

NURETH-17



Call for Papers

Abstract due : Dec. 15, 2016
Final paper due: Feb. 28, 2017

NURETH-17 Special Topic Post Accident Rod Bundle Thermal-Hydraulic Behaviors Topic Organizers: Henryk Anglart

Post accident rod bundle thermal-hydraulic behaviors have fundamental importance for nuclear reactor safety and accident management approaches. The fuel rod temperature increases rapidly and its integrity is endangered due to insufficient heat removal in post accident situations. Proper understanding of the thermal-hydraulic phenomena in rod bundles is thus crucial for choosing adequate accident management strategies. It will also help to design rod bundles to withstand thermal and mechanical loads during accidents. Both the importance and the complexity of the proposed special topic require a systematic approach to improve the over-all knowledge in this area. We are thus pleased to invite global experts, scholars and researchers in the field of nuclear reactor thermal-hydraulic to present papers and discuss topics relating to the thermal-hydraulic behaviors of rod bundles in post accident situations. Please remit your abstract/paper to the following suggested topics or any related subjects ASAP.

Topics include, but are not limited to:

1. Basic Post Accident Thermal Hydraulic (TH) Behaviors of Rod Bundles
 - Initial and Boundary Conditions and Basic Scenarios for Post Accident TH in Rod Bundles
 - Sources of Heat, Flow Distribution and Heat Transfer in Rod Bundles
 - Rod Bundle Thermal/Physical Parameters for Swelling and Rupture of the Cladding
 - CHF and Post-CHF Heat Transfer
 - Blowdown, Spray Cooling and Quenching Phenomena in Rod Bundles
2. Fuel Behavior during Post Accident Situations
 - Fuel Physical Property Behaviors
 - Gap Width, Conductance and Composition Behaviors
 - Peaking Factors in Rod Bundles
 - Swelling and Deformation of Fuel Rods
 - Fuel Behavior Uncertainties
3. Models and Numerical Methods used for Post Accident TH Analyses
 - Computational Fluid Dynamics and Solid Thermo-Mechanics Approaches
 - System Codes, Sub-channel Codes and Lumped Parameter Approaches
 - Evaluation of Code Uncertainties
 - Verification and Validation of Numerical Approaches
4. Experimental Data on Post Accident TH in Rod Bundles
 - Flow Distribution and Pressure Drop in As-Fabricated and Deformed Rod Bundles
 - Quenching, CHF and Post-CHF Heat Transfer in As-Fabricated and Deformed Rod Bundles
 - Frictional and Local Pressure Losses in As-Fabricated and Deformed Rod Bundles

