

Invited presentations

ITER Safety and Licensing (PL4-O-303)

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The site for the construction of ITER has been chosen in June 2005. The facility will be implemented in Europe, south of France close to Marseille. The generic safety scheme is now under revision to adapt the design to the host country regulation. Even though ITER will be an international organization, it will have to comply with the French requirements in the fields of public and occupational health and safety, nuclear safety, radiation protection, licensing, nuclear substances and environmental protection. The organization of the central team together with its partners organized in domestic agencies for the in-kind procurement of components is a key issue for the success of the experimentation.

ITER is the first facility that will achieve sustained nuclear fusion. It is both important for the experimental one-of-a-kind device, ITER itself, and for the future of fusion power plants to well understand the key safety issues of this potential new source of energy production.

The main safety concern is confinement of the tritium, activated dust in the vacuum vessel and activated corrosion products in the coolant of the plasma-facing components. This is achieved in the design through multiple confinement barriers to implement the defence in depth approach. It will be demonstrated in documents submitted to the French regulator that these barriers maintain their function in all postulated incident and accident conditions.

The licensing process started by examination of the safety options. This step has been performed by Europe during the candidature phase in 2002.

In parallel to the final design, and taking into account the local regulations, the Preliminary Safety Report (RPrS) will be drafted with support of the European partner and others in the framework of ITER Task Agreements.

Together with the license application, the RPrS will be forwarded to the regulatory bodies, which will launch public hearings and a safety review. Both processes must succeed in order to start the nuclear buildings construction. In parallel, France, responsible for site preparation will also launch authorisation requests to enable standard constructions, electric supply, site clearance and road upgrades for heavy load transportation, which are not safety-related permits but have to follow an administrative approval. The Agency ITER France, representing the future Organisation on behalf of ITER partners, is already participating to public debates organized by an independent authority.