



Media Release

21 October 2009

CLAIMS OF RADIOACTIVE SPILL AT OPAL BY GREENS NOT ACCURATE

A press release has been issued by the Australian Greens alleging a serious incident at the OPAL Reactor. The release and the subsequent media reports contain serious inaccuracies. ANSTO wishes to address the inaccuracies and provide background on the incident that was raised by Senator Ludlam at the Senate Estimates hearing this morning, 21 October 2009.

No incident of the type reported took place at the OPAL reactor. An incident did take place on 28 August 2008 at ANSTO's radiopharmaceutical production facility. This was not a spill and no staff were exposed to significant radiation doses. The incident took place in a shielded manufacturing enclosure.

As a result of ongoing concerns and associated reports to the regulator about this incident ANSTO has, despite the negligible impact, used the incident to strengthen incident reporting procedures and ensure that staff, management and staff union representatives are briefed in this regard. Staff are involved in continuous improvement activities arising from incident reporting and also themselves put forward improvement proposals for safety and the manufacturing process.

ANSTO acknowledges that conservative decision making was not used at the start of this incident. Procedures have improved since as acknowledged in the Greens' press release.

The safety regulator, ARPANSA, are independently reviewing all aspects of the incident and ANSTO is co-operating fully with this investigation.

The quantity of medical isotope in the vial was 1/10 of a teaspoon and when the vial was dislodged the worker initially attempted to retrieve it and notified his supervisor within 30 minutes of the initial incident. The vial was finally retrieved after three hours. Molybdenum-99 production did not continue following the incident.

Incident reporting is a standard practice in the radiopharmaceutical manufacturing environment. Senator Ludlam appears to have confused the reporting of incidents with an assumption of these incidents being severe or hazardous to workers. This is not the case.

ANSTO remains committed to continuous improvement and high standards of safety for our staff, contractors, partners and visitors.

Because of the importance of nuclear safety and a responsible approach to reporting these matters ANSTO provides below a summary of the matters raised.

The incident raised by Senator Ludlam did not take place in the OPAL reactor building and was not part of reactor operations and in no way had any impact on reactor safety or the safety of staff at the reactor. The incident took place in the radiopharmaceutical production facility which is in a separate building and operates under separate licences from the regulatory authorities. The Molybdenum 99 involved in the incident was not produced in the OPAL reactor but was imported

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by ANSTO in order to ensure supply of this important radioisotope for medical diagnosis in Australia.

The vial was a 3mL vial with 0.5mL radioisotope solution. The volume of liquid in a domestic teaspoon is 5mL therefore the total volume in the vial is 1/10 of a teaspoon. There was no spill. The vial was dropped in an inaccessible space in a shielded manufacturing enclosure. These enclosures are routinely used to limit radiation exposures to workers.

The incident was reported and there have been four independent internal investigations of this incident. As indicated in the Senate hearings these reports are used to improve practices, strengthen safety culture and ensure worker safety and continuous improvement of safety standards. Independent of these reports all workers wear devices that measure the amount of radiation in their work environment. The results measured by these radiation monitoring devices are recorded on a statutory database which is maintained for all radiation workers and these results are reviewed internally and are provided the nuclear regulator, ARPANSA, as part of quarterly submissions. As reported in ANSTO's annual report the average effective dose to ANSTO radiation workers is 0.6 millisieverts. This has dropped from 0.8 millisieverts in 2003/4. ARPANSA reports that natural background radiation experienced by Australians is 1.5 millisieverts per year excluding medical, occupational and airline travel exposures. For example the exposure from an abdominal CAT scan to a patient is 4 millisieverts per image.

Evaluation of the radiation records for the time the incident took place for the workers who were in the immediate environment show no elevation of the normal dose that was associated with their day to day activities over the broader period before and after the incident. Nevertheless ANSTO has evaluated the incident to determine by calculation what the maximum worst case exposure could have been to the most exposed worker. These extremely conservative calculations indicate that the maximum dose would have been below the annual worker exposure limit, and ANSTO's self-imposed lower dose limit. The measured dose is a factor of 600 times less than this worst case calculated theoretical maximum dose. It is important to note that there were many radiation measurement devices in use by staff in proximity to the incident and that the readings from these devices are internally coherent and consistent.

On this basis ANSTO management at the time and in the subsequent investigations was satisfied that this incident had negligible radiological consequences. The major focus of activity has been on improving the manufacturing process to avoid a recurrence. There has been a focus on the improvement of incident reporting and the timeliness with which management takes action following such incidents. In addition there have been further interventions in worker training and improved work practices to minimise the recurrence of these events.

ANSTO management and staff have been briefed on this radiological incident and there is an ongoing process of involving staff in improvements to the facilities and ensuring that staff and staff union representatives are fully engaged in this process. This process has been ongoing and is consistent with ANSTO's focus on continuous improvement.

Incident reporting is a standard practice in the radiopharmaceutical manufacturing environment. Senator Ludlam appears to have confused the reporting of incidents with an assumption of these incidents being severe or hazardous to workers. This is not the case. ANSTO should not be castigated for operating standard manufacturing processes in which incident reporting is a standard process of continuous improvement. It is therefore not correct to suggest that workers have over the past months been exposed to abnormal levels of radiation and neither the ANSTO self-imposed lower limit nor the high regulatory limit for radiation workers has been breached through the entire period. More than this the normal levels of exposure are a mere fraction of these overall limits and the trend is a reduction. ANSTO takes great pride in its 40 year tradition of manufacturing radiopharmaceuticals for the benefit of all Australians and will not risk the health and safety of workers in order to achieve this important objective.

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ANSTO is The Australian Nuclear Science and Technology Organisation