

**CLIENT:** Confidential

**LOCATION:** Confidential



**SCOPE OF WORK:** Design / Procurement

**YEAR:** 2004

**PROJECT TYPE:** Fuel Cell System

**CONTACT:** Available Upon Request

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### **SUB MEGAWATT FUEL CELL SYSTEM (PROTOTYPE)**

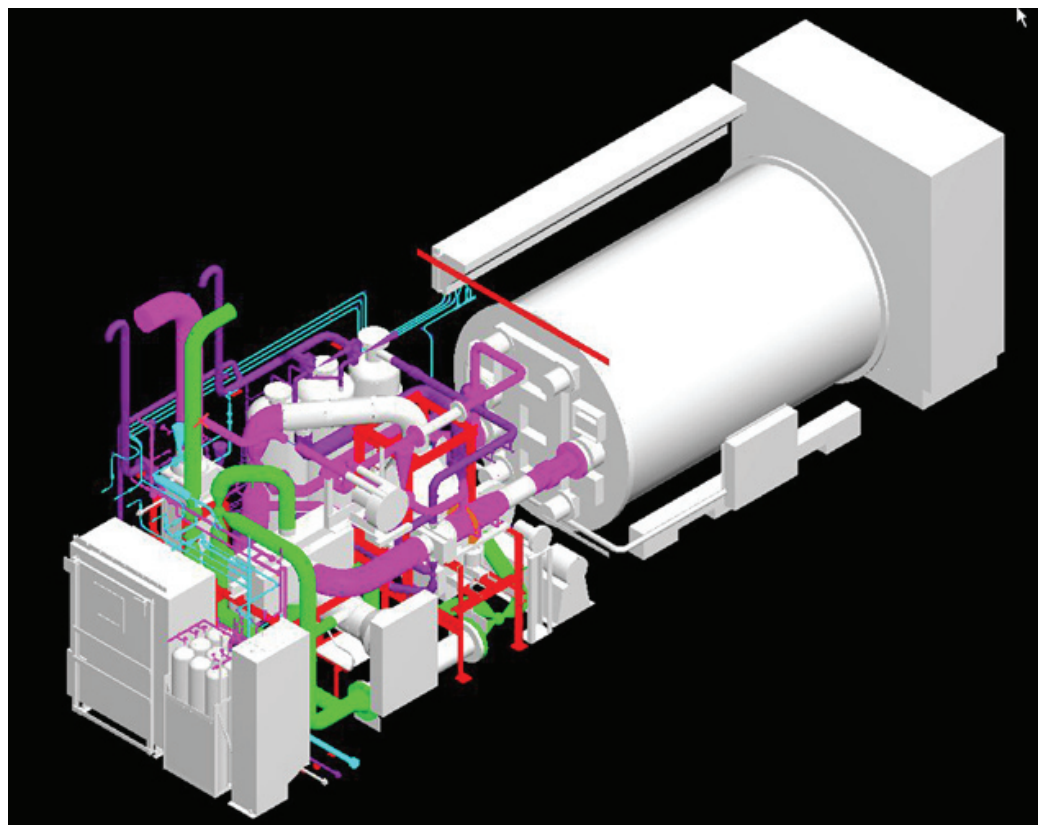
Working with the client's functional requirements and proprietary process design, **IDEA** developed the physical design for a high efficiency, high temperature prototype fuel cell to be installed at an undisclosed location for proof of concept and data collection.

Project features included:

- Mechanical Structural Design Effort using 3D Intelligent Design Software
- Fast Track Schedule with Early Procurement of Long Lead Equipment
- Severe Space Envelope Constraints
- High Temperature (1600 Degrees F) Equipment and Components
- Mechanical and Thermal Stress Analysis
- Flexible Design for Alternative Fuel Sources
- Close Coordination with Client's Engineering and Development Groups

The client solicited competitive bids for the critical equipment items and purchased them relatively early in the design phase of the project. However, due to the aggressive schedule requirements, physical design had to proceed in parallel with the procurement efforts presenting a number of design and coordination challenges. Without equipment sizes and/or physical 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** provided technical support to the client through fabrication, site installation and startup. The unit performance exceeded expectations during the one year test period.



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