COLMAC COIL
Manufacturing Inc.

TURBINE INLET AIR COOLING COILS

Combustion turbine power output can be increased up to 20% during periods of warm ambient temperatures by cooling the turbine inlet air down to 45 - 50˚F (7 - 10˚C). This technique, called Turbine Inlet Air Cooling (TIAC) can be accomplished very effectively by using mechanical refrigeration with cooling coils installed in the turbine inlet ductwork. This method is not limited in its ability to augment turbine power output on days when the relative humidity is high, compared to TIAC systems using direct evaporative cooling, which lose effectiveness as relative humidity increases. Colmac has developed the unique ability to accurately predict cooling coil performance for the very large air temperature and humidity changes seen in these systems.

CUSTOMIZED PRECISION HEAT TRANSFER

- Corrosion resistant materials to match the operating environment
- Design solutions for either new build or retrofit
- Unique self-supporting coil casing design
- 304 stainless steel casing standard

INNOVATIVE OPTIONAL FEATURES

- Passive reheat to fix LAT @ <78% RH (NIL “wetting” of filter house elements)
- Integral stainless steel drainpan
- Integral mist eliminator
- Pre-filter module
- Inlet louvers

PRECISE THERMODYNAMIC ANALYTICAL SOFTWARE

Calculates lowest possible parasitic air pressure drop

Guaranteed LAT precision to +0°C/-1°C

Any working fluid

CE U CRN

COLMAC COIL
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TIAC CASE STUDY

GRIFFITH ENERGY FACILITY

GRIFFITH, ARIZONA

OWNER: PPL Global/DENA	**GAS TURBINE MODEL:** GE PG7241FA
PLANT EPC: Black and Veatch	**GAS TURBINE NOMINAL CAPACITY:** 170MW
ON-LINE: 2001	**DESIGN INLET AIR TEMPERATURE:** 45°F
SYSTEM TYPE: SPC A - Ammonia	**GTIAC REFRIGERATION CAPACITY:** 9000 TR
GAS TURBINES: 2	**OVERALL PLANT ENHANCEMENT:** 55MW
NOMINAL PLANT CAPACITY: 520MW	**AMBIENT AIR DESIGN:** 94°F Dry Bulb, 68°F Wet Bulb

www.colmaccoil.com

"The Heat Transfer Experts"

North American Headquarters
Colmac Coil Manufacturing, Inc.
370 N. Lincoln St. | P.O. Box 571
Colville, WA 99114 | USA
+1.509.684.2595 | +1.800.845.6778

Midwest US Manufacturing
Colmac Coil Midwest
350 Baltimore Dr. | Paxton, IL 60957 | USA

CE U CRN UL CSA

CE(PED) Certification, ASME Sec. VIII,
Canadian Registration Number, UL508, Canadian Standards Association