



# Plasco Trail Road

Public Meeting  
July 19, 2011



# Agenda

1. Welcome/Introductions
2. Review of Screening Process
3. EA Checklist
  - Purpose
  - Where to comment
4. The Plasco Conversion System
5. Summary Proposed Future Operations of Plasco Trail Road
6. Emissions Modeling
7. Q&A



# Plasco Trail Road: Permanent Commercial Scale Demonstration and Development Facility



# The EA Screening Process

- Proponent driven process
- Requires consultation with government agencies including the MOE, First Nations, the general public, and other stakeholder groups
- There are 14 steps in the Screening Process. Key elements include:
  - Publication of Notice of Commencement
  - Project Description
  - Screening Criteria Checklist
  - Consultation
  - Publication of an Environmental Screening Report (ESR)
  - Publication of Notice of Completion
  - **60-day public review period of the ESR**
  - Submission of Statement of Completion to the Ministry

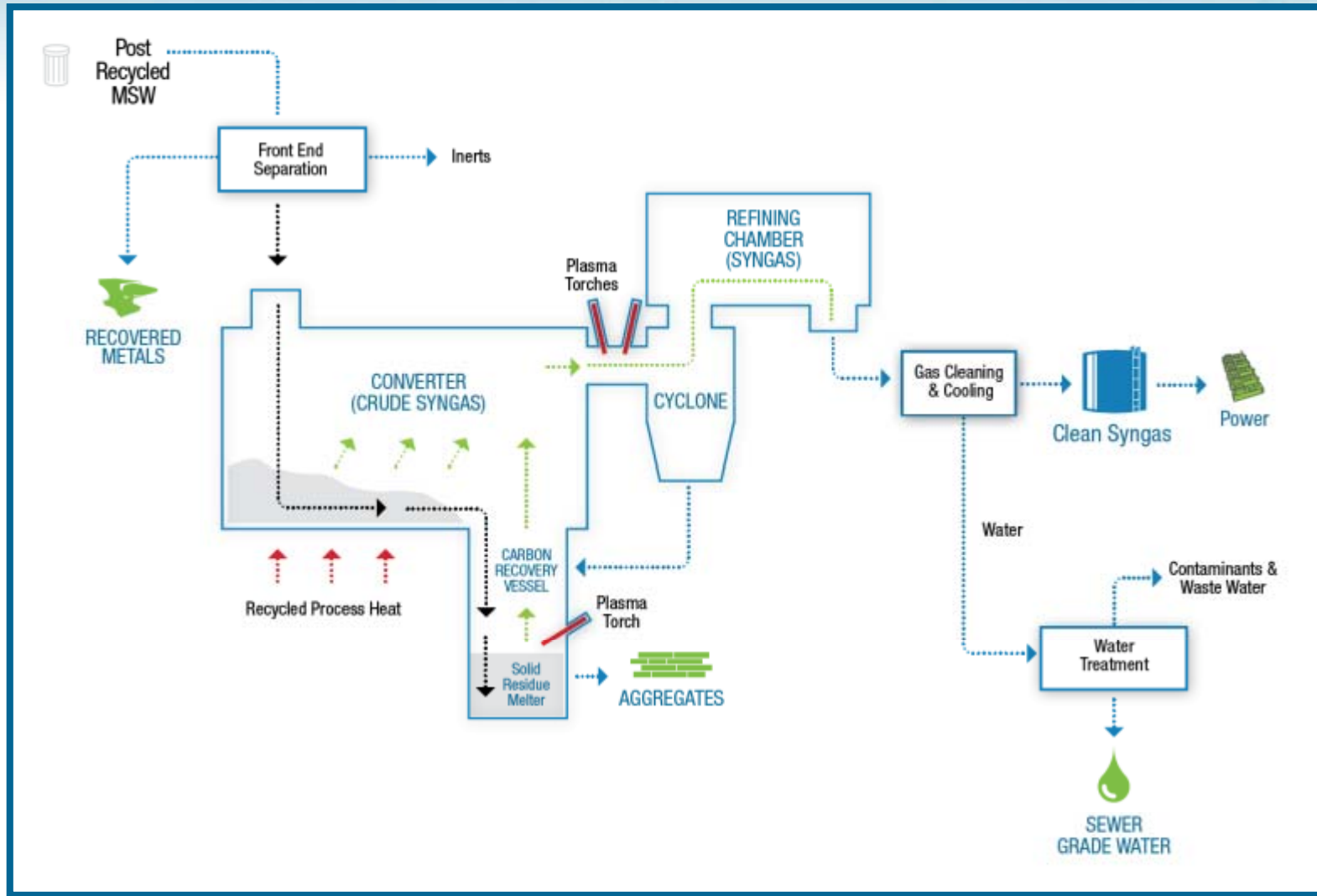
## Plasco has received input throughout the process

