

Personal Profile (Lecturer)

Lecture ID : 2.3
Lecture Title : Severe Accident Mitigation Features of APR1400

1. Name (First/middle/Family)	Sang-Baik / Kim	
2. Current position/Affiliation	Principal Researcher /Thermal Hydraulics Safety Research Division, Korea Atomic Energy Research Institute(KAERI)	
3. Highest Education (Name of Institution/ Major field of study/ Degree and Date received)	KAIST (Daejeon, Korea) / Mechanical Engineering / Ph.D. in 1995	
4. Work History (Employer / Work period)	<ul style="list-style-type: none"> · KAERI / 1979-present · ANL(USA) / Sep.1983- Nov.1984 · BNL(USA) /Dec . 1986-Nov . 1987 · JAERI (Japan) /Sep . 1992-Feb . 1993 	
5. Professional Experience (Major experience relevant to the “Lecture” and period)	<p>· <i>Optimization of Accident Management Strategy :</i> Principal investigator of multi-year program (Year 2002-2006)as a part of "Mid-and-Long-term Nuclear R & D Programs" sponsored by the Korean Government to develop the accident management strategies mainly focused on water addition into the reactor vessel at late stage and the hydrogen control for domestic nuclear power plants. Detailed analysis of the core melt progression and the hydrogen combustion in containment have been performed using SCDAP/RELAP5 and GASFLOW codes, respectively, which results were reflected into the detailed procedure in SAMG(severe accident management guideline).</p> <p>· <i>Experiment on External Reactor Vessel Cooling(ERVC) for Advanced Reactor, APR1400 :</i> Principal investigator of multi-year program (Year 2002-2006)sponsored by government and partly with utility(KHNP: Korea Hydro and Nuclear Power Company) to conduct an experimental study to ensure the natural circulation flow during ERVC and improve the insulation design around the reactor vessel. The feasibility of ERVC for APR1400 was evaluated as a part of licensing issues.</p> <p>· <i>In-Vessel Retention Strategy(IVR) for High Power Reactor (I-NERI Project)</i> Principal investigator of a 3-year (Year2002-2005) joint Department of Energy (DOE)- Korean International Nuclear Energy Research Initiative (K-INERI) to develop strategies to improve the margin for IVR for high-power reactors (up to 1500 MWe) being considered for near-term deployment in the U.S. and in Korea. Some analytical and experimental studies for IVR were performed, which includes design, thermal analysis, and experimental testing of materials for proposed modifications to enhance external reactor vessel cooling (via improved data, vessel coatings to enhance heat removal, and an enhanced vessel/insulation configuration) and modifications to enhance in-vessel debris coolability .</p>	