



The construction stage in the RA-10 Reactor Project

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RA-10 Reactor

- The RA-10 is a multipurpose reactor for:
 - radioisotope production,
 - fuel and material testing
 - industrial applications and research
- It will provide a replacement for the RA-3 reactor (50 years operation)
- It is planned to be commissioned in 2020.
- It is supported by the government.

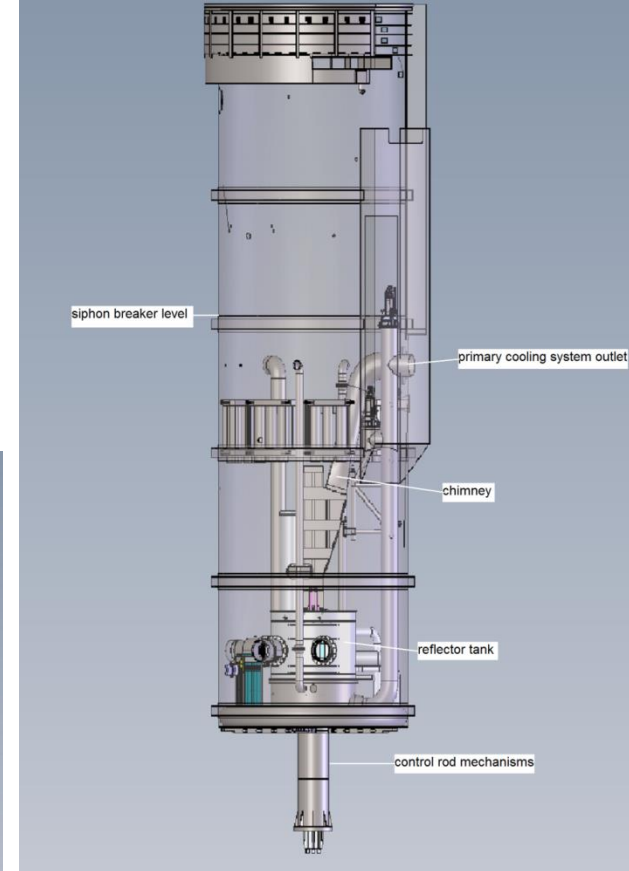
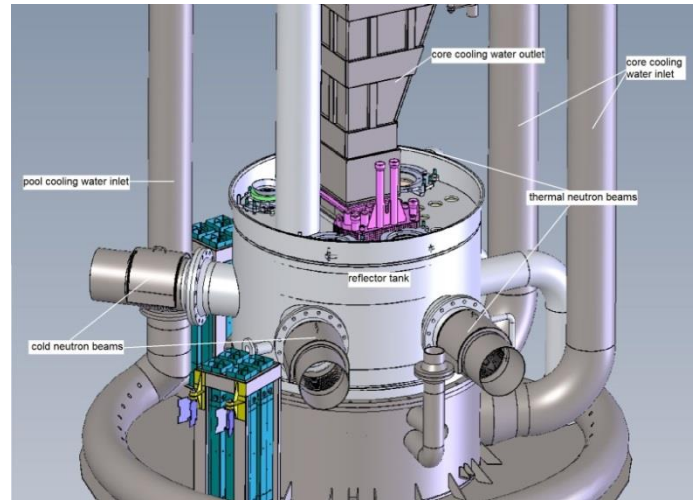
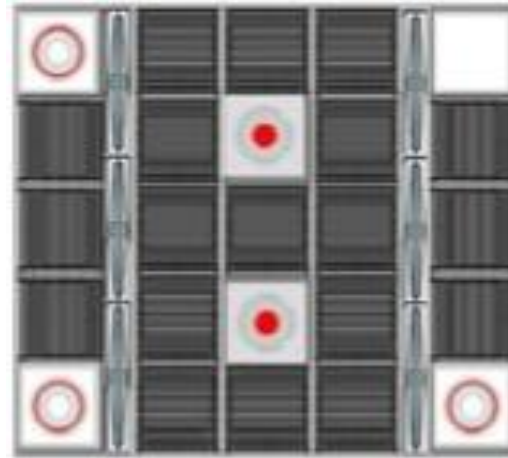
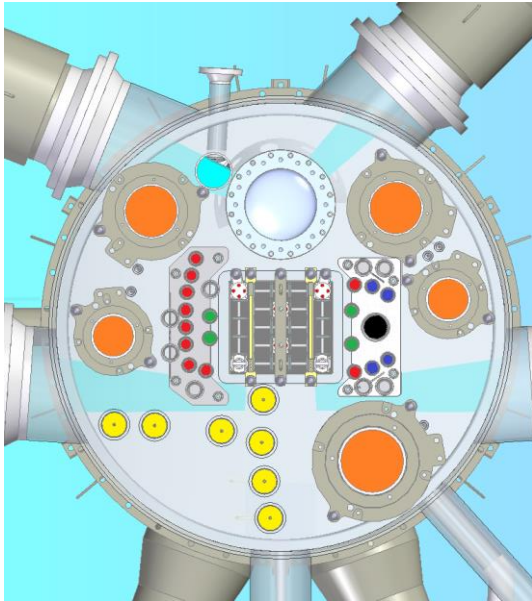
RA-10 Reactor Siting



