



Australian Government
Department of Defence

Defence Materiel Organisation
Amphibious Deployment and Sustainment

You are invited to submit a response to JP2048Ph3 RFI 01/06 to provide the Commonwealth with detailed information on Landing Craft systems and to enable the Commonwealth to consider potential options and solutions which may satisfy the JP 2048 Phase 3 capability requirement.

JP2048 Phase 3 seeks to commence replacement of the ADF's Landing Craft. These new Landing Craft will replace the existing capability inherent in the current generation of LCM-8, LCH Landing Craft, and the new LPA Watercraft. The Landing Craft will be a key element of the current Amphibious Deployment and Sustainment (ADAS) capability. The future ADAS System will contain Landing Craft of some description which shall operate out of a wet dock in the ADAS major ships to facilitate landing of heavy equipment and Logistics Over The Shore (LOTS) operations.

Responses must be submitted by the RFI Closing Time specified in clause 3.1 of the RFI Terms. Any questions in relation to this RFI should be directed to the Contact Officers specified in clause 2.5 of the RFI Terms.

Subject to the RFI Terms, the proposed closing time for RFI responses is:

- 12.00 noon local time on 12 July 2006.

Respondents should note that the above schedule is subject to change at any time and is not to be relied on by respondents.

Yours sincerely,

s22

LCDR BOB MOYSE

Staff Officer Amphibious Maritime requirements
Capability Development Group
Department of Defence

09 June 2006



Australian Government

Department of Defence

Capability Development
Group

Request For Information

RFI Number: JP2048Ph3 RFI 01/06



Joint Project 2048 Phase 3 Amphibious Watercraft Replacement

PART 1 – RFI TERMS

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1 GENERAL CONDITIONS**1.1 General**

- 1.1.1 JP2048 Phase 3 seeks to commence replacement of the ADF's Landing Craft. These new Landing Craft will replace the existing capability inherent in the current generation of LCM-8, LCH Landing Craft, and the new LPA Watercraft. The Landing Craft will be a key element of the current Amphibious Deployment and Sustainment (ADAS) capability. The future Amphibious Deployment And Sustainment (ADAS) System will contain Landing Craft of some description which shall operate out of a wet dock in the ADAS major ships to facilitate landing of heavy equipment and Logistics Over The Shore (LOTS) operations.
- 1.1.2 In conducting this RFI, the Commonwealth is seeking an outcome that will:
- provide the Commonwealth with more detailed information on Landing Craft systems; and
 - enable the Commonwealth to consider potential options and solutions which may satisfy the JP2048 Phase 3 capability requirement.

1.2 Interpretation of Request For Information

- 1.2.1 This RFI must not be construed, interpreted, or relied upon, whether expressly or impliedly, as an offer capable of acceptance by any person, or as creating any form of contractual, quasi-contractual, restitutionary or promissory estoppel rights, or rights based upon similar legal or equitable grounds.
- 1.2.2 The Commonwealth is not bound to pursue any future procurement as a result of this RFI.
- 1.2.3 The Commonwealth is not bound to select any respondent for any potential later tendering action, and retains the discretion to approach suppliers not responding to this RFI.
- 1.2.4 Respondents acknowledge that the Mandatory Procurement Procedures in the CPGs do not apply to this RFI process.

1.3 Registration

- 1.3.1 Potential respondents must register their intent to respond with the Contact Officer identified at clause 2.5.1a, to ensure timely notice of any amendments to either the RFI or the RFI process.

1.4 Amendment of Request For Information

- 1.4.1 The Commonwealth may, at its discretion, add to, vary, modify or amend this RFI upon giving potential respondents timely written notice of such addition, variation, modification or amendment. Respondents will have no claim against the Commonwealth or its officers, employees or advisers in connection with either the exercise of, or failure to exercise, such right.
- 1.4.2 If the Commonwealth adds to, varies, modifies or amends this RFI under clause 1.4.1 after information has been submitted, it may seek amended responses.
- 1.4.3 If this RFI has been published through the AusTender internet site at <http://www.tenders.gov.au> and the Commonwealth amends the RFI prior to the Closing Time specified in clause 3.1, then the Commonwealth will issue a formal amendment to the RFI via AusTender.
- 1.4.4 The Commonwealth accepts no responsibility if a respondent fails to become aware of any alteration, correction or notice, which would have been apparent from a visit to the AusTender internet site or from other information available from the Contact Officers specified in clause 2.5.
- 1.4.5 The RFI or any amendment published through the AusTender internet site will take precedence over any other version of the RFI or amendment if there is any inconsistency.

1.5 Termination of Request For Information Process

- 1.5.1 Without limiting its rights at law or otherwise, the Commonwealth may, at its discretion, suspend, defer or terminate this RFI process at any time. The Commonwealth must notify potential respondents to this effect.

1.6 Other Commonwealth Rights

- 1.6.1 In addition to and without limiting its other rights in the RFI at law or otherwise, the Commonwealth may, at its discretion and at any stage of the RFI process, do all or any of the following:
- a. change the structure and timing of the RFI;
 - b. conduct a subsequent procurement process and, subject to the Commonwealth's IP and non-disclosure obligations, utilise information gained in this RFI process for that purpose;
 - c. terminate further participation in the RFI process by any respondent for any reason, regardless of whether the response provided conforms with the requirements of this RFI;
 - d. permit any person to participate as a respondent in the RFI process prior to the final date for submission of information;
 - e. accept or reject any response that is nonconforming;
 - f. accept any late response;
 - g. seek clarification from, request additional information from, and/or enter into discussions with any or all of the respondents in relation to their respective responses; or
 - h. alter or defer any activity in the RFI process.
- 1.6.2 The Commonwealth may engage one or more respondents in discussions with the aim of fully understanding a respondent's response. As part of this process, respondents may be asked to clarify, improve or consolidate any aspects of their responses.
- 1.6.3 If a respondent is found to have made a false, misleading or deceptive claim or statement, the Commonwealth may exclude the information from further consideration at any time.
- 1.6.4 Any time or date in this RFI is for the convenience of the Commonwealth. The establishment of a time or date in this RFI does not create an obligation on the part of the Commonwealth to take any action or exercise any right established in the RFI or otherwise. The Commonwealth must notify affected respondents of any changes to the RFI or the RFI process in accordance with clause 1.4, but will not be obliged to provide any reasons for its actions.

1.7 Australian Government Requirements

- 1.7.1 Respondents acknowledge that as a Commonwealth agency, the Department of Defence is subject to legislative and administrative accountability and transparency requirements of the Commonwealth, including disclosures to Ministers and other Government representatives, Parliament and its Committees and the publication of information in respect of the RFI and RFI process.

2 RESPONSE PREPARATION**2.1 Respondents to Inform Themselves**

- 2.1.1 The Commonwealth makes no representations or warranties that the information in this RFI or any information communicated or provided to respondents during the RFI process is, or will be, accurate, current or complete.
- 2.1.2 Respondents are responsible for:
- a. examining this RFI, any documents referenced in or attached to this RFI and any other information made available by the Commonwealth to respondents in connection with the RFI process;
 - b. obtaining and examining all further information which is obtainable by the making of reasonable inquiries relevant to the risks, contingencies, and other circumstances having an effect on their responses; and
 - c. satisfying themselves as to the accuracy and completeness of their information, including quoted prices.
- 2.1.3 Respondents prepare and lodge a response based on the respondents' acknowledgment and agreement that:
- a. they do not rely on any representation, letter, document or arrangement, whether oral or in writing, or other conduct as adding to or amending these conditions other than as expressly stated by the Commonwealth in writing;
 - b. they have relied entirely upon their own inquiries and inspection in respect of their information submitted; and
 - c. they are aware of Part V of the *Trade Practices Act 1974*, and Division 137 of the *Criminal Code* under which giving false or misleading information is a serious offence.

2.2 Language of Responses

- 2.2.1 Any response, including all attachments and supporting documentation, must be written in English.
- 2.2.2 All measurements must be expressed in Australian legal units of measurement unless otherwise specified.

2.3 Response Preparation

- 2.3.1 Unless otherwise agreed, respondents must complete and provide the information requested in the Data Item Descriptions (DIDs) at Annexes A and B of these conditions of participation.
- 2.3.2 Supporting documentation may be provided to enhance the information contained in the response.

2.4 Responsibility for Response Costs

- 2.4.1 The respondent's participation in any stage of the RFI process, or in relation to any matter concerning the RFI, is at the respondent's sole risk, cost and expense. The Commonwealth will not be responsible for any costs or expenses incurred by any respondent in preparation or lodgement of a response or taking part in the RFI process.
- 2.4.2 In addition to clause 1.2.1, the Commonwealth is not liable to the respondent for any costs on the basis of any promissory estoppel, quantum meruit or any other contractual, quasi contractual or restitutionary grounds whatsoever as a consequence of any matter or thing relating to, or incidental to the respondent's participation in the RFI process, including without limitation, instances where:
- a. the Commonwealth varies or terminates the RFI process or any discussions with a respondent in accordance with this RFI;
 - b. the Commonwealth decides not to proceed with the RFI process in accordance with its rights in this RFI;
 - c. the Commonwealth's defence capability requirements change; or
 - d. the Commonwealth exercises any other right under the RFI or at law.

