



**Australian Government**  
**Radiation Health and Safety Advisory Council**

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Dear Dr Larsson

**Re: Establishing a Reference Level for Emergency Exposure Situations**

In November 2015, in your capacity as CEO of the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), you tasked the Radiation Health and Safety Advisory Council (RHSAC) with advising you on the appropriate level at which to set the national 'reference level' for emergency exposure situations.

This request was prompted by the requirement for Australia to establish a 'reference level' of exposure for emergency situations, as per the International Atomic Energy Agency's (IAEA's) General Safety Requirements No. GSR Part 7, *Preparedness and Response for a Nuclear or Radiological Emergency*, published in December 2015.

Reference levels represent the level of dose or risk above which it is judged to be inappropriate to plan to allow exposures to occur, and below which optimisation of protection should be implemented. GSR Part 7 requires that national authorities set reference levels in the range of 20 mSv to 100 mSv effective dose (acute or per year), including dose contributions via all exposure pathways.

The RHSAC has deliberated over factors to be considered when selecting a reference level. Factors that have been discussed in detail, both in and out of session, include:

- international recommendations of the IAEA and ICRP
- evidence of harm
- radiological hazards and potential consequences in Australia
- established emergency response criteria
- economic impact
- societal impact
- cross jurisdictional coordination
- acceptability to the public and stakeholders.

After extensive consideration, the RHSAC has agreed to recommend to you a national reference level for emergency exposures of **50 mSv**.

The recommended reference level is consistent with the generic intervention level for evacuation in current Australian guidance provided in the ARPANSA *Recommendations Intervention in Emergency Situations Involving Radiation Exposure* Radiation Protection Series Publication No. 7 (2004) (RPS7). The RHSAC agrees that there is not sufficient justification to raise or lower the intervention levels provided in RPS7 and recommends that these levels remain in use for Australia in the adoption of GSR Part 7.

The RHSAC recommends that early consideration should be given to sheltering indoors as a practicable and effective means of reducing exposures in the short term. In the unlikely case where evacuation is deemed to be necessary, plans and advice must be in place to enable people to return to their homes promptly once the emergency has passed.

Additionally, the RHSAC recommends that ARPANSA's advice and processes contained in the soon to be published 'Guide for Emergency Exposure Situations' are communicated and integrated into jurisdictions' emergency management systems.

Yours sincerely

<signed>

Dr Roger Allison  
Chair