



MECHANICAL ENGINEERING

“CFD Modeling and its Application in Steam Condenser Performance Improvement”

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Abstract: CFD modeling programs provide a general framework for developing simulations for three-dimensional flows and can accommodate the complexities of turbulence, multi-phase effects, chemistry and so on.

The limitations of modeling arise from two factors. Firstly, the scale of the problem may be difficult to resolve on a computational grid and secondly, the physical processes that are being modeled may not be adequately understood. In these cases, which arise in many industrial applications, some empirical input is required.

This talk will discuss the application of CFD to steam condensers, an area where both of the above mentioned limitations are met. However, the approach described is applicable to any CFD model development process, encompassing a thorough understanding of the physical situation, the equations to be solved, additional source terms that have to be developed, verification and application.



Norman Rhodes manages the New York Division of Parsons Brinckerhoff's Mechanical & Electrical Technical Excellence Center. He is an expert in the use of computational fluid dynamics, having applied these techniques extensively in the design large heat exchangers, ventilation systems, analysis of the aerodynamics of trains in tunnels, the prediction of smoke movement and fires in tunnels and buildings. He is the former secretary of the World Road Association (PIARC) Committee on Road Tunnels - Working Group No 6 'Fire & Smoke Control in Tunnels' and Co-author of PIARC publication of the same name, and its companion volume "Systems & Equipment for Fire and Smoke Control in Road Tunnels". He also coordinated the European Community Thematic Network R&D program on 'Fires in Tunnels' Work package 4: Emergency Response.

**Friday, January 30th, 2015
11:00 am Seminar in 233 Mudd
Lunch served at 12:00pm
in MECE Lobby**