

## EXECUTIVE SUMMARY

Upon the invitation of NASA, operator of Atucha NPP, a peer review mission on safe long term operation (Pre-SALTO) was conducted to review programmes/activities of the Atucha Nuclear Power Plant Unit 1 (further referred to as “the plant”).

The plant is one of three operating NPPs in the Republic of Argentina located in the northeast part of the country close to the town of Lima. 2 units have been constructed on the site of Atucha NPP with SIEMENS design heavy water pressurized water reactors (PHWR) with a total electric power output of 1102 MW.

Atucha NPP Unit 1 has been in operation since 1974. The plant will reach its design life time of 32 full power years in March 2018. Current operating license is valid for 32 full power years. The plant has an intention to extend the operation for another 16 full power years which is approximately 20 calendar years.

This Pre-SALTO mission reviewed the status of plant activities for the safe long term operation (LTO) assessment of the plant. A preparatory meeting was held in March 2016. The scope of the Pre-SALTO mission was agreed and defined in the Terms of Reference (ToR) issued in March 2016. The ToR also outlined the review team comprising two IAEA staff members, six external experts and four observers covering all areas of the standard scope of a Pre-SALTO mission.

The mission reviewed completed, in-progress and planned plant activities related to LTO, including activities involving the ageing management (AM) of systems, structures and components (SSCs) important to safety and revalidation of time limited ageing analyses (TLAAs).

Through the review of available documents, including the Advance Information Package, plant documents, contractors` documents, presentations and discussions with counterparts as well as with other members of the plant staff, the IAEA team concluded that the plant has initiated most of the activities of safe LTO and ageing management. The LTO project covers many of the topics recommended by the Agency. A lot of technical work has already been performed by the plant staff and contractors to demonstrate preparedness for safe LTO. Nevertheless, the team concluded that many activities important for demonstration of preparedness for safe LTO are still in an initial phase.

The team found the plant staff professional, open and very receptive to suggestions for improvement. The Pre-SALTO team concluded that plant management is committed to improving plant preparedness for LTO. Walk-downs showed that the plant is in good condition. In addition, the team noticed the following good performances:

- Fatigue monitoring system (FAMOS) on the Primary Cooling System;
- Fluence calculations for pressurized thermal shock;
- Installed corrosion sensors for a new building for dry storage of spent fuel.

Taking into account the above mentioned points, the team recognised that the plant approach and preparatory work for safe LTO generally follows the IAEA Safety Standards and international practices.

However, the team identified some fundamental areas for further improvement. Nineteen issues were raised:

- The regulatory expectations for LTO have not yet been agreed;
- The LTO project interfaces are not adequately formalized to effectively manage the preparation for LTO;
- LTO policy is not yet developed;
- Not all PSR safety factors are fully evaluated;
- The responsibilities and functions of the design authority are not fully implemented;
- The design basis documentation is not fully available;
- The methodology for scoping and screening is not appropriately defined and documented and some of the safety relevant SSCs are screened out of the LTO assessment without clearly documented criteria;
- Data important for effective ageing management of SSCs in scope of LTO is not properly managed;
- The effectiveness and coordination of the existing plant programmes and AMPs has not been demonstrated for the period of LTO;
- AMR for mechanical components has not covered the LTO period;
- TLAAs for mechanical and civil SCs have not been identified and revalidated for LTO;
- The plant’s operating experience programme does not ensure that all relevant internal and external operating experience will be applied to ageing management programmes in a timely manner to support LTO;
- Scoping and screening of mechanical, electrical, I&C and civil SCs for LTO has not been adequately implemented;
- The equipment qualification programme is not fully established and implemented;
- A proactive technological obsolescence programme is not established yet;
- The plant has not performed a comprehensive ageing management review for civil SCs for LTO;
- The plant has not developed ageing management programmes for mechanical and civil SCs for LTO;
- There is a lack of sufficient competent human resources to complete the LTO project in a timely manner;
- There are no formal processes for human resource planning, knowledge management and succession management to support LTO.

A summary of the review was presented to plant management during the exit meeting held on 28 September 2016. The plant management expressed a determination to address the areas identified for improvement, and indicated the intention to invite a second “Pre-SALTO peer review mission” in October 2018 to continue in the review of the plant preparation for LTO.

Appendix III of this report includes the team’s detailed recommendations and suggestions arising from this mission.