

EDUCATION, SCIENCE AND TRAINING

**SENATE LEGISLATION COMMITTEE - QUESTIONS ON NOTICE
2004-2005 BUDGET ESTIMATES HEARING**

DEST Question No. E178_05

Senator Carr provided in writing

Question:

Have there been any significant alterations to the specifications (for the replacement reactor) that received approval from ARPANSA? If so, what changes have been made? When were these made, and for what reason?

Answer:

Replacement Research Reactor

ANSTO has provided the following response:

ANSTO sought approval from ARPANSA to construct the Replacement Research Reactor. The primary supporting document for this application was the Preliminary Safety Analysis Report (PSAR). The PSAR described the basic design of all features of the reactor pertinent to its safety. There were attachments to the PSAR which described particular features and performances in detail.

Since receiving approval to construct, nine changes to the basic design as described in the PSAR that are relevant to safety have been submitted to ARPANSA for approval in accordance with ARPANS Regulation 51. These changes will be addressed in the Final Safety Analysis Report (FSAR), which will form part of ANSTO's application for a licence to operate the facility.

These have been:

- Safety Access System (SAS) doors.

In the original design, the normal access SAS doors were interlocked in order to prevent both sets being open at any one time. The emergency SAS doors were not so interlocked, in order to ensure that fast exit would be possible in emergency situations.

The modification to the design was to provide circuitry for the emergency SAS doors which would permit them to be interlocked if at some time in the future this was considered to be desirable.

Approval was granted on 21-3-04

- SAS Door Pressure Equalisation

The original design of the SAS doors did not include any form of pressure equalisation. Subsequent analysis has indicated that some form of pressure equalisation may be required to enable operators to

open the SAS doors in the event of the limiting pressure differential existing across the Reactor Containment pressure boundary. Approval was granted on 7-4-04.

- Reactor Building Ventilation System

The reactor building smoke exhaust sub-system was deleted, as the Building Code of Australia does not require it due to the nature of the building and the short egress time for personnel. All the ventilation systems are compliant with AS 1668.1-1998 "Fire and smoke control in multi-compartment buildings".

Approval was granted on 9-7-03.

- Primary Cooling System (PCS) Flap Valves

The Detailed Engineering design of the PCS flap valves was changed to provide significantly improved protection against impact damage, as well as improving the protection against loose or foreign objects entering the PCS piping.

Reactor and Service Pool Cooling System Flap Valves

The Detailed Engineering design of the RSPCS flap valves was changed to be similar to the PCS flap valves, for the same reasons. Approval for both these changes was granted on 11-9-03.

- Reactor Control Plates

The neutron absorbing composition of the reactor control plates was changed from silver-indium-cadmium to hafnium. This change was made to increase the neutron absorption capability of the plates and to extend their operating lifetime.

Approval was granted on 6-11-03.

- Containment Boundary Windows

The design of the Reactor Containment boundary windows has been revised as a result of reviews by ANSTO's security consultants. This has principally resulted in the use of a specified metal-framed security glass.

Approval was granted on 1-8-03.

- Emergency Control Centre Ventilation

Charcoal absorption filters were added to the intakes of the ECC Ventilation and Pressurisation System, consistent with a recommendation identified by ARPANSA in their Regulatory Branch Assessment Report.

Approval was granted on 17-10-03.

- Aircraft Warning Beacon

The aircraft warning beacon indicated as being fitted to the top of the reactor building was deleted for security reasons. Advice received from the Civil Aviation Safety Authority (CASA) is that an aircraft warning beacon light is not required for the Reactor Building.

Approval was granted on 8-7-03.

- Pneumatic Target Cooling Low Flow Trip

The PSAR incorrectly showed a reactor trip for the loss of pneumatic target cooling flow. This was deleted.

Approval was granted on 29-3-04.