- Plasco has received input from 3 different sources
  - Questions from Public (53 at the 2 previous public meetings)
  - Over 20 emails regarding the project
  - Comments from the MOE (and other agencies) on the draft ESR
- Plasco has provided responses to the inputs where required and incorporated the necessary changes in the final ESR

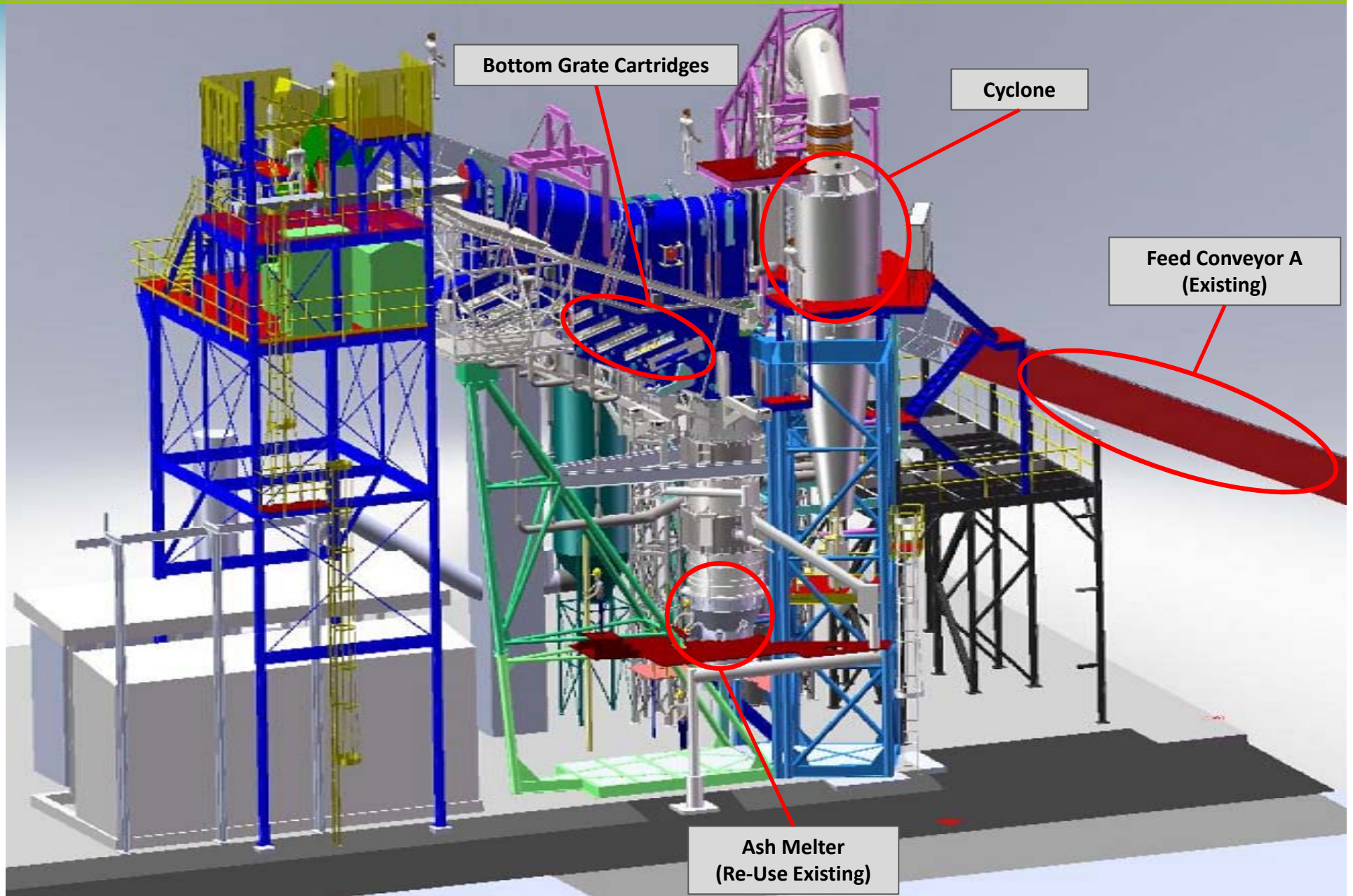
# The Final ESR is Available for You

- The Final Environmental Screening Report was published June 29, 2011
- At [www.zerowasteottawa.com](http://www.zerowasteottawa.com)
- The following 5 public libraries
  - Barrhaven
  - Stittsville
  - Richmond
  - Manotick
  - Kanata

# The Plasco Conversion Process with ICARS (2011 – Onward)



# Integrated Conversion And Refining System



# Summary of Upgrades

Item	PTR (2008 – Jan 2011) Demonstration Project	PTR (June 2011 Onward) Permanent Operation
Tonnage	<ul style="list-style-type: none"> <li>Permitted for 85 tonnes per day</li> </ul>	<ul style="list-style-type: none"> <li>ESR - 135 tonnes per day</li> <li>Initial C of A will be for 85 tonnes per day</li> <li>Subsequent amendments for increased throughput up to 135 tonnes per day</li> </ul>
MSW Feed System	<ul style="list-style-type: none"> <li>Belt conveyor</li> <li>Gravity feed into converter with a knife gate valve</li> </ul>	<ul style="list-style-type: none"> <li>Extend existing belt</li> <li>Ram will push MSW into the converter</li> </ul>
