

Highland Creek Treatment Plant

Solids Treatment Technology
Emission Compliance and Reporting
Capital Improvements
Master Planning

5/15/2007



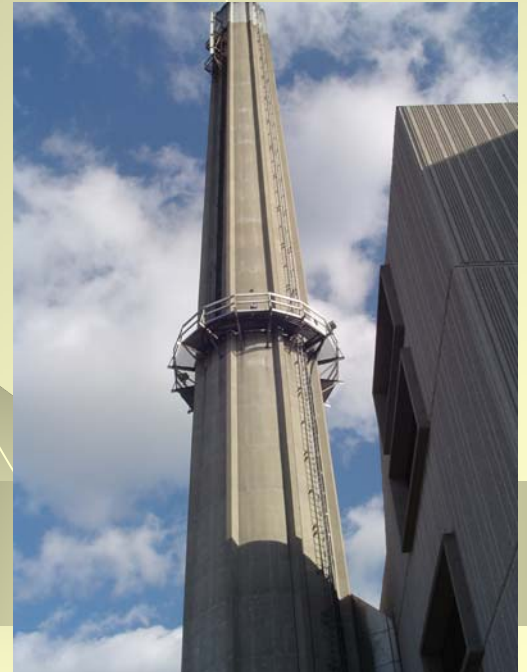
Solids Treatment

- ◆ Anaerobic digestion creates sewage biosolids
- ◆ Thermal reduction in Multiple Hearth Furnaces produces ash and emissions
- ◆ Original installation of two furnaces in 1975
- ◆ Emission point at main stack 75 meters tall
- ◆ Air pollution control scrubbers to reduce emissions



Regulatory Compliance and Reporting

- ◆ Ontario Environmental Protection Act
- ◆ Ontario Regulation 419/05 – Air Pollution – Local Air Quality
- ◆ Certificate of Approval Air
- ◆ Ministry of Environment (MOE) Guideline A8 – Canada Wide Standard for Dioxins and Furans and Mercury
- ◆ National Pollutant Release Inventory (NPRI)



