Welcome

Wendy Wulff
Metropolitan Council Member – District 16
Public Hearing Objectives

Share information and receive comments on the Metro Plant Solids Management Improvements Facility Plan
## Public Hearing Agenda

### Open House
- **15 Min**

### Presentation
- **30 Min**
  - Overview
  - Existing Facilities
  - Alternative Evaluation
  - Recommended Plan
  - Summary

### Comments
- **30 Min**

### Open House
- **15 Min**
Overview

Jeannine Clancy
Assistant General Manager
Environmental Services

WHO WE SERVE
7-county Twin Cities Metro Area
109 communities
2,600,000 people

OUR FACILITIES
8 wastewater treatment plants
610 miles of interceptors
250 million gallons per day (avg)

OUR ORGANIZATION
600+ employees
$7 billion in valued assets
$140 million / yr capital program
Project Overview Video
Project Location

The Metro Plant is located southeast of downtown Saint Paul.

Metro Plant

- Treats 180 million gallons of wastewater every day for 66 communities
- Processes 850 wet tons of wastewater solids every day for 73 communities.

The Metro Plant processes 75% of the region’s wastewater solids including solids from four other treatment plants.
Preserve Existing Wastewater Treatment Plant Infrastructure

Serve Regional Population Growth

Adding Solids Processing Capacity at the Metro Plant is Important for the Region.
Existing Facilities

Stephen Norton
Senior Engineer
The Metro Plant has one of the most advanced and highest performing incineration systems in the country.
Incineration Video
Energy Recovery Video
Air Pollution Control Video
Exceptional Air Quality

Metro Plant Incinerator Performance Compared to EPA Emission Standards for New Fluidized Bed Incinerators

The existing incinerators meet federal emission standards for existing and new fluidized bed incinerators.
Alternatives Evaluation & Recommended Plan

Rene Heflin
Plant Engineering Manager
Adding a fourth incinerator is the recommended alternative.
Alternative 1: Fourth Incinerator

A fourth incinerator with energy recovery and air pollution control equipment similar and parallel to the existing incinerators.
Alternative 2: Digest / Incinerate

Anaerobic digesters with energy recovery for a portion of Metro’s solids which are then dewatered and fed to the existing incineration process.
Alternative 3: Digest / Dry / Sell

Anaerobic digesters with energy recovery for a portion of Metro’s solids which are then dried to a pellet type product and offered for sale.
Alternative 4: Digest / Land Apply

Anaerobic digesters with energy recovery for a portion of Metro’s solids which are then dewatered and land applied.
### Summary Cost Table

<table>
<thead>
<tr>
<th>Cost</th>
<th>Alt 1: Fourth Incinerator</th>
<th>Alt 2: Digest / Incinerate</th>
<th>Alt 3: Digest / Dry / Sell</th>
<th>Alt 4: Digest / Land Apply</th>
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</thead>
<tbody>
<tr>
<td>Capital Present Worth</td>
<td>$99M</td>
<td>$169M</td>
<td>$189M</td>
<td>$248M</td>
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<tr>
<td>O&amp;M Present Worth</td>
<td>$18M</td>
<td>$65M</td>
<td>$90M</td>
<td>$77M</td>
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<tr>
<td>Total Present Worth</td>
<td>$117M</td>
<td>$234M</td>
<td>$279M</td>
<td>$325M</td>
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</table>

The fourth incinerator cost 50% less to construct, operate and maintain than the next lowest cost alternative.
The fourth incinerator was found to be the most sustainable alternative.
A fourth incinerator provides the lowest impact to surrounding communities.
Reliability

- Fourth incinerator allows Metro to backup other MCES facilities
- Fourth incinerator provides continuity of operations

A fourth incinerator allows Metro to perform renewals and preserve existing infrastructure.
Fourth Incinerator

Cake Receiving  Dewatering  Fourth Incinerator  Energy Recovery  Air Pollution Control
## Fourth Incinerator Cost Estimate

<table>
<thead>
<tr>
<th>Item</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobilization / General</td>
<td>$7.7M</td>
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<tr>
<td>Site Work / Building</td>
<td>$31.8M</td>
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<tr>
<td>Cake Receiving</td>
<td>$1.9M</td>
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<tr>
<td>Dewatering</td>
<td>$5.8M</td>
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<tr>
<td>Incineration</td>
<td>$29.6</td>
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<tr>
<td>Energy Recovery</td>
<td>$8.1M</td>
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<td>Air Pollution Control</td>
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<td>Contingencies</td>
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<tr>
<td>Engineering</td>
<td>$25.0M</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$150.1M</strong></td>
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</table>
Renewal of Existing Incinerators

- Sludge Storage Pumps
- Fluid Bed Reactor
- Primary Heat Exchangers
- Waste Heat Boilers
- Baghouse
- Wet ESP
- Expansion Joints
- Ash Conveyance

Estimated Downtime Per Incinerator

Six-months → One-year
## Renewal Cost Estimate

<table>
<thead>
<tr>
<th>Item</th>
<th>Costs</th>
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</thead>
<tbody>
<tr>
<td>Mobilization / General</td>
<td>$1.6M</td>
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<tr>
<td>Sludge Feed</td>
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<td>Incineration</td>
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<td>Energy Recovery</td>
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<tr>
<td><strong>Total</strong></td>
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Fourth Incinerator Benefits

The fourth incinerator is the most cost-effective and sustainable alternative to meet the region’s wastewater needs.

It will have the lowest community impact, and will improve the reliability of the wastewater treatment system.
Impacts on Rates

Municipal Wastewater Charge Rate Impact
+ $0.40 to $145.26/year

Sewer Availability Charge Rate Impact
+ $5.27 to $2,485.00/connection

MCES charges communities a wholesale fee for annual volume
Communities charge businesses/residents a retail fee
On average, 60% of a resident or business’s sewer fee is MWC.

MCES uses SAC to pay a portion of debt service incurred by financing capital improvements
Local governments pay SAC to MCES
Resident/business owner pays SAC + local fees to their local government

The timing of the fourth incinerator was carefully coordinated with other capital projects to not have a significant impact on rates.
## Project Schedule

<table>
<thead>
<tr>
<th>FBR4 PLANNING</th>
<th>FBR4 PERMITTING &amp; DESIGN</th>
<th>FBR4 CONSTRUCTION</th>
<th>RENEWAL OF EXISTING INCINERATORS</th>
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<tbody>
<tr>
<td>2015</td>
<td>2019</td>
<td>2020</td>
<td>2021</td>
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**Facility Plan Adoption in October**

**Design & Permitting**

**2019 - 2021**

**Fourth Incinerator Construction**

**2021 - 2024**

**Renewal of Existing Incinerators**

**2024 - 2027**

*The existing incinerators will be 20 years old in 2025.*
Providing Feedback

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     Saint Paul, MN 55101

Receiving Comments: September 10, 2018