

Technical Meeting on Tritium Breeding Blankets and Associated Neutronics



IAEA

International Atomic Energy Agency

Tuesday 1 April 2025 - Friday 4 April 2025

IAEA Headquarters, Vienna, Austria

Scientific Programme

Track I: Breeding blanket design and performance

a. Breeding blanket system

- i. Neutronics performance
- ii. Thermohydraulic performance and associated challenges
- iii. Thermomechanical performance and associated challenges
- iv. Operation, instrumentation and reliability
- v. Integration within the vacuum vessel
- vi. Maintenance

b. Tritium extraction and removal

- i. Extraction technology
- ii. Tritium inventory
- iii. Permeation issues
- iv. Tritium fuel cycle (including modelling and technology maturation)

c. Safety related aspects

- i. Accident scenarios
- ii. Rad waste management
- iii. Radiation protection

d. Functional and structural materials

e. Li-6 enrichment (including associated economics and regulatory issues)

Track II: Manufacturing, assembly, and licensing

a. Joining technologies

b. Codes & standards and design rules

c. Regulatory frameworks

d. Economics and mass production of materials (functional and structural) and components

Track III: Testing and nuclear qualification

a. Requirements & related facilities

b. Test results and impact on technology maturation