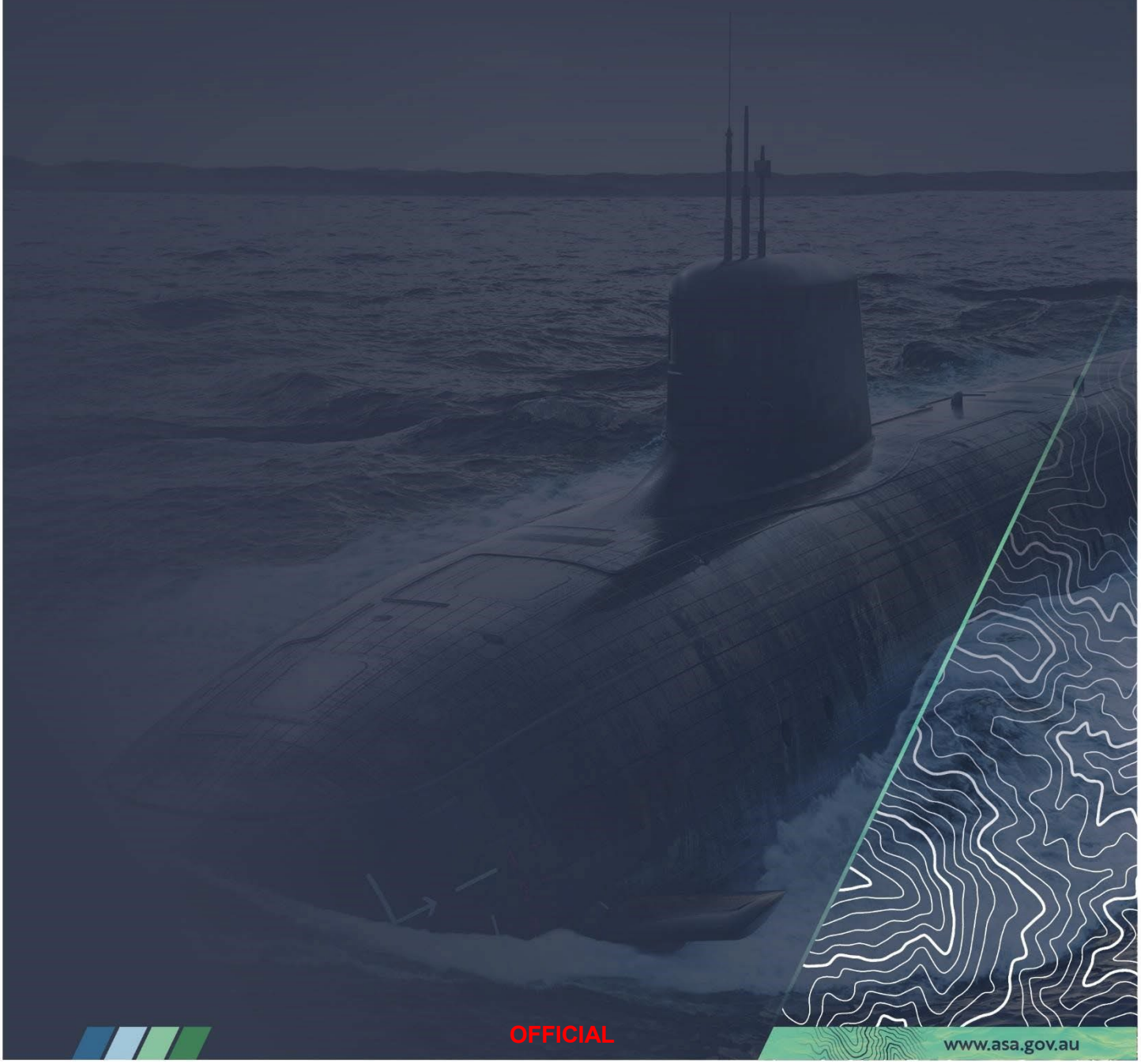
Australian Government
Australian Submarine Agency

