

Setting a HEDD Emission Reduction Goal & Incorporating the Goal in the SIP

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Objective

- To establish a short term emission reduction goal to help the states attain the 8-hour ozone health standard.
 - Note: State Implementation Plan Revisions are due in June 2007 for attainment by 2010 (Summer of 2009)
 - OTC Secretaries / Commissioners want definition by January 31, 2007
- To establish a long term goal to clean up units by 2015

Base load units to be handled by the Beyond CAIR strategy

Method to Define the Emission Reduction Goal

- Look at the emission difference between a Typical Summer Day (Aug. 7, 2002) and a High Electric Demand Day (Aug. 12, 2002)
 - Sufficiently Robust?
- Units Included in the Analysis
 - Combustion Turbines – Included all units
 - Non-Base Load Boilers
 - Operating time in the ozone season \leq ___%
 - Capacity Factor \geq ___%

Method to Define the Emission Reduction Goal

- Applied an emission reduction level to Uncontrolled Units
 - Short Term:
 - Combustion Turbines – 40% Reduction (~ Water Injection)
 - Boilers – 30% Reduction (~ SNCR)
 - Long Term:
 - Combustion Turbines – “Clean”
 - Boilers – “Clean”
- Calculated Emission Difference for:
 - Day

Method to Define the Emission Reduction Goal

- Included Sources in: MD, DE, PA, NJ, NY, CT
- Used USEPA CAMD Data
 - New Jersey Sources – used Emission Statement Program rates for High-Emitting Combustion Turbines due to large number of default rates.
- Small positive bias in PA and MD from some units reporting using the default emission rates



HEDD Emission Inventory

Short Term: Summary

Example

HE Combustion Turbines (WI) -86 tons

Load-Following Boilers (SNCR) -68 tons

Total: -154 tons

Emission Reduction Goal = 25 %

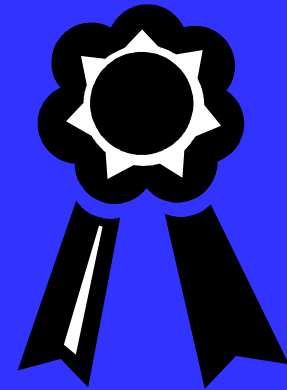
(154 Ton Reduction / 623 Ton Increase)

Long Term:

- Replace Combustion Turbines with “Clean” Units
- SCR type controls at Load-Following Boilers
- Timing ??

Completed

- Definition of HEDD Units
- HEDD Emission Inventory
- Definition to express Goal



Next Steps

- Calculate Goal
- Assigning Responsibility for the Goal
- Identify Actions / Commitments to incorporate the Goal into the 8-hour Ozone SIPs

Assigning Responsibility for the Goal

- States
- Generators

The Following Slides are for Illustrative Purposes

- Based on CAMD Database using earlier methodologies
- Missing Emission Reductions = 14.9 tons / day
- Total Reductions = 118 tons / day

For Illustration Purposes

Connecticut	
1.3	Montville Power, LLC (NRG?)
0.9	Middletown Power, LLC
0.6	Connecticut Resources Recovery
0.5	PSEG Power Connecticut, LLC
0.3	Devon Power, LLC (NRG?)
0.03	Northeast Generation Company
<u>0.00</u>	Norwalk Harbor Power, LLC
3.6	

New York

For Illustration Purposes

16.5	Astoria Generating Company, LP
7.9	Oswego Harbor Power, LLC (NRG ?)
4.5	Mirant Bowline, LLC
3.6	Dynegy Power Corporation
1.8	Astoria Gas Turbine Power, LLC
1.5	Consolidated Edison of New York
0.7	PSEG Power New York, Inc.
0.6	PPL Shoreham Energy, LLC
0.2	Consolidated Edison of New York
0.2	Mirant Lovett, LLC
<u>0.00</u>	KeySpan Corporation
37.6	

For Illustration Purposes

New Jersey	
6.3	PSEG Power, LLC
4.9	Conectiv Atlantic Generation, LLC
2.7	PSEG Fossil LLC
1.4	Reliant Energy New Jersey Holdings
0.2	City of Vineland
<u>0.00</u>	Atlantic City Electric Company
15.5	

For Illustration Purposes

Pennsylvania	
10.2	PPL Martins Creek, LLC
8.5	Exelon Generating Company
1.9	Reliant Energy Mid-Atlantic Power Holdings, LLC
0.1	Sunbury Generation, LP
<u>0.1</u>	Trigen - Philadelphia Energy Corp
20.8	

For Illustration Purposes

Delaware	
4.3	Conectiv Delmarva Generation, LLC
0.8	City of Dover
<u>0.1</u>	Premcor Refining Group, Inc.
5.2	

For Illustration Purposes

Maryland	
6.1	Constellation Energy Commodities Group, Inc.
5.7	Mirant Chalk Point, LLC
4.3	Conectiv Delmarva Generation, LLC
1.7	Mirant Mid-Atlantic, LLC
1.3	Vienna Power, LLC
1.3	Allegheny Energy Supply Company, LLC
<u>0.00</u>	South Maryland Electric Cooperative
20.4	

Meeting the Goal

The HEDD Partnership Program
meeting the responsibilities

The HEDD Partnership Program

- States -

- Start or increase their EE/RE programs
 - Target load pockets served by the peaking units
- Resolve/address “mole” issue
- Work with PUCs to have aggregators register
- Work with ISOs to align emergency generator definition
- Long Term
 - Establish performance standards
 - Pursue EPS

The HEDD Partnership Program

- Generators -

- Design program to meet responsibility
 - Control units
 - Implement EE & Demand Response* (DR) programs
 - Target load pockets served by the peaking units
 - Work with ISO on targeting their commercial DR* programs
 - Work with ISO on structure of capacity market for incentives to install clean generation

* DR programs to be load reduction programs or clean load shift programs; cannot shift to use of 'dirty' DG

The HEDD Partnership Program Elements for Generator Framework

- Format of the Commitment
 - Legally Binding
 - MOU
 - Other ?
- Content of the Commitment
 - Emission Reduction Responsibility
 - Computation Method
 - Timing of the Emission Reductions
 - Short Term
 - Long Term
 - Record Keeping



The HEDD Partnership Program Issues

- Trading / Averaging ?
- Integrity - No double counting (from CAIR)
- Handling of the DR units ?
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The HEDD Partnership Program SIP Backstop

- Meet Performance Standards in 2009 or Participate in the HEDD Partnership Program and meet the Performance Standards in 2015(?).



For the Next Meeting

- Definition of the Elements of the Generator Framework
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