2.5 Contact Officers for Request For Information Inquiries

2.5.1 The Contact Officers for this RFI are:

a. For Requesting RFI Documentation

Mr Rodney McMahon
Amphibious Deployment and Sustainment Program
Tel +612 6265 3461
Fax +612 6265 1006
Email: Rodney.mcmahon@defence.gov.au

b. For Clarifications

LCDR Bob Moyse
Amphibious Deployment and Sustainment Program
Tel +612 6265 4726
Fax +612 6265 1006
Email: bob.moyse@defence.gov.au

- 2.5.2 Respondents may seek clarification of the meaning of the content of the RFI, or request additional information beyond that contained in the RFI or response briefings, if any, from the Contact Officers up until the Closing Time.
- 2.5.3 Respondents must direct any questions regarding this RFI to the Contact Officer identified at clause 2.5.1b in writing and may direct any complaints regarding this RFI process to this Contact Officer.
- 2.5.4 Any question submitted by respondents is provided on the basis that the Commonwealth may circulate respondents' questions and any Commonwealth answers or clarifications to all other prospective respondents without disclosing the source of the questions or revealing any commercially sensitive information.

3 RESPONSE LODGMENT

3.1 Lodgment of Responses

- 3.1.1 Responses must be lodged on or before 12.00 noon local time on 12 July 2006 (the 'Closing Time') at:

For postal deliveries:

Defence Mail Services
Department of Defence
CANBERRA ACT 2600

For personal deliveries:

Defence Mail Services
Queanbeyan Annex 6
14-22 Wycombe Street
QUEANBEYAN NSW 2620

Attn: Mailroom Manager/Responses Officer

3.2 Copies of Responses

- 3.2.1 The respondent must lodge one original hard copy of the response and any supporting documentation (such as brochures, handbooks and sample drawings), in addition to one electronically stored copy of the response and supporting documentation, with read only access, which is machine readable in pdf format. In the event of any discrepancy between any electronically stored copy and the original hard copy, the original hard copy must take precedence.

4 MATTERS CONCERNING RESPONSE

4.1 Commercial-in-Confidence Information

4.1.1 The Commonwealth requires that respondents must:

- a. treat the RFI and any information provided to respondents by or on behalf of the Commonwealth in connection with the RFI process as Commercial-in-Confidence; and
- b. not disclose or use that information except as strictly required for the purpose of developing a response in accordance with the RFI.

4.2 Unlawful Inducements

4.2.1 Respondents and their officers, employees, agents and advisers must, at all times during the RFI process, comply with any applicable laws or Commonwealth policies regarding the offering of unlawful inducements in connection with the preparation of their response.

4.3 Unconditional Information Disclosures

4.3.1 Every respondent, in lodging its respective response with the Commonwealth, acknowledges that any information provided is supplied on an unconditional basis and, to the extent reasonably possible, has been obtained with any necessary government or other approvals, consents or authorisations enabling it to do this.

4.4 Use of Response Information

4.4.1 All documents submitted in response to this RFI become the property of the Commonwealth. Respondents submit documents in response to this RFI on the basis that the Commonwealth may use, retain and copy the information contained in those documents for the purposes of:

- a. evaluation, selection and preparation of any RFT, other selection process, or contract with respect to this RFI;
- b. verifying the currency, consistency and adequacy of information provided under any other RFT process conducted by the Commonwealth; and
- c. the development of any other RFT process conducted by the Commonwealth.

4.4.2 In addition to clause 4.4.1, the Commonwealth may disclose submitted documents or any part of the submitted documents to a third party for the purposes of assisting the Commonwealth in the conduct of a RFT or other selection process, including tender evaluation, negotiation and preparation of any contract. The Commonwealth may, at its discretion, obtain appropriate confidentiality undertakings from the third party prior to disclosure.

4.4.3 Nothing in clause 4.4 changes or affects the ownership of IP in the information contained in the submitted documents.

DATA ITEM DESCRIPTION (DID) No. 01**OPERABILITY and TECHNICAL REQUIREMENTS****INTRODUCTION**

JP 2048 will replace the ADF's existing amphibious equipment. The core of the project is the pair of LHD Ships, HMAS CANBERRA and ADELAIDE, to be acquired under Phases 4A and 4B.

Phase 3 will provide a range of craft to support the LHDs, replacing the capabilities inherent in the RAN's current LCH and LCVP, and the Australian Army's LCM-8, LPA Watercraft, LARC-V and NLE.

PRIMARY ROLE

1. The craft to be acquired under this Phase will comprise of some or all of the following capabilities. Respondents may provide information on a design or mix of designs that meet any or all of the following roles:
 - a. craft organic to the LHD that can be transported in and operate from its well dock, which are capable of embarking, transporting, landing and re-embarking the military vehicles listed at Attachment A to this DID. The docks are designed for four medium craft but can, as an alternative, accommodate one or two large craft, depending on dimensions;
 - b. craft organic to the LHD that can be transported in the LHD and operate from its well dock, which are capable of embarking, transporting, landing and re-embarking personnel and, optionally, light vehicles;
 - c. craft that are capable of embarking, transporting, landing and re-embarking the M1A1 MBT and M-88 ARV (details at Attachment B); and
 - d. other craft to supplement the craft organic to the LHD and also capable of operations independently of the LHD.

General Requirements

2. Craft shall be constructed for a life of type of at least 15 years.
3. Craft shall be designed, constructed and supported in accordance with Classification Society Rules or an equivalent standard.
4. Craft machinery, equipment and systems shall operate in the area of Australian Naval Strategic interest defined in DEF(AUST) 5168 (part iii 4.3.1).

Expectations

5. The following parameters are project expectations but may be offset against advantages in other areas:
- a. the displacement landing craft are capable of landing on a beach with a gradient down to 1:50;
 - b. all craft should be able to operate in at least 1.5m of surf; and
 - c. all craft should remain safe up to sea state 4 and be able to operate normally at sea state 3.

Information

6. Operability and Technical Information to be provided should include:
- d. line diagrams or scale drawings, including Lines plan;
 - e. dimensions including:
 - (i) total height above the waterline; and
 - (ii) waterline to cargo deck height;
 - f. weights and centres, including:
 - (i) lightship with qualification;
 - (ii) distribution;
 - (iii) longitudinal and transverse radii of gyration;
 - (iv) longitudinal and vertical centres of gravity; and
 - (v) hydrostatic data including Static trim;
 - g. capacities including:
 - (i) useable deck area;
 - (ii) maximum practical operational load and maximum deadweight, if different;
 - (iii) maximum load at each sea state; and
 - (iv) maximum deck pressure;
 - h. speed at indicative loads and sea states;
 - i. range at economical speed with no load and with maximum operational load;
 - j. beaching parameters;
 - k. the minimum length, depth, width and height of dock that the proposed solution will fit within;
 - l. for larger designs that will not go inside the dock, state any external interface requirements, ie. mooring lines, aperture or ramp dimensions, fenders, etc;
 - m. stopping and turning characteristics;
 - n. navigation equipment;
 - o. steering system;
 - p. propulsion system;

- q. electrical system;
- r. Kedge, winch or any other retraction system;
- s. towing capability;
- t. Class standard to which the vessel is built;
- u. if the craft has been designed to be interoperable with any amphibious ships, details should be provided;
- v. if the craft has been designed to accept any weapons or ballistic protection, details should be provided;
- w. craft manning requirements; and
- x. Through Life Support data.

Support Concepts

7. It is envisaged that the craft shall be, at a minimum, 80% available to conduct operations annually. It is also anticipated that low level planned maintenance activities should be conducted by vessel crews. The majority of higher level planned maintenance and corrective maintenance should be conducted by contractor support.

Information

8. Logistic and Support information to be provided should include:
 - a. concept of support scope to meet craft availability, including:
 - (i) crew and/or contractor maintenance breakdowns;
 - (ii) dedicated or non dedicated maintenance periods;
 - (iii) maintenance documentation control;
 - (iv) configuration control;
 - (v) spares identification and holdings;
 - (vi) drawings and technical documentation support; and
 - (vii) operation and maintenance training.
 - b. support structure and agencies, including:
 - (i) locations; and
 - (ii) response for Australian zone operations and overseas deployed craft; and
 - c. current support networks.

