

AUSTRALIAN MOLYBDENUM-99 UTILISATION **WORKING PARTY**

The following is a brief overview of an Australian initiative established to combat the possible effects within Australia of the current global shortage of molybdenum-99.

The current critical global shortage of the molybdenum was precipitated by the Canadian Chalk River reactor shutdown in May due to an internal heavy water leak. Chalk River supplied about 40 per cent of the world's molybdenum-99, and it was recently announced the reactor will not restart until Q1 2010 pending successful repairs. The global shortage will be made more intense when the other major reactor at Petten in Holland closes for a long term maintenance from mid-February 2010 for a duration of 22-26 weeks. The Dutch reactor supplies about 30 per cent of the world's medical isotopes.

This unprecedented shortage of molybdenum-99 is placing pressure on the few remaining producers to cater for isotope supply needs equitably. ANSTO is participating in the NEA HLG-MR* which has been formed to look at the options to address the global molybdenum-99 shortage.

ANSTO's molybdenum-99 production capacity is governed by the capacity of a new low enriched uranium molybdenum-99 manufacturing plant that was primarily designed for Australia's domestic needs. Whilst that plant is now licensed for regular operation, it is not yet operating at full capacity. Until it is, ANSTO will continue importing Molybdenum-99 in bulk from South Africa and processing it into generators at its Lucas Heights plant for use by medical practitioners. Australian production is also vulnerable during the OPAL reactor's monthly fuel change shutdowns.

Despite a relatively favourable position in the face of the current crisis, a working party has been formed to look at ways to improve domestic molybdenum-99 supply efficiencies and how Australia can best assist in helping to alleviate the global shortage. The working party consists of members from ANSTO, the nuclear medicine societies ANZSNM and ANZAPNM, and the commercial radiopharmacies Lantheus Medical Imaging and Global Medical Solutions. Their goals are to work together to ensure a secure reliable supply is available for Australian patients and to look for ways to optimise the utilisation of molybdenum-99 in the Australian market place through minimising product decay and waste.

As ANSTO is a party to the NEA HLG-MR*, these efforts will assist in maximising ANSTO's ability to assist in alleviating the global supply shortage.

Regular meetings of the working party are planned to consider proposals, provide ongoing reviews and updates of the situation and finalise improvement initiatives.

* Nuclear Energy Agency (NEA) High Level Group on the Security of Supply of Medical Radioisotopes (HLG-MR).