Status of Filtered Containment Venting in Korea

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ABSTRACT

- Following the Fukushima accident, Korean government inspected all operating Nuclear Power Plants (NPPs) in Korea. As a result, they suggested action items as the Fukushima follow-up measures.
- Installation of filtered vent systems or depressurizing facilities in containment is one of the Fukushima follow-up countermeasures against severe accidents.
- There are 24 operating reactors (20 PWRs, 4 PHWRs) in Korea. Among them, one PHWR has already been finished installing CFVS (Containment Filtered Vent System) in 2013. Other 3 PHWRs will be installed CFVS in 2016.
- The remaining 20 PWRs are under review to take action for Fukushima follow-up measure.

Experience of CFVS installation for Wolsong unit 1 (CANDU6)

The evaluation of Severe Accidents for wolsong unit 1

With CFVS – No Failure

Without CFVS – Failure

Studies for applicability of CFVS and ECSBS in PWRs

Evaluation of depressurization capability for PWRs

With CFVS

Without CFVS

ECSBS (Emergency Containment Spray Backup System)

Summary

- Korean NPPs are planned to install an alternative system to ensure the integrity of containment under a severe accident condition like the Fukushima accident.
- Two severe accident alternatives, CFVS and ECSBS, are now considered for candidates in PWRs though CFVSs are being installed in all CANDU reactors of Korea.
- Both systems are applicable for our goals in the safety aspect.