VEHICLE LIST

FOI 261/17/18

Attachment A
to DID 01

Operability and Technical Requirements

Phase 3 Army Vehicle Data

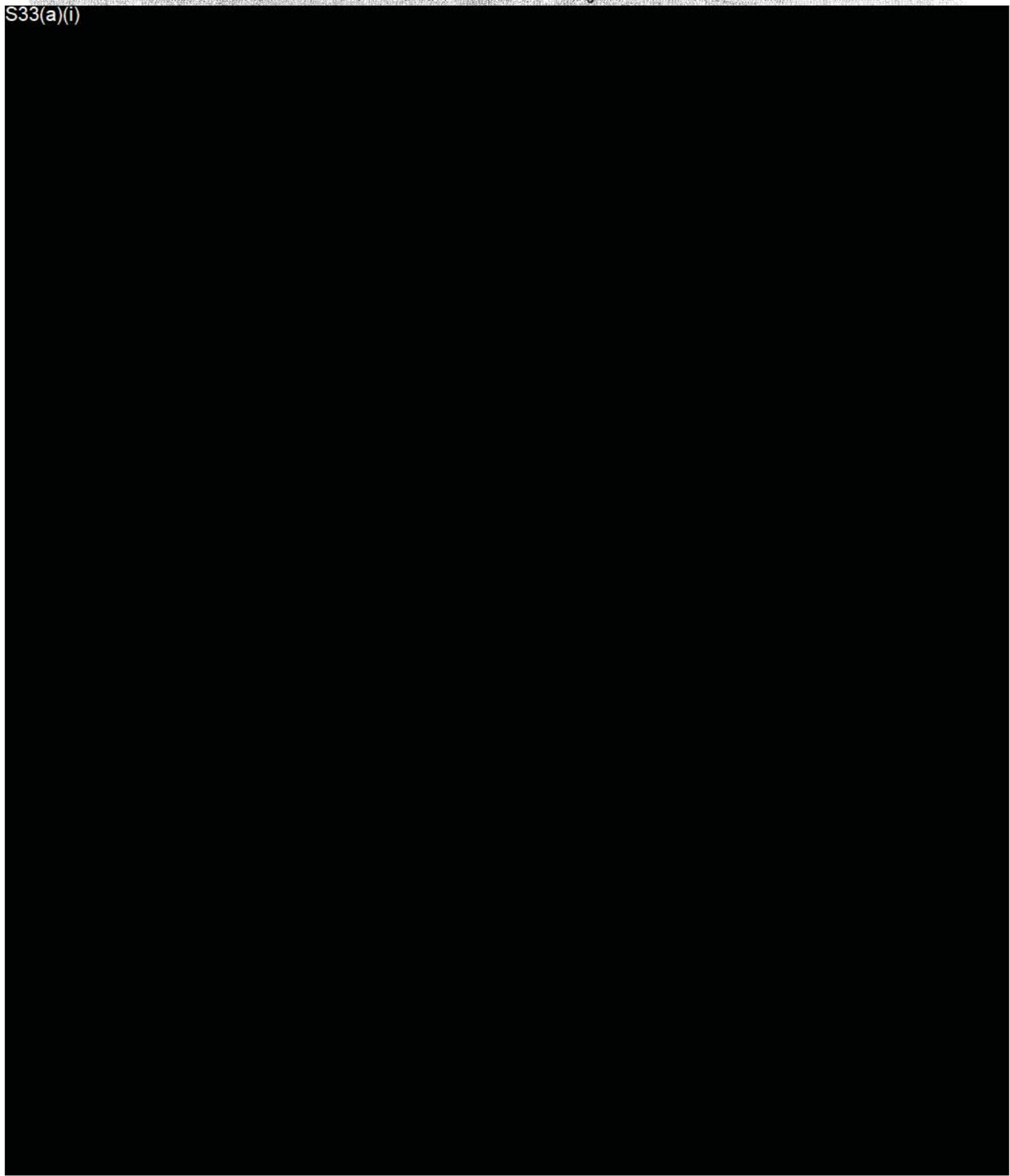
Total Load
kg

Length
mm

Breadth
mm

Height
mm

S33(a)(i)



VEHICLE LIST

FOI 261/17/18
Attachment A
to DID 01

Operability and Tecnical Requirements

Phase 3 Army Vehicle Data

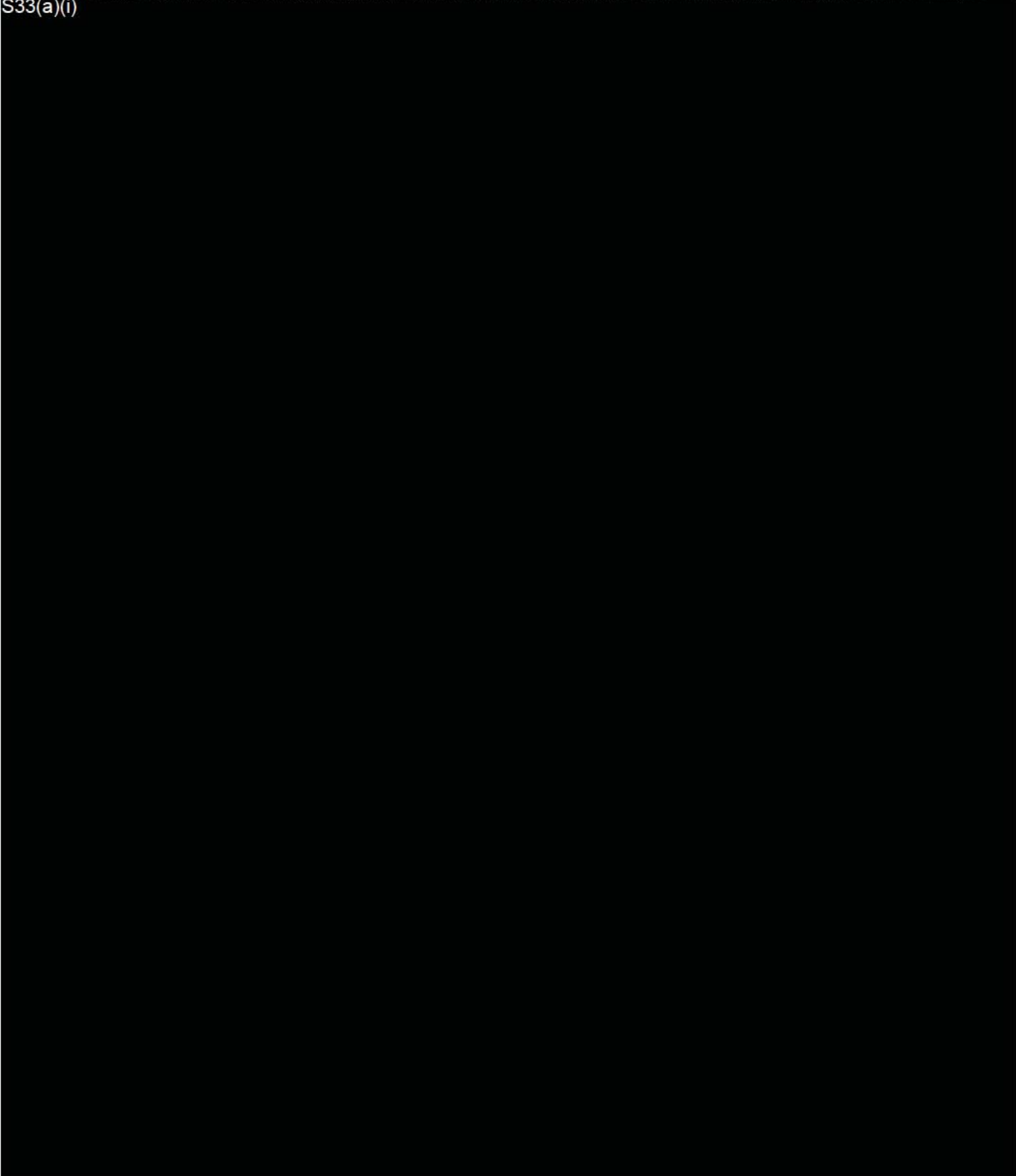
Total Load
kg

Length
mm

Breadth
mm

Height
mm

S33(a)(i)



