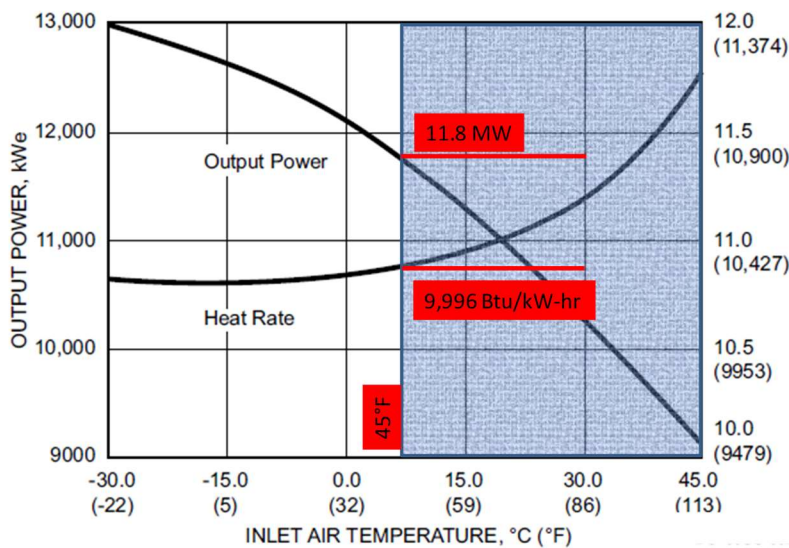


## ThermoCharger Increases Natural Gas Compressor Station Capacity

Energy Concepts Company LLC is pleased to announce commercial operation of the ThermoCharger air cooled Turbine Inlet Air Cooling (TIAC) system installed at a gas compressor station in the Marcellus shale, near Pittsburgh PA.

The system provides 600 tons of chilling, powered by waste heat from the turbine exhaust. This exclusive Energy Concepts absorption chiller –

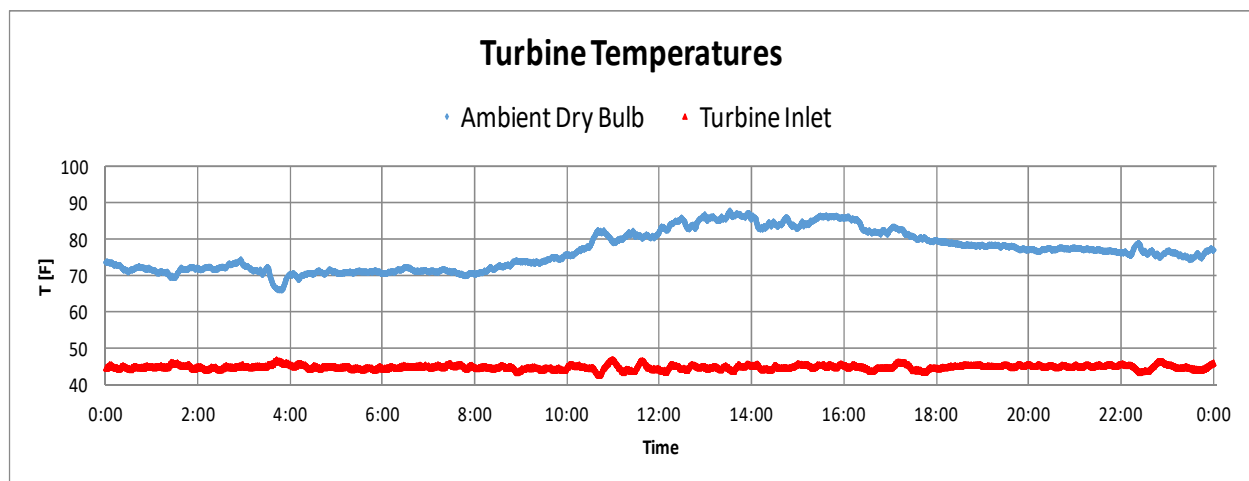
- uses the ammonia-water working pair,
- uses **no cooling water**,
- is fully automated for unmanned operation,
- delivers **100% turndown**



This waste heat powered TIAC was installed for \$2200/hp, which is well below the national FERC average cost of \$2500/hp. Turbine performance typically derates by 14% on hot days. By cooling the inlet air with minimal parasitic electric power demand,

**14% additional capacity** can be achieved on hot days for less than the cost of adding new generation. This technology does not require any new combustion sources, so it does not require any new or changes to air permitting. Gas demand is now peaking in the summer, so hot day performance penalties limit capacity during peak times. Maintaining turbine inlet air temperature at optimal level for the turbine, allows the pipeline operator to write firm contracts based on full turbine performance-**14% more capacity year round**. Turbines operating at optimal inlet air temperature are at their highest efficiency, so emissions are reduced relative to running at high ambient temperatures. Emissions credits are available in some areas for this decreased emissions generation.

The technology- Thermocharger, is provided by Energy Concepts Company LLC, of Annapolis MD. Energy Concepts fabricated the chiller skid, incorporating their proprietary absorption cycle, controls and component designs. The project was installed in conjunction with a consortium of industrial partners. The site owner participated in site design work and controls implementation. Since start of operations in August 2020, Thermocharger has provided 45°F inlet air at ambient temperatures as high as 92°F.



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