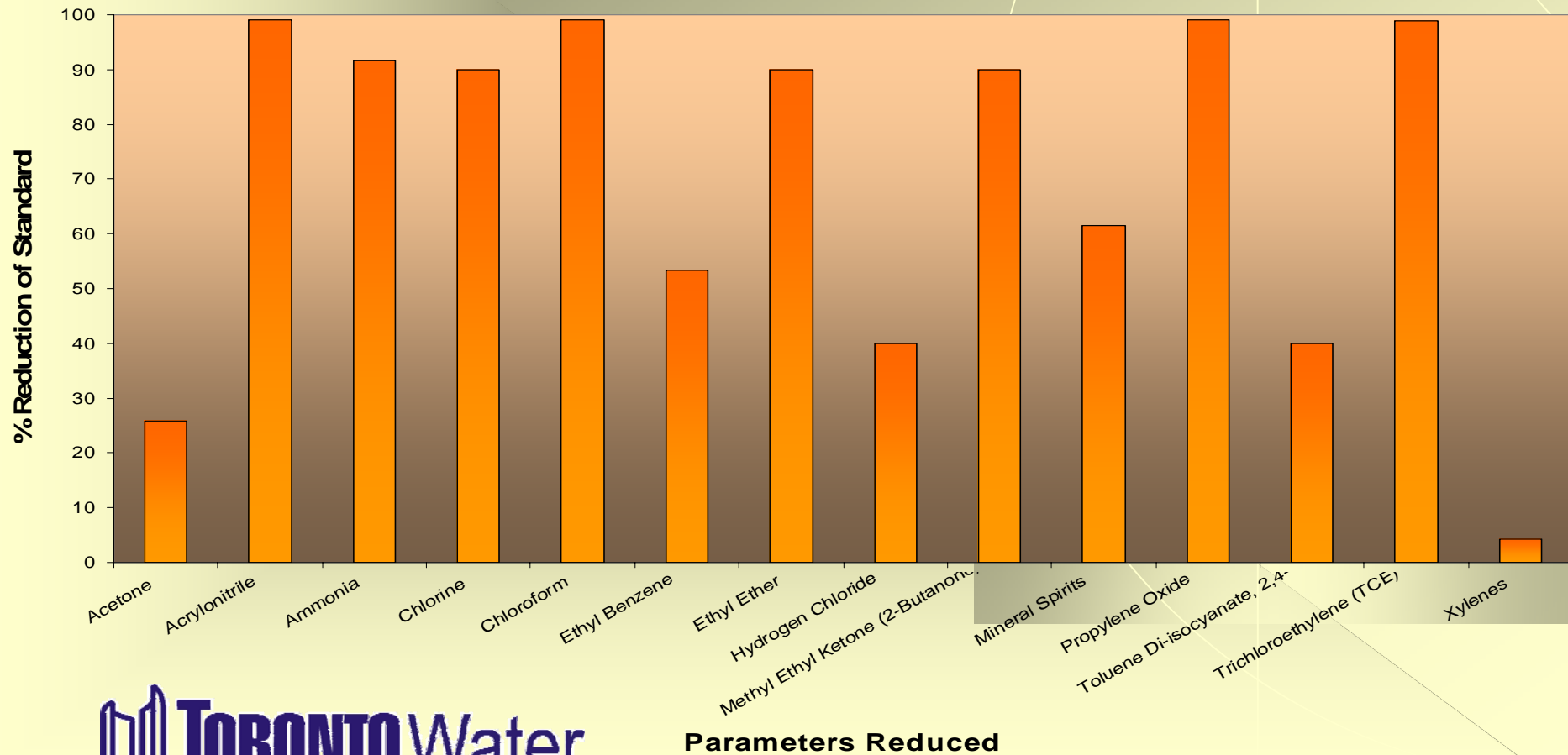
Ontario Regulation 419/05

Air Pollution – Local Air Quality

- ◆ Scientifically developed risk based Point of Impingement (POI) Standards for compliance
- ◆ Set at levels to safeguard the natural environment and protect the public
 - ◆ MOE Guideline for the Implementation of Air Standards in Ontario (GIASO) www.ene.gov.on.ca
 - ◆ Required dispersion modeling used to assess compliance
- ◆ What is POI?
 - ◆ Nearest point where contaminants emitted will impose (impinge) on a building or beyond the property line

