



# MDEP Stage 1

## overview

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# Summary

- MDEP background
- MDEP Stage 1 organization
- Cooperation on EPR design
- Conclusion



# MDEP Background (1/3)

- Need to use innovative approaches to meet the challenges of the upcoming wave of new reactor license applications
- Need to consider international solutions to national issues



# MDEP Background (2/3)

- There is a need for closer cooperation between nuclear safety authorities regarding the safety for future reactors
  - A few reactor designs on the global market
  - A need of consistency between regulators' requirements and positions:
    - for the regulators
    - for the public
    - for the industry
  - An opportunity to leverage the resources and knowledge of the national regulatory authorities



# MDEP Background (3/3)

- Exchanges between safety experts on new reactor designs will contribute:
  - to make the technical analysis more robust
  - to increase the safety level
  - to build a strong network of knowledge



## MDEP Stage 1 organization (1/2)

- Enhanced international cooperation within existing regulatory frameworks and bilateral agreements
- Currently focused on Areva EPR design
  - Involves cooperation between U.S., Finnish and French regulators
  - Other regulators potentially interested in the near future



# MDEP Stage 1 organization (2/2)

- 1<sup>st</sup> contact on the project in 2005
- Memoranda of cooperation (MOC) signed by USNRC with Finnish (STUK) and French (ASN) regulators (June 2006)
- Interactions between regulatory and technical counterparts have started
- Trilateral meetings to discuss regulatory / technical issues
  - In Helsinki (9/06)
  - In Paris (3/07)



# Cooperation on EPR design (1/3)

- EPR project started with a strong cooperation between France and Germany
- From 1993 until 1998, French and German safety authorities:
  - set common objectives
  - led common assessment





# Cooperation on EPR design (2/3)

- Since 2004: technical cooperation between STUK and ASN
  - Two independent safety assessments
  - Periodic technical meetings to follow exchange on each others independent assessment
  - A Finnish expert from STUK nominated in the French standing committee of experts



## Cooperation on EPR design (3/3)

- Review areas selected for MDEP Stage 1 trilateral cooperation:
  - Large LOCA preclusion on the primary circuit
  - Severe accidents management
  - Digital instrumentation and controls
  - Construction inspection program

# Conclusion (1/2)

- MDEP: a way towards harmonization
  - An US initiative, shared by France and Finland to work on EPR design
  - MDEP stage 2: 10 countries are involved in and NEA acts as a secretary
- International cooperation is active and beneficial in the nuclear safety field and the US, France and Finland are at the “avant-garde” of it



# Conclusion (2/2)

- Benefits of MDEP Stage 1 cooperation
  - Increased regulatory efficiency through leveraging of technical reviews
  - Enhanced safety through cooperation of international safety experts
  - Insights used for MDEP Stage 2 activities