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DOE Energy Savings Assessment

Rohm and Haas Company

Deer Park, Texas

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- Company : Rohm and Haas Company,
  Deer Park, TX
- Products : Specialty Chemicals
- ESA Specialist : R. Papar PE, CEM
- ESA Type : Steam System
- Dates : April 25 – 27, 2006

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- Main Objectives of the Assessment:
  - Understand steam system and identify energy savings opportunities
  - Use the DOE Steam tools (such as the Steam System Scoping Tool, 3E Plus Insulation Program, and the Steam System Assessment Tool) to model the steam system at the Plant
  - Quantify the potential Energy Savings associated with the steam system

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Deer Park Plant Overview:

- Multiple Production Units, including 3rd Party Units, at this Site
- Steam system includes Gas Fired Boilers as well as Waste Heat Recovery Steam Generators and Reactor Train Boilers
- Integrated steam distribution across the entire site
- Steam headers at 600 psi, 150 psi, 75 psi and local headers at 40 psi

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Deer Park Plant Overview Continued:

- Numerous Deaerators at the units
- CWA Raw Water, Deionizers for Make up Water
- Steam Production between 1 and 2 MM lbs/hr, and as much as 80% of the steam produced from waste heat
- Steam system is complex and highly integrated with the plant's chemical processes

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Opportunities Identified

- Reduce LP steam venting (near term)
- Use superheated steam for turbines (near term)
- Investigate Flash Steam and Boiler Blowdown Heat Recovery (near term)
- Increase Exhaust Pressure on 600 to 40 psi turbines (near term)

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Potential Savings Summary (MMBTU/yr)

- Reduce Excess Steam Venting 141,800
- Use superheated steam in turbines 16,300
- Flash steam/blowdown exchange 35,900
- Increase turbine outlet steam pressure (savings included in reduction of vents)
  - Total near term savings : $ 1.3 MM/yr

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General Impressions

1. Organized approach to Assessment
2. Collection of data prior to Assessment includes rating on the Use of Best Practices at the Plant
3. Recommendations include a series of Near, Medium and Long Term Projects
4. DOE tools can be used throughout the plant as needed
5. High Level Analysis – Good for Ideas

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