VEHICLE LIST

FOI 261/17/18

Attachment A

to DID 01

Operability and Tecnical Requirements

Phase 3 Army Vehicle Data

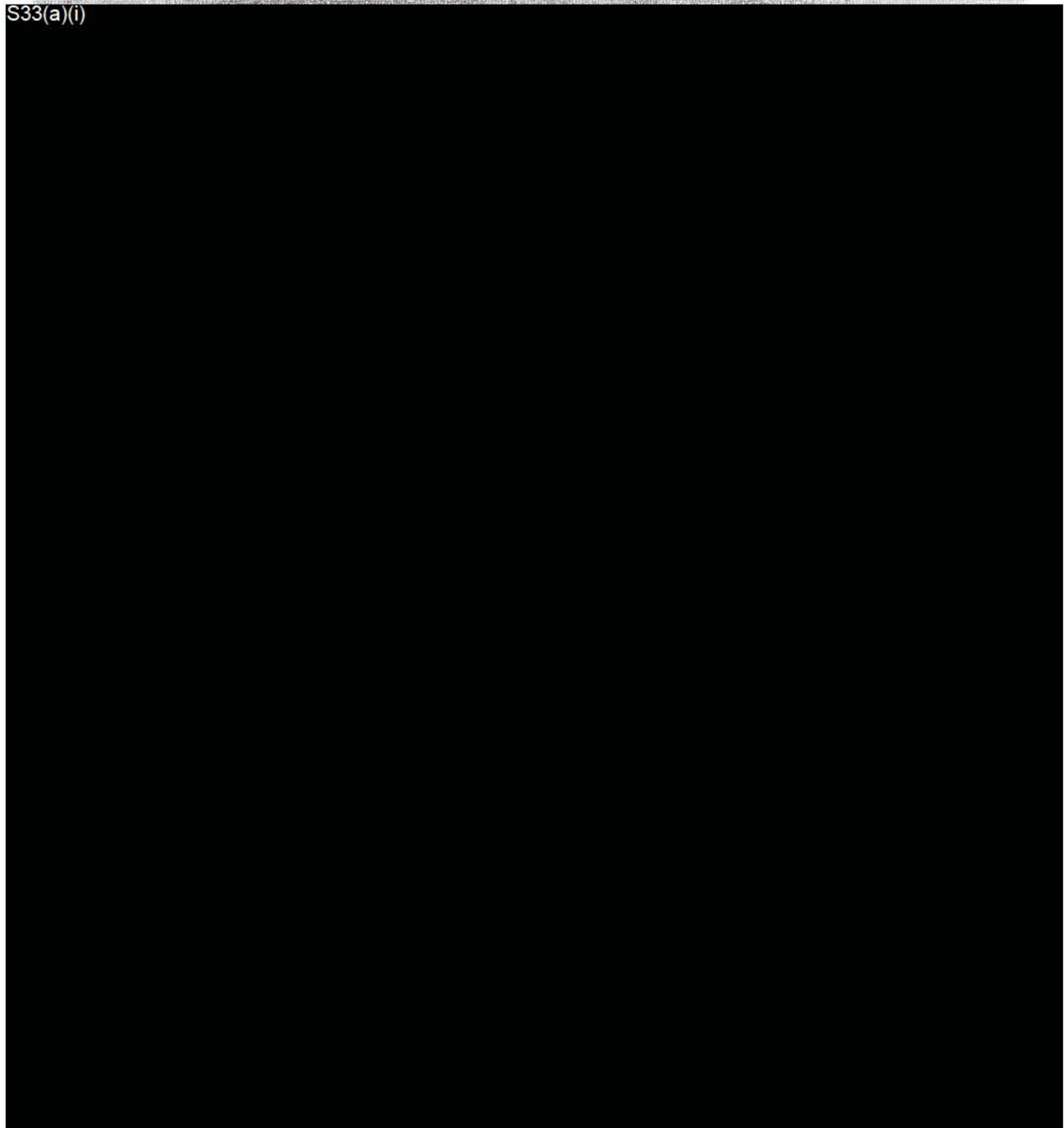
Total Load
kg

Length
mm

Breadth
mm

Height
mm

S33(a)(i)



HEAVY VEHICLE LIST

| Phase 3 Army Heavy Vehicle Data | | | | |
|---|------------------|--------------|---------------|--------------|
| | Total Load kg | Length mm | Breadth mm | Height mm |
| S33(a)(i) | | | | |
| Abrams M1A1 AIM (New Main Battle Tank) | S33(a)(i) | | | |
| | | | | |

DATA ITEM DESCRIPTION (DID) No. 02**COST REQUIREMENTS****1. DID NAME: DID-COST****2. TITLE: Cost Estimation****3. DESCRIPTION AND INTENDED USE**

3.1 The purpose of this DID is to define the reporting requirements for the Cost Estimation conducted under the Request For Information (RFI) of JP2048 Phase 3 (Amphibious Watercraft Replacement).

3.2 The objective of the Cost Estimation is to provide the Commonwealth with an estimated cost of the design solution offered in response to the RFI. The output from the Cost Estimation will help form the basis by which the Commonwealth will undertake their cost versus capability trade-off.

4. INTER-RELATIONSHIPS

JP2048 Ph3 RFI 01/06, DID 01, Operability & Technical Requirements.

5. APPLICABLE DOCUMENTS

Insert lists Document Title

6. PREPARATION INSTRUCTIONS**6.1 Generic Format and Content**

6.1.1 The data item shall be completed as fully as possible. Any additional breakdown of costs should be provided. This will permit more detailed analysis outputs to allow acquisition and support costs for the Landing Craft System to be identified for option sets.

6.1.2 The Cost Estimation shall be completed with Australian Dollars (AUD) as at Current Date, that being 01 July 2006.

6.1.3 Summary of Cost Description

6.1.3.1 The Cost Estimation shall comprise the following areas:

- a. Non Recurring Design Development and Management
- b. Labour
- c. Equipment

JP 2048 Phase 3 – Amphibious Watercraft Replacement Project

Annex B to
JP2048Ph3 RFI 01/06

- d. Material
- e. Support, Test and Evaluation
- f. Through Life (Potential Cost per year)

6.2 ***Output/Deliverable***

- 6.2.1 Costs as required at paragraph 6 above should be supplied in EXCEL Spreadsheet format.

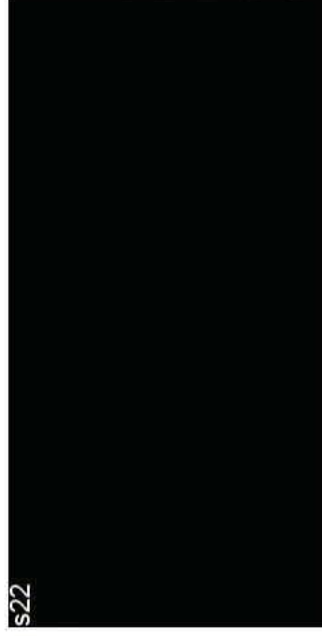
JOINT PROJECT 2048 PHASE 3 AMPHIBIOUS WATERCRAFT REPLACEMENT

FUNCTIONAL PERFORMANCE SPECIFICATION (Version 1.0)

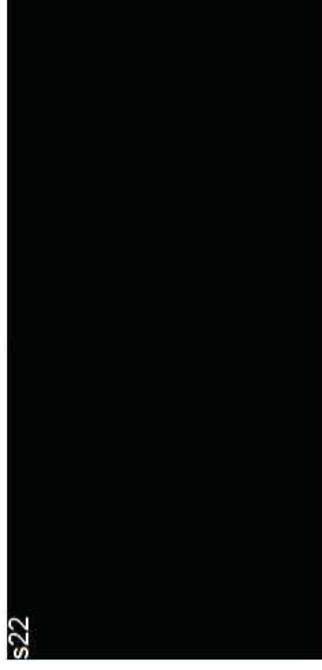
MAY 2009

Authorising Authorities

S22



S22



May 2009

LHD Landing Craft Functional Performance Specification (FPS)

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- A List of Abbreviations
- B List of Applicable Documents
- C List of Australian Government Furnished Materiel (AGFM)

JP2048 PHASE 3 LHD LANDING CRAFT FUNCTIONAL PERFORMANCE SPECIFICATION (FPS)

1. INTRODUCTION

1.1 Background

1.1.1 Joint Project 2048 Phase 3 seeks to provide the Australian Defence Force (ADF) with an Organic Ship-to-Shore (OSS) LHD Landing Craft. The LHD Landing Craft is to provide the capability for the ship-to-shore transfer of cargo and personnel from the LHDs.

1.1.2 The JP 2048 LHD (Amphibious Assault Ship) will have a floodable well deck capable of internal or external transfer of vehicles and cargo from ship to the Landing Craft. The LHD Landing Craft will be required to project the landing force ashore from over the visual horizon but will usually be launched closer to the shore. They will operate in a tactical environment but will not be expected to land under direct fire from ashore.

1.1.3 The LHD Landing Craft is intended to be deployed within Australia, Australia's offshore territories, and the Asia Pacific region.

1.2 Aim

1.2.1 This specification is intended for the purpose of soliciting tender proposals. Response from the tenderer may be used to form the basis of a Contract Specification.

1.3 Scope

1.3.1 This specification details the performance requirements for the LHD Landing Craft to be procured for the Amphibious Watercraft Replacement (AWR) Project.

1.3.2 The intent of this specification is to describe a performance based capability required by the ADF, without detailing a specific solution. The LHD Landing Craft shall satisfy the requirement of this specification, when operated in accordance with the mission profiles and under the operational environments.

1.3.3 The Commonwealth envisages a design to commercial marine standards to the maximum practical degree.

1.4 Importance

- 1.4.1 Each specification requirement is annotated with a weighting indicating the relative importance of the requirement (the previous practice of using 'shall', 'should' and 'may' to imply importance has been discontinued. 'May' is still used as a permissive indicating that a course of action is acceptable to the Commonwealth). The weightings are:

ESSENTIAL: This indicates a requirement without which the capability would not be fit-for-purpose. There is little latitude in complying with an essential requirement and failure to meet such a requirement would normally exclude a capability option from further evaluation.

IMPORTANT: This indicates a requirement that is important to fit-for-purpose. While there is some latitude in complying with an important requirement, failure to meet a number of such requirements would normally exclude a capability option from further evaluation

DESIRABLE: This indicates a requirement which is not key to fit-for-purpose but which is perceived as beneficial. Meeting desirable requirements must represent value for money

ADVICE: This indicates that the clause does not represent a requirement but provides advice, information or clarification. There is no requirement to demonstrate compliance with an advice-annotated clause.