ASA

Effective Control Arrangements

Controlled Industrial Facility (HMAS *Stirling*)
ARPANSA Construction Licence
Technical Overview



Contents

List of Acronyms

ALSA	Australian Licenced Support Activity
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency
ASA	Australian Submarine Agency
AUKUS	The trilateral security partnership between Australia, United Kingdom and the United States of America
CIF	Controlled Industrial Facility
SEG	Department of Defence's Security and Estate Group
HMAS	His Majesty's Australian Ship
IAEA	International Atomic Energy Agency
SRF – West	Submarine Rotational Force - West

Effective Control Arrangements

Section 1 - Introduction

1.1 This Technical Overview provides general information on effective controls for construction of the Controlled Industrial Facility (CIF) at HMAS *Stirling*.

1.2 This Technical Overview addresses ARPANSA requirements detailed in Section F of the *Regulatory Services ARPANSA – Form -1797 v11.1* dated November 2022.

1.3 This Technical Overview contains information submitted to ARPANSA developed using the *Regulatory Guide - Plans and arrangements for managing safety (ARPANSA-GDE-1735)* and the ASA's internal guidance set out in *Best Practice Guidance for Managing Nuclear Safety and Radiation Protection*.

1.4 This Technical Overview details the planned effective control arrangements for radiological protection at the CIF at HMAS *Stirling* in support of Submarine Rotational Force - West (SRF – West). This includes the effective control arrangements between the Australian Submarine Agency (ASA), the Australian Department of Defence (Defence), and AUKUS partners' nuclear-powered submarine operators and maintenance workers that may be present at HMAS *Stirling*.

1.5 This Technical Overview is not a standalone document and is to be read in conjunction with the other ASA technical overview documents.

Section 2 - ASA Responsibility

2.1 In accordance with the *Australian Radiation Protection and Nuclear Safety Act 1998*, the Commonwealth is making an application for a Prescribed Radiation Facility licence in the name of the Department of Defence. Director General (DG) ASA is authorised (in accordance with Division 3, Part 45 of the *Australian Radiation Protection and Nuclear Safety Regulations 2018*) by the Secretary of Defence as the Licence Applicant.

2.2 The responsibility for maintaining effective control and ensuring compliance with regulatory requirements for the construction phase of the CIF will be delegated by the DG ASA to a suitable nominee. The nominee will be assisted by a Radiation Control Officer and the Facility Officer for the CIF.

Section 3 – Statutory and regulatory compliance

3.1 Defence and the ASA will work closely together and continue to monitor changes to obligations, to ensure that technical and legal personnel from both organisations are continually engaged with relevant and applicable statutory and regulatory requirements.

Communication of compliance responsibilities

3.2 A communication strategy is being developed by the ASA that will include the effective communication of all relevant and applicable statutory and regulatory aspects.

3.3 The ASA is establishing a process by which important statutory and regulatory compliance aspects will be mapped to accountable positions held by suitably qualified and experienced personnel, who will have clear roles and accountabilities communicated to them.

Standard operating procedures

3.4 All identified requirements will be incorporated into standard operating procedures associated with the CIF and the functions of the CIF will be monitored through audits and inspections to ensure compliance.

Section 4 – Management commitment

4.1 Effective control plans and arrangements pertaining to safety will be coordinated across ASA, Navy and SEG's safety management systems. These systems include regular review and assessment of efficacy for continuous improvement and resourcing demands to be funded.

4.2 During all operational periods where there are radiological hazards present, the ASA and Defence will maintain full control over the CIF.

4.3 The ASA and Defence will work together to ensure that their respective Safety Management Systems are aligned with respect to the development, operation and decommissioning of the CIF. A nuclear mindset will also be embedded within the culture of ASA and Defence personnel associated with the CIF.

4.4 While all personnel in the ASA are provided induction training specific to a nuclear organisation, the relevant areas of Defence and Industry, and UK and US personnel that have dealings with the CIF during any period of its lifecycle will receive relevant induction training and specific training based on their particular role.

