



Operational Excellence Services

Decarbonization Fired Heater Improvement



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<https://www.jgc.com/en/business/epc/operation-maintenance/service/>

Fired Heater Improvement

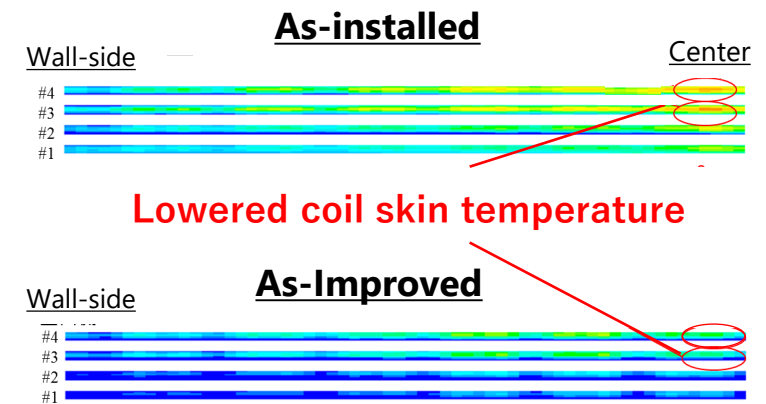
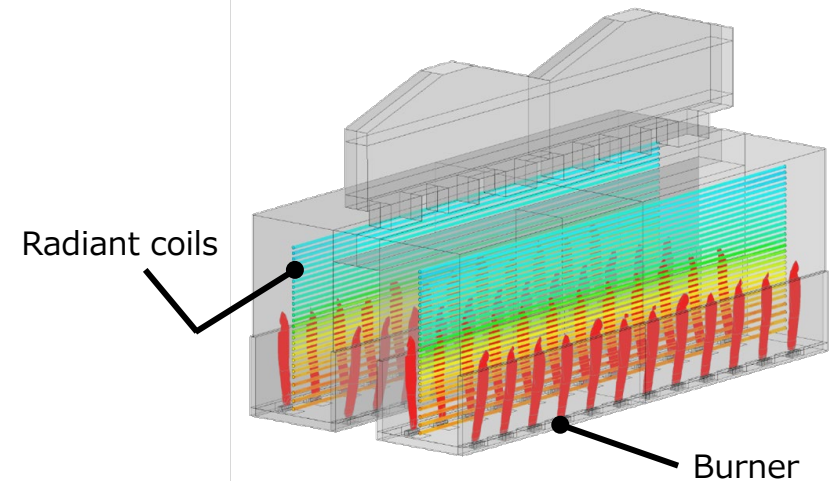
Do you have any of these issues?

- ☹️ **Poor performance and unreliable operation**
- ☹️ **Reducing maintenance interval due to severe material degradation**
- ☹️ **Need for engineering consulting partner for heater modification**

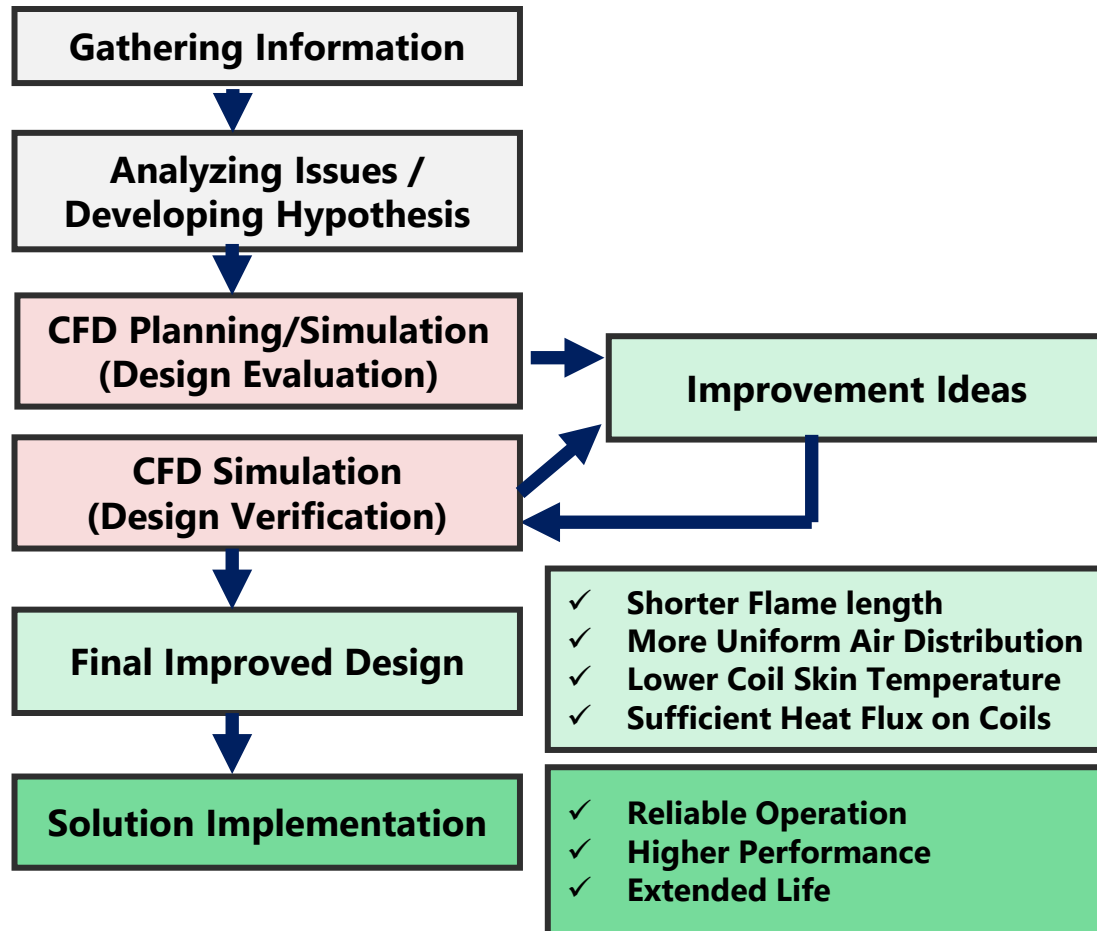
Fired Heater Improvement Solution

- Utilized **Computational Fluid Dynamics (CFD)** to simulate Combustion and Heat Transfer
- Assessed as-installed Heater Performance based on operation data and CFD Results
- Identified O&M Issues and their Root Causes
- Proposed and Evaluated Performance and Reliability Improvement Plan
 - Burner Layout Optimization for Replacement
 - Windbox Modification for Uniform Air Flow Distribution to each burner
- Provided the Technical Guidance for the Implementation of the proposed solutions

Examples of combustion and heat transfer analysis of Furnace (CFD)



Workflow & Result



Our Strengths

- Years of experience in serving domestic customers for performance improvement of fired heaters utilizing the advanced CFD simulation
- Extensive experience in Combustion and Heat Transfer modeling and evaluating heater designs
- Collaboration with Material Engineering experts
- Customer-Focused Global Engineering Service Provider

Our Experiences

50+
Plants

Fired heater design evaluation and improvement studies with the advance CFD simulations

15+
Years

Simulation-based engineering service for plant diagnosis and lifetime improvement