

Virtual Event of IAEA TWG-SMR

SMART

Updates of SMART Development under SMART Partnership Cooperation with KSA

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Research Institute

SMART Partnership Cooperation



SMART = سمارت



□ SMART Partnership for Joint Commercialization

- Joint Development and Sharing IP Ownership
- Joint Commercialization and Marketing



SMART PPE Project

❑ First Phase Cooperation: 2015 ~ 2019

❑ Main Goals

- SMART FOAK Engineering Design
- HCB for KSA Experts

❑ PPE Project Completion Ceremony

- May 13, 2019



FOAK Design

	SDA	FOAK(PPE Project)
Site	General Site	Specific Site for KSA
Safety Systems	Active & Passive	Passive
Plant Power	330 MWt (~100 MWe)	365 MWt (~110 MWe)
Regulation & Standard	Korean Norm	Korean Norm
Design Level	DL2	DL2
Licensing Document	SSAR	PSAR



NSSS Design



Fuel Design



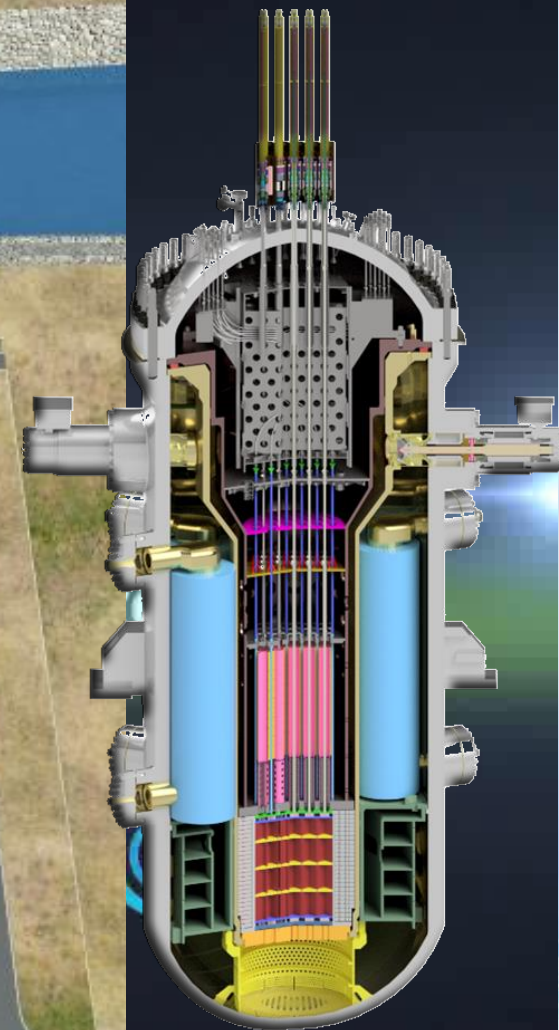
Component
Design



BOP/AE Design

22 Organizations participated in PPE Project

SMART FOAK Plant



HCB Program for KSA

- ❑ 48 Engineers were Dispatched to KAERI
- ❑ Program: 2.5 Years
 - CRT-Basic
 - 3 Months Nuclear Engineering Fundamentals
 - CRT-Technical
 - 3 Months SMART Design Fundamentals
 - On the Job Training
 - 6~12 Months On-the-job Training
 - On the Job Participation
 - 6~17 Months on the SMART PPE Design Participation
- ❑ 18 Engineers Trained in KINS
(Korean Regulatory Organization)



SMART Business Model

❑ KHNP will be a Key Organization for SMART Construction and Commercialization

- Korean Public Company to Own, Construct, and Operate all of Korean Nuclear Power Plants
- KHNP will cooperate to share their construction and operation experience of Nuclear Power Plant



SDCA(Standard Design Change Approval)

- ❑ Based on SMART PPE Design
 - SMART with Passive Safety System
- ❑ Project Period: 2019.1 ~ 2021.11
- ❑ Co-Applicants: KAERI, K.A.CARE and KHNP
- ❑ Korean-English Bi-Lingual
 - Application and RAI
- ❑ Licensing Review
 - Application Date
 - December 30, 2019



Road Show of SMART Technology

❑ Visit Embassies of Foreign Countries

- Under COVID-19 Pandemic Situation
- Visit Embassies or Invite Ambassadors to KAERI
- Introduction of SMART Technology to the Potential Countries

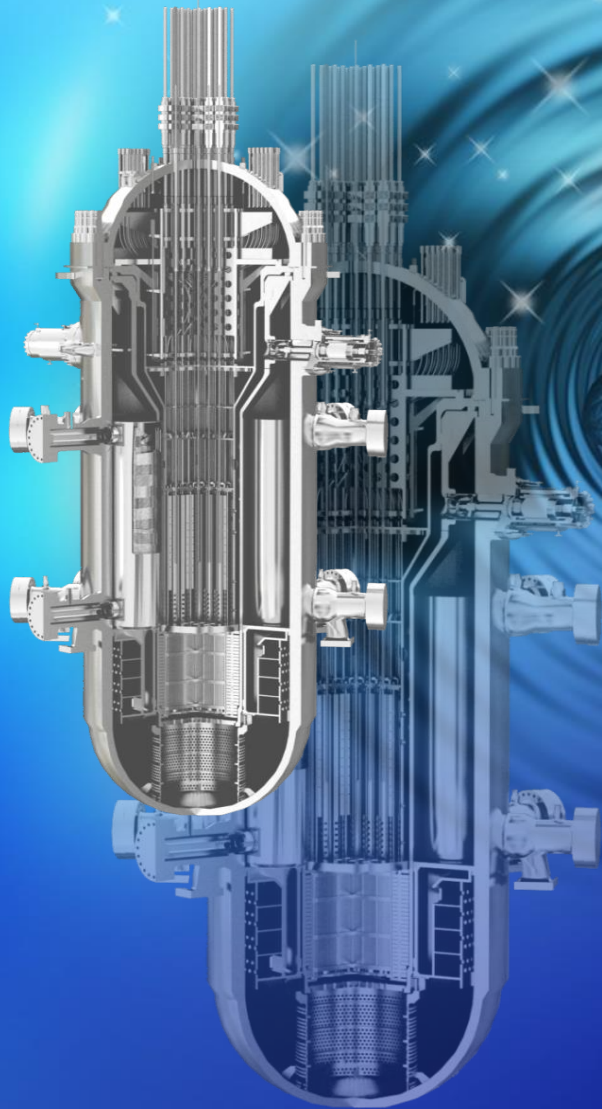


❑ Feasibility Study to Introduce SMART

- Review Technical and Economical Aspects
- Develop Strategy to Deploy SMART, etc.

SMART will open Small Reactor World

Thank you



**Korea Atomic Energy
Research Institute**