

**Senate Standing Committee on Economics**  
**ANSWERS TO QUESTIONS ON NOTICE**  
Innovation, Industry, Science and Research Portfolio  
Supplementary Budget Estimates Hearing 2010-11  
20 October 2010

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**AGENCY/DEPARTMENT:** AUSTRALIAN NUCLEAR SCIENCE AND TECHNOLOGY ORGANISATION

**TOPIC:** OPAL Reactor

**REFERENCE:** Written Question – Senator Heffernan

**QUESTION No.:** SI-33

Answer BI-7 (Hansard, 31 May 2010, E16) refers to the cracking of the weld. Is this cracking common in Nuclear Reactors or is this specific to the INVAP reactor?

**ANSWER**

The defects in the seal welds are due to a phenomenon called Delayed Hydride Cracking (DHC). DHC is a known, but rare phenomenon in Zircaloy materials of which the OPAL reflector vessel is manufactured. There are many structures, systems and components in nuclear reactors that use Zircaloy. The DHC in OPAL was identified and mitigated. Over the last 11 months, heavy water purity has essentially remained constant. OPAL is functioning efficiently. For the latest information on its status, please visit ANSTO's website where up to date information is publically available <http://www.ansto.gov.au/>.