

CLIENT: Confidential

LOCATION: Confidential



SCOPE OF WORK: Design / Procurement

YEAR: 2007

PROJECT TYPE: Process Cooling Module

CONTACT: Available Upon Request

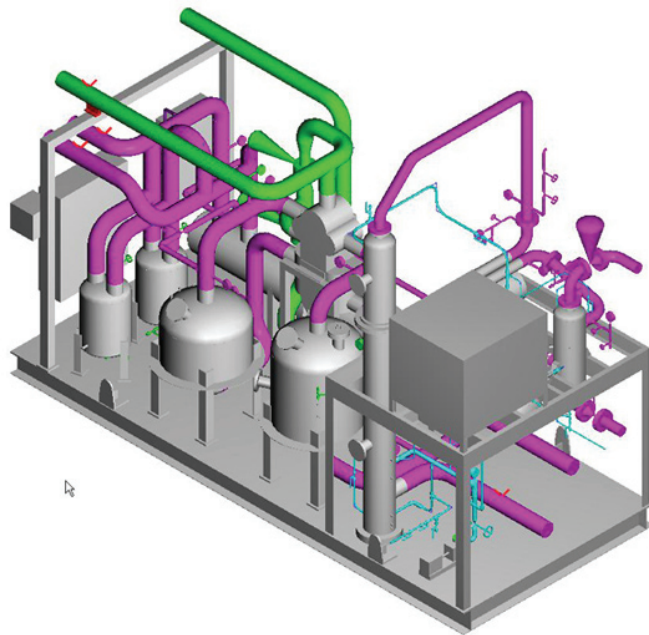
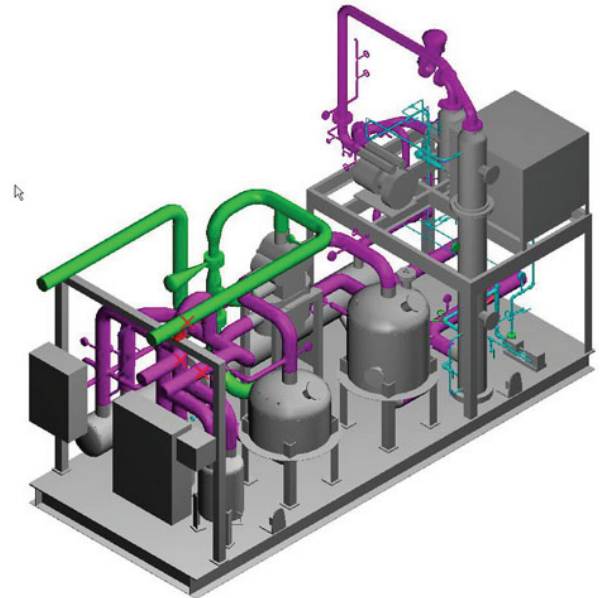
EXHAUST GAS COOLING MODULE (PROTOTYPE)

Working with the client's functional requirements and proprietary process design, **IDEA** developed the physical design for a compact, multi-stage cooling system that would reduce the temperature of the inlet gas by approximately 900 Degrees Fahrenheit to enable utilization of the outlet gas in the next process step. The project is currently in progress with mechanical completion expected early in the first quarter of 2008.

Project features included:

- Full Service Engineering and Design Effort using 3D Intelligent Design Software
- Fast Track Schedule with Early Procurement of Long Lead Equipment
- Severe Space Envelope Constraints
- High Temperature Equipment and Components
- Mechanical and Thermal Stress Analysis
- Hazardous Area Design Considerations
- Flexible Design for Alternate Technologies

Competitive bids were solicited and analyzed for the critical equipment items purchased early in the design phase of the project. Due to aggressive schedule requirements, physical



design proceeded in parallel with the procurement efforts presenting a number of design and coordination challenges. Without exact equipment sizes and configurations, the design had to accommodate a relatively wide range of options while still maintaining the overall envelope constraints. The ultimate design met all project parameters and was completed on schedule and within budget.

IDEA will continue to support the client through execution of the FAT, site installation and startup.

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