1.5 Verification Methods

- 1.5.1 Each specification requirement is annotated with a verification method, which defines the Commonwealth's expectation for qualifying each requirement during the Acceptance Test and Evaluation phase of the Acquisition Contract. This provides a basis for the tenderer's estimation of workload and schedule requirements for the tasks to be undertaken during this phase. The verification methods are:

ANALYSIS: Analysis is the use of technical or mathematical models or simulations, algorithms, charts, graphs, circuit diagrams or other scientific principles and procedures to prove that requirements have been satisfied.

INSPECTION: Inspection is generally non destructive investigation of an item using sight, hearing, smell, touch, simple physical manipulation, mechanical and electrical gauging and measurement to determine compliance with the specified requirements.

DEMONSTRATION: Demonstration is the actual operation, adjustment or reconfiguration of items to provide evidence that the designed functions

are accomplished under specific scenarios. Items being demonstrated may be instrumented and quantitative limits of performance monitored.

TEST: Test is an activity in which a scientific method is used to obtain quantitative or qualitative data relating to the safety, performance, functionality, contractual compliance, and supportability of a system.

1.6 Order of Precedence

- 1.6.1 In the event of a conflict between this specification and the references cited herein, this specification shall take precedence.

1.7 Definitions

- 1.7.1 The Australian Macquarie Dictionary 3rd edition 1997, is the reference source for all terms used in this specification, except for those defined in this section and Annex B: *List of Applicable documents*.
- 1.7.2 **Complete Equipment Schedule (CES).** A CES is a list of all the ancillary tools and equipment issued with a prime equipment which may be needed for its normal operation.
- 1.7.3 **Day.** A day is defined as a 24 hour period.
- 1.7.4 **Deep Load Condition.** Deep load condition refers to a fully provisioned vessel whose fuel, water and waste storages are 95% capacity, carries maximum payload capacity (in displacement terms), and is stable for the intended use under given environmental conditions.
- 1.7.5 **Sea State.** All Sea States mentioned in this document shall be interpreted as being from the top end of the sea state wave height range as defined in Admiralty Manual of Seamanship Vol II, p.6 (see table below). All references to Sea State shall mean that the activity is to be undertaken throughout the 360° arc of incidence with the sea.

| Sea State(Code) | Description of Sea | Description of Sea Significant Wave Height*(M) |
|-----------------|--------------------|--|
| 0 | Calm (glassy) | 0 |
| 1 | Calm (rippled) | 0 - 0.1 |
| 2 | Smooth (wavelets) | 0.1 - 0.5 |
| 3 | Slight | 0.5 - 1.25 |
| 4 | Moderate | 1.25 - 2.5 |
| 5 | Rough | 2.5 - 4 |
| 6 | Very Rough | 4 - 6 |
| 7 | High | 6 - 9 |
| 8 | Very High | 9 - 14 |
| 9 | Phenomenal | Over 14 |

Note: Significant wave height is defined as the average value of the height of the largest one-third of the waves present.

1.8 Acronyms and Abbreviations

- 1.8.1 Abbreviations used in this specification for fundamental and derived units of measurement conform to AS 1000.
- 1.8.2 Other acronyms and abbreviations used in this specification are listed in Annex A: *List of Abbreviations*.

1.9 Applicable Documents

- 1.9.1 Applicable documents are attached as Annex B: *List of Applicable Documents*. Parts of applicable documents are identified for the convenience of the tenderer. These parts do not relieve the tenderer from the responsibility to adhere to all requirements of this specification.

2. REQUIREMENTS


2.1 LHD LANDING CRAFT OPERATIONS

2.1.1 *Organic Ship to Shore Connector Role*

2.1.1.1 Mission

- 2.1.1.1.1 LHD Landing Craft system is to provide the ADF with a watercraft capability to the LHDs, for the transfer of vehicles, equipment, stores and personnel for a force of up to Battlegroup size. [Advice].

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2.1.1.3

Role

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2.1.1.4.4 The LHD Landing Craft will be organic to the LHD. [Advice]

2.2 LHD LANDING CRAFT

2.2.1 *LHD Landing Craft Functions and Performance*

2.2.1.1 LHD Landing Craft **SHALL** move large, indivisible loads that might be required for deployment. *(Test)* [Essential].

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¹ DEFAUST 5168 'Climatic Environmental Conditions Affecting the Design of Military Materiel' and DEFAUST 5681 'Environmental Test Standards for Land Based Equipments' provide guidance.

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- 2.2.1.5 The LHD Landing Craft system **SHALL** be capable of receiving, transporting and discharging indivisible loads of up to 65 tonnes (overload condition) in benign (mild, favourable) conditions. *Note Tenderer to advise (Test) [Essential]*

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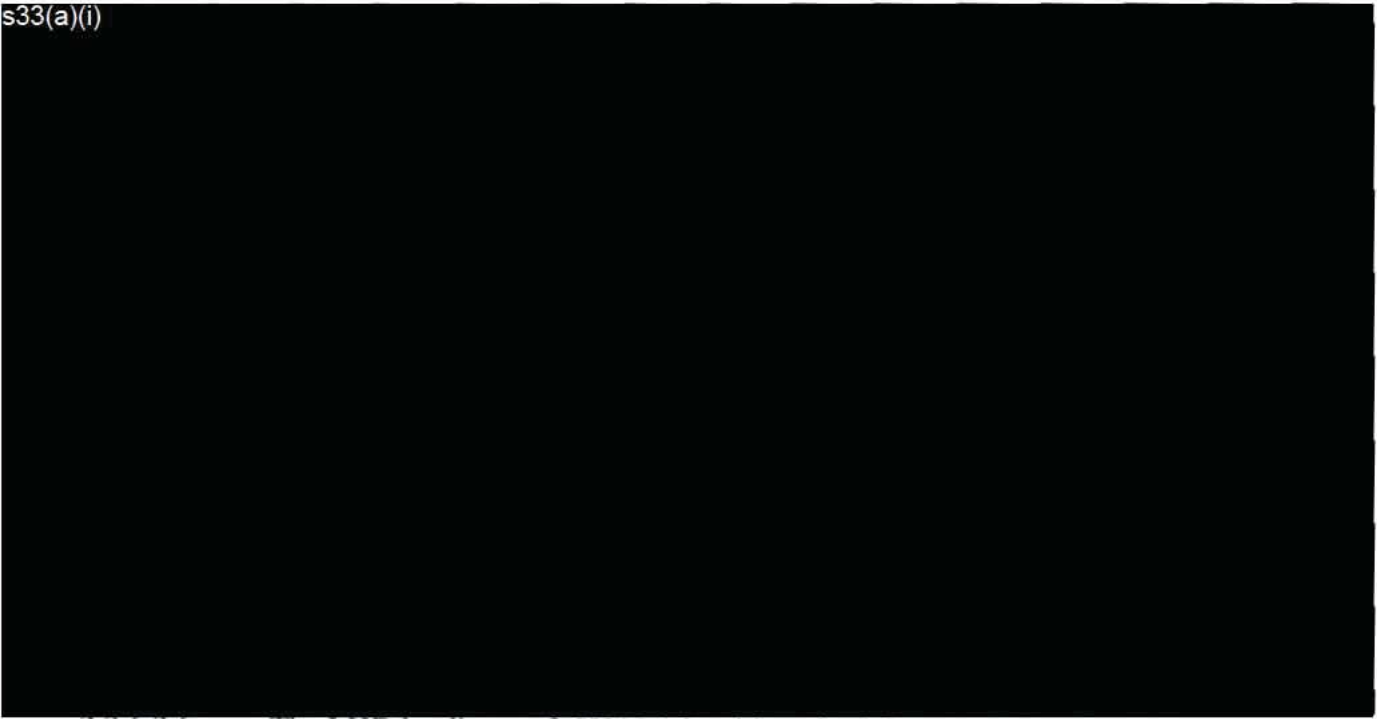
2.2.2 Range

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2.2.6 Operation and Integration with the LHD

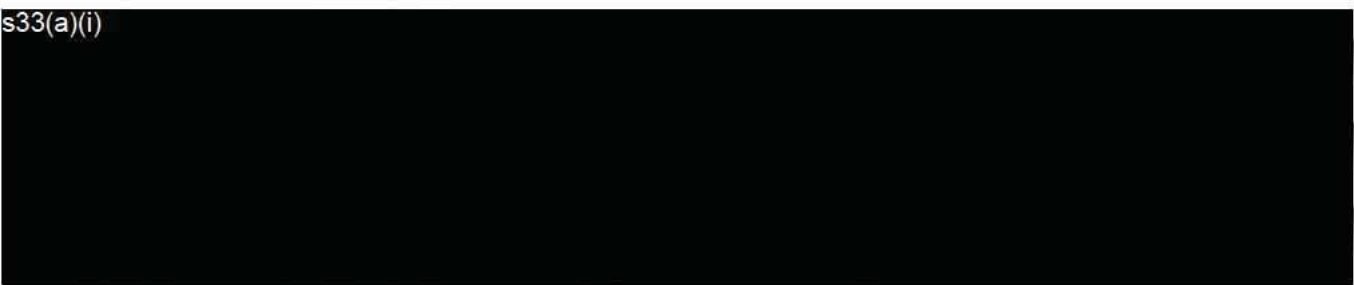
2.2.6.1 LHD Dock

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2.2.6.2 Beachings33(a)(i)


2.2.6.2.6 The LHD landing craft SHALL be able to load from and unload to the widest possible range of beach types and gradients in as shallow water as possible. Still water depth should not exceed s33(a)(i) with a 65-tonne load. s33(a)(i)
(Demonstration) [Essential].

