



MEDIA RELEASE

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OPAL reactor shutdown resolution progressing

Implementing a solution to the problem of dislodged plates in fuel assemblies of the OPAL research reactor, estimated last month to take eight weeks, will take longer to complete.

Analysis and testing of the fuel assembly fault has been undertaken by the fuel manufacturer in Argentina and is nearing finalisation. Once completed, these tests will enable a clear path forward to be established. Returning to power will then require approval by the independent safety regulator ARPANSA¹.

Detailed examination and removal of the fuel assemblies, including taking high resolution video footage of the fuel elements at the bottom of the 13 metre deep reactor pool, has been painstaking and has required progressive approval and consultation with ARPANSA.

Dr Ron Cameron, ANSTO's Chief of Operations, explained "The processes to remove the fuel and establish the type of tests that need to be done has been thorough but also time consuming, with several steps requiring clearance by ARPANSA before proceeding.

The responsibility for fixing the problem is with the reactor designer under the reactor warranty.

"At this stage, ANSTO² cannot give a firm time as to when the reactor will be back to full power and producing neutrons for research." explained Dr Cameron.

"It is a frustrating time for everyone, particularly our scientists who are keen to start using their state-of-the-art neutron beam instruments which are ready and waiting," he said.

"We are making good progress, and are confident that we will soon have a clear solution to put to the regulator, ARPANSA.

"Because safety is paramount, resolving the problem takes time since activities must be subjected to thorough assessment and often independent regulatory approval.

"It is important to reassure the public, however, that there are no safety or radiation issues, and all ANSTO customers are being kept up to date. Supplies of the major reactor-produced nuclear medicines will also continue to be provided through import and distributed by ANSTO, so patient treatments will be maintained," concluded Dr Cameron.

During a routine fuel change last month, ANSTO discovered that there had been partial movement of plates within three fuel assemblies. A further two assemblies have since been found to also have minor plate movement. The cause is believed to be a manufacturing issue; however all possibilities are still being assessed.

The reactor and its 16-fuel assembly core had functioned very well since full power was reached last November. Each assembly has 21 fuel plates which are 'crimped' into an aluminum frame.

The shutdown has enabled the process to resolve the internal leak, which was causing minor heavy water dilution, to commence this week. This problem was identified earlier this year, and whilst not affecting the reactor's steady performance to date would have progressively affected its efficiency over an extended period of time, if left unremedied.

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¹ Australian Radiation Protection and Nuclear Safety Agency

² Australian Nuclear Science and Technology Organisation