



Government
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Saskatchewan

Municipal Waste Incineration

Saskatchewan's Regulatory Approach

SARM – June 21, 2017



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SK Regulatory Approach

- SK's Industrial "Air Quality" Source Chapter regulates incineration.
- Anyone operating an incinerator in Saskatchewan, including a municipal waste incinerator, is required to submit an Environmental Protection Plan (EPP) for ministry review and approval.
- An EPP is a plan that spells out the overall environmental management of an industrial source.
- An incinerator is designed to destroy garbage, wood waste, refuse, liquid or gaseous waste, or any other non-toxic or toxic waste materials and is capable of controlling:
 - time
 - turbulence
 - temperature



SK Regulatory Approach

Authorization to operate a municipal waste incinerator requires:

- **Proponent self-assessment**

- A preliminary assessment of the expected impacts of the proposed project on the environment and their relative significance to identify whether a project is likely to be a 'development' under Environmental Assessment and requires approval of the Minister of Environment.

- **Meeting air quality stack testing standards agreed to at the Canada-wide level**

- In addition to meeting the Saskatchewan Ambient Air Quality Standards, incinerators need to meet the Canada-wide Standard for dioxins and furans.
- Operators should provide stack test data (emission data) to the ministry prior to the purchase of an incinerator.



SK Regulatory Approach

Plus:

- **Testing of residual ash to determine its appropriate disposal method**
 - The *USEPA Test Method 1311, Toxicity Characteristic Leaching Procedure – TCLP* provides guidance to determine if ash is safe to dispose of in a municipal landfill.
 - This method analyzes residuals and is designed to simulate the process a material would be subjected to if placed in a landfill.
- **Submission of an EPP for ministry review and approval**
 - It is up to a Qualified Person to design an EPP to ensure the municipal incinerator does not create adverse effects on the environment.



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Permission to burn materials:

- waste or spent lubricating oil
- hazardous substances
- hazardous wastes
- motor vehicle tires
- animal carcasses
- railway ties and other wood treated with wood preservatives
- waste materials from building or construction sites
- trash, garbage or other waste from commercial, industrial or municipal operations
- materials containing rubber or plastic
- spilled oil or oil production by-products
- materials disposed of as part of reclamation operations
- animal manure

