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## Design Concepts and Safety Concerns of the Small and Medium Size Reactors (SMR)

Kwang Won Seul, Jae Hun Lee and Hho Jung Kim  
Korea Institute of Nuclear Safety, Advanced Reactor Department  
P.O. Box 114, Yusung, Taejon, Korea, 305-600

### Abstract

*The small and medium size reactors (SMR) and interface facilities such as desalination plant are expected to be located near the population area because of restrictions in transporting the plant products such as fresh water to long distance area. To protect the public around the plant facility from the possible release of radioactive materials, the design development of the SMR is focusing on an enhancement of the safety and reliability as well as the economics. In this study, the major safety concepts of the SMR designs significantly different from the current PWR designs are investigated and the safety concerns applicable to the integrated SMR design of Korea (called SMART), were identified. Those safety issues include the use of proven technology, application of strengthening defense in depth, event categorization and selection, simplification of emergency planning, determination of accident source terms and so on. The efforts to resolve the safety concerns in the design stage will provide an improvement of the safety of the SMART design.*