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
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)
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