



Regulatory Assessment Report

Regulation 51 Change

Date received	Monday, 23 April 2018
Licence holder	CSIRO Business Infrastructure Services
Licence number:	S0013
File No.	R18/04874
Documents assessed	Regulation 51 Application (R18/04868)
Contact details of person making the request:	Neil.webster@csiro.au
Assessor(s)	Loch Castle
Independent reviewer ¹	Not Applicable

1. Summary of the proposed change

CSIRO proposes to establish on-site radon monitoring and an off-site radon monitoring station at Hangar 5, Woomera. Further, CSIRO wishes to conduct characterisation work with the use of robots in order to develop a dose-map of the waste inventory and collect lidar spatial analysis of the inventory.

2. Background on the proposed change

In 2016 ARPANSA found CSIRO in breach of the Act for not following licence condition 1, an accurate and up to date inventory. These activities will support an improved understanding of the radiological hazards associated with the inventory, which will support future characterisation work on their inventory.

3. Scope of the assessment

The submitted Regulatory 51 application was used for this assessment and additional information requested by ARPANSA and provided by CSIRO regarding lidar laser specifications.

4. Arrangements for maintaining safety and security

The following criteria have been considered:

¹ Independent review of the assessment is required where ARPANSA is the licence holder seeking the relevant change. Arrangements for independent review should be made in consultation with the Branch Head or Section Manager.

Safety Analysis Report

Not Applicable – a detailed SAR is not considered appropriate for this assessment.

Effective Control

Effective control is 3-layered. Defence will sustain overall physical/security control of the site as per existing arrangements. The CH2M contractors will maintain overall control of the robotics actions and the installation of monitors. And finally, CSIRO BIS will manage the contractors. The assessor is satisfied that CH2M (who have many years of experience at this site and with this waste) will maintain effective control of the tasks while CSIRO BIS maintains overall effective control of the inventory.

Safety Management Plan

The change does temporarily change the safety management arrangements for which are used at the S0013 site. Ultimately, CSIRO retain the prime responsibility for safety. However, the CH2M contractor will use their own safety plans and arrangements to perform the required tasks. The risk assessment performed by CSIRO has highlighted that environmental exposure considerations (heat, wind, hydration and fatigue) are a far higher hazard that must also be managed. The assessor is satisfied that safety has been adequately planned.

Radiation Protection Plan

Safety briefings will be conducted prior to access to the site, personal dosimetry and PPE will be worn throughout the duration of all activities. The likely exposures are very low as most of the work is either conducted within a low radiation environment or conducted remotely through the use of robots where personnel are not expected to be exposed to radiation. The lidar does not require any special PPE during use as it is a Class 1 – 905nm laser. The assessor is satisfied that the radiation protection plan is adequate for this proposed activity.

Radioactive Waste Management Plan

The activity does not introduce changes to the Waste Management Plan. However, the data collected through this activity may inform changes to the way in which this waste is managed. Decontamination of robots is planned with any measurable contamination planned to be recovered for laboratory analysis. It is not expected that additional waste will be generated by this activity. The assessor is satisfied that appropriate arrangements are in place for this activity.

Security Plan

There are no proposed changes to security as a result of this activity, the assessor is satisfied with the existing arrangements.

Emergency Plan

The proposed activity has considered that there is a very small chance that a drum may topple or collapse during this activity. Existing arrangements which include the existing spill kits will manage this situation. Robots are tethered so that they may be extracted without exposing personnel to radiation. The assessor is satisfied with the emergency arrangements for this activity.

5. Additional matters taken into account

The following criteria have been considered:

Whether the application includes all the information asked for

Initially, information was not available regarding the type of laser to be used during the spatial survey of the waste inventory. The applicant was able to provide additional information subsequently. The assessor is satisfied that the application and the additional information requested regarding the laser type and classification has covered all of the relevant matters to be taken into consideration.

Whether the information establishes that the proposed change will not result in undue risk to the health and safety of people, and to the environment

The assessor is satisfied that this activity will not generate any undue risks to safety. The tasks are simple, represent low radiation exposure risks, demonstrate clear lines of control between the contractor and CSIRO, and appropriate emergency arrangements are in place.

Whether the applicant has shown that the change has a net benefit

The assessor is satisfied that the net benefit of generating dose maps, nuclide identification and spatial mapping to inform future characterisation work far exceeds the very low exposure risk.

Whether additional doses are likely

No additional doses are likely. The assessor is satisfied that the ALARA principle is being applied.

Whether the change will affect the applicant's capacity to comply

The assessor is satisfied that nothing in this application would adversely affect CSIRO's capacity to comply.

Whether the application has been signed by an office or holder or authorised person or other appropriate person

The Chief Radiation Safety Officer of CSIRO is authorised and has signed this application.

Whether the applicant has shown the proposed change is consistent with international best practice

The assessor is satisfied that the application and the proposed activities will assist the CSIRO complying with international best practice and ARPANSA expectations for the management of their inventory.

6. Summary of recommendations and conclusions

I recommend:

That the application be approved.