■ Facilities located:

- RA-3 Reactor
- Radioisotopes production plant
- NPP fuel elements production plant
- PIE cells

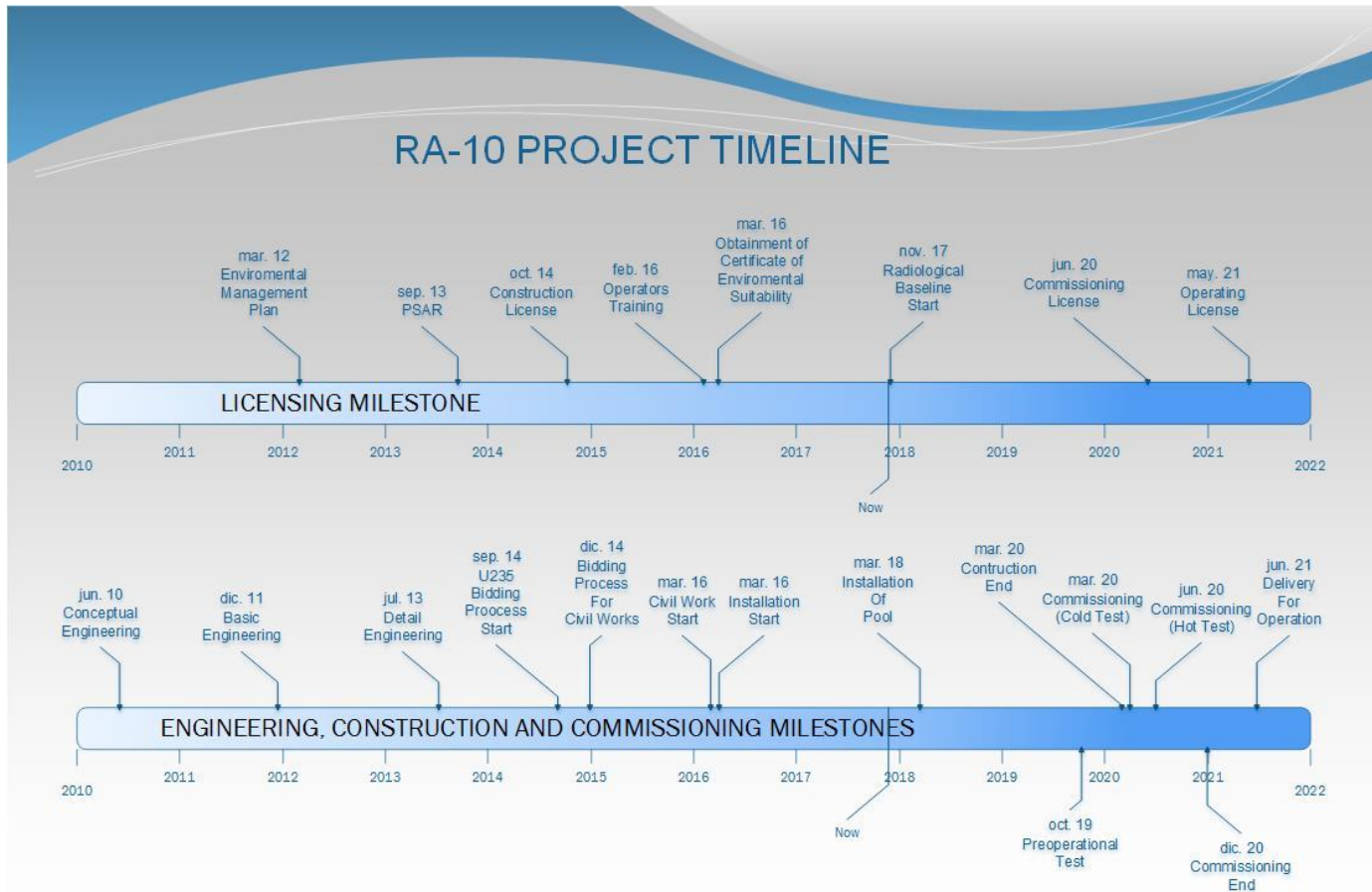
RA-10 Reactor



Project Status

- Phase 3: Reactor Implementation
- The project advance is 40%.
- Design stage has been finished.
- Social Perception Study performed on September 2014.
- The Construction License was obtained in October 2014.
- The Environmental Assessment Study was approved in March 2016.
- The contract for the civil work was signed in February 2016.
- CNEA is providing the nuclear issues
- INVAP S. E has been contracted for the supplying and mounting of SSC