Bottom Grate/ Ram Fingers	<ul style="list-style-type: none"> <li>3 stages, 3 airboxes</li> <li>Chain driven, long ram fingers</li> </ul>	<ul style="list-style-type: none"> <li>Multiple stages, multiple airboxes</li> <li>Hydraulically driven short rams</li> </ul>
Refining Chamber	<ul style="list-style-type: none"> <li>Vertically positioned over the converter</li> <li>Plasma torches are located at the base</li> </ul>	<ul style="list-style-type: none"> <li>Horizontal chamber</li> <li>Same residence time</li> <li>Plasma torches are positioned at the inlet</li> </ul>
CRV	<ul style="list-style-type: none"> <li>CRV shaped to accommodate the converter ash feed system</li> <li>Air injection system of air boxes with nozzles</li> </ul>	<ul style="list-style-type: none"> <li>CRV vessel will be positioned below converter</li> <li>Improved configuration of air distribution nozzles</li> <li>Multiple injection ports to replace the air boxes</li> </ul>

# Emissions at PTR

Parameter	Units	Ontario A-7 (2000)	PTR Limits (2008 – 2011)	Ontario A-7 (2010)	Proposed PTR Limits
Particulate Matter	mg/Rm <sup>3</sup>	17	12	14	<b>7</b>
Organic Matter (as CH <sub>4</sub> )	mg/Rm <sup>3</sup>	66	50	33	<b>20</b>
Hydrogen Chloride (HCl)	mg/Rm <sup>3</sup>	27	19	27	<b>5</b>
Sulphur dioxide (SO <sub>2</sub> )	mg/Rm <sup>3</sup>	56	37	56	<b>35</b>
NOx expressed as NO <sub>2</sub>	mg/Rm <sup>3</sup>	207	207	198	<b>120</b>
Carbon monoxide (CO)	mg/Rm <sup>3</sup>	-	-	40	<b>30</b>
Mercury (Hg)	µg/Rm <sup>3</sup>	20	20	20	<b>10</b>
Cadmium (Cd)	µg/Rm <sup>3</sup>	14	14	7	<b>3</b>
Lead	µg/Rm <sup>3</sup>	142	142	60	<b>20</b>
Dioxins and furans	ng/Rm <sup>3</sup>	0.14	0.04	0.08	<b>&lt;0.032</b>

