



CASE STUDY /

Ansys + RJM International

RJM International Reduces Emissions with Advanced Simulation and High-Performance Computing

“RJM International relies heavily on Ansys highperformance computing (HPC) to solve complex, large-model Ansys Fluent simulations, delivering accurate and high-fidelity combustion solutions with significantly less processing time through parallel processing. This enables our engineers to run chemical reaction system simulations with marked speed improvements and meet our global customers’ tight budget and project deadlines.”

Anura Perera
Principal CFD Engineer / RJM International

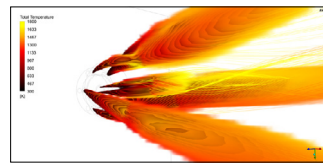
In today's energy market, providing fast and cost-effective combustion solutions to reduce emissions, improve efficiency and increase reliability is critical to new and aging combustion plants. Engineers must verify product integrity, ensuring it can successfully operate across a range of real-world operational conditions prior to prototyping. The scale, complexity and costs involved for supporting these high value assets requires RJM International's use of cutting-edge simulation driven by high-performance computing (HPC).

/ CHALLENGES

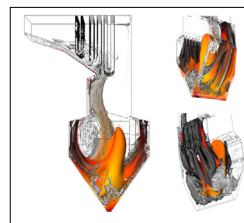
Resolving complex emissions challenges for multiple coal, oil, gas and biomass-fired customers requires advanced simulation with improved accuracy and fidelity. Becoming larger and more complex, simulations are often run simultaneously to comply with demanding customer deadlines and require HPC resources. Ansys Fluent and Ansys HPC software and an OCF/Dell HPC cluster together deliver a faster, more reliable and highly responsive means for delivering the most effective emissions reduction solutions to RJM International's customers and at least cost.

/ TECHNOLOGY USED

- Ansys Fluent
- Ansys HPC
- OCF / Dell HPC Cluster



RJM CleanAir Gas Burner combustion simulation



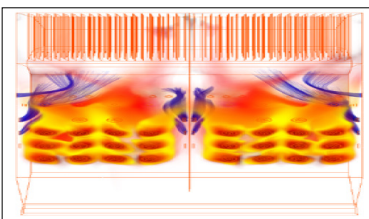
Downshot Boiler Optimisation

/ ENGINEERING SOLUTION

RJM International's engineers use Ansys HPC and parallel processing together with an OCF/Dell HPC cluster to analyze customers' existing operational systems and quickly solve large and complex Ansys Fluent simulations during an overnight run. This enables engineers to run more design variations and develop a complete analysis prior to prototyping. As a result, global power generators and other large combustion plants leverage enhanced designs that reduce emissions and improve efficiencies.

/ BENEFITS

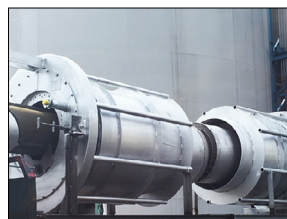
Simulations that previously required a week can now be completed within a day, enabling an 86% reduction in development time. They verified that it was sustainable for customers to ship used filters back to them for recycling.



Full Furnace solid fuel combustion simulation



RJM CleanAir Burner™



RJM Ultra-Low NOx solid fuel burner

/ COMPANY DESCRIPTION

RJM International is an award-winning specialist provider of emissions reduction and combustion improvement technologies and hardware for leading global power generators and other large combustion plants, such as refineries and steelworks. The company is industry-renowned for its unmatched ability to deliver innovative solutions to help customers operate as efficiently and cost-effectively as possible while meeting the latest governmental emissions regulations.

RJM designs, manufactures and installs a great number of technologically sophisticated products. They range from the wholesale replacement of a plant's entire set of burners with RJM's own Ultra-Low NOx Burner assemblies to the replacement of individual oil injector components.

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