- The first operation team is being trained from February 2016.

Schedule



Relevant Contracts

Object	Contractor
Design	CNEA & Invap S. E.
Civil work	Caputo S. A.
Supplying and mounting	Invap S. E.
Heavy water supplying	ENSI S. E.
Uranium supplying	B&W Y-12
Electric infrastructure	To be defined
Fuel elements manufacturing	CNEA
Nucleonic instrumentation	CNEA
Reactor protection system	CNEA

Civil Work



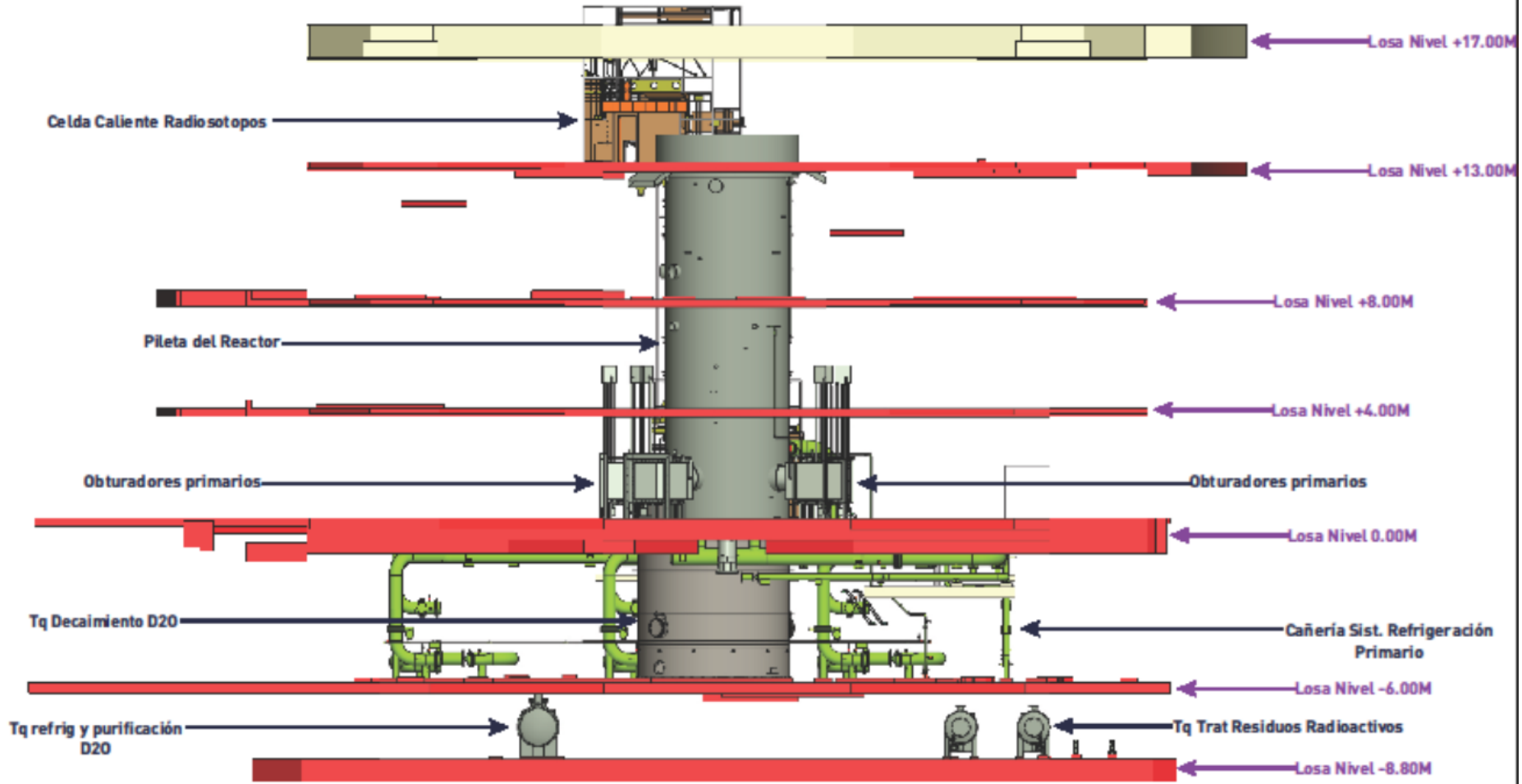
- Siting: Centro Atómico Ezeiza
- Implantation Area: 3,85 Ha
- 4 Buildings – EDIREA, EDIGUI, EDIAUX y EDISER
- Land footprint: 7632 m²
- Total constructed surface: 17723.52m²
- Building levels -8,5m+ 26,5m

