

First participation of Mexico as observer in the TWG-FR 47th Meeting of the Technical Working Group on Fast Reactors

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- Introduction
- National Institute for Nuclear Research in Mexico (ININ)
 - ININ at a glance
 - Infrastructure
 - Research groups
 - Capabilities
- Conclusions



- In April 2014 Mexico applied to become observer in the TWG-FR.
- Administrative procedure is in progress.
- We thank enormously Mr. Monti for the support in order to attend this meeting.
- Two Mexican representatives:
 - Armando Gómez,
 - Federico Puente which has been involved in TWG-FR (representing GRS, Germany).
- It was decided to start a fast reactors research area at ININ.



- One Nuclear Power Plant "Laguna Verde" with two BWR-5 reactors.
- 4 % of installed capacity.
- 3-5 % of generated electricity.
- One national research centre: ININ.
- The regulatory body: CNSNS.
- 5 academic institutions with nuclear programs.

Laguna Verde NPP





- 50 Km from Mexico City.
- 25 Km from Toluca.
- Almost 3000 meters over sea level.
- In the middle of the forest of the national park "La Marquesa".
- 650 people working in several research areas.
- Around 30 people working in the nuclear systems department.





- 1 MW Triga Mark III reactor.
- Gamma Ray irradiator.
- Several labs for chemical applications and material's tests.





- No formal participation in development programs of fast reactors.
- However, there is a big interest in being involve in the TWG-FR and to participate actively.
- In particular, ININ is very interested in sustainable options for diversifying the nuclear field in Mexico.



- The nuclear systems department is the group related to power reactors applications.
- It provides support to the regulatory body as well as to the NPP Laguna Verde.
- Most of the members of the group have experience with the use of neutronics and thermalhydraulics codes (MCNP, SERPENT, CASMO, SIMULATE, HELIOS, RELAP, TRAC, TRACE (just starting)).
- Some of the members have participated and still participate in projects related to development of neutronics codes for square and hexagonal geometries.



- ININ lacks of infrastructure in order to perform experimental assessments for fast reactors.
- The main contributions that ININ could provide to the TWG-FR are:
 - Support on the verification and validation of computational tools (Benchmarking).
 - Support on the implementation of models in the computational tools.
 - Learn the state of the art for having an active participation in the TWG-FR activities.
 - Perform sustainability and economics assessments on FR.



- The acceptance of Mexico in the TWG-FR is a great opportunity to extend the knowledge of ININ in fast reactors (traditionally focused on light water reactors).
- To be able to support the mexican government in decision making process to assess the best technology in case that the nuclear capacity has to be expanded.
- Participate actively in the international community.
- Contribute to the human resources with background on fast reactors.



Thanks a lot for your attention!!