2.2.6.2.7 The LHD landing craft SHALL be able to load from and unload to the widest possible range of beach types and gradients in as shallow water as possible. Still water depth should not exceed s33(a)(i) with a 65-tonne load. s33(a)(i) in order to accommodate MPA s33(a)(i)
(Demonstration) [Important].

2.2.6.3 Replenishments33(a)(i)
**2.2.6.4 Manoeuvring**

s33(a)(i)

2.2.7 *Watercraft Design*

2.2.7.1 Standards

2.2.7.1.1 Selection of commercial standards is to be appropriate to the marine and operational environment in which the LHD Landing Craft is operating. **[Advice]**.


2.2.7.1.2 The LHD Landing Craft **SHALL** be constructed under survey in accordance with Classification Society rules and regulations (i.e. Lloyd's Register or an equivalent standard). **(Inspection) [Essential]**.

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2.2.7.2 **Operating Environment**

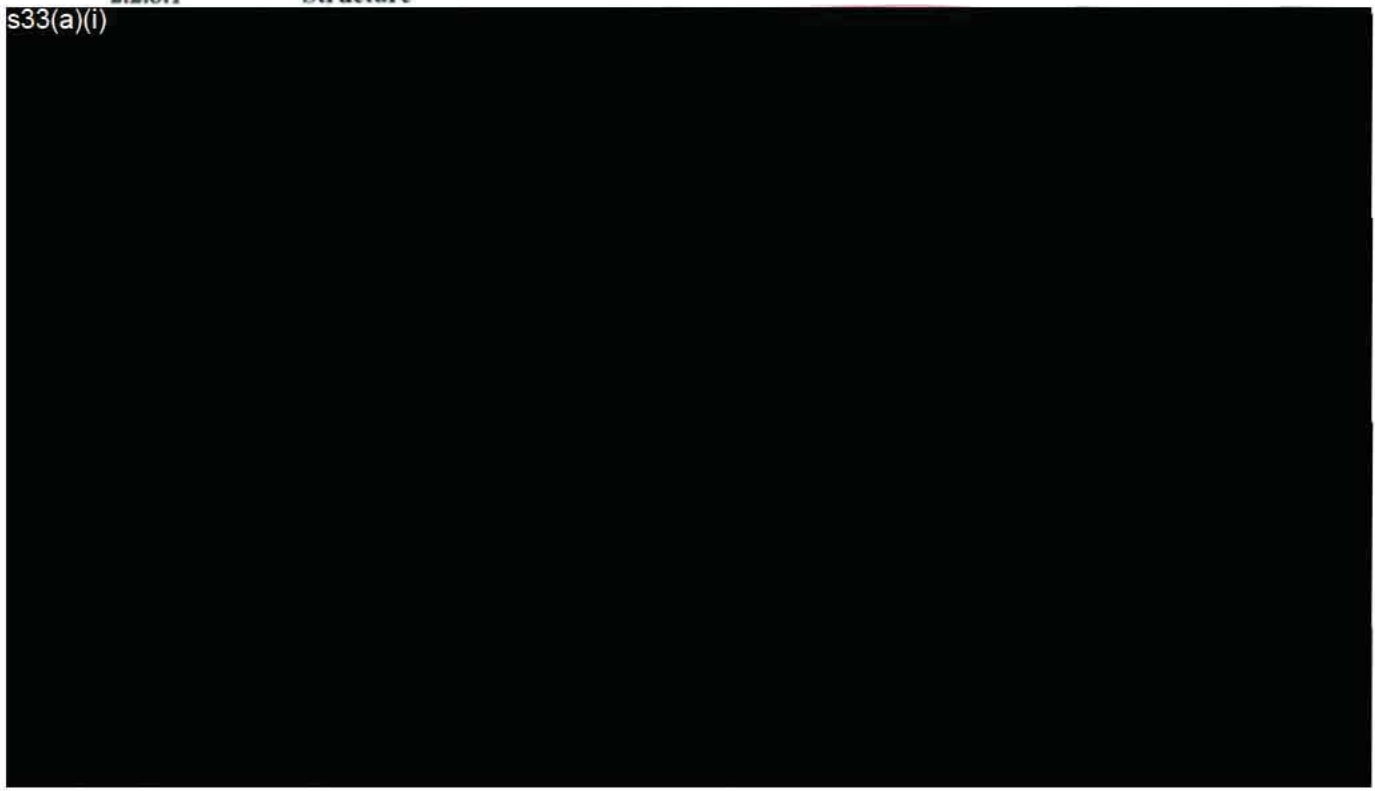
s33(a)(i)

A large black rectangular redaction box covering the content of section 2.2.7.2.

2.2.8 ***Hull***

2.2.8.1 **Structure**

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A large black rectangular redaction box covering the content of section 2.2.8.1.


2.2.8.2 **Towing**

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A large black rectangular redaction box covering the content of section 2.2.8.2.

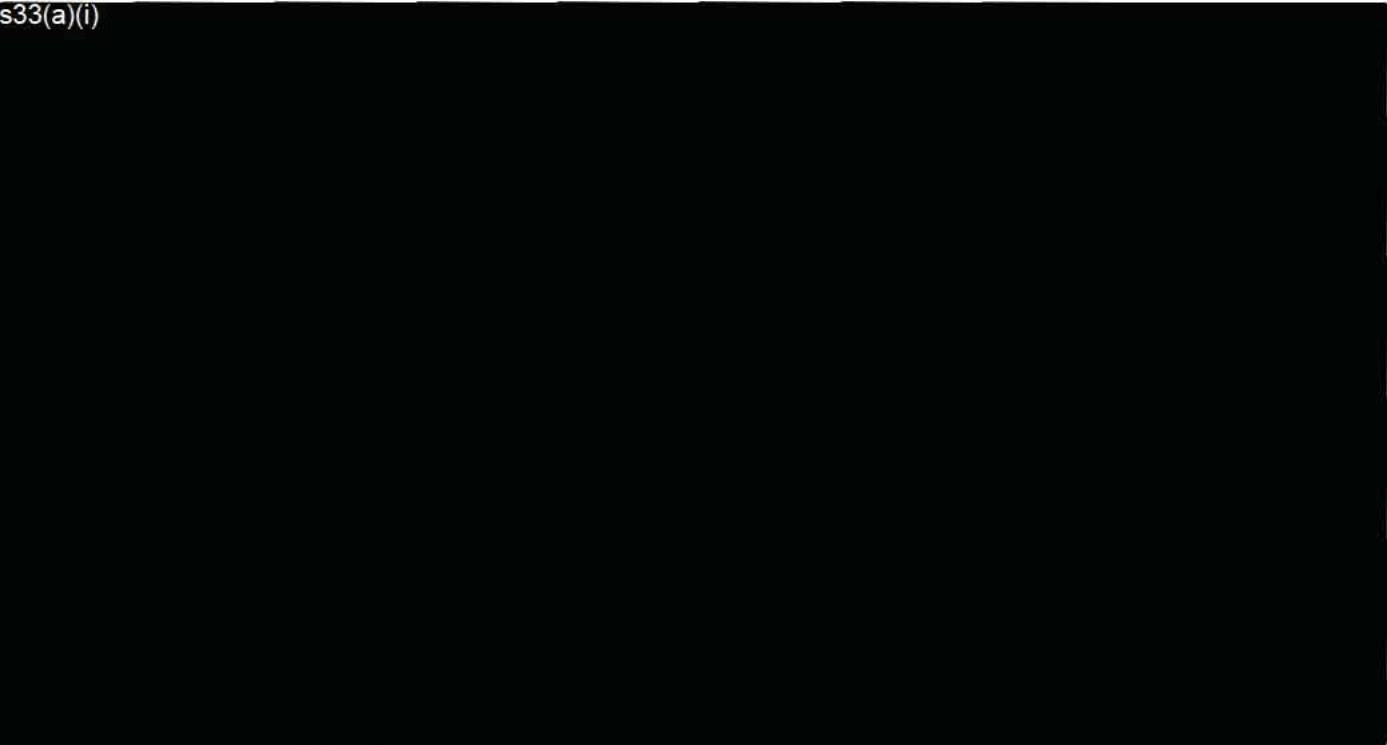
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2.2.8.3 Bow and Stern Ramps