Section 5 – Accountabilities and responsibilities

5.1 In accordance with the *Australian Radiation Protection and Nuclear Safety Act* 2023, the Commonwealth is making an application for a Prescribed Radiation Facility licence in the name of the Department of Defence. DG ASA is authorised (in accordance with Division 3, Part 45 of the Australian Radiation Protection and Nuclear Safety Regulations 2018) by the Secretary of Defence as the Licence Applicant.

5.2 The responsibility for maintaining effective control and for ensuring compliance with regulatory requirements has been delegated through the hierarchy of the ASA to a suitable 'nominee'. The 'nominee' is assisted by a Radiation Control Officer and the Facility Officer for the CIF.

5.3 During the site preparation and construction phases of facility development, the CIF will be going through design development and construction and will not have the radiological sources that will be present during the operational phase.

5.4 The ASA and Defence are in the process of establishing the detail of the operational plans and arrangements for the operational phase of the CIF.

Overall management of nuclear policy plans and arrangements

5.5 Accountabilities and responsibilities (including delegations) for the management and operation of the CIF will be defined through clear job roles that fit within clear organisational structures. All job roles identified within the determined organisational structure will have clear responsibilities, including how the specific roles interact with other roles and what responsibilities can be delegated and those that cannot be. For responsibilities that can be delegated, detail will be provided on the roles to which these responsibilities are delegated.

5.6 For the operations phase, the ASA will provide regulators with the details about how accountabilities and responsibilities (including delegations) are defined and described for the overall management of the CIF.

Section 6 – Resources

6.1 The ASA and Defence processes for identifying the safety resource requirements will be coordinated and integrated for the development, construction, operation and maintenance of the CIF. For each potentially hazardous process or activity, a hazard identification and risk assessment will be performed in accordance with the following:

- Commonwealth's Work Health and Safety (*How to Manage Work Health and Safety Risks*) Code of Practice 2015
- Commonwealth Risk Management Policy.

Resource control

6.2 The ASA and Defence project management and approval processes for projects ensure there is sufficient funding available for the necessary equipment and people resources.

Systems

6.3 The ASA and Defence are required to comply with the Commonwealth Procurement Rules and the *Public Governance, Performance and Accountability Act 2013*.

Section 7 – Communication

7.1 The ASA is developing a communications strategy and communication plan that incorporate the operations of the CIF. These will be provided to the regulator prior to the operation phase of the CIF.

7.2 During the construction phase, plans and arrangements that incorporate communication aspects are anticipated to include:

a. Base Emergency Management Plan – HMAS *Stirling*

b. Base Security Management Plan – HMAS *Stirling*

c. The contracted builder's work health and safety plans

d. The contracted builder's construction security management plans.

Section 8 – Process implementation and Documentation

8.1 The ASA and Defence are establishing policies relating to all aspects of operations of the CIF. Currently the ASA is augmenting ASA policy with existing Defence radiological control, safety and environmental policies. These policies will highlight ASA and Defence commitment to nuclear safety and radiological protection, work health and safety, and the environment and sustainability. They will outline ASA and Defence actions to meet those commitments. Other policies, including those for security, quality, human resources and business, provide a comprehensive framework. These policies will be periodically reviewed.

8.2 All personnel associated with the CIF will be required to undergo induction training for safety and security aspects associated with the CIF. Workers who are to be active within the facility will be required to demonstrate appropriate competency and experience for their role. Additionally, regular job specific safety and security training will be undertaken by each worker. This training will include safety and security compliance processes.

8.3 The ASA is in the process of establishing a quality management system for its documents management. It is anticipated that the system will be ISO 9001 compliant.

Section 9 - Design and Construction

ASA Commitment

9.1 ASA, as the Licence Holder, will be accountable for managing design acceptance and change management for the construction of the CIF. This includes ensuring the verification and validation of the CIF's performance before it commences operation. A further licence for operating the CIF will be sought and issued to the ASA prior to operations commencing.

