



Australian Government

Australian Nuclear Science and Technology Organisation

OPAL Reactor Licensing

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Licensing activities

Three issues:

- Construction Licence Application
- On-going Licensing Activities During Construction
- Operation Licence Application

Construction Licence Application

- Facility Licence, Construction Authorisation granted in April 2002
- Approved the overall construction of the OPAL Reactor, including cold commissioning, based on the PSAR
- Licence contained 18 Licence Conditions, a number of which had significant impact on construction.

Licence Condition 4.6

- LC 4.6: Construction of Items Important to Safety
- Specific application of ARPANS Regulation 54 to the project
- Requires the approval of the CEO of ARPANSA to construct individual items important for safety
- Applicable to all Safety Category 1 and 2 structures, systems and components

Licence Condition 4.6 (cont.)

- ARPANSA approval based on detailed engineering (DE) design that had been reviewed verified and accepted by ANSTO
- Recommendations from the Regulatory Assessment Report (RAR) also need to be taken into consideration
- Required documented evidence to support the above

Licence Condition 4.7

- LC 4.7: Commissioning of Items Important to Safety
- Required CEO of ARPANSA approval to commission individual items important for safety
- Originally applicable to all Safety Category 1 and 2 SSCs, subsequently revised to cover a specified listing of SSCs as identified in LC 4.7.2

Licence Condition 4.7 (cont.)

- Overall ARPANSA approval based on overall and cold commissioning plans that had been reviewed verified and accepted by ANSTO
- ARPANSA approval of individual items based on specific pre-commissioning and cold commissioning procedures accepted by ANSTO
- ARPANSA hold points also identified in LC 4.7.2

Other Licence Conditions

- A number of LCs applicable to security issues required approvals from other Government organisations
- LC 4.8 required the PSAR to be revised to reflect the ARPANSA review
- LC 4.10 detailed V&V requirements for computer codes
- LC 4.11 required a procedure for change control to be implemented

Licensing Activities During Construction

- ARPANS Regulation 54/LC 4.6
- Assessment Committee Meetings
- Regulatory Project Management Meetings

Regulation 54/LC 4.6

- ARPANS Regulation 54 requires the CEO of ARPANSA to review and approve the detail engineering of items important for safety prior to construction.
- Reinforced in its specific application to the RRRP by LC 4.6
- Items important to safety (Safety Category 1 and 2 items) form 90% of plant systems.

Regulation 54/LC 4.6 (cont.)

- More than 120 submissions to ARPANSA
- Approval took between 10 days in the best case to more than one year in the worst.
- A complex process requiring careful management by ARPANSA, ANSTO and INVAP to integrate with construction.
- Some systems required multiple submissions for manufacture/procurement and installation (eg I&C systems)

Regulation 54/LC4.6 (cont.)

- The process has been successful
- Several issues that would have otherwise arisen during the evaluation of the Application for an Operating Licence were addressed at earlier stages.
- However, a process focussed on Safety Category 1 and a few “significant” Safety Category 2 systems might have a better value for effort ratio.

Assessment Committee Meetings

- A system of three party weekly meetings was established.
- The meetings made it possible to have a very ordered and clear licensing process.
- Involving INVAP (the Design Authority) in these meetings proved to be very valuable.

Regulatory Project Management Meetings

- Throughout the project there have been frequent meetings involving the Director of ARPANSA's Regulatory Branch, ANSTO's Project Manager and INVAP's Project Director,
- These meetings were very useful for better understanding the issues on the table and assigning the resources required to address them.

Lessons Learned

- Nothing helps the licensing process more than well organised and clear submissions and approval process.
- Frequent, periodic meetings, even when there were no issues on the table, proved to be extremely valuable.
- A single working level point of contact facilitated the licensing process and minimised potential misunderstandings.

Lessons Learned (cont.)

- Coordination between different regulatory bodies (eg nuclear safety and security) is essential to ensure clarity as to whom approves what.
- Top management involvement in the licensing process is mandatory.

Operation Licence Application

- An Application for a Facility Licence, Operating Authorisation was submitted to ARPANSA in September 2004
- Operating Licence required before fuel can be loaded into the reactor
- Principal documents are the SAR, which reflects the “as-built” design, and the OLCs.

Operation Licence Application (cont.)

- The Application has been subject to review by an IAEA Peer Review Team concentrating of operational issues
- The ARPANSA Regulatory Branch review is currently nearing completion
- Public submissions have been received and Public Forum schedule for early December 2005