All values are expressed at 11%O<sub>2</sub> and reference conditions (101.3 kPa, 25°C)

# Air Quality

- Air dispersion modeling was completed to predict:
  - The maximum Point of Impingement (POI) concentrations
  - Concentrations of contaminants at the closest community, Barrhaven South
- The worst case emission scenario for air dispersion modeling was defined based on the proposed in-flare maximum emission limits and maximum possible exhaust flowrate through the flare, which could occur at an operational capacity of up to 135 tonnes waste processing per day
- The predicted concentrations were compared with regulatory contaminant limits in O.Reg. 419/05

# Maximum POI Concentrations

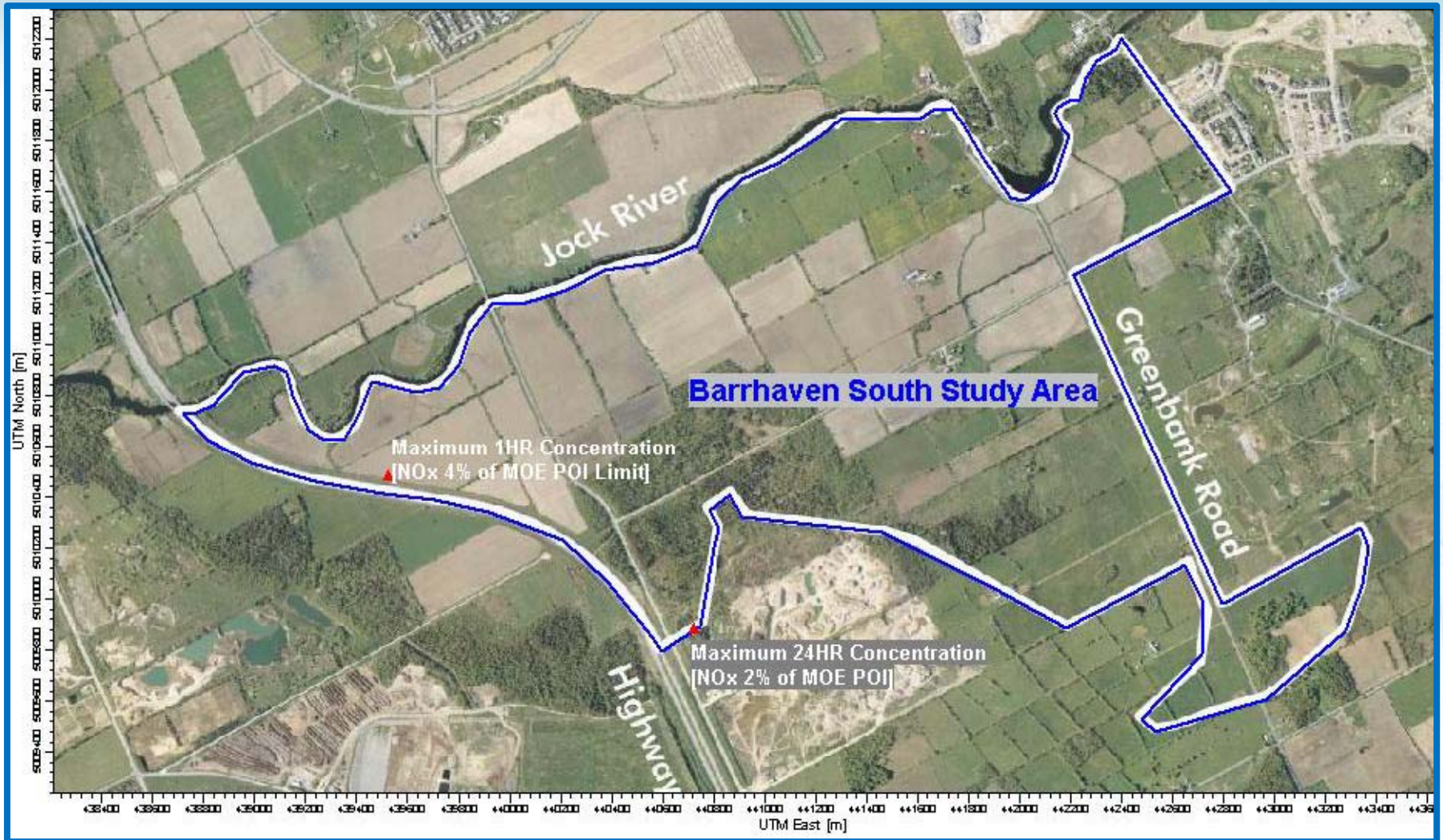
Contaminant	Maximum Emission Rate (g/s)	Maximum POI Concentration ( $\mu\text{g}/\text{m}^3$ )	MOE POI Criteria ( $\mu\text{g}/\text{m}^3$ )	Averaging Period (hours)	Percentage of MOE Criteria
NOx (as NO <sub>2</sub> )	2.01	136	400	1	34%
		87	200	24	44%
CO	0.50	40	6000	0.5	0.7%
		48	830	0.5	6%
SO <sub>2</sub>	0.59	40	690	1	6%
		26	275	24	9%
PM <sub>2.5</sub> *	0.12	5	25	24	20%
HCl	0.087	7	60	0.5	12%
		4	20	24	19%
Dioxins & Furans	5.33E-10	4.35E-08	1.50E-05	0.5	0.3%
		2.31E-08	5.00E-06	24	0.5%
Lead	0.0003	0.03	1.5	0.5	2%
		0.01	0.5	24	3%
Mercury	0.0002	0.01	5	0.5	0.3%
		0.01	2	24	0.4%
Cadmium	0.00005	0.004	0.075	0.5	5%
		0.002	0.025	24	9%

\* Conservatively, it was assumed all suspended particulate matter is PM<sub>2.5</sub>

# Air Modeling – Location of Maximum POI's



# Air Dispersion Modeling - Location of Barrhaven South Maximum POIs



# Air Modeling Conclusions

- Air emissions from PTR comply with MOE POI standards
- Maximum scenario POI concentrations of studied contaminants at the nearest community, Barrhaven South development, are less than 1% of their corresponding limit ( $\text{NO}_x < 4\%$ )

## Plasco Will:

- Continue to monitor and report SO<sub>2</sub>, HCl, NO<sub>x</sub> and TOC using continuous emissions monitoring
- Perform source testing for regulated Test Contaminants (such as dioxins and furans, mercury, lead, cadmium and particulate matter)
- Employ best practices to maintain lowest possible emissions

# Plasco Welcomes Your Feedback

- Comments and questions are welcome throughout the Environmental Assessment Screening Process
- All comments and questions will be documented as part of the consultation program for the Project
- Plasco will attempt to address comments and questions to the best of their ability and in a timely manner
- To submit your comments and questions -
  - Fill out a comments form at this meeting,
  - Call or email Andrea Foottit at 613-591-9438 or [afoottit@plascoenergygroup.com](mailto:afoottit@plascoenergygroup.com)



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# Maximum POI Concentrations Within Barrhaven South

Contaminant	Maximum Emission Rate (g/s)	Maximum POI Concentration (µg/m <sup>3</sup> )	MOE POI Criteria (µg/m <sup>3</sup> )	Averaging Period (hours)	Percentage of MOE Criteria
NOx (as NO <sub>2</sub> )	2.01	16	400	1	4%
		4.4	200	24	2%
CO	0.50	4.7	6000	0.5	0.08%
SO <sub>2</sub>	0.59	5.6	830	0.5	0.7%
		4.6	690	1	0.7%
		1.3	275	24	0.5%
PM <sub>2.5</sub> *	0.12	0.3	25	24	1%
HCl	0.087	0.8	60	0.5	1%
		0.2	20	24	1%
Dioxins & Furans	5.33E-10	5.04E-09	1.50E-05	0.5	0.03%
		1.18E-09	5.00E-06	24	0.02%
Lead	0.0003	0.003	1.5	0.5	0.2%
		0.001	0.5	24	0.1%
Mercury	0.0002	0.002	5	0.5	0.03%
		0.0004	2	24	0.02%
Cadmium	0.00005	0.0005	0.075	0.5	0.6%
		0.0001	0.025	24	0.4%

\* Conservatively, it was assumed all suspended particulate matter is PM<sub>2.5</sub>