

REGISTRATION

There is no registration fee. Please see the conference webpage for the participation form and details for submission.

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MEETING WEB PAGE

<http://www.iaea.org/NuclearPower/Meetings/2013/2013-06-26-06-28-WS-NPE.html>

Pre-Registration Web Page:

<http://meeting.iaea.org/default.aspx?meetingid=45320>

Technical Meeting on Degradation of Primary Components of Pressurised Water Cooled Nuclear Power Plants

Current Issues and Future Challenges

Vienna, Austria

5-8 November 2013



Organized by the
International Atomic Energy Agency (IAEA)



In cooperation with
Institute for Energy and Transport
Joint Research Centre
European Commission



BACKGROUND

There has been a steady realization among IAEA Member States that nuclear power is one of the most reliable sources of energy. This realization has sparked the interest of several Member States in starting new nuclear power programmes. One of the major impediments to nuclear power has been a negative public perception, partly due to historic nuclear accidents such as Chernobyl, Three Mile Island and Fukushima, and partly due to a negative media attitude concerning nuclear power. As the current number of nuclear power plants (NPPs) are in the process of obtaining licensing for extended lifetime operation, a number of safety and technological aspects need to be addressed adequately. Environmentally-induced materials problems in NPPs are responsible for a significant proportion of NPP outage time and are a cause of great concern, especially as the age of the current NPP fleet gradually increases. Understanding the mechanisms of radiation damage and possible mitigation thereof through design, means that this is an important subject for both operating NPPs and advanced NPP designs of water cooled reactors. A Technical Meeting on this subject is targeted at both the designers and operators of such reactors and is of paramount importance, especially when the relevant information can be presented from a mechanistic point of view.

OBJECTIVES

The objectives of the workshop are to:

- Provide participants with information on the degradation of ferritic and stainless steels in reactor pressure vessels (RPVs), heads, core internals; piping steels, steam generators, and degradation of other components.
- Report on materials degradation issues for boiling water cooled reactors and other technological issues affecting the current fleet of light and heavy water cooled reactors.
- Discuss the priorities and gaps in identified research and technological areas.

TOPICS

Degradation of primary system components

- Effect of operating parameters (pressure, temperature, stratification, water chemistry)
- SCC/general corrosion, thermal and environmental fatigue, thermal ageing issues
- Leak-before-break; no-break assessment; regulatory aspects; codes & standards

Effects of irradiation-induced damage of reactor pressure vessels and reactor vessel internals

- Mechanisms governing the irradiation-induced embrittlement
- Irradiation effects (dose-rate effect, high fluence effect, etc.)
- Formation of irradiation-induced defects
- Mechanisms controlling the evolution of mechanical properties
- Structural analysis and integrity assessment of primary components for long term operation
- Metallurgical issues (inhomogeneities in material, fabrication history)
- Assessment of RPV embrittlement (incl. annealing and re-irradiation)
- Fracture mechanics testing and evaluation
- RPV surveillance programmes and databases

KEY DEADLINES

- 2 September:** Submittal of abstracts
- 2 September:** Submittal of requests to the IAEA for financial support
- 16 September:** Participants informed of the acceptance of their contributions
- 16 September:** Participants informed of the acceptance of their request for financial support
- 5 November:** One day training course
- 6 November:** Technical meeting begins

MEETING FORMAT

The format of the meeting will be invited and contributed oral presentations presented in sessions devoted to special topics, with subsequent discussions. There will be some restriction on the duration of presentations. An electronic projector with a computer capable of reading CDs and memory sticks will be available (Power Point or Acrobat recommended). The official language of the meeting is English. No interpretation will be provided. It is expected that the meeting will start at 09:00 on 5 November 2013 and will be concluded by 15:00 on 8 November 2013.

PARTICIPATION

In order to participate in the meeting, the following major steps must be completed:

1. Pre-registration
2. Abstract Submission
3. Official nomination (form A, B and C if applicable)