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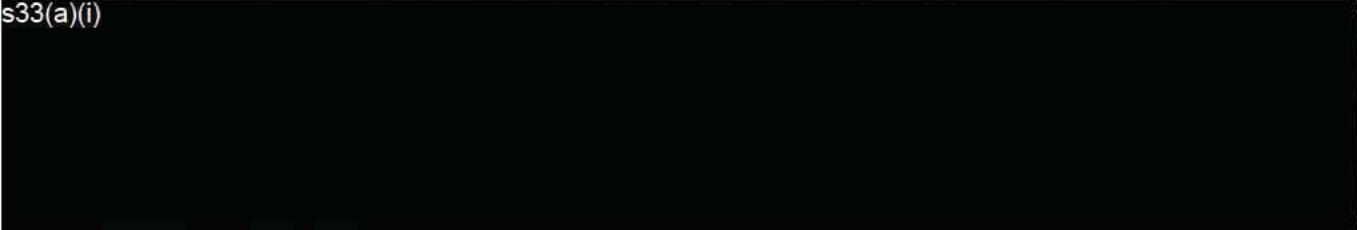
2.2.8.4 Well Deck

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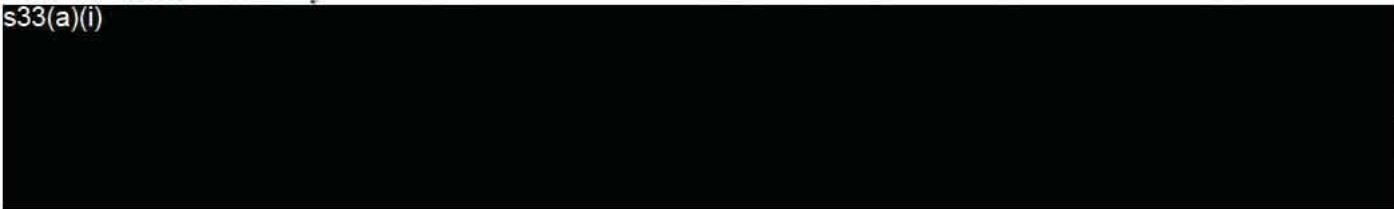
2.2.8.6 Survivability

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2.2.8.7 Stability

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s33(a)(i)

2.2.8.8 Ballistic Protection

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2.2.8.9 General

- 2.2.8.9.1 The contractor **SHALL** obtain Classification Society appraisal of plans and surveys (covering structure, stability, outfit and machinery), supply the necessary information and complete the surveys and tests. (*Inspection*) [Essential].

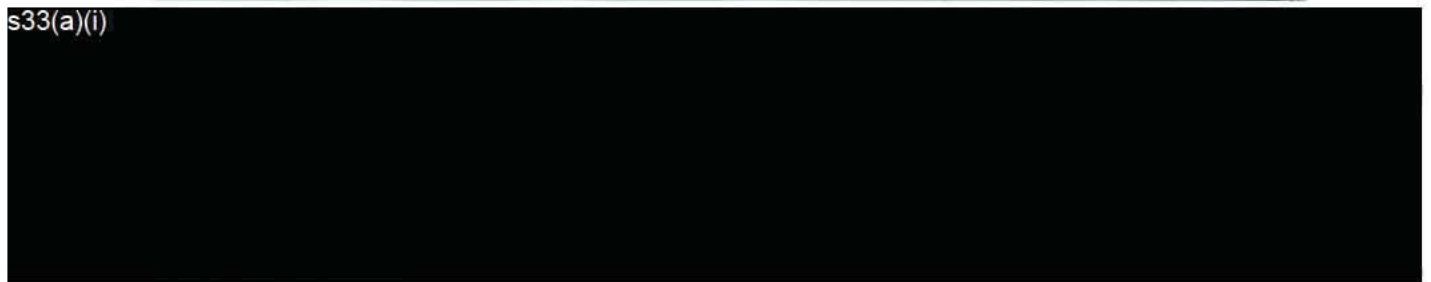
s33(a)(i)

2.2.9 Painting

s33(a)(i)

