



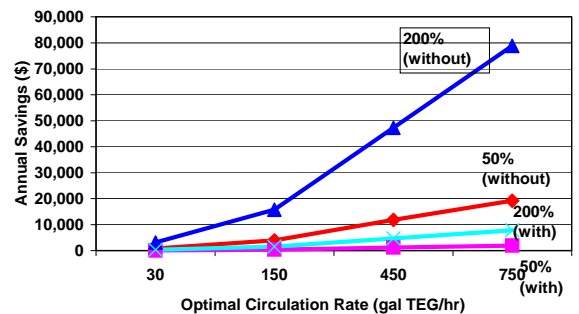
**PTAC Knowledge Centre
Upstream Oil and Gas Energy Efficiency**

Field Gas Dehydrators = Reduce Fuel Costs

1. Quick Facts:

- Many field gas dehydrators in older fields may no longer be needed as gas gathering pressures drop.
- Most sweet gas dehydrators aren't installed with flash drums.
- Recommended Steps for Improving Dehydrator Energy Efficiency:
 - a. Determine if dehydration is still needed
 - b. Verify optimal glycol recirculation rate
 - c. Check reboiler burner operation
 - d. Assess centralizing dehydration with an alternate freeze protection method in the field. (e.g. methanol injection with drip pots)
 - e. Assess installing a flash drum upstream of the reboiler.
 - f. Review control devices and gas powered pumps
- Dehydrators also emit benzene and other potentially hazardous substances. Usually energy efficient dehydrators will emit less of these substances.

Fuel Savings from Improved Control of Glycol Recirculation Rate – With and without a flash drum. Based on data from EPA Gas Start site



2. Key General Documents on Dehydrator Energy Efficiency Issues

- a. **US EPA GasStar** Offers information on lessons learned, case studies, reports and tools to increase gas processing and transmission energy efficiency - <http://www.epa.gov/gasstar/resources.htm> .
- b. **“Vent Options for Oil and Gas Production Facilities”** – New Paradigm 2001. Provides flow sheets to help prioritize economic options to consider for various vent streams from field dehydration, instruments and other controlled sources and also provide some contact information. This report may be viewed on the PTAC website: <http://www.ptac.org/links/EnergyEfficiencyKC/eekc0505.pdf>.

3. Information on New Energy Options for Dehydrator Management

- a. **CAPP Best Management Practices – “Control of Benzene Emission from Glycol Dehydrators”**. #2000-0035, June 2006 <http://www.capp.ca/raw.asp?x=1&dt=PDF&dn=105760>
- b. Gas Technology Institute – **“Natural Gas Dehydration: Status and Trends”** <http://www.gastechnology.org/webroot/app/xn/xd.aspx?xd=10AbstractPage\8329.xml>
- c. PTAC Report - **Improving Fire-Tube Immersion Heater Efficiency**. November 2004. <http://www.ptac.org/techeetf.html>

4. Financial Support for Change

a. Federal

- i. Financial Assistance for Industry <http://oee.nrcan.gc.ca/industrial/financial-assistance.cfm?attr=24>

5. Case Studies

a. PTAC 2004 Energy Conservation and Air Emissions Case Studies Forum

- <http://www.ptac.org/techeetf.html>

- b. “**Fire-Tube Immersion Heater Optimization Program & Field Heater Audit Program**” Phil Croteau, Petro-Canada. Presentation, Cetac-West Energy Management Workshop. January 2007. <http://www.ptac.org/eet/dl/eetw0701p09.pdf> .

6. Key Reports on Volumes, Trends and Environmental Impacts

- a. CAPP Status Report, “*Upstream Petroleum Industry Benzene Emissions from Glycol Dehydrators 2003*”. <http://www.capp.ca/raw.asp?x=1&dt=PDF&dn=72829> .