# Questions on Notice

# Senate Economics Legislation Committee – Inquiry into the National Radioactive Waste Management Amendment (Site Specification, Community Fund and Other Measures) Bill 2020

# Tuesday, 30 June 2020 hearing

**1. Is there a requirement for a Low Level NRWMF to be continuously manned?**

There are no explicit requirements in the ARPANSA or ASNO legislation or guidance that prescribe that a low-level radioactive waste disposal facility requires continuous presence of staff for either security or safety purposes. Prescriptive protective security measures are not imposed on licence holders. Rather, performance-based protective security measures are imposed as this provides the operating organisation with the greatest flexibility to achieve the required outcome.

An application for a NRWMF will need to demonstrate the safety and security of the facility. It is expected that this will be documented in a safety case and supporting safety and security assessments which will be assessed against national and international standards and best-practice. As such, the staffing arrangements associated with the facility will be one of the areas that will need to be addressed by these documents.

**2. What measures (secure area, security cameras, motion sensors, remote sensing of certain criteria) are necessary to permit non continuous manning?**

As stated in Question 1, there is no specific requirement for a proponent or a licence holder to apply the measure of continuous 'manning' to a radioactive source or material in use and storage and of associated activities on-site. The appropriate performance-based protective security measures for the NRWMF will be based on such things as the inventory, assessed threat, assessed risks to the public, workers or the environment, if radioactive material is acquired (or other) for malicious purposes.

Importantly, in order for a facility to meet the protective security system and infrastructure design requirements, the proponent must be able to demonstrate (as part of the safety case and supporting safety and security assessments), the capacity and capability for a response [force] to interrupt the unauthorised removal of or potential sabotage of radioactive material, that is to say, the measures applied must meet the principle of timely detection. This is directly related to the continuous manning measure.

The operational requirements described in an application for a licence to operate, which includes the safety case and supporting safety and security assessments should determine the requirement around the continuous presence of on-site security personnel.

**3. Does the answer to question one change if the NRWMF is used to store intermediate level waste (ILW)? Please elaborate.**

In line with the graded approach principle, the greater the hazard of the radioactive waste, the greater the required efforts involved in the protection of people and the environment. The response to question 1 outlined the application process required for a low level NRWMF. Due to the higher radioactivity, the safety and security arrangements required for storage of ILW will differ from those required for LLW disposal. This process, however, will not be fundamentally different. Although, as indicated above greater efforts will be required to demonstrate the safety and security of the facility and will also be assessed against national and international standards and best practice.

**4. Please provide details of the necessary pre-conditioning required for the ILW waste at Koolymilka, and its current status in relation to the necessary pre-conditioning.**

The Koolymilka ILW will need to meet the Waste Acceptance Criteria for storage at the NRWMF. This will require characterisation to determine the inventory and any requirements necessary for pre-conditioning. The details of pre-conditioning required will not be known until the radiological, physical and chemical inventory is better understood.

Any requirements for pre-conditioning the ILW at Koolymilka for storage at the NRWMF will be dependent upon the selected site of the NRWMF, the design of the storage facility, the associated Waste Acceptance Criteria, and the anticipated duration of the storage. However, it is expected that the waste will be safely and securely contained for the duration of the storage. As part of its assessment, ARPANSA will consider the matter in alignment with international standards and best practice.

Pre-conditioning can typically require separation of materials into solids and liquids, separation by radionuclides and re-packaging for safe transport and storage. All of these activities would have to be planned in advance by the operating organisation and assessed by the regulatory body for approval. The process to undertake pre-conditioning of the ILW waste at Koolymilka has not yet commenced since no ILW disposal facility is available or appropriate waste acceptance criteria.

**5. Please provide details of the necessary pre-conditioning required for the Naturally Occurring Radioactive Material waste at Koolymilka or Hangar 5, and its current status in relation to the necessary pre-conditioning for removal.**

The pre-conditioning of the NORM is more relevant to the CSIRO waste at Hangar 5 than the Defence waste at the Koolymilka facility, and as such the response is similar to Question 4.

Any requirements for pre-conditioning the NORM at the Hangar 5 facility destined for the NRWMF will be dependent upon the selected site of the NRWMF, the design of the facility and associated Waste Acceptance Criteria. As part of its assessment, ARPANSA will consider the matter in alignment with international standards and best practice.