Ontario Regulation 419/05

Reduction in POI Standards by Jan 1, 2010

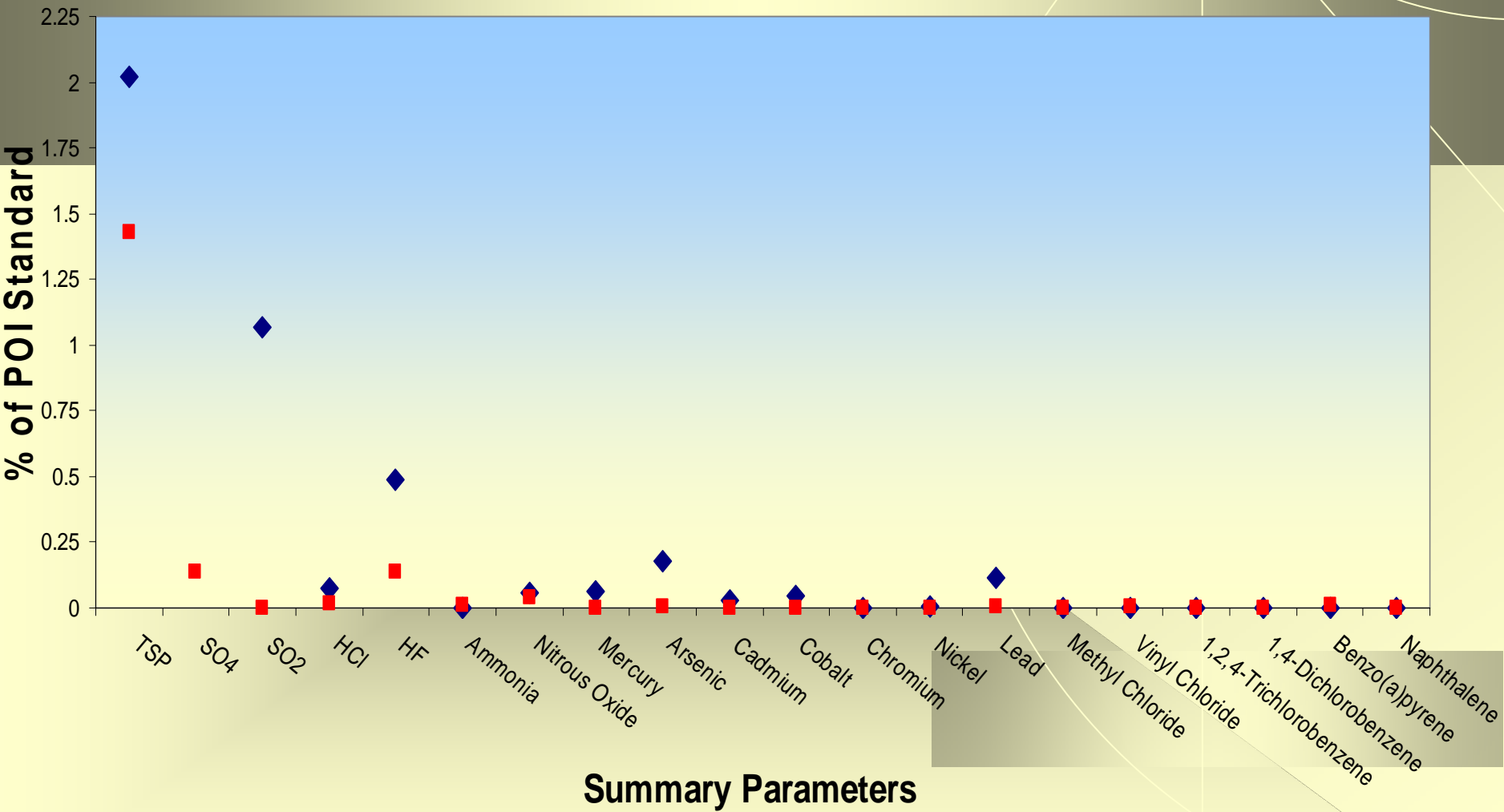


Summary of POI Compliance for HCTP Main Stack

- ◆ Conformance to all regulated standards
- ◆ Highest parameter (Total Suspended Particulates, TSP) is only ~2% of POI standard limit
- ◆ Source testing completed by outside firm
- ◆ Testing plan pre-approved by MOE
- ◆ 2005 vs. 2006 POI for summary parameters

