



Energy Resource Options study

11 March 2013



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Why the need for the Study?

- EPA
 - CSAPR/CAIR
 - MATS
 - Other
- Natural Gas
 - Change in cost
 - Perceived Politics
- Other Energy Options
 - MISO Market
 - Buy into a unit
 - Solar/Wind



Study Objectives

- Identify applicable environ. rules and regulations
- Identify potential Solutions
- Consider the impacts on MSW that is processed into RDF and co-fired with coal today
- Cost out the options
- Economically model the options using forecasted costs
 - Long-term fuel projections
 - Ran sensitivities
- Final Recommendation made by COA staff will include consideration of our values



Applicable Environ. Rules and Regulations

- Cross-state Air Pollution Rule (CSAPR)
 - SO₂ and NO_x
 - Vacated
 - Under Clean Air Interstate Rule (CAIR)
 - Compliance Gap
 - met by purchasing allowances
 - Mix of control technologies and operating strategies



CSAPR GAP Analysis

	<u>Unit 7</u>	<u>Unit #8</u>
Annual SO ₂ Reduction	34%	13%
Annual NO _x Reduction	62%	64%
Ozone NO _x Reduction	70%	60%



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Milestone Dates & Actions

EPA's SO₂ and NO_x Regulations

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	Date	Regulation	Action	Active SO ₂ /NO _x Regulation
2008 1Q				CAIR
2Q				CAIR
3Q	7/11/2008	CAIR	Vacated by U.S. Court of Appeals - D.C. Circuit	CAIR
4Q	12/23/2008	CAIR	Remanded back to EPA by the D.C. Circuit Court	CAIR
2009 1Q				CAIR
2Q				CAIR
3Q				CAIR
4Q				CAIR
2010 1Q				CAIR
2Q				CAIR
3Q	8/20/2010	CSAPR	Proposed Rule issued	CAIR
4Q				CAIR
2011 1Q				CAIR
2Q				CAIR
3Q	8/8/2011	CSAPR	Final Rule (effective 1/1/2013)	CAIR
4Q	12/30/2011	CSAPR	Rule stayed by U.S. Court of Appeals - D.C. Circuit	CAIR
2012 1Q				CAIR
2Q	4/13/2012	CSAPR	Hearing re: CSAPR -- D.C. Circuit Court	CAIR
3Q	8/21/2012	CSAPR	CSAPR vacated & remanded back to EPA by Court	CAIR
4Q	10/5/2012	CSAPR	EPA petitioned the Court for an en banc rehearing	CAIR
2013 1Q	1/24/2013	CSAPR	Court denied EPA's en banc petition	CAIR
2Q				
3Q				
4Q				



Applicable Environ. Rules and Regulations

- Mercury and Toxics Standard (MATS)
 - Mercury and Hazardous Air Pollutants
 - Must comply by 16 April 2015
 - Optional 4th year extension
 - Optional 5th year extension



MATS GAP Analysis

	<u>Unit 7</u>	<u>Unit #8</u>
Mercury	74%	74%



Milestone Dates & Actions

EPA's Mercury Regulations

	Date	Regulation	Action	Active Mercury Regulation
2008				
1Q	2/8/2008	CAMR	CAMR Vacated	None
2Q				None
3Q				None
4Q				None
2009				
1Q				None
2Q				None
3Q				None
4Q				None
2010				
1Q				None
2Q				None
3Q				None
4Q				None
2011				
1Q				None
2Q	5/3/2011	MATS	Proposed Rule	None
3Q				None
4Q				None
2012				
1Q	2/16/2012	MATS	Final Rule	None
2Q				None
3Q				None
4Q				None



Milestone Dates & Actions EPA's Mercury Regulations

	Date	Regulation	Action	Active Mercury Regulation
2013 1Q				None
2Q				None
3Q				None
4Q				None
2014 1Q				None
2Q				None
3Q				None
4Q				None
2015 1Q				None
2Q	4/16/2015	MATS	Compliance	
3Q				
4Q				
2016 1Q				
2Q	4/16/2016	MATS	Additional Year for Compliance (Probable)	
3Q				
4Q				
2017 1Q				
2Q	4/16/2017	MATS	Additional Year for Compliance (Remotely Possible)	
3Q				
4Q				



Considered Energy Resource Plans

- **Coal Retrofit** – continue operating one or both units on coal
- **Natural Gas** – convert one or both existing coal units to natural gas
- **Retire** – retire one or both coal units and replace the capacity with a new Combustion Turbine Generator (natural gas fired)
- Combination of these led to 16 distinct options



Staff Process

- Developed a Scope of Work
- Through Purchasing, issued a Request For Proposal
 - Team of Electric Services, Resource Recovery and City Manager evaluated
- Selected Black & Veatch
 - Strong engineering and construction skill set in electric production
 - *Strategist* program provided modeling/analysis of multiple scenarios
 - [\\Netapp01\coashared\CITY COUNCIL MEETINGS\COUNCIL ACTION FORMS\March 11, 2013\COA_Final Presentation 11Mar2013 draft 2.pptx](#)



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Next Steps

- Staff to review and analyze effect of new EPA proposed rule on coal options.
 - Likely will result in a new option(s).
- Finalize report and present to City Council
- Staff to make recommendation to City Council on preferred option.

