



Australian Government
Australian Radiation Protection
and Nuclear Safety Agency



11 August 2017

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Committee Secretary
Joint Standing Committee on the National Capital and External Territories
PO Box 6021
Parliament House
Canberra ACT 2600

Re: Joint Standing Committee on the National Capital and External Territories' Inquiry into Australia's Antarctic Territory

Dear Mr Morton

Thank you for the opportunity to make a submission to the Joint Standing Committee on the National Capital and External Territories' *Inquiry into Australia's Antarctic Territory*. The purpose of this submission is to highlight to the Committee the activities the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) carries out in Australia's Antarctic Territory, specifically to detect radionuclides emanating from clandestine nuclear weapons testing, and to monitor solar UV radiation.

ARPANSA has two main areas of interest with Australia's Antarctic Territory. The first concerns the global monitoring of nuclear tests. As a signatory to the Comprehensive Nuclear-Test-Ban Treaty (CTBT), Australia is required under Article IV to implement a verification regime for the global monitoring of nuclear tests. This is achieved through the use of both seismological and radiological sampling equipment.

ARPANSA, on behalf of Australia, operates seven radionuclide stations which, through air sampling, detect the abundance of radioactive particles and noble gases in the atmosphere. These monitoring stations play a crucial role in the International Monitoring System as administered by the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO). Two of these stations are located in Antarctic Territory or territory overseen by the Australian Antarctic Division (AAD), namely Mawson and Macquarie Island.

It is in this context that ARPANSA was grateful for the additional funding that was committed in 2016 for the continuation and upgrade of the infrastructure on Macquarie Island, as this will ensure that Australia can continue to meet its international responsibilities under the CTBT.

The second area of interest is ultraviolet radiation (UVR) monitoring. UVR monitoring, including broadband and spectral measurements, is undertaken at four sites across Antarctica and Macquarie Island by ARPANSA. The AAD provides appropriate siting for measurement equipment and basic maintenance. Scheduled maintenance is provided by ARPANSA staff at two-three yearly intervals. These measurements

are part of a long-standing project to characterise the UVR environment in Antarctica. This data has been used to assess the impacts of UVR exposure on expeditioners' health, and is presented in real-time displays on the ARPANSA website. These measurements can also verify the extent of stratospheric ozone depletion and assist in monitoring its potential recovery.

ARPANSA values continued close collaboration with the AAD and other Australian Government agencies to ensure that important scientific and research projects are maintained to serve Australian and global interests, and that Australia's international responsibilities are met.

Yours sincerely

Dr Carl-Magnus Larsson
CEO of ARPANSA