% of POI Standard - 2005 vs. 2006

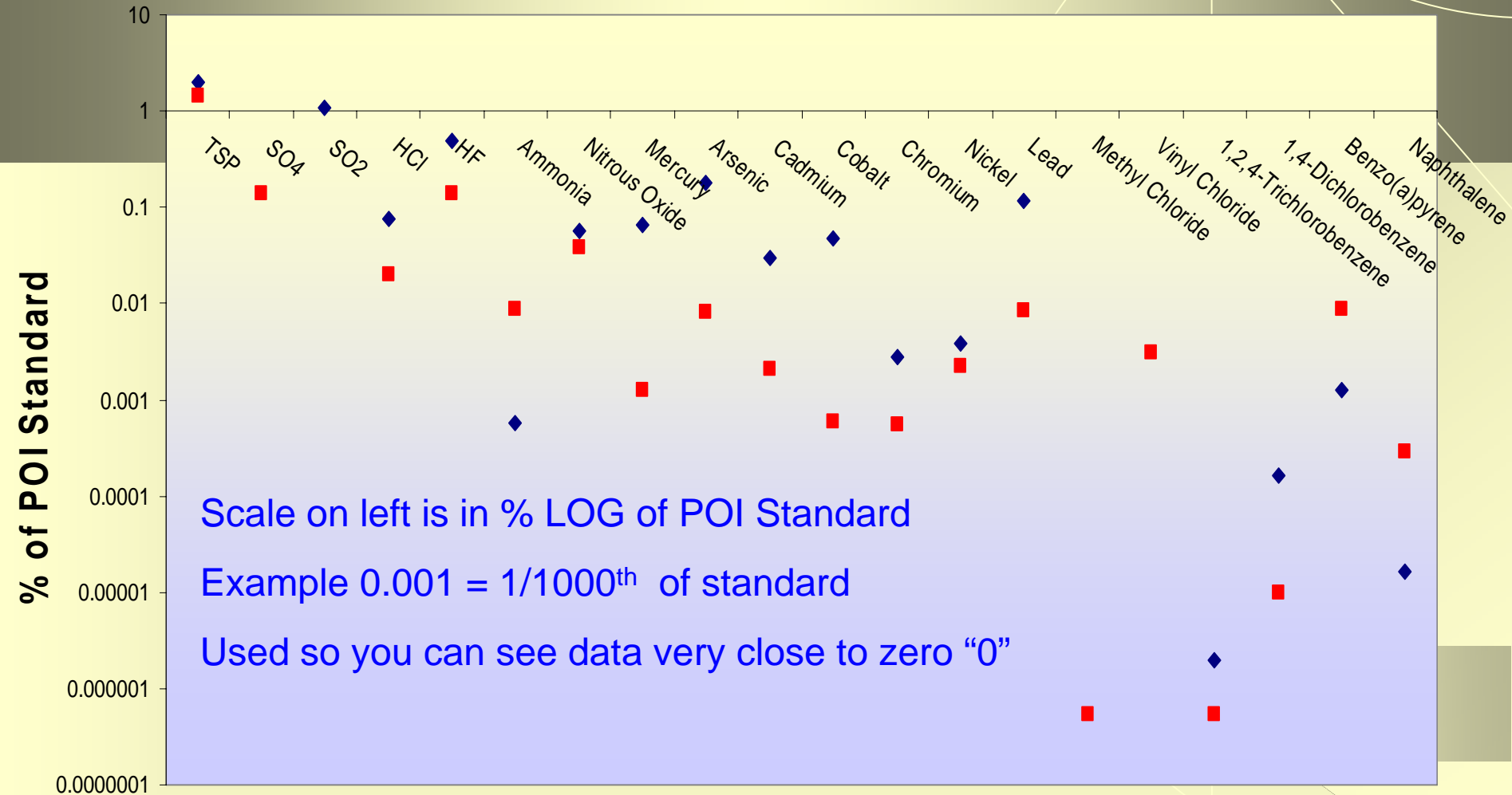
HCTP Main Stack



Summary Parameters

% of POI Standard - 2005 vs. 2006

HCTP Main Stack



Summary Parameters

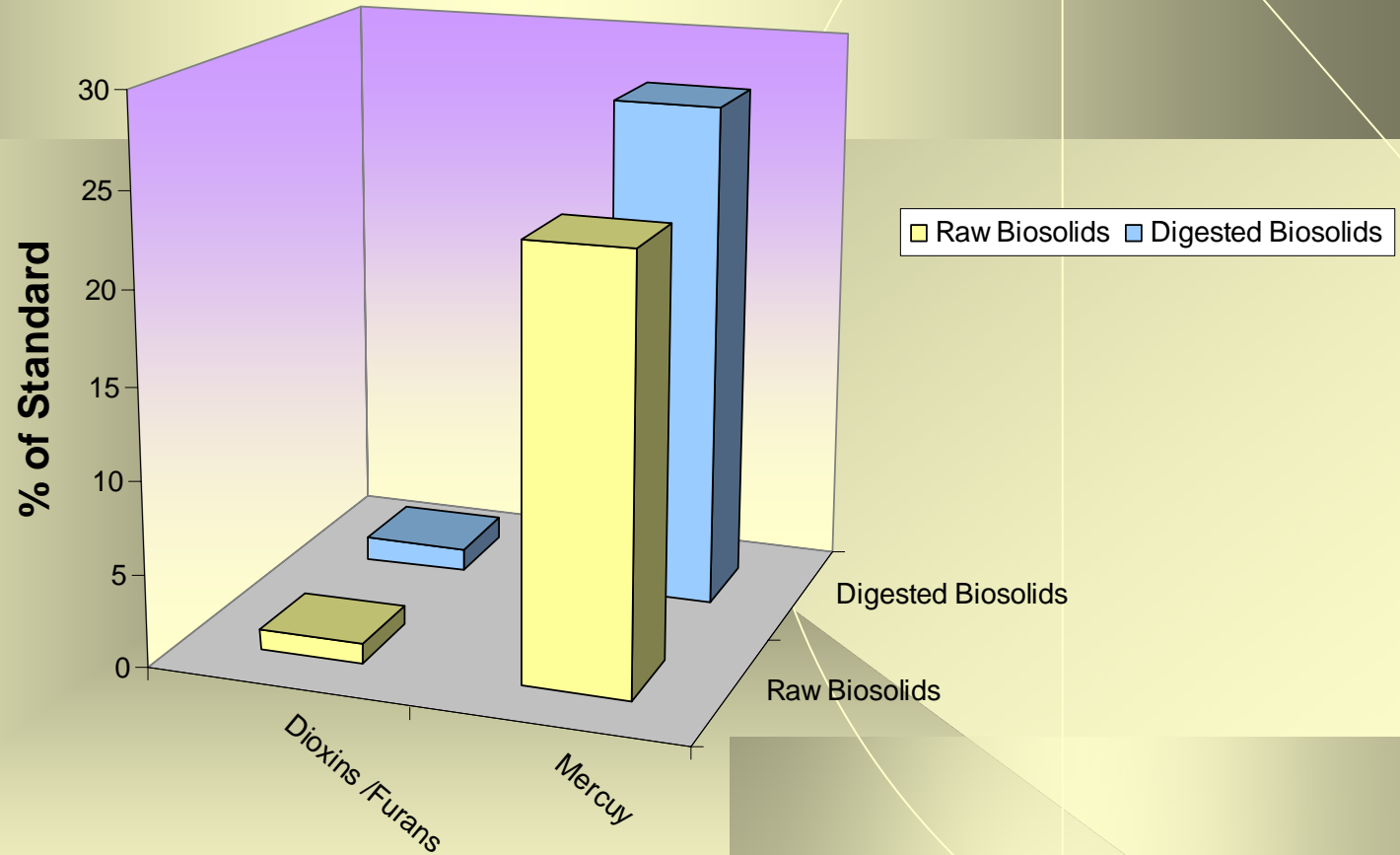


◆ Aug-05 ■ Oct-06

Canada Wide Standard (CWS) Dioxins and Furans, Mercury

- ◆ MOE including 9 other provinces have adopted CWS
- ◆ HCTP complied by required date, Nov 31, 2006.
- ◆ These parameters are based on concentration in the stack and not by POI modeling
- ◆ HCTP must meet standard for 5 consecutive years in order to allow testing frequency to be reduced to every other year

% of CWS - HCTP 2006



National Pollutant Release Inventory (NPRI)

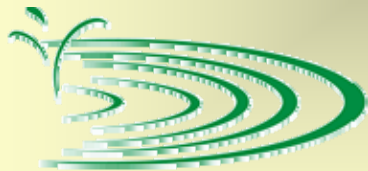
- ◆ City submission annually on June 1st to Environment Canada
- ◆ Based on “best estimates” for release to air, water and soil
- ◆ Not regulated by amount in tonnes or kilograms
- ◆ Allowable estimation methods:
 - ◆ Mass balance
 - ◆ Published emission factors
 - ◆ Engineering calculations or source testing

HCTP Capital Project Planning

- ◆ Refurbishment of current furnaces and scrubbers, 2007 – 2009
- ◆ Odour Control Project , 2007 – 2016
 - ◆ Multiple phases
 - ◆ Phase 1, 2007- 2012 \$9M budget
 - ◆ Phase 2 (if required), 2012 – 2016 \$38M budget
 - ◆ Biofilters recommended
 - ◆ Assessment completed 2005
 - ◆ Hire consultant for detailed design 2007

Draft Biosolids and Residuals Master Plan

- ◆ Public comment period September 2004 to present
- ◆ Peer Review (PR) of decision making model mandated by Council
- ◆ Facilitator selection – In tender process
- ◆ Panel of experts to comment and validate decisions from plan
- ◆ Estimated PR completion late 2007



Biosolids &
Residuals
Master Plan
Responsible choices for the future

Draft Biosolids and Residuals Master Plan

Recommendations for HCTP

- ◆ Upgrade thermal reduction technology to fluidized bed units
- ◆ Continue to accept F.J. Horgan residuals
- ◆ Ensure reliability and reduced energy consumption



Questions



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