Recycled Energy at a Gas Processing Plant

Site Description

The Williams Ignacio Gas Plant, located southeast of Durango, Colorado, provides compression, dehydration and natural gas liquids recovery and produces liquefied natural gas (LNG) as part of the company’s San Juan Gathering System. A recycled energy system captures waste heat from the compression process and uses it to generate electricity.

Facts at a Glance

- **Project:** Williams Ignacio Gas Plant steam turbine waste heat recovery cogeneration facility
- **Collaborators:** Williams, La Plata Electric Association (LPEA), Tri-State Generation and Transmission Association (Tri-State)
- **Location:** Southern Ute Indian Reservation, La Plata County, Colorado
- **Waste Heat Source:** Waste heat from turbine that drives centrifugal compressors
- **Capacity:** 6.2 MW
- **Annual Electric Output:** 43,800 MWh per year
- **Commercial Operation:** 1984, upgraded 2014
- **Financial Benefit:** Increased reliability, lower risk to operations if grid goes down
- **Additional Value:** Power generated helps Tri-State meet renewable energy standard (RES) obligation
- **Awards:** Southern Gas Association 2014 Environmental Excellence Award; 2014 San Juan Citizens Alliance Green Business Roundtable Finalist Company
- **Other Applications:** Compressors, steam intensive process

Key Benefits

- Improves on-site energy reliability, allowing the plant to island and continue to run when the grid is down
- Minimizes risks and associated costs of a power outage and a resulting facility shutdown
- All power generated on site qualifies as eligible energy resource under Colorado’s RES
- The power as well as the renewable energy credits (RECs) are sold to LPEA, which in turn transfers the RECs to Tri-State
- Plant emissions were reduced by an estimated 2,480 tons per year:
  - Nitrogen oxides (NOₓ) reduced 88%
  - Carbon oxides (CO) reduced 48%
  - Volatile organic compounds (VOC) reduced 82%
  - Particular matter (PM) reduced 59%
Reason for Installing Recycled Energy

The key driver for the recycled energy system was reliability. For safety and operational reasons, the plant must have a constant supply of electricity. If an outage should occur that prevents the plant from obtaining power from the electric grid, it can island from the grid and use the power it is self-generating until grid power is restored.

About Recycled Energy in Colorado

Recycled energy systems use waste heat from industrial processes to generate electricity with no additional fuel, combustion or emissions. Recycled energy does not include energy produced by any system that uses waste heat from a process whose primary purpose is the generation of electricity. Power generated from recycled energy systems in Colorado can be used to help utilities meet their renewable energy standard obligations.

For more information:
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