Controlled Industrial Facility Infrastructure Delivery Structure

9.2 The key stakeholders that have contributed to the development of the CIF include:

a. ASA, as the project sponsor has developed the CIF requirements and performance criteria and provides the technical authority for radiological safety functions

b. The SEG in the Department of Defence will plan, design and deliver the CIF in accordance with the ASA's requirements and performance criteria

c. The Design Services Consultant[1], with their suitably qualified and experienced team, are developing the CIF design on behalf of the SEG

d. The head contractor engaged by the SEG to construct the CIF as designed by the Design Services Consultant.

Design Development and Approval

9.3 The ASA's design development process for the CIF ensures that during design evolution, and as design changes occur, the suitability of the design aspects relevant to work health and safety, radiation protection, and technology risks are identified and appropriately managed. This process begins with the ASA's functional requirements.

9.4 The Design Services Consultant produces a design based on those functional requirements, while also ensuring that work health and safety, radiation protection, and technology risks are appropriately addressed throughout the design process. ASA will provide further input and assurance including radiation hazard analysis, and acceptance of the radiological safety functions.

Change Management

9.5 A change management process will be established to manage all changes that may be encountered across all phases of design and construction. Depending on the

[1] Managed by Department of Defence's Security and Estate Group, the Design Services Consultant (DSC) is the expert and professional company responsible for consulting stakeholders, validating design requirements, conducting site investigations, conducting environmental and heritage assessments, developing and finalising design, developing cost estimates, providing input into approval documentation, and inspecting and certifying the constructed works. Defence have engaged Kellogg Brown and Root Pty Ltd in partnership with GHD Pty Ltd as DSC for the CIF.

magnitude of any change, and the specific hazard that relate to a design change, regulatory approvals for the change may be required.

9.6 A design change management board will be established, which will be chaired by the ASA and include representation from the Security and Estate Group, the Design Services Consultant, and construction stakeholders. The ASA will uphold its governance and assurance oversight through the ASA Building Assurance Authority.

Change Governance

9.7 The ASA will ensure that its governance and assurance framework is applied to CIF design and construction changes, including:

a. Radiation protection, technical and technology risk experts

b. Program management controls

c. Project management controls

d. Other subject matter expert advice as required.

9.8 Any decisions resulting in a change to the baseline design will require assessment in accordance with the ASA Technical Approval Authority Framework and suitably qualified and experienced personnel will support the decision making process.

9.9 To complement ASA governance arrangements, the Design Services Consultant assurance frameworks will ensure all key elements of design and construction achieve the required performance specifications.

9.10 The ASA Building Assurance Authority will also provide governance and assurance oversight of procurement of plant and equipment that have implications for radiological safety, and their subsequent installation into the CIF.

Section 10 Controlled Industrial Facility Operation

Controlled Industrial Facility core functions

10.1 The CIF is one of the core support facilities for nuclear-powered submarines and delivers:

a. Radioactive waste management function: the acceptance, categorisation, treatment, packaging, and temporary storage of up to low-level radioactive waste from submarine operations

b. Radiological repair function: the management of the acceptance, clearance, calibration, repair and return of submarine components

c. Facility upkeep function: the repair, maintenance, storage and disposal of facility equipment

d. Radiological health function: laboratories for environmental monitoring and distribution, reading and recording of personal dosimetry

e. Facility operations function: storage of equipment and workforce office space.

Planned organisational structure

10.2 The Australian Licenced Support Activity workforce will be established to ensure radiological controls functions are in place for CIF operations. They will be responsible for ensuring that the functionalities of the systems and processes are capable of protecting staff, the public, and the environment from radiological hazards.

a. The Australian Licenced Support Activity will also support emergency preparedness response activities, including directors/management and administration staff

b. Radiological controls engineers

c. Radiological controls technicians

d. Health physicists

e. Waste operations (not specifically part of the radiological controls workforce but closely linked).

Controlled industrial facility operational controls

10.3 The operation of the CIF will be integrated into HMAS *Stirling* base-wide governance architecture and resources for emergency management, security, and work health and safety.