

Multi-National Design Evaluation Programme (MDEP)  
AP1000 Working Group

**Programme Plan  
2020-2021**

Related to: AP1000 Working Group Activities

**AP1000WG Programme Plan  
for 2020 through 2021**

Multinational Design Evaluation Programme  
**AP1000 Working Group (AP1000WG)**

**1. AP1000WG Goals**

Progress on multilateral cooperation between active members of the AP1000WG including; the People's Republic of China, India, and the United States (U.S.) on the review of the AP1000 design and associated issues such as cooperation on pre-operational testing. Non active members include Canada and the United Kingdom. To leverage national regulatory resources by sharing information and experience on the regulatory safety design reviews, design changes, and construction challenges of the AP1000 with the purposes of enhancing the safety of the design and enabling regulators to make timely licensing decisions.

**Actions to Leverage Regulatory Resources by sharing information to support design reviews**

- Exchange experience on licensing process and design reviews, lessons learnt, and design-related construction, commissioning, and operating experience.
- Work to understand the differences in regulatory safety review approaches in each country to support potential use of other regulators safety design evaluations, where appropriate.
- Look for opportunities to provide input to issue-specific working groups on potential topics of significant interest.

Promote safety and standardization of designs through cooperation (consideration should be given to promoting harmonization of regulatory practices where there may be a safety benefit).

**Actions to Promote Safety and Standardization of designs and potential harmonization of regulatory practices**

- Document common MDEP positions on aspects of the review to enhance safety and standardization of designs (and coordinate communications), as requested.
- Identify design differences originating from regulatory requirements and document reasons for differences in regulatory requirements.
- Use experience gained in learning about similarities and differences in licensing frameworks to identify potential paths forward to harmonize licensing approaches and practices when there is a safety benefit.

**2. 2020/2021 – MDEP AP1000WG Work Plan**

- Continue sharing regulatory evaluations and inspection reports of the AP1000 among all AP1000WG member countries; include evaluations in the MDEP Library, as appropriate.
- Discuss Fukushima-related issues (post issuance of the Fukushima Common Position Paper) to evaluate safety of the AP1000 design, as necessary.
- The following technical topics will be discussed:
  - Commissioning and Initial Test Program, including AP1000 experience with FPOT and F3POT
  - Digital Instrumentation and Control safety systems
  - Major Design changes
  - Construction challenges

- Vendor issues
- Transition from Construction to Operations
- Technical Specifications for Operations
- Operational events
- Other areas for consideration of potential cooperation could be:
  - Reliability of passive safety systems
  - In-vessel retention
  - Accidents and transients methodologies and evaluations
  - Probabilistic safety assessment
  - Fire protection
  - Radiation protection
  - Human factors engineering, etc.
- Continue efforts of Technical Experts Subgroup (TESG) in the area of commissioning activities (CA). TESGs meet as needed to exchange information on relevant aspects of the design review status. Meetings may be accomplished through teleconferences.
- Whenever areas are chosen in which to cooperate, the main group or subgroup should:
  - Share relevant evaluations when they become available.
  - Produce technical reports on subjects that the group deems important to safety, to identify and document similarities and differences among designs, regulatory safety review approaches and resulting evaluations.
  - Issue joint/coordinated press releases and statements on important safety evaluation findings, as appropriate.
  - Produce MDEP common positions and technical reports or guidelines, where applicable.
  - Post evaluations, positions, etc. in the MDEP library.
  - Cooperate with VICWG and CNRA WGDIC, as appropriate.
- Provide recommendations, when appropriate, to issue-specific working groups and other design-specific working groups regarding addressing important issues relevant to design safety reviews.

### **3. Meetings**

Meetings will be held in Paris or in a member country, especially where there is active design review and/or construction activity. The goal is to hold two meetings per year. TESG or ad hoc groups meet as needed.

### **4. Outputs of the AP1000 WG during 2020-2021**

- Technical reports in the following areas:
  - TR on Common Understanding of the Hydrogen Control System for the AP1000 Design (2020).
  - AP1000 Hot Functional and Startup Testing Lessons Learnt (2021).
  - Lessons Learnt from implementation of the common position on FPOT for AP1000 (2021).
  - AP1000WG Closure Report (2021).
- Discuss changes and differences in Technical Specifications for Operations for AP1000 in China and US.

- Contribute to the MDEP Annual Report.
- Contribute to the programme for the 5th MDEP conference in 2022.
- Document lessons learnt from design reviews and design issues faced during construction, commissioning and initial operations, as appropriate.
- Recommendations and inputs to other MDEP working groups regarding potential generic issues and harmonization opportunities (coordination with EPRWG, APR1400WG, HPR1000WG, VVERWG, and VICWG, as appropriate).

**5. Key Stakeholders with whom the AP1000 WG members will interact**

- Other MDEP regulators as needed (care shall be taken NOT to share proprietary or sensitive info inappropriately)
- Non-MDEP regulators, as appropriate
- CNRA/WGRNR/WGDIC
- Westinghouse
- Utilities/Licensees/Operators
- Other Groups as appropriate to further MDEP goals

**6. Closure of the AP1000WG**

It is anticipated that the AP1000WG will close after the first few AP1000s have achieved at least 2 years of commercial operation or by the end of 2021, consistent with MDEP Policy Group's strategy. The AP1000WG has reviewed its continuation of cooperation activities against the closure criteria agreed by the STC and has concluded it is appropriate to sunset its activities at the end of 2021. The AP1000WG considers that ongoing engagement between active regulators will be beneficial post-closure of the working group outside of the MDEP framework, under existing bilateral agreements.