands

The project will not utilize or result in any hazardous unstable or contaminated lands.

The project site has been represented to be free of environmental hazards by OPG. However, an independent environmental site assessment ESA Phase I study/report is underway for completion by LVM later in2012. This ESA Phase I will be completed in accordance with CSA 768/01.

Therefore, the project is expected not to have negative impacts related to the use of hazardous, unstable or contaminated lands.

23. Air and Noise Emissions

23.1 Air Quality Impacts

The Green Electron Project facility will combust natural gas as its only fuel resulting in relatively few and well described emissions to the atmosphere, i.e., primarily NO_x, CO, CO_2 and PM but virtually no SO_x (traces only from mercaptan safety tracer additive in natural gas) or heavy metal emissions that accompany coal combustion.

The facility will utilize dry low NO_x burner technology, which minimizes NO_x production during combustion. By employing dry low NO_x burners, the Green Electron facility will avoid the need for selective catalytic reduction (SCR) technology and thus avoid SCR co-product emissions, consisting of particulates of various ammonium compounds. Environment Canada recommends dry low NOx technology for gas turbine applications and has indicated that SCR technology is not recommended in association with dry low NOx burner technology for such natural gas turbine applications (Klein, 2005).

Therefore, the facility will also avoid potential SCR-related releases of fugitive ammonia and associated particulates to the atmosphere (slippage) and potential accidental releases of ammonia to the environment (i.e. a potential liquid ammonia spills and health/safety issue is also avoided, see section 21.4 for further details).

Additionally, there will be no mercury or other heavy metal emissions, as pipeline quality natural gas carries essentially no mercury or other heavy metals, both of which have been of concern with coal-fired facilities (US DOE, 1996, NREL, 2000 and MOE, 2001).

As a result of NO_x mitigation, the Green Electron facility will emit reduced quantities of NO_x, low amounts of CO, low amounts of particulates and reduced levels of CO_2 (a greenhouse gas, see section 23.3 for further discussion).

The emissions from the facility to the atmosphere have been assessed in a West site-specific study of air quality impacts using the latest MOE approved USA EPA AERMOD dispersion modelling tools with site-specific topographical and meteorological information and as reported fully in the Air Quality Impact Study (Appendix 34.2). This MOE ESDM-compliant analysis has indicated low concentrations of contaminants at all relevant Points of Impingement (POI) as summarized in Table 23.1. Maximum POIs were below 6.55% of the maximum allowable MOE POI concentrations for all potential

contaminants. The emissions shown in Table 23.1 have been modeled under the worst case emission scenarios to account for the variation in output due to seasonal variations and design margins. At start up of the facility, a yellow plume may be visible for a relatively brief interval of time which is expected and normal for this type of facility. In this regard, it is important to note that all startup emissions that are briefly higher are included in the air emission assessments with the worst case emissions of startup followed by full load provided in the report and as shown in Table 23.1.

Table 23.1 - Emission Summary Table (Maximum Emission Scenario - Startup followed by Full Load); from report in Appendix 34.2

Contaminant Name	Contaminant CAS Number	Total Facility Emission Rate [g/s]	Air Dispersion Model Used	Max. POI Concentration [µg/m^3]	Averaging Period	MOE POI Limit [µg/m^3]	Percentage of MOE POI limit
NOx	10102-44-0	12.0 / 7.0	AERMOD	24.23 / 4.11	1 hr / 24 hr	400 / 200	6.1% / 2.1%
CO	630-08-0	18.2	AERMOD	44.57	0.5 hr	6000	0.7%
SOx	9/5/7446	0.11	AERMOD	0.23	1 hr	690	0.03%
PM	NA	0.74	AERMOD	0.43	24 hr	120	0.5%

Table 23.2 further summarizes the principal facility emissions rates and provides comparisons relative to those from Ontario's coal-fired facilities (MOE, 2005). Thus, the project's emission rate for NO_x will be only 9.1% of that which would occur from a typical Ontario coal-fired facility producing the same amount of electricity, while SO_x emissions from the project will only be 0.035% of that which would occur with coal.

Table 23.2 Emissions Summary for Green Electron in Comparison to Coal

Emission	Green Electron Project		Average Coal Facility [c]	Green Electron Power Project Emission Rates as % of Coal Specific Emission Rates
	Emission Rate per Unit of Electrical Energy kg/MWh	Annual Emission [a] kT	Emission Rate per Unit of Electrical Energy kg/MWh	
NO_x	0.128	0.094	1.41	9.1 %
SO_x	0.00137	0.00090	3.9	0.035%
CO_2	263	173	880	19.7%
Mercury	0.0	0.0	0.000017	0.0%

a. Annual Green Electron facility emissions are based on operation for 25% of yearly hours.
c data from MOE, 2001

The annual total Green Electron emissions are also shown in Table 23.2, based on the currently estimated 25% of available yearly operating hours.

In terms of particulate emissions, these will be negligible through utilization of Dry Low NOx technology rather than SCR technology, and especially as compared to coal-fired facilities. Environment Canada has indicated that the particulate levels from such gas facilities (with dry low NO_x and no SCR) are near zero (Klein, 2005).

The US DOE (2000) has completed Life Cycle Analyses (LCA) to provide a complete comparison of natural gas to coal fired power facilities (NREL, 2000). A LCA includes net power plant emissions as well as those from mining the fuel resources and from transporting these to power facilities etc, and thus, the LCA provides a global benefit analysis. The overall life cycle reductions of emissions through utilizing natural gas instead of coal can be seen in Table 23.3.

Table 23.3 Green Electron Life Cycle Analysis Emissions Reduction versus Coal Facility[a]

Emission	Reduction Natural Gas Versus Coal
NO_x	78%
SO_x	95%
Particulates	99%
Mercury	100%
CO_2	52%

[a] from NREL, 2000

It can be appreciated through comparing the results of Tables 23.2 and 23.3 that, while overall LCA analyses show large improvements from using natural gas, actual emissions at the power plant are very small for natural gas versus coal. In other words, the local environmental benefits (specific power facility emission reductions) of using natural gas versus coal are substantially higher than are the global (LCA) benefits.

Therefore, air quality in the local and regional air sheds can be expected improve as a result of the Green Electron Power Project because it enables the phase out and displacement of corresponding coal fired electricity generation emissions. The Green Electron Power Project will result in cleaner air for all Ontarians, especially those living downwind of the Lambton coal-fired plant in St Clair Township and Lambton County.

The facility will emit water vapour emissions from its stack and the wet cooling condenser, which will be visible (as fog vapour) under certain conditions of ambient air temperature and relative humidity. These emissions, while non-toxic, have potential for causing off-property visibility problems. On the basis of the plant location, stack and cooling tower heights and their location relative to the facility, the distances to potential

points of off-property impingement, as well as prevailing wind conditions, etc, it has been estimated that these water vapour emissions will not cause off-property impacts related to visibility (see section 23.1 of report in Appendix 34.2 for further details).

Therefore, on the basis of all of the above findings and with mitigation measures in place, there will be no net negative impacts from the Green Electron Power Project due to air pollutant emissions to the atmosphere.

23.2 Cumulative Impact Assessment of Air Emissions

Cumulative impact assessments for air quality have been made using the latest Environment Canada Guidelines (Environment Canada, 1999). The analysis of the Green Electron facility's contribution and cumulative impact to the local and regional airshed quality, based on its specific emissions (summarized in section 23.1 above) have been assessed. For this cumulative impact assessment, actual historical and prevailing MOE collected air quality data as measured over the last five years at the air monitoring station closest to the West site were utilized as the pre-existing ambient condition to then assess the cumulative impacts resulting from the addition of the Green Electron Power Plant emissions. Studies of the current ambient air quality in the vicinity of the proposed facility, together with an analysis for the project's emissions, have indicated that the project's emissions will have only minor influence on the air shed's ambient air quality for nitrogen dioxide and even less for other contaminant emissions shown in section 23.1 and the report in Appendix 34.2. This cumulative impact analysis has revealed that any measurable increases to air contaminant concentrations above actual pre-existing ambient levels (i.e., that include all other relevant existing sources) will be slight, primarily only for NO_X, will be highly localized in effect and all within the existing normal variability of the current ambient air quality parameters. These findings are reported in Appendix 34.2 and are consistent with the findings of others for similar facilities (also reviewed and discussed in Appendix 34.2).

On the basis of this cumulative impact analysis, together with the associated phase out of coal burning electrical power plants, the Green Electron facility will not contribute significantly to smog in either the local or regional air sheds.

Therefore, on the basis of the above findings and with mitigation measures in place, there will be no net cumulative negative emission impacts from the Green Electron Power Project due to air pollutant emissions. On the basis that the Green Electron Power Project displaces coal emissions it can be concluded that the project will positively impact cumulative impacts through an actual lowering of total emissions and an improvement in local and regional air quality.

The Green Electron project will require MOE-issued Environment Compliance Approval under Section 9 of the Environmental Protection Act, in relation to the air emissions as detailed in this report (as well as for noise emissions reported in section 23.5), prior to construction and operation of the facility. In accordance with Ontario Regulation 379/01, the Green Electron site facility will have an emissions monitoring program in place that may include predictive/parametric emissions monitoring, continuous emissions monitoring, stack sampling and/or fuel analysis.

23.3 Greenhouse Gas Emissions

Table 23.2 (above) summarizes the CO_2 emission rate while Table 23.3 (above) summarizes the CO_2 emission reduction assuming coal is the baseline case for comparison. GHG reductions are accounted on an LCA basis and in reference to a baseline case. Therefore, there will be no net negative impacts from the project in relation to greenhouse gas emissions and in terms of replacing coal there will be a net decrease in greenhouse gas emissions. The Green Electron Power Project therefore provides offsetting GHG reductions and no net negative impacts.