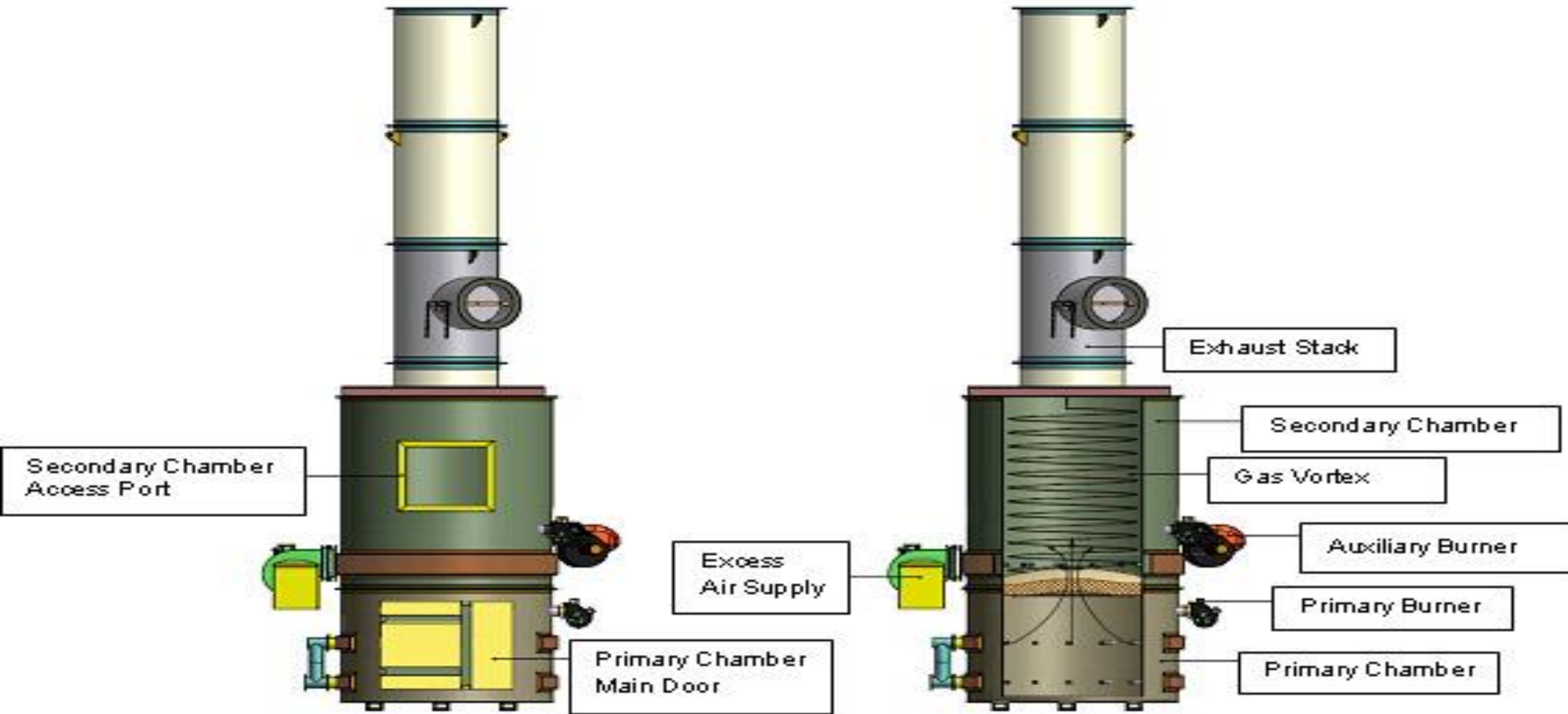


History

- No municipal incinerators are currently operating in Saskatchewan.
- One municipal waste incinerator had been operating in the prairie provinces.
- The Wainwright Alberta incinerator was unable to meet its stack test requirements.
- The environmental tests were over the limits for dioxins and furans of 80 picograms, so the Authority decided on April 21, 2015 to suspend its incinerator operations.
- The Government of Alberta issued an approval to decommission and reclaim the facility.
- In AB, its estimated that it costs about \$100 a metric tonne to incinerate municipal waste.
- The costs to operate a landfill in SK covers a wide range of factors due to the variable site-specific conditions found across the province.



Typical Incineration System



Air Pollution Health Impacts

- **Dioxins and Furans**

- Cancer
- Liver problems
- Impairment of the immune system, endocrine system and the reproductive system
- Effects on systems of the young

Plastics

or other materials causing chlorine



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Environmental Impacts

- Air pollutants
 - Crops
 - Areas where animals graze or live
 - Lakes and rivers
- Ecosystem impacts



Important Links

- Municipal Incineration Factsheet:

<http://publications.gov.sk.ca/details.cfm?p=79443>

- Section 13 and 14 of *The EMPA General Regulations*:

<http://www.publications.gov.sk.ca/details.cfm?p=73291&cl=5>

- Industrial “Air Quality” Source Chapter:

<http://www.publications.gov.sk.ca/details.cfm?p=77463>



Links to Supplemental Information

- The Southern Alberta Energy from Waste Association:

<http://www.saewa.ca/>

- Recovering Energy from Waste, SWRC 2016:

<http://www.saskwastereduction.ca/assets/upload/pdf/events/workshops/2016/recovering-energy-from-waste-57e8934156390.pdf>



Questions?

chuck.bosgoed@gov.sk.ca

sarah.keith@gov.sk.ca



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