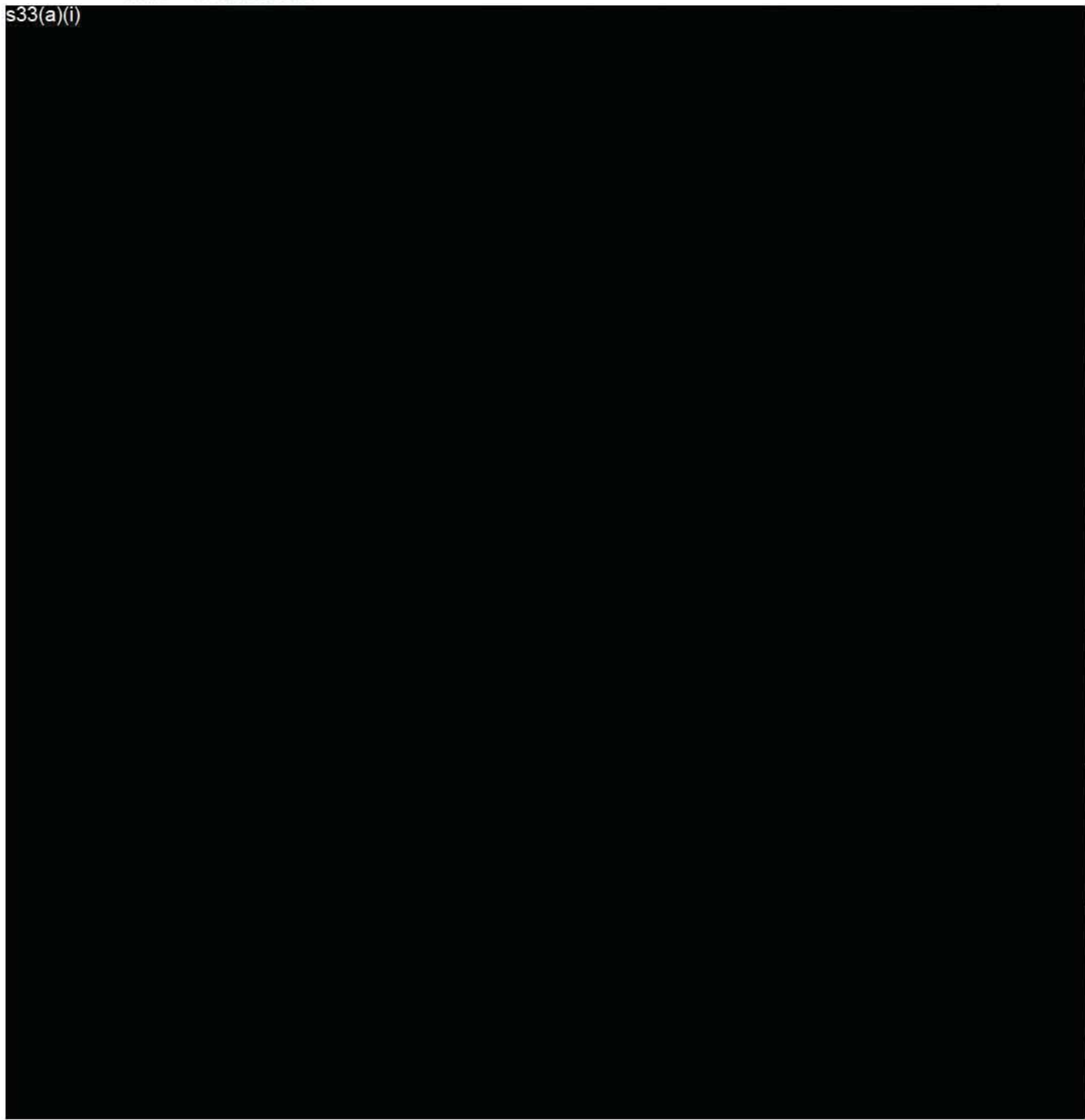
JP2048 Phase 3 FPS Version 1.0

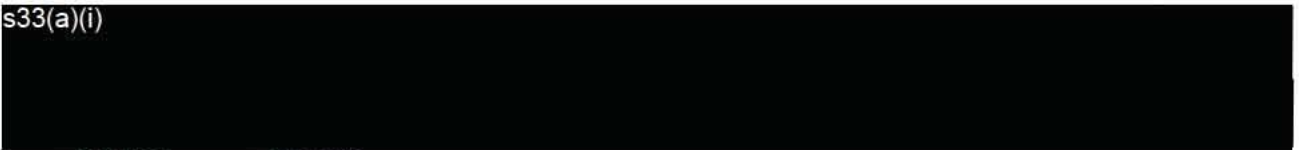
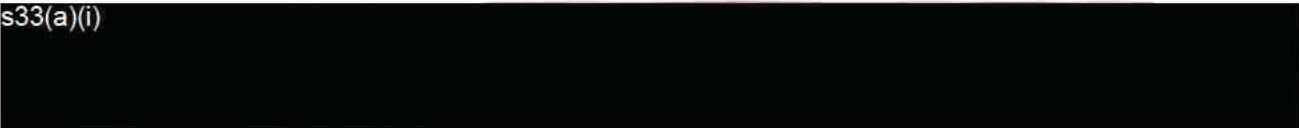
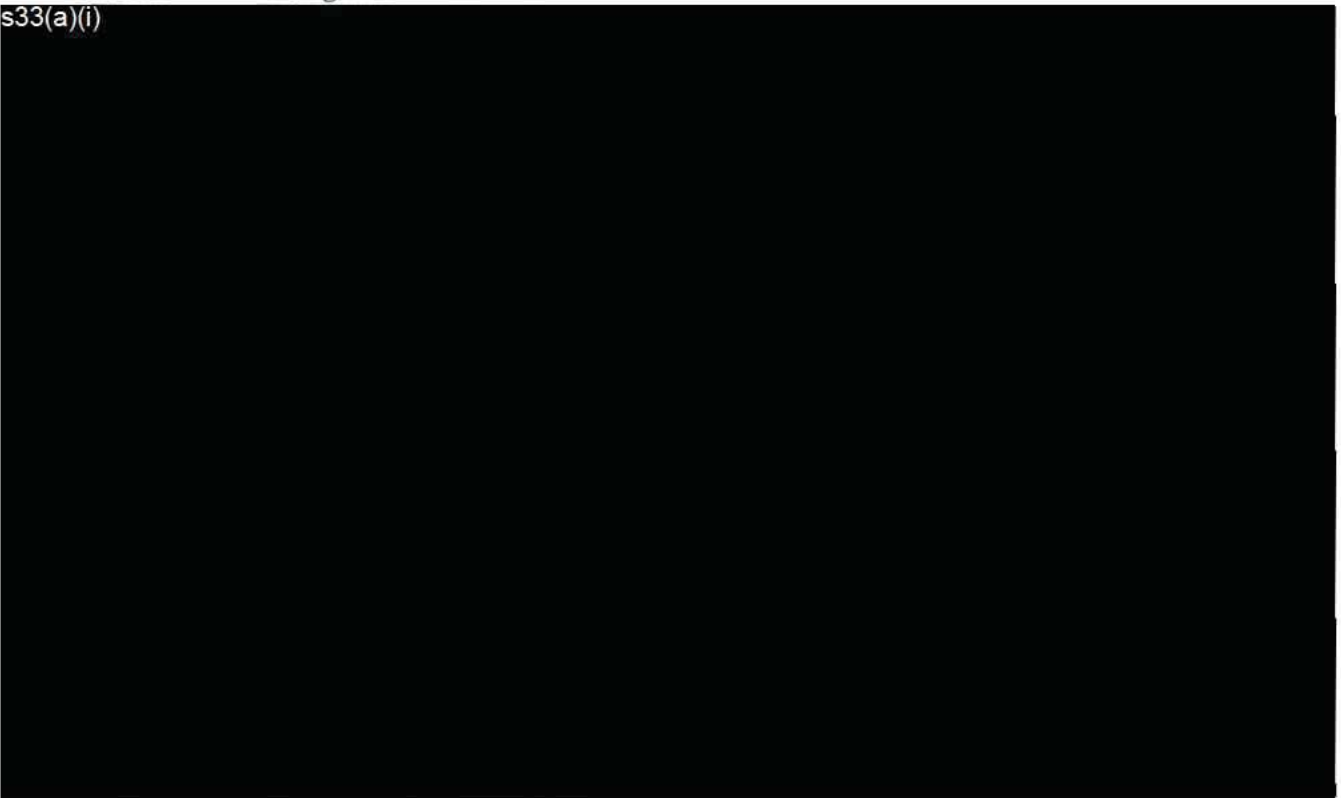
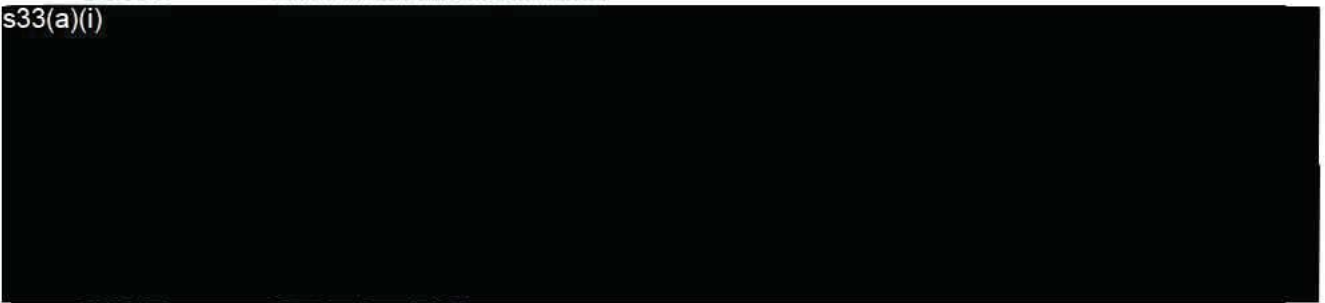
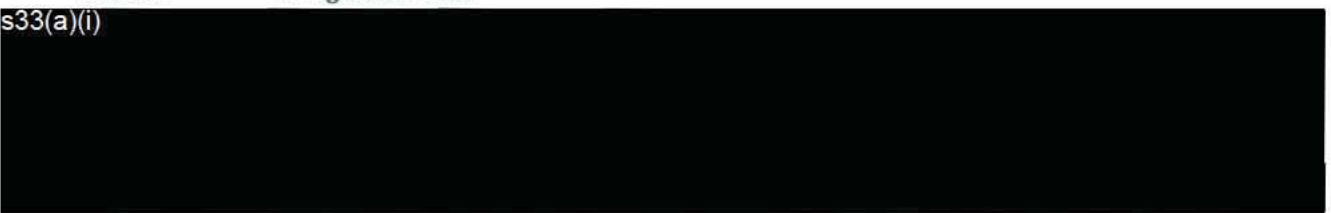
s33(a)(i)



2.2.9 Wheelhouse

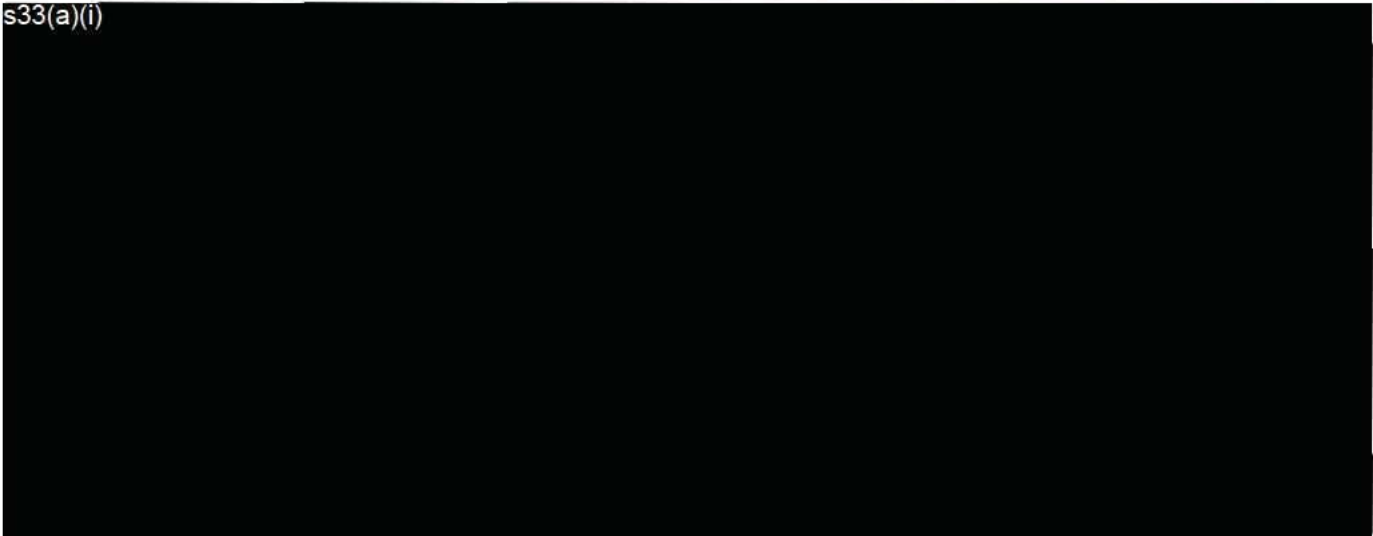
s33(a)(i)



2.2.11 *Command and Control*s33(a)(i)
**2.2.11.1 Control**s33(a)(i)
**2.2.11.2 Navigation**s33(a)(i)
**2.2.11.3 Instruments and Publications**s33(a)(i)
**2.2.11.4 Navigational Aids**s33(a)(i)


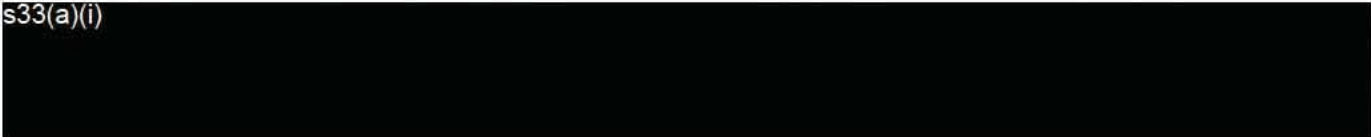
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