23.4 Dust or Odour Emissions

The project will not emit any significant amounts of dust or odour. During construction, potential dust emissions will be mitigated by good construction practice and dust suppression techniques. During operation there will be no material emissions of dust. Neither the construction nor the operation of the project will result in the emission of any significant odours. Minor and transient emissions of odour due to asphalt paving during the construction phase are not considered as significant. Therefore, there will be no net negative impacts related to dust or odour from the project.

23.5 Noise Impacts

The facility includes a number of noise sources, which in combination may not be allowed to exceed acceptable levels at critical receptors. The project will achieve this through a variety of strategies including use of a wet surface air cooled condenser rather than a dry air cooled condenser, use of inlet and exhaust silencers on the gas turbine, acoustic insulation, sound barriers and optimized plant layout. The pre-existing on-site acoustical environment was measured for the West site and consequently the MOE exclusionary nighttime limit of 40dBA (L_{EQ}) was applied for the east resident and 45 dBA (L_{EQ}) was applied for the receptors along St. Clair Parkway. The significant potential sound sources of project facility and all buildings near the project have been acoustically modeled in three dimensions taking into account the levels and qualities of noise emitted from all sources (see acoustical report in Appendix 34.3).

Appropriate mitigation measures as described in Appendix 34.3, have been identified and will be applied to ensure the facility noise emissions are at or below the MOE criteria for all significant off-site receptors during daytime and nighttime facility operation. Noise emissions are subject to MOE review and issuance of compliance approvals prior to project construction and operation.

Therefore, with the above-referenced mitigation measures employed noise emissions from the project will meet MOE limits and will have no net negative impacts.

24. Human Health

The Green Electron Power Project is replacing an equivalent portion of Ontario's coal-fired electrical generation and therefore will lessen overall health impacts from power generation in Ontario. Consistent with this statement, the Ontario Public Health

Association has reported that the move from coal fueled to natural gas fueled generation will lessen health impacts in Ontario (OPHA, 1999).

Quantitatively, the substantial reduced health impacts resulting from replacing coal fueled power generation have been reviewed (MOE, 2005). This MOE study estimated that the phase out of all of the coal fired electricity generating stations in Ontario will prevent 660 premature deaths annually, prevent 920 hospital admissions annually, prevent 1,090 emergency room visits annually and prevent 331,000 minor illness cases annually. The Ontario Public Health Association (OPHA, 1999) in resolution 1999-01, called for the conversion of Ontario's coal-fired facilities to natural gas-fired facilities, such as the facility represented by the Green Electron Power Project, i.e., a move to improve air quality and public health impacts.

The net health benefits from lower emissions with conversion from coal to natural gas power generation are now well established through a number of earlier health and environmental impact studies. Natural gas is a relatively clean fuel source and free of a number of emissions that occur with coal, such as mercury and sulphur. In addition, nitrogen oxide emissions are much lower from natural gas.

Previous studies have concluded that incremental quantities of additional emissions from natural gas facilities will not be measureable within the natural variations of the background ambient air quality. Consistent with these earlier findings, an incremental cumulative impact assessment for the Green Electron Power Project has found that the project will not contribute to any exceedances over the pre-existing ambient air quality (see Appendix 34.2). The analyses show that for all operating scenarios and environmental conditions, including conditions conducive to producing worst-case contaminant concentrations, the Green Electron project's contaminant concentrations will be below the prescribed maximum limits detailed in Ontario Regulation 419/05. The project will also not contribute to any exceedances of the Ambient Air Quality Criteria (AAQC) even on those occasional upset days of poor background ambient air quality.

It can be therefore be concluded that based on West site specific emission modelling and established health science affects, the Green Electron Power project will not have significant negative human health impacts.

Moreover, because the project is replacing coal-fired generation capacity, the Green Electron Power project will provide a net contribution to overall improved air quality and consequently to improved human health.

25. Existing Natural Environment and Impacts

The existing natural environment has been assessed through a site specific Ecological and Environmental Impact study as provided in Appendix 34.4.
The proposed project West site lies within an area of industrial land use. The proposed West site is encompassed on three sides (west, north, and east) by the property of Ontario Power Generation Inc.'s Lambton Generating Station. Land use to the south, south of Oil Springs Line, is a combination of agricultural land with small tree lines (hedgerows), woodlands, wetlands and successional shrubland. Based on the Ecological Classification System for southern Ontario (ELC; Lee *et al.*, 1998), the ecosystem is a complex (mosaic) of cultural ecosites. The eastern edge of the Project

study site is composed of a small deciduous forest and is classified as Dry - Fresh Oak – Hickory Deciduous Forest Type (FOD2-2). A small similar forest community is located immediately west of the Project study area. A small watercourse is associated with this woodland area.

Based on field investigations conducted on September 10, 2012 and a review of available background information, the overall environmental effects of the Project with respect to the terrestrial and aquatic components are expected to be minimal with the proper implementation of typically employed mitigation measures.

25.1 Rare, Threatened or Endangered Species

There were no rare, threatened or endangered species of plants or animals found on the West site as based on field observations in September 2012 and as reported in the ecological and environmental impact Study (Appendix 34.4).

Based on site reconnaissance conducted on September 10, 2012 and review of off-site reports, potential for four Species At Risk (SAR) species were identified within the Project study area including Blue/Golden-winged Warbler, Eastern Meadowlark, Blanding's Turtle and Butler's Garter Snake. Suitable habitats for these SAR within the development footprint of the project were assessed and potential for these SAR was assessed as low to medium. As such, consideration and precautions to ensure the safety of these potentially occurring SAR will be taken during construction and later phases of the project, i.e., should any of these SARs actually be found on the project site.

Therefore, the project with the mitigation measures referenced in Appendix 34.4 will not have negative impact on rare, threatened or endangered species of flora or fauna.

25.2 Protected Natural Areas (ANSI or ESA)

Based on a review of the Ontario Natural Heritage Information Centre (NHIC), the Clay Creek Woodland Life Science Area of Natural Scientific Interest (ANSI) is the only designated natural heritage feature close to the Project site (MNR, 2012). This Clay Creek Woodland ANSI measures approximately 641 ha and is situated along Clay Creek and the Coyle Drain and is well away (>1km) of the West site

Given the above and mitigation measures to be utilized, the project will have no impacts on protected, sensitive or scientifically significant natural areas.

25.3 Wetlands

There are no Provincially significant or other protected wetlands on or close to the West site. Thus, the project will have no significant net impact on wetlands.

25.4 Wildlife Habitat, Population, Corridors or Movement

The need for a passage corridor from the West site across Oil Springs Road for the Butler's garter snake has been identified as the only potential passage concern (see Appendix 34.4). The project will not significantly alter any existing passage ways along or across Oil Springs Road, i.e., should this SAR be later found to be present on the West site or near the West site. Access to the site from Oil Springs Line will involve placement of a covered culvert and this will retain any passage corridor for the Butler's garter snake, i.e., should it be found/present in this area the future.

Therefore, the project will have no net negative impacts on wildlife habitat, population, corridors or movement.

25.5 Fish Habitats

Site reconnaissance indicates that Hawkins and Milliken Drains likely provide marginal warmwater fish and fish habitat, with no sensitive or sport-fish species, during higher flow open water periods (i.e., spring and fall). It is expected that these drains freeze to bottom throughout the relevant sections near the West Site, providing no overwintering habitat for fish. Project construction and operation will not affect fish or fish habitat following proper mitigation measures as described in Appendix34.4.

Should treated wastewater discharge be via pipeline to the existing drainage canal at CF Industries there will likely be no negative impacts to fish habitats given that similar acceptable power plant blowdown wastewater is already being discharged at that location and the high volumes of .higher quality cooling water that flow through this discharge canal from CF Industries. Should this option be selected this will be confirmed.

During the planning and construction phase of the project, appropriate measures will be implemented to prevent any erosion or sedimentation which could significantly impact Bowens Creek. Section 21.3 of this report provides further details on prevention of erosion and sedimentation. Appendix 34.4 provides mitigation measures to be taken during construction to limit any potential downstream affects on downstream fish habitats.

Given the above mitigation measures, the project will have no significant impacts on fish habitats.

25.6 Migratory Birds

The project site is not known to be a part of the critical habitat or staging area for any migratory birds as confirmed in the Environmental Impact Study, Appendix 34.4.

Therefore, the project will have no net impacts on migratory birds.

25.7 Locally Important or Valued Ecosystems or Vegetation

The bulk of the project site and the entirety of the area to be developed is not part of any locally important or valued ecosystem, nor is there any locally important or valued vegetation on the site, as the original ecology of the project site has been disturbed by agriculture since the 1800s and more recently by Ontario Power Generation Inc.'s

industrial activities. The wooded area at east of the West site and largely outside the project footprint area to be developed does represent value in relation to ecosystem considerations. This wooded area will be retained to the extent possible noting it is in the area of a high voltage transmission system which has limited and will continue to limit its overall extent and growth potential.

Ecologically relevant emissions from the facility will be primarily nitrogen dioxide and carbon monoxide which will be fully dispersed to the atmosphere from a 43 m high stack. The total absence of mercury emissions and the very low annual sulphur dioxide emissions indicate that ecological impacts from terrestrial deposition of contaminants (mercury or acidic rain) at or in the areas surrounding the site will be very small and acceptably low.

Given the above mitigation measures, the project will have no net impacts to any locally important ecosystems or vegetation.

26. Natural Resources and Potential Impacts

26.1 Efficient use of Non-renewable Resources

The Green Electron Power Project will have an electrical generation efficiency of approximately 48%, and will therefore be one of the most efficient electricity plants in Ontario. The MOE (Ontario Regulation 116/01) defines efficiencies of over 40% as being an “efficient use of non-renewable resources”. The facility will utilize natural gas which is fossil-sourced and non-renewable. However at 48% efficiency, the project will meet the MOE guideline criteria in terms of efficient use on non-renewable resources.

The connection of the facility to the immediately adjacent electrical transmission lines also minimizes potential electrical line losses in the electrical distribution system for this new electrical generation capacity. This aspect also enhances efficient use on non-renewable resources.

Although future higher energy efficiency is technically possible via cogeneration with by-product hot water usage by nearby institutions or industries, this is not currently feasible, as the facility is expected to only operate during periods of peak and intermediate peak demand for electricity. The future feasibility of adding a cogeneration component could be re-evaluated at a future date, i.e., should the operating basis of the facility change so as to enable this option and depending on the arrival of local industrial energy users in for example the neighbouring industrial lands.

Therefore, the project will minimize its impact on the use of non-renewable resources by using the cleanest currently available non-renewable fuel source resource and in a more efficient manner than for most fossil fueled electrical generation facilities.

26.2 Agricultural Lands

The project site is zoned for industrial uses and has not been used for agricultural purposes for many years and, therefore, the project will have no impacts to the use of agriculturally zoned lands.

26.3 Existing Agricultural Production

The project site, is zoned for industrial uses, has not seen agricultural use for many years and will therefore not impact existing agricultural production.

26.4 Mineral, Aggregate or Petroleum Resources

There are no known mineral or petroleum resources on the site and therefore, the project will have no material impacts on mineral, aggregate or petroleum resources.

26.5 Forest Resources

There are no merchantable forest resources on the site, and therefore the project will have no material impacts on forestry resources.

26.6 Fish and Game Resources

There are no fish or significant game resources on or nearby the West site.

Therefore, with the above mitigation measures, the project will have no net impacts on either fish or game resources.

27. Socio-Economic Impacts

27.1 Neighbourhood or Community Character

The Green Electron Power Project is within St. Clair Township that already hosts several similar electricity generating facilities as well as petrochemical and related heavy industrial facilities. Thus, the facility is in keeping with the general character of the overall community. Closer to the West Site itself, the neighbouring lands are zoned and under industrial use. Given that the plant is to be located adjacent to an existing coal fired electrical generation facility with three taller stacks, a 230,000 volt electrical transmission line and adjacent natural gas pipeline corridors, the West site location is very suitable from a land use planning perspective.

The new plant will be visually compatible with the existing tall, visually significant and proximal OPG power generation plant with its taller stack(s) and the tall galvanized steel towers of the electrical transmission lines adjacent to the site. The existing 230,000 volt transmission towers just south, east and north of the site are about 25 m in height, whereas the proposed power plant stack will be only 43 m high and the plant buildings and structures will be only about 20 m high.

The proposed plant location will also avoid the need for the creation of new transmission corridors, and/or expansion of existing transmission corridors, and/or the construction of new transformer stations and/or expansion of existing transformer stations.

The closest schools to the West Project Site are Mooretown-Courtright Public School about 5 km to the north and Brigden Public School about 15 km to the northeast. The

closest post-secondary education facility is the Lambton College of Applied Arts and Technology about 22 km to the north in Sarnia. Given the distances to the project site, there will be no significant impact on any of these facilities.

The closest hospital to the West Project Site is the Charlotte Eleanor Englehart Hospital in Petrolia about 25 km to the northeast. There are no nursing homes, or other long-term care facilities within 500 metres of the project site.

The site is zoned for industrial activity and is designated for employment uses in official plans of both St. Clair Township and Lambton County.

Therefore, given the above, the project will have no net negative impacts on neighborhood or community character.

27.2 Local Businesses, Institutions or Public Facilities

The Green Electron Power Project will purchase about $ 10 million from local businesses during construction and contribute approximately about $ 3.8 million annually to the local economy once the plant is in operation. Given that the gross domestic product of Lambton County was about 6 billion in 2011 and that the total value of industrial construction in Lambton County in 2011 was about $ 200 million, the impact of the project on local businesses will be only incremental positive, and should cause no distortions (shortages or surpluses) in the local or regional economy.

The approximately 200 person years of construction employment created by the project will have only a minor impact on local public institutions such as schools, hospitals and public facilities. Most of the construction workers are expected to be from the local and broader area of the project and likely commute to the site, e.g. from Sarnia or Chatham for the two to three months that such a typical trades worker may be employed at the site.

The approximately 30 full time operating and maintenance jobs created by the project will have only a minor impact on local public institutions and facilities given that the population of Lambton County in 2011 was about 128,000 and is forecast to grow.

Therefore, the project will have no net impacts on local businesses, institutions or public facilities.

27.3 Recreation, Cottaging or Tourism

The Green Electron Power Project is in an industrial area, not close to and will not have any significant impact on any nearby recreation, cottaging or tourism.

Therefore, the project will have no impacts on recreation, cottaging or tourism.

27.4 Community Services or Infrastructure

The Green Electron Power Project will require domestic water supply of up to about 100 liters per second for boiler feed-water and condenser circuit make-up and result in the discharge of up to approximately 20 liters per second of cooling tower and boiler blowdown water to the environment while in operation. Lambton Area Water Supply staff

and CF Industries officials have both indicated that existing water supply systems can accommodate the water supply requirements with the existing infrastructure. Additionally, St. Clair Township officials have confirmed that the Courtright Sewage Treatment Plant has capacity to receive and treat the Green Electron project wastewater .

The Green Electron Power Project is about 25 km from Chris Hadfield Airport in Sarnia and thus the maximum height of buildings and structures on the project is not limited by regulations issued under the Aeronautics Act and therefore the project will have no impact on aviation infrastructure.

The approximately 200 person years of construction employment created by the project will have only a minor impact on community services or infrastructure as most of the construction workers are expected to be from the local and broader area of the project and likely commute to the site, e.g. from Sarnia or Chatham for the two to three months that such a typical trades worker may be employed at the site.

Therefore, the project will have no net impacts on community services or infrastructure.

27.5 Economic Base of Community

The Green Electron Power project will inject approximately $3.8 million annually into the local economy over its 25 year minimum operating life in the form of salaries, procurement of local service and supplies and taxes. Economic ripple effects of up to 4X these direct economic benefits can also be expected. Given that the 2011 nominal gross domestic product of Lambton County was about $6 billion and that the total value of industrial construction in Lambton County in 2011 was about $ 200 million, the impact of the project on local businesses will be positive and incremental, and should cause no distortions from shortages or surpluses in the economic base of the community.

St. Clair Township, Lambton County, Ontario and Canada will incrementally benefit from the economic activity flowing from the construction and operation of the project, therefore the project will have no net impacts on the economic base of the community.

27.6 Labour Supply and Employment

The Green Electron Power Project will result in about 200 person years of construction employment as well as 30 skilled, full-time jobs once the plant is in operation. Given that Lambton County had total employment of about 128,000 in 2011 and a total value of industrial construction of about $ 200 million in 2011, the impact of the project on local businesses will be positive and incremental, and should not cause any distortions through shortages or surpluses in the labour markets of Lambton County, Ontario or Canada.

Therefore, the project will have no net negative impacts on labour supply and employment.

27.7 Motor Vehicle Traffic

The Green Electron Power Project will cause only a short-term increase in local vehicle traffic during the construction period that will be noticed primarily by other users of Oil Springs Line and Highway 40. Highway 40 is a major through road serving many industrial establishments and has two lanes in each direction nearest the site with a design capacity of about 2000 vehicles per hour. Although no recent traffic count data is available, traffic has been observed through several site visits to be relatively light at all times of the day.

Construction of the Green Electron Power Project will cause a short-term addition of an estimated 400 vehicle movements per day primarily on Oil Springs Line and Highway 40 within a range between 15 and 100 peak vehicles movements per hour. Once in operation, the project will cause an addition of about 50 vehicle movements per day, within a range of between 2 and 10 peak vehicle movements per hour. The peak vehicle movements will almost exclusively occur during the daytime and on workdays. The only in operation routine vehicle movements on weekends and holidays will be approximately four passenger vehicle movements associated with each morning and evening shift changes. The existing design of Oil Springs Line and Highway 40 can readily accommodate both the short-term and long-term increase in vehicle traffic. Traffic routing along the St. Clair Parkway would be avoided.

Therefore, the project will have no net impacts on motor vehicle traffic.

27.8 Public Health and Safety

The Green Electron Power Project will improve public health and will not have any measurable impact on public safety.

The project will improve public health in that it facilitates the phasing out of coal-fired electricity generation in the St. Clair Township air shed. The phasing out of coal-fired electricity generation will reduce the emission of mercury, particulates and other pollutants thus resulting in a cleaner local, regional and Ontario-wide air shed, as is detailed in Section 24 above and through a recent cost benefit analysis report (MOE, 2005).

Therefore, the project will have no net impacts on public health and safety.

28. Heritage and Culture Impacts

28.1 Heritage Buildings, Structures, Sites

The Green Electron Power Project will not have any impact on any heritage buildings, structures or sites as determined through a site-specific Heritage/ Archaeological Assessment (Appendix 34.6). There are currently no buildings or structures of any kind on the site. The site is not of significance from a heritage perspective.

Therefore, the project will have no impacts on heritage buildings, structures or sites.

28.2 Archaeological Resources or Cultural Heritage Landscapes

The Green Electron Power Project will not have any impact on any archeological resources or cultural heritage landscapes as determined through a Site Heritage/ Archaeological Assessment (Appendix 34.6).

Therefore, the project will have no impacts on archaeological resources or heritage landscapes.

28.3 Scenic Views or Aesthetically Pleasing Landscapes

The Green Electron Power Project will not have any impact on scenic views since the West site does not have, nor form part of, any scenic views. The project will not have any impact on aesthetically pleasing landscapes since the site is not a component of an aesthetically significant landscape. The proposed site is adjacent to a 230,000 volt electrical transmission line corridor. The new plant will not further disturb the landscape at the site because of the existence of several tall, visually significant, galvanized steel towers, and the industrial facilities near to the site both in the immediate west and to the south...

Therefore, the project will have no impacts on aesthetically pleasing landscapes.

29. Aboriginal Impacts

29.1 Impacts on First Nations

The West site land of the Green Electron Project site is not part of any First Nation reserve lands or on lands subject to any pending claims by aboriginal peoples communities. There are First Nation reserves in the greater region of the project site: Aamjiwnaang First Nation approximately 20 km to the north of the site; Walpole Island First Nation approximately 20 km to the south; Moravian of the Thames First Nation approximately 47 km from the site; Chippewas of Kettle and Stony Point approximately 55 km from the site; Chippewas of the Thames First Nation approximately 79 km from the site; Munsee Delaware First Nation approximately 79 km from the site; Caldwell First Nation approximately 82 km from the site and Oneida Nation of the Thames approximately 85 km from the site.

Consultation with each of these First Nations was undertaken by both letters and direct telephone calls to their respective Chiefs requesting meetings to provide further information and seeking consultation on the project and later through additional letters requesting any comments or concerns. This led to one positive response for a meeting with the Walpole Island First Nation and this meeting was held on the Walpole Island First Nation. Follow-up calls were later taken following lack of response to a second letter of invitation for comments or concerns for the remaining First Nations that had not responded to earlier letters or calls. Further details of the consultations with First Nations are provided in Appendix 34.8

The project reflects appropriate stewardship of natural resources as detailed throughout this ESRR and the proponent will continue its dialogue with First Nations to ensure that

the impact on First Nations is net positive to them. In this regard, the project will provide new employment opportunities for the region, including to First Nations.

30. Other Potential Impacts

30.1 Waste Materials Requiring Disposal

Waste materials created by the project include non-hazardous solid waste and non-hazardous liquid waste. During construction waste materials will be substantially similar to those that are created at the majority of industrial construction sites. Primarily these wastes consist of packaging materials, excess or spoiled construction materials, and incidental wastes (e.g. from workers meals, and job site administration). During operation the waste material will be substantially similar to those created at the majority of light industrial establishments. Primarily these wastes are incidental to the clean electricity generation process which itself creates no solid waste stream. Typical wastes will be broken or worn out equipment parts, packaging materials associated with repair parts, consumables such as air filter elements and incidental wastes (e.g. from workers meals, and plant administration). Wherever economically feasible or if mandated by law, solid waste materials will be recycled. During operation the plant will also create a small quantity of liquid wastes that require specialized disposal, including lubricating oil and cleaning spirits. Any such hazardous wastes will be handled only by MOE licensed recycling or disposal companies.

Therefore, the project will not have net negative impacts due to the generation of wastes requiring disposal off-site.

30.2 Mitigation Implementation, Monitoring and Feedback

All project staff and external contractors will be made and kept aware of their individual responsibilities for implementing the necessary mitigation and impact management measures and, their responsibilities for regularly monitoring the implementation of these measures during all phases of the project to ensure that all mitigation measures are being applied as required and that they are performing adequately. Monitoring will also be required to identify unforeseen environmental impacts, which may require additional mitigation or impact management. Implementation of these possible additional mitigation and/or impact management measures will then be required. A project Environmental Impact Management plan has been developed and this is provided in Appendix 34.9.

30.3 Sustainability Aspects of the Project Design

The Green Electron Power Project concept and design, in addition to the features described above, includes provisions for practical inclusion of a number of sustainability criteria as summarized below:

b) Sustainable Community Design

There is a potential for future energy cogeneration from the project (as described in section 26.1, above). Should the future operations of the facility permit useful supply of cogenerated energy, the proponent would explore the potential for a nearby industrial use of this cogeneration energy with potential users.

b) Sustainable Technologies

The proponent has chosen state of the art equipment to provide the most efficient and cleanest technology practically attainable in relation to the Green Electron Power Project. The proponent is committed to bringing future innovations to the facility in relation to water conservation, emissions reduction and energy efficiency as proven and practically appropriate to the facility and its design and operational requirements.

c) Pollution Prevention

The proponent is committed to minimizing all emissions through a strong and rigorous program of plant maintenance, monitoring and operating procedures as more fully discussed in section 20.2 (above).

d) Sustainable Design

The facility buildings and its equipment will comprise recyclable and reusable materials to the extent practically possible. All waste lubricants, oils etc from operations and maintenance will be recycled through licensed off-site service suppliers.

e) Eco-efficiency Programs

The Green Electron Power Project achieves a substantial measure of eco-efficiency notwithstanding it is a power generation facility utilizing non-renewable natural gas. This is achieved through obtaining 48 % efficiency, substantially higher than the efficiency (25-30%) of the coal-fired generation it is replacing (see section 26.1). In addition, the project achieves substantial reduction in greenhouse gas emissions (52% reduction, see section 23.2) and achieves substantial reduction in emission of atmospheric pollutants (78% to 100% reduction, see section 23.1).

31. MOE Compliance and Other Approvals

The Green Electron Power Project will require an Environmental Compliance Approval for the facility from the Ministry of the Environment in accordance with MOE regulations including those under Section 9 of the Environmental Protection Act for Air, Noise and possibly Waste Water/ Industrial Sewage, i.e. should the facility waste water be treated on site and discharged at the CF Industries canal These Environmental Compliance Approvals (Air, Noise and Waste Water) will authorize and regulate the emission of contaminants and noise into the air as well as treated wastewater discharge into the environment. These applications are separate to this ESRR and will be made separately. The application for the Environmental Compliance Approval will require the submission of an Emissions Summary and Dispersion Modeling (ESDM) report, which meets the MOE guideline “Procedure for Preparing an Emission Summary and Dispersion

Modeling Report" as well as an acoustical noise study. The report in Appendix 34.2 has been prepared according to these guidelines and to applicable MOE approvals requirements, respectively.

It has been determined that the SRCA has no requirements for a Ontario Regulation 97/04 permit for the placement of any needed fill in the developed area of the West project site.

32. Conclusions

The Green Electron Power Project involves the construction and operation of a new, clean, natural gas fuelled, electricity generating plant in response to the Ontario Ministry of Energy's program for new clean energy supply, i.e., in relation to the replacement of coal-fired generation facilities.

The Green Electron Power Project, should the West Project Site be chosen, will be located in St. Clair Township on the north side of Oil Springs Line east of Greenfield Road on about 2 hectares of a 7.7 hectare piece of vacant land that is zoned heavy industrial under the St. Clair Township Zoning By-law. The site is located adjacent to Hydro One's 230 kV transmission corridor for circuit L28C, via which the plant's output is to be delivered to the existing transmission grid.

The proponent identified some potential impacts of the project that required further assessment, namely air and noise emissions and wastewater discharge and therefore chose to proceed directly to the environmental review stage without first issuing the environmental screening report. These further assessments are detailed in separate studies of air emissions, noise and other potential environmental impact studies that have been completed (Appendix 34.2, Appendix 34.3, Appendix 34.4, Appendix 34.5 and Appendix 34.6). The public and various affected public agencies were notified of the commencement of the review stage as per the MOE guidelines and all public and agency input as obtained was incorporated into this ESRR (Appendices 34.7 and Appendix 34.8).

Based on the results of the environmental screening and review of the Green Electron Power Project, the project can be constructed, operated and eventually decommissioned such that there will be no net negative effects to the environment or the community. This acceptable result will be achieved by appropriate facility design and through implementing the mitigation, impact management and ecological enhancement measures identified in this ESRR, including good power plant engineering, construction, operation and maintenance practices.

In addition to mitigating potential environmental impacts, the Green Electron Power Project offers a number of additional natural environmental advantages and human health benefits as compared to the coal-fired generation capacity it is replacing. The project will provide high efficiency (48%) electricity generation and provide large reductions in both specific emission rates and total annual emissions of nitrogen oxides, sulphur dioxide, greenhouse gases and mercury, as compared to a similar coal-fired electrical generation capacity.

33. References

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34. Appendices – West Site

34.1 APPENDIX 34.1 - Screening Criteria Results West site

The Green Electron Power Project is defined as a Category B project and therefore subject to environmental screening so as to meet the Environmental Assessment requirements for new electricity generating projects (Ontario Regulation 116/01 and MOE guide PIBS 4021e, revised January 2011).

The Checklist responses provided below were based on current knowledge or preliminary investigations. If there was uncertainty as to the response to a criterion question, further studies or consultation was conducted to answer the question.

On the basis of the screening results (below) and early public consultation, the Proponent elected to self-elevate the overall environmental assessment process to an environmental review. Therefore, the screening criteria checklist is included below for reference, to indicate what additional studies were performed and to provide the relevant information and cross reference to appropriate sections in the Environmental Review Report.

Negative environmental effects were defined to include the negative effects that the project would have, or potentially could have, either directly or indirectly on the environment at any stage in the project life cycle, i.e., including all project phases of construction, commissioning, operational life and final decommissioning. Negative environmental effects were taken to include, but were not limited to the harmful alteration, disruption, destruction, or loss of:

1. natural features;
2. flora or fauna and their habitat;
3. ecological functions;
4. natural resources;
5. air or water quality, and
6. cultural or heritage resources.

Negative environmental effects were also assumed to include the displacement, impairment, conflict or interference with existing land uses, approved land use plans, businesses or economic enterprises, recreational uses or activities, cultural pursuits, social conditions or economic structure.

This Checklist as reported below does not take credit for mitigation or impact management measures, which are reported in detail in the Environmental Screening and Review Report. However, Net Effects are defined as the negative environmental effects that would remain after mitigation and impact management measures have been taken and such net effects are summarized in the Additional Information section of the Checklist.

Environmental Screening Checklist West Site

CRITERION		POTENTIAL NEGATIVE EFFECTS[1]		
1.	**Surface and Ground Water**	**Yes**	**No**	**Net effects including with Mitigation Measures Additional Information[1,2]**
1.1	Will the project have negative effects on surface water quality, quantities or flow?	√		-No water taking from Bowens' Creek. Treatment of wastewater will mitigate impacts as reported in Section 21
1.2	Will the project have negative effects on ground water quality, quantity or movement?		√	No withdrawal from or input to groundwater. Most stormwater will continue to recharge groundwater or watershed as detailed in Section 21.2 and in Appendix 34.5
1.3	Will the project cause significant sedimentation, soil erosion or shoreline or riverbank erosion on or off site?		√	See Section 21.3
1.4	Will the project cause potential negative effects on surface or ground water from accidental spills or releases to the environment?		√	Low potential for spills in construction, commissioning and operational phases. No net negative impacts as a result of appropriate containment and mitigation structures and procedures to be implemented; see Sections 21.4 and 30.1 for details.

1: Impacts include potential impacts for all phases of Project Life: In accordance with MOE Screening criteria and guidelines; http://www.ene.gov.on.ca/envision/gp/4021e.pdf

2: Net Impacts as stated resulting from application of mitigation features and procedures as referenced

2.	Land	Yes	No	Net effects including with Mitigation Measures Additional Information[1,2]
2.1	Will the project have negative effects on residential, commercial or institutional land uses within 500 metres of the site?		√	There are no residential building receptors within the 500 metre zone for which atmospheric emissions and noise could have impacts. The majority of land use within the study area is industrial. There are no net Impacts from noise and emissions with mitigation measures in place as detailed in Sections 22.1, 22.2, 22.4 and in Appendix 34.2 and Appendix34.3.
2.2	Will the project be inconsistent with the Provincial Policy Statement, provincial land use or resource management plans?		√	No inconsistency; see Section 22.2 for details
2.3	Will the project be inconsistent with municipal land use policies, plans and zoning by-laws?		√	Land for the project is on industrial land appropriately zoned by the municipality; see Section 22.3 for details
2.4	Will the project use hazard lands or unstable lands subject to erosion?		√	Based on review of MOE inventory. Site specific ESA Phase I study assessment pending .
2.5	Will the project have potential negative effects related to the remediation of contaminated land?		√	Project will not impair the remediation of any contaminated lands and project does not emit contaminants to land; see Section 22.4 for details

1: Impacts include potential impacts for all phases of Project Life: In accordance with MOE Screening criteria and guidelines; http://www.ene.gov.on.ca/envision/gp/4021e.pdf

2: Net Impacts as stated resulting from application of mitigation features and procedures as referenced

3.	Air and Noise	Yes	No	Net effects including with Mitigation Measures Additional Information[1,2]
3.1	Will the project have negative effects on air quality due to emissions of nitrogen dioxide, sulphur dioxide, suspended particulates, or other pollutants?	√		Emissions of nitrogen dioxide, sulphur dioxide and particulate matter will occur from combustion of natural gas. No net impacts will occur with mitigation procedures in place. Emissions will meet provincial guidelines at nearest point of impingement. Emissions relative to coal-fired facilities will be greatly reduced. See Section 23.1 and Section 24 and Appendix 34.2 for details as to emissions and their mitigation
3.2	Will the project cause negative effects from the emission of greenhouse gases (CO_2, methane, etc.)?	√		Anthropogenic CO_2 emissions from burning fossil natural gas fuel. No Net Impacts as GHG emission will be reduced approximately 50% from those from coal fired facilities due to high efficiency (48%) electrical power production. See Section 23.3.
3.3	Will the project cause negative effects from the emission of dust or odour?	√		Potential dust emissions in construction phase only but no odour emissions at any phase. No Net Impacts with mitigation procedures in place; see report section 23.3 and Appendix 34.2 for details.
3.4	Will the project cause negative effects from the emission of noise?	√		Turbines, transformers and cooling system will emit noise. No net Impacts due to noise mitigation features incorporated, resulting from noise emissions/mitigation study; see Section 23.5 and Appendix 34.3. Noise emissions at nearest critical point of reception will meet nighttime regulatory limit of 40dBA.

1: Impacts include potential impacts for all phases of Project Life: In accordance with MOE Screening criteria and guidelines; http://www.ene.gov.on.ca/envision/gp/4021e.pdf

2: Net Impacts as stated resulting from application of mitigation features and procedures as referenced

4.	Natural Environment	Yes	No	Net effects including with Mitigation Measures Additional Information[1,2]
4.1	Will the project cause negative effects on rare, threatened or endangered species of flora or fauna or their habitat?		√	Confirmed through Environmental Site Impact Study; see Section 25.1 and Appendix 34.4
4.2	Will the project cause negative effects on protected natural areas such as ANSI's (Area of natural or Scientific Interest), ESA's (Environmentally Significant Area) or other significant natural areas?		√	Confirmed through Environmental Site Impact Study; see Section 25.2 and Appendix 34.4
4.3	Will the project cause negative effects on wetlands?		√	Confirmed through Environmental Site Impact Study; see Section 25.3 and Appendix 34.4
4.4	Will the project have negative effects on wildlife habitat, populations, corridors or movement?		√	Confirmed through Environmental Site Impact Study; see Section 25.4 and Appendix 34.5
4.5	Will the project have negative effects on fish or their habitat, spawning, movement or environmental conditions (e.g., water temperature, turbidity, etc.)?		√	Confirmed through Environmental Site Impact Study; see Section 25.5 and Appendix 34.4
4.6	Will the project have negative effects on migratory birds, including effects on their habitat or staging areas?		√	Confirmed through Environmental Site Impact Study; see Section 25.6 and Appendix 34.4
4.7	Will the project have negative effects on locally important or valued ecosystems or vegetation?		√	Confirmed through Environmental Site Impact Study; see Section 25.7 and Appendix 34.4

1: Impacts include potential impacts for all phases of Project Life: In accordance with MOE Screening criteria and guidelines; http://www.ene.gov.on.ca/envision/gp/4021e.pdf

2: Net Impacts as stated resulting from application of mitigation features and procedures as referenced

5.	Resources	Yes	No	Net effects including with Mitigation Measures Additional Information[1,2]
5.1	Will the project result in inefficient (below 40%) use of a non-renewable resource (efficiency is defined as the ratio of output energy to input energy, where output energy includes electricity produced plus useful heat captured)?		√	Project will achieve 48% efficiency (electrical) through combined cycle operation without provision for potential combined residual heat product use; see report Section 20.2 for details. Project ties directly to existing local transmission network improving net efficiency by avoiding electrical line losses.
5.2	Will the project have negative effects on the use of Canada Land Inventory Class 1, 2 or 3, specialty crop or locally significant agricultural lands?		√	Project lands are zoned industrial.
5.3	Will the project have negative effects on existing agricultural production?		√	Project lands have been used for agricultural production until about 1960 and have been vacant since then
5.4	Will the project have negative effects on the availability of mineral, aggregate or petroleum resources?		√	No resource at or near facility.
5.5	Will the project have negative effects on the availability of forest resources?		√	No forest resource at or near facility
5.6	Will the project have negative effects on game and fishery resources, including negative effects caused by creating access to previously inaccessible areas?		√	No game resource at or near facility.

1: Impacts include potential impacts for all phases of Project Life: In accordance with MOE Screening criteria and guidelines; http://www.ene.gov.on.ca/envision/gp/4021e.pdf

2: Net Impacts as stated resulting from application of mitigation features and procedures as referenced

6.	Socio-economic	Yes	No	Net effects including with Mitigation Measures Additional Information[1,2]
6.1	Will the project have negative effects on neighbourhood or community character?		√	Project is consistent with activities of industrial neighbours and offsets local energy supply lost through closure of coal-fired facilities; see Section 27.1 for details
6.2	Will the project have negative effects on local businesses, institutions or public facilities?		√	Project will provide local economic stimulus and help assure energy supply security; see Section 27.2 for details
6.3	Will the project have negative effects on recreation, cottaging or tourism?		√	No applicable uses near facility.
6.4	Will the project have negative effects related to increases in the demands on community services and infrastructure?		√	Requirements for water and wastewater services have been confirmed to be within existing municipal capacities; see Section 27.4 for details
6.5	Will the project have negative affects on the economic base of a municipality or community?		√	Project will provide industrial tax revenues, economic activity and jobs.
6.6	Will the project have negative affects on local employment and labour?		√	Project will provide local employment opportunities in all phases
6.7	Will the project have negative effects related to traffic?		√	Municipality does not require traffic study due to light volumes expected
6.8	Will the project cause pubic concerns related to public health and safety?		√	No storage of natural gas; environmental emissions from natural gas are low relative to coal emissions improving public health aspects over coal facility; see Section 27.8 for details

1: Impacts include potential impacts for all phases of Project Life: In accordance with MOE Screening criteria and guidelines; http://www.ene.gov.on.ca/envision/gp/4021e.pdf

2: Net Impacts as stated resulting from application of mitigation features and procedures as referenced

7.	Heritage and Culture	Yes	No	Net effects including with Mitigation Measures Additional Information[1,2]
7.1	Will the project have negative effects on heritage buildings, structures or sites, archaeological resources, or cultural heritage landscapes?		√	Confirmed through Archaeological Assessment; see Report Section 28 and Appendix 34.6
7.2	Will the project have negative effects on scenic or aesthetically pleasing landscapes or views?		√	No scenic or aesthetically pleasing landscapes or views within view of the project.
8.	**Aboriginal**	**Yes**	**No**	**Net effects including with Mitigation Measures Additional Information[1,2]**
8.1	Will the project cause negative effects on First Nations or other Aboriginal Communities?		√	Not on FN land or claimed by any FN and will not affect traditional uses by FNs
9.	**Other**	**Yes**	**No**	**Net effects including with Mitigation Measures Additional Information[1,2]**
9.1	Will the project result in negative effects due to the creation of waste materials requiring disposal?	√		Cooling tower blowdown waste water contains hardness and other ions and waste heat; this impact will be mitigated by treatment in a municipal WWTF or treatment on site to MOE regulatory limits for discharge to the environment with no net affects (see section 21.1 for details). Waste lubricants and oils will be recycled through authorized disposal/recycling service providers; see Section 30.1 for details
9.2	Will the project cause any other negative environmental effect not covered by the criteria outlined above?		√	NA

1: Impacts include potential impacts for all phases of Project Life: In accordance with MOE Screening criteria and guidelines; http://www.ene.gov.on.ca/envision/gp/4021e.pdf

2: Net Impacts as stated resulting from application of mitigation features and procedures as referenced

34.2 APPENDIX 34.2 - Air Quality Impact Study West Site and Cooling Tower Icing Study West Site

34.3 APPENDIX 34.3 - Noise Feasibility Study West Site

34.4 APPENDIX 34.4 - Natural Resources Baseline Report and Environmental Impact Study West Site

34.5 APPENDIX 34.5 - Conceptual Stormwater Management Plan West Site

34.6 APPENDIX 34.6 - Archaeological Assessment West Site

34.7 APPENDIX 34.7 - see 17.7 Public Consultation Report

34.8 APPENDIX 34.8 - see 17.8 Government Agency Consultation Report

34.9 APPENDIX 34.9 - see 17.9 Environmental Impact Management Plan

APPENDIX 15

Construction, Commissioning, Operation and Maintenance of the Natural Gas Utilization System

Green Electron Power Project

Construction, Commissioning, Operation and Maintenance of the Natural Gas Utilization System

1. Introduction and System Description

This document summarizes the construction, commissioning, operation and maintenance of the natural gas utilization system at the Green Electron Power Project (GEPP). The GEPP is a combined cycle electricity generating station with a natural gas fired turbine, a duct burner equipped heat recovery steam generator, as well as natural gas fired unit heaters and hot water heater. The natural gas utilization system therefore has three different pressure subsystems:

(i) The high pressure subsystem will operate at pressures between 4.3 MPA (625 psig) and 5.8 MPa (834 psig) from the Vector Tap to the metering and pressure regulating station, and at a pressure of about 3.3 MPa (475 psig) from of the pressure regulating station to the gas turbine and related fuel filtration and conditioning equipment. The high pressure subsystem begins with a connection to the Vector Pipeline consisting of an 8" NPS tap followed by a short riser pipe to an above ground 8" NPS isolation valve, an 8" NPS gas actuated shutoff valve, and an 8" check valve, as well as a 2" pressure balancing line around the gas actuated shut-off valve. To this is connected an 8" Schedule 80 line that runs underground for about 450 m before rising above ground at a metering and pressure regulating station near the GEPP buildings. The pressure regulating station includes a pressure reducing valve to step down the high pressure gas to intermediate pressure; and another pair of pressure reducing valves in tandem to step down the high pressure pressure gas to low pressure. All joints in the high pressure subsystem are butt welded except for flanged connections at the Vector tap, at each pressure reducing valve, at the inlet and outlet of the glycol to gas heat exchanger, at the inlet and outlet of the gas filtration equipment and at the inlet to the gas turbine;

(ii) The intermediate pressure subsystem operates between at about 200 kPa (30 psig) and feeds the duct burner. The intermediate pressure subsystem taps off of the high pressure subsystem at a pressure reducing valve located at the metering and pressure regulating station. To this is connected a 6" NPS above ground line leading to the safety isolation and control valve train for the duct burner, and ultimately to the manifold feeding each of the duct burner arrays. All joints in the intermediate pressure subsystem are but welded or flanged.

(iii) The low pressure system operates at about 7 kPa (1 psig) and feeds the plant's unit heaters and the hot water heater, with further pressure regulation down to about 550 mm (14") w.c. at each appliance. All joints in the low pressure subsystem are socket welded or threaded.

The process and instrumentation diagram (P&ID) for the entire natural gas utilization system is shown on drawings 402-017-012, 402-017-013 and 402-017-014.

2. Standards and Specifications

The natural gas utilization system from the Vector Tap is designed according to ASME Power Piping Code B31.1 and includes 8" Schedule 80 steel pipe and fittings meeting material specification A106 for the high pressure subsystem

The low pressure subsystem is designed to CSA B149.1.

The natural gas fuelled appliances meet applicable CSA standards.

The TSSA has approved the design of the natural gas utilization system as per SR No. 1468522.

3. Methods

(a) Construction

The connection to the Vector Pipeline will be done via "hot tap" using well established protocols for such operations by qualified high pressure gas contractors, and meeting the technical requirements of Vector Pipeline Limited Partnership. The area of the existing 42" Vector Pipeline where the hot tap will be done will be hydrovac excavated by a qualified, experienced subcontractor, and will be witnessed by Eastern Power's engineering personnel, as well as representatives of Vector Pipeline. Hot tapping will be done according to all applicable codes and standards as well as prevailing industry safety practises.

Once the hot tap associated components have been installed and tested, the area around the 42" Vector pipeline and the Vector tap will be backfilled to grade level.

The route for the 8" line to the GEPP meter will be staked out after all nearby underground services (including those of Union Gas) have been located, and the route surveyed accurately with reference to existing property lines and benchmarks. The excavation of the trench to about 1.2 metre depth will be entirely through soil consisting of up to 300 mm of top soil typical of an agriculturally tilled field underlain by a silty- clay subsoil that extends to well below the depth of excavation for the line. The underground pipe and fittings will be field welded using 40' lengths of yellow polyethylene jacketed pipe and related fittings, will have taped protection of joints and will have cathodic protection. The line will be placed on a 6"sand bed in the trench and carefully backfilled with excavated material leaving a suitable crown so as to meet adjacent grades and allow for subsequent agricultural use.

The metering and regulating station shall be shop-constructed spools of pipe (made in a TSSA certified facility) which shall be installed in a fenced enclosure at the southwest corner of the

paved area abutting the gas turbine hall. Bollards and parking curbs will protect the metering and regulating station from vehicles on the adjacent asphalt paved area.

The above ground piping for the high pressure subsystem, as well as the intermediate pressure subsystem will be consist of shop-fabricated spools joined by butt welding using only qualified welders following TSSA approved welding procedures (including the required testing of welders).

The low pressure subsystem will be constructed of field-run, threaded pipe ranging in size from 2" NPS to ½" NPS.

Pipe supports for the natural gas utilization system will be located as per the engineering design drawings for large bore piping and as per good gas piping practice and code requirements for small bore piping, and shall meet applicable CSA and TSSA requirements. Relief valve and other vent lines will be routed to safe discharge locations as per code. All gas lines will be appropriately painted and/or marked as being natural gas lines.

(b) Commissioning

The system will be commissioned in accordance with applicable gas codes, including hydrostatic testing with water as per ASME B31.1 Due to the limited length of the high pressure system there will be no "blowing" of this section of line to clean it. Functional tests ill be carried out on all regulating valves, flow meters, control valves and all instruments.

(c) Operation

The system will be operated in accordance with good natural gas operating practices including the monitoring of the pressure, temperature and gas quality using appropriate instrumentation. On at least an annual basis the buried portion of the natural gas utilization system will be leak checked be along its entire length using both visual and gas detection methods. The cathodic protection will be checked semi-annually for proper function. All valves and fittings in the line will be examined for proper function and serviceability. If there is any indication, an examination for corrosion may be undertaken using cameras or means of sensing including ultrasonic testing. No excavation will be permitted in the vicinity of the buried portion of the system unless the line has been located in the vicinity by hydro vac excavation and under the full time observation of engineering staff.

(d) Maintenance

The system will be maintained in accordance with prevailing industry practices. This includes painting all exposed surfaces, as well as normal servicing of moving parts (i.e. in valves) and replacement of components subject to deterioration and/or wear.

4. Quality Control

Quality Control during the construction of the natural gas system will be in accordance with the TSSA approved Greenfield South Power Corporation Quality Control Manual, "Quality Control Manual for Fabrication, Assembly and Erection of Power Piping Systems at Field Sites", Issue No. 1, February 10, 2014, in accordance with CSA B51 and ASME B31.1 Power Piping. The manual covers methods of material control, welding control, and NDE protocols, as well as all the required TSSA inspections to ensure that all welding is in accordance with the CSA B51, ASME B31.1 and other applicable TSSA codes and regulations.

Quality control testing of the high and intermediate subsystem will include radiography of 15% of the welds which will be witnessed by the TSSA inspector. The high and intermediate subsystems will also be hydrostatically tested at 150% of design pressure for at least 4 hours with water, and subsequently dried out with air blowers. These lines will also be purged with nitrogen before placing these subsystems into service.

Low pressure lines will only be tested by gas pressure test and checking of joints for leakage per gas code requirements.

5. Environmental Mitigation

Environmental mitigation will be carried out in accordance with Section 4 (d) of the GEPP Environmental Impact Management Plan, as well as prevailing industry practices, including minimization of excavation disturbance, prevention of erosion and siltation, etc. The route of the buried line on the GEPP property has the least environmental impact due to it not crossing Government Drain No. 10 or the mature woodlot at the south of the property since both of these features were identified as having greater ecological value. The route is also outside of the rail corridor that MNR identified as a corridor used by snakes that are species at risk. Construction of the line will be done outside of the nesting season for migratory birds. Any dewatering of trenches will discharge the water to the existing storm water detention system established for the project. There will be no need for blasting, tunnelling or other more invasive construction methods. Other potential environmental measures that may be applied if needed are set out in Section 3.1 of the Natural Resources Baseline Report and Environmental Impact Study (Appendix 17.4 of ESRR)

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Rush

cc: FCI
GMV
SRR

September 8, 2014

File: SR# 1468522

Mr. Hubert Vogt,
Greenfield South Power Corporation,
2275 Lake Shore Blvd. West, Suite 401,
Toronto, ON M8V 3Y3

Re: Application for Approval of High Pressure System. NPS 8 and Smaller Natural Gas Piping from Vector's Metering System to the Connection to the Gas Turbine Package for Greenfield South Power Corporation, at 477 Oil Springs Line, Courtright, Ontario. Your Project No. 402

Dear Mr. Vogt,

This is in response to your rush application for high pressure system approval received on August 28, 2014, and additional information submitted on September 5 and 6, 2014 for the referenced site. This approval is limited to the piping system designed for over 125 psig.

The piping system is depicted in the Eastern Power Limited drawings 402-017-012/13/14, as attached to the application. The technical specifications for piping and components as provided are accepted unless here modified. The design pressure for the natural gas piping system is 1000.8 psig or lower at 120 °F temperature, with the exception of lines 032 and 033 that are designed for a temperature of 160 °F.

The piping specifications have been found in compliance with TSSA High Pressure Piping System Procedures and approved under No. SR# 1468522. The approval is subject to the following conditions:

- The fabrication and installation of the piping system shall be made in accordance with the ASME B31.1 code and the specification and drawings here being approved;

- Welders shall have a valid certificate issued by Boilers and Pressure Vessels Safety Program (BPVSP). The certificate shall indicate that the welders have been qualified in accordance to the procedures for welding approved by the BPVSP;

...2

Mr.Hubert Vogt,
September 8, 2014

- Weld inspections and NDE shall be in compliance with the ANSI/ASME B31.1 and this letter. At least 15% of butt wells shall be radiographically inspected for the entire length of it circumference. A qualified radiographer in accordance with the requirements of CGSB Standard CAN/CGSB-48.9712 shall make an interpretation of the results of the radiographic examination. Greenfield South Power Corporation shall keep records of interpretation of radiographs and produced if the TSSA inspector requests them;

- Welds that cannot be examined by radiographic or ultrasonic examination shall be visually examined. If quality is in doubt, liquid penetrant or magnetic particle shall be used, and

- The hydrostatic pressure test of the piping systems shall be made as per the specifications provided and a procedure to be submitted prior to the pressure test. The test pressure shall be at 1.5 times the design pressure (1501.2 psig for piping designed for 1000.8 psig) and the test duration shall be such that will take into consideration time for temperature stabilization, but not less than 4 hr. The test shall be witnessed by our inspector. Please contact Kevin Abbot at 226 339 6417 in order to arrange for an inspection. Records of the tests, data on instrumentation used and calibration of gauges shall be made available to the inspector.

If you have any further questions, please call me.

Yours truly,

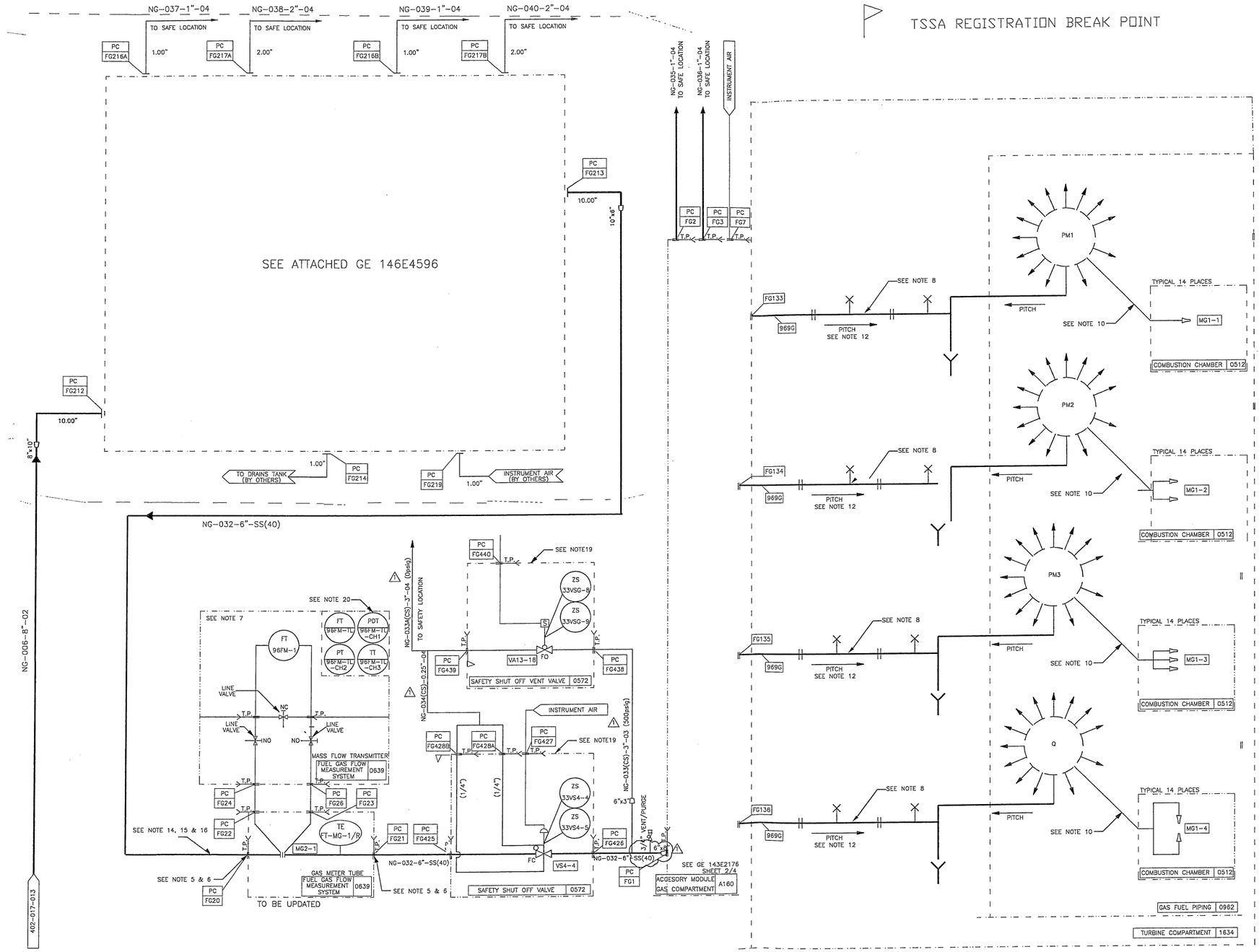
Oscar Alonso, P. Eng.
Fuels Safety Engineer
Tel.: 416 734 3353
Fax.: 416 231 7525
e-mail: oalonso@tssa.org

Attachments

c: Mr. Francis C. Itliong, P.Eng.,
Greenfield South Power Corporation,
2275 Lake Shore Blvd. West, Suite 401
Toronto, ON M8V 3Y3

Kevin Abbott

L/fsesb/fs eng jobs/477 Oil Springs Line, Courtright, SR#1468522doc



NOTE:
REF: ORIGINAL GE 143E2176 SHEET 2/4

TSSA
Fuels Safety Division
DRAWING REVIEWED
Review Required: Yes / No
Approved No.: SR# 14685228
Name: Oscar Alonso, P.Eng.
Signature:
Date: SEP 18 2014

No	DATE	REVISIONS/ISSUED	BY	CHK	APP
1	07/07/14	ADD VENT/PURGE BEFORE REDUCER	RL	HWL	HWL/FI
1	4/28/14	MODIFIED LINE NG-034 SIZE FROM 0.5" TO 0.25"	RL	HWL	HWL/FI
1	4/28/14	MODIFIED THE PC/FG1 CONNECTION SIZE	RL	HWL	HWL/FI
0	12/20/13	ISSUED FOR CONSTRUCTION AT NEW SITE	RL	HWL	HWL/FI
0	09/1/11	ISSUED FOR CONSTRUCTION	PBP	HWL	HWL/FI

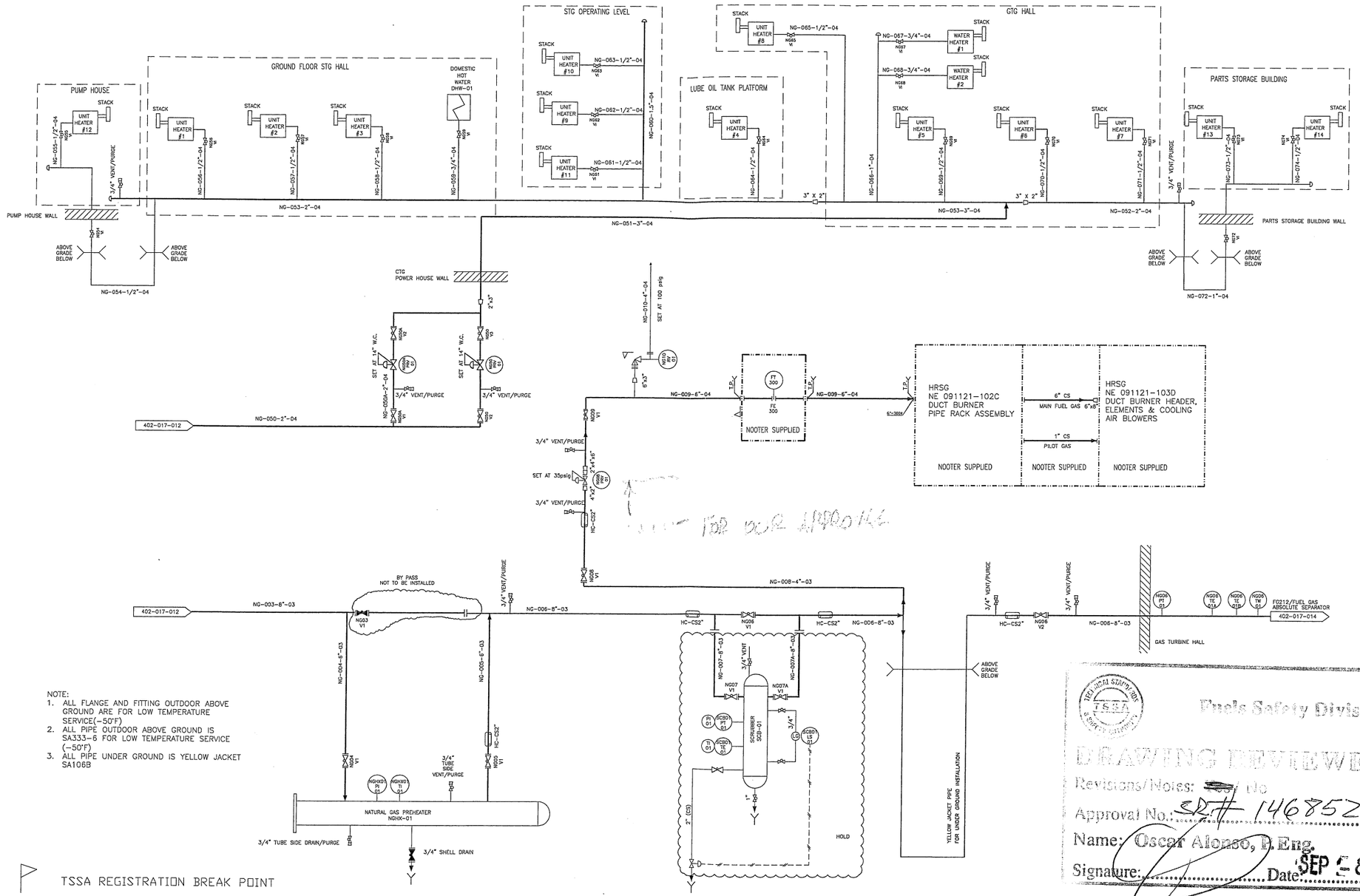
SECTION:	PIPING & INSTRUMENT
SCALE:	NTS
DESIGNED:	H. W. LIU
DRAWN:	A. MARTINEZ
CHECKED:	H. W. LIU
APPROVED:	
DATE	04/17/10
DATE	04/19/10
DATE	04/21/10

CLIENT: EASTERN POWER LIMITED
2233 LAKESHORE BLVD. WEST
TORONTO, ONTARIO, M8V 3Y7
TEL: (416) 234-1331 FAX: (416) 234-8336

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

TITLE: PIPING & INSTRUMENT DIAGRAM – NATURAL GAS SUPPLY (3/3)

DRAWING CODE: 14|02|-|10|11|7|-|10|1|4 | REV: 11



NOTE:
1. ALL FLANGE AND FITTING OUTDOOR ABOVE GROUND ARE FOR LOW TEMPERATURE SERVICE(-50°F)
2. ALL PIPE OUTDOOR ABOVE GROUND IS SA333-6 FOR LOW TEMPERATURE SERVICE (-50°F)
3. ALL PIPE UNDER GROUND IS YELLOW JACKET SA106B

TSSA REGISTRATION BREAK POINT

TSSA REGISTRATION — Fuels Safety Division
DRAWING REVIEWED
Revisions/Notes: Rev 1
Approval No.: SR# 1468522
Name: Oscar Alonso, P.Eng.
Signature: Date: SEP 2 8 2014

No	DATE	REVISIONS/ISSUED	BY	CHK	APP
0	07/18/14	ISSUED FOR CONSTRUCTION	RL	MKL	MKL/FI

SECTION:	PIPING & INSTRUMENT
SCALE:	NTS
DESIGNED:	H. W. LIU
DRAWN:	R. LUO
CHECKED:	H. W. LIU
APPROVED:	
DATE	07/07/14

CLIENT: EASTERN POWER LIMITED
2225 LAKESHORE BLVD. WEST, TORONTO, ONTARIO, M8V 3Y3, TEL: (416) 234-1301 FAX: (416) 234-8336
PROJECT: GREEN ELECTRON POWER PLANT
OIL SPRINGS LINE, TOWNSHIP OF ST. CLAIR, ONTARIO

TITLE: PIPING & INSTRUMENT DIAGRAM – NATURAL GAS SUPPLY (2/3)
DRAWING CODE: 14012-101171-10113 | REV: 10

NOTE:
1. NG02–PRV01, NG02–PRV02 : 3" ANSI 600# RATED MAX CAPACITY: 55 MSCFD AT INLET P=834 PSIG AND OUTLET P=475–495 PSIG,
2. NG46–PRV01, NG46–PRV02 : 3/4" ANSI 600# RATED MAX CAPACITY: 4500 SCFH AT INLET P=834 PSIG AND OUTLET P=30–40 PSIG
3. NG01–FT : 6" ANSI 600#ULTRASONIC GAS FLOW METER, FLOW RANGE : 1.3 – 65 MMSCFD
4. NG46–FT : 3/4" (RATED UP TO 4600 PSI) CORIOLIS MASS FLOW METER, FLOW RANGE : 0 – 4500 SCFH
5. ALL FLANGE AND FITTING ABOVE GROUND ARE FOR LOW TEMPERATURE SERVICE(–50°F)
6. ALL PIPE ABOVE GROUND IS SA333–6 FOR LOW TEMPERATURE SERVICE (–50°F)
7. ALL PIPE UNDER GROUND IS SA106B WITH YELLOW JACKET COAT
8. ZONE CLASSIFICATION: CLASS 1 DIV 2

TSSA REGISTRATION BREAK POINT

TECHNICAL STANDARDS & SAFETY AUTHORITY TSSA

Fuels Safety Division

DRAWING REVIEWED

Revisions/Notes: No

Approval No: SR# 1468522

Name: Oscar Alonso, P.Eng.

Signature: Date: SEP 08 2014

ODT02 VO1 — ODT02 FBV01 — ODT-002-1"-02 — ODT02 PRV01 — ODT-002-1"-02 — ODT02 NRV01

ODOR TEST — ODORANT TANK — ODT-001-1"-04 — ODT01 V1 — METERING PUMP — HOLD, NOT INSTALL

NG46 V1 — 2"x3/4" — NG-046-3/4"-02 — NG46 FT 01A — NG46 FE 01 — NG46 FT 01B — NG46 PRV 01 — NG46 PRV 02 — 3/4" VENT/PURGE

SET AT 40psig — SET AT 30 psig — NG49 PT 01 — SET AT 100 psig — NG49 RV 01 — NG-049-2"-04 — 1"x2" — 3/4"x2" NG-048-2"-02 — NG50 V1

PLANT UTILITY GAS SUPPLY — NG-050-2"-04 — 402-017-013

ABOVE GRADE BELOW — YELLOW JACKET PIPE FOR UNDER GROUND INSTALLATION — NG-050-2"-04

NG-045-2"-02 — NG45 V1 — 3/4" VENT/PURGE

VECTOR FACILITY — 42" GAS PIPELINE — PT — BLOCK VALVE — CHECK VALVE — 3/4" VENT/PURGE — INSULATING FLG — ABOVE GRADE BELOW — YELLOW JACKET PIPE FOR UNDER GROUND INSTALLATION — NG-001A-8"-02

NG01 V1 — 8"x6" — NG01 STR01 — NG-001-6"-02 — NG01 V2 — CPA FLOW CONDITIONOR — NG01 PT 01A — NG01 FE 01 — NG01 PT 01B — NG01 TT 01A — NG01 TW 01 — NG01 TT 01B — NG-100-1/8"-07 1/8" 3/4" — SS TUBE — NG100 V1 — SAMPLE CONDITIONER WITH PRESSURE REGULATOR — NG-101-1/4"-07 1/4" — NG101 FBV 01 — HEAT TRACED SS TUBE

6"x3" — NG-002-3"-02 — NG02 V1 — SET AT 495 psig — SET AT 475 psig — NG02 PRV 01 — NG02 PRV 02 — NG02A PT 01 — 3"x6" — EFM — FIC — EFC — FY — NG02A FCV 01 — SET AT 525 psig — NG02B RV 01 — NG-002B-6"-04 — NG-002A-6"-02 — NG-002D-6"-04

PLANT PROCESS GAS SUPPLY — NG-003-8"-03 — 402-017-013

NG02A V1 — 6"x8" — 3/4" VENT/PURGE — ABOVE GRADE BELOW — YELLOW JACKET PIPE FOR UNDER GROUND INSTALLATION

ANSI 600# SYSTEM

PIPELINE & STATION DESIGN CRITERIA

Q(MIN) = 0
Q(MAX) = 60 MMSCFD
P(MIN) = 625 PSIG
P(MAX) = 834 PSIG
P(MOAP) = 1000 PSIG
T(MIN) = –20 °F
T(MAX) = 90 °F

Gas Chromatograph (SEE G.C. PID) — AT — AI — VECTOR — G. C. BUILDING

GEPP DCS — FQ O — VECTOR EFM — VECTOR RTU — VECTOR EFC — FQ V — VU — VECTOR DATA — INSIDE GEPP POWER HOUSE

GEPP = GREEN ELECTRON POWER PLANT
VECTOR = VECTOR PIPELINE LIMITED PARTNERSHIP ENTITY
EFC = VECTOR ELECTRONIC FLOW CONTROL, RTU
EFM = VECTOR ELECTRONIC FLOW METER

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0	07/16/14	ISSUED FOR CONSTRUCTION	RL	HWL	HWL

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2325 LAKESHORE BLVD. WEST TORONTO, ONTARIO, M8V 3T8 TEL: (416) 234-1001 FAX: (416) 234-6336

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

TITLE: PIPING & INSTRUMENT DIAGRAM – NATURAL GAS SUPPLY – METERING AND PRESSURE REDUCING STATION (1/3)

DRAWING CODE: 141021-101171-101112 REV: 10