RA-10 Site (April 2016)



Lay Out of the Reactor Building

Reactor RA-10 - Componentes Mecanicos y su interaccion con las etapas de la Obra civil



The Construction Stage: The First Concrete



May 6, 2017



Construction Progress (Video)



Civil Work: Reactor building



Civil Work: Neutron Guide Building



S&M: Reactor Pool



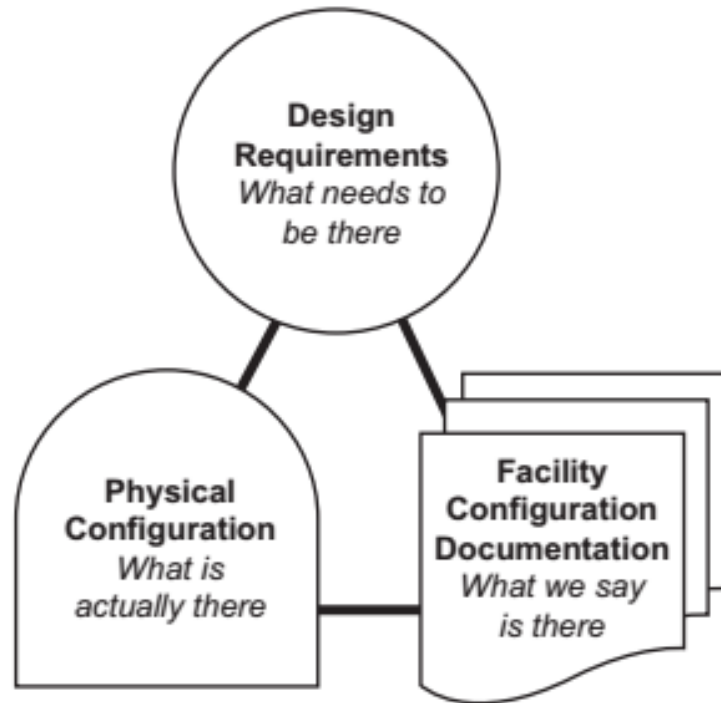
S&M: Decay Tank



Specific Inspection & Testing Plans

- The execution of the relevant activities is controlled by specific inspection and testing plans. According to the Quality Level assigned to each system or component, graded detail, protocols and registers (final documentation package related to each activity) are established for the following operations:
 - manufacturing applied documentation specification
 - materials reception
 - inspection and testing controls
 - production process controls
 - special process controls
 - final control and packaging
 - quality review

Licensing: Configuration Equilibrium Model

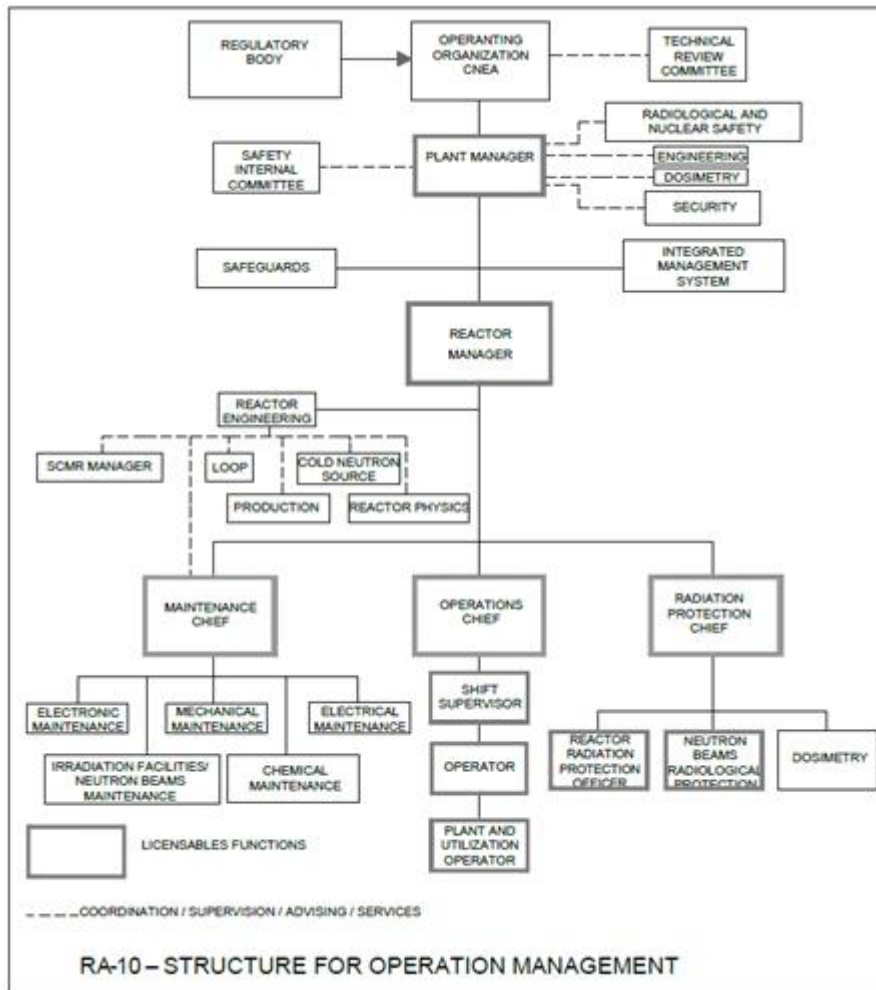


MANAGEMENT TOOLS

- Non-conformances management
- Configuration changes management
- Requirements management
- Testing and inspection plans
- Safety evaluation plans
- Commissioning and pre-commissioning plans

Application of Configuration Management in Nuclear Power Plants, Safety Reports Series No. 65, Vienna (2010).

Operation Team Training



- About 55 licensed positions are considered that will be occupied by professionals (20) and technicians (35).
- A total of 95 positions are planned for covering the reactor operation.

Operation Team Training

- A training plan for the reactor operation staff was developed and approved by the regulatory body.
- In February 2016, 20 professionals were recruited and they received a theoretical training in the fields of reactor engineering, radiation protection, nuclear safety and regulations
- A six-month practical training in the RA-6 and RA-3 Argentinian research reactors was implemented.
- Individual licenses were granted by the regulatory body
- Specific training on the RA-10 Safety Report.
- Planned training in a full scope simulator.
- Planned involving in the elaboration of the plant documentation
- Planned involving in the preoperational tests execution.
- In June 2017, 36 technicians were recruited and they are now receiving their theoretical training

Stakeholders' Involvement: Public

- A social impact assessment study was implemented at the very beginning and the results expressed the community approval about the project.
- The results also reflected that people required further information about nuclear activities developed by the CNEA, so a communicational plan is being prepared.

Stakeholders' Involvement: Users

- In order to assure that the reactor and its auxiliary facilities were adequately utilized over its lifetime, several projects involving new facilities building and human resources consolidation, related to its planned applications were promoted.
 - New radioisotopes plant for increasing molybdenum production
 - Neutron beams national laboratory
 - Post irradiation experiment plant
- In order to manage the relationship with these associated projects and follow up its execution, a user's committee was created with the commitment of the highest-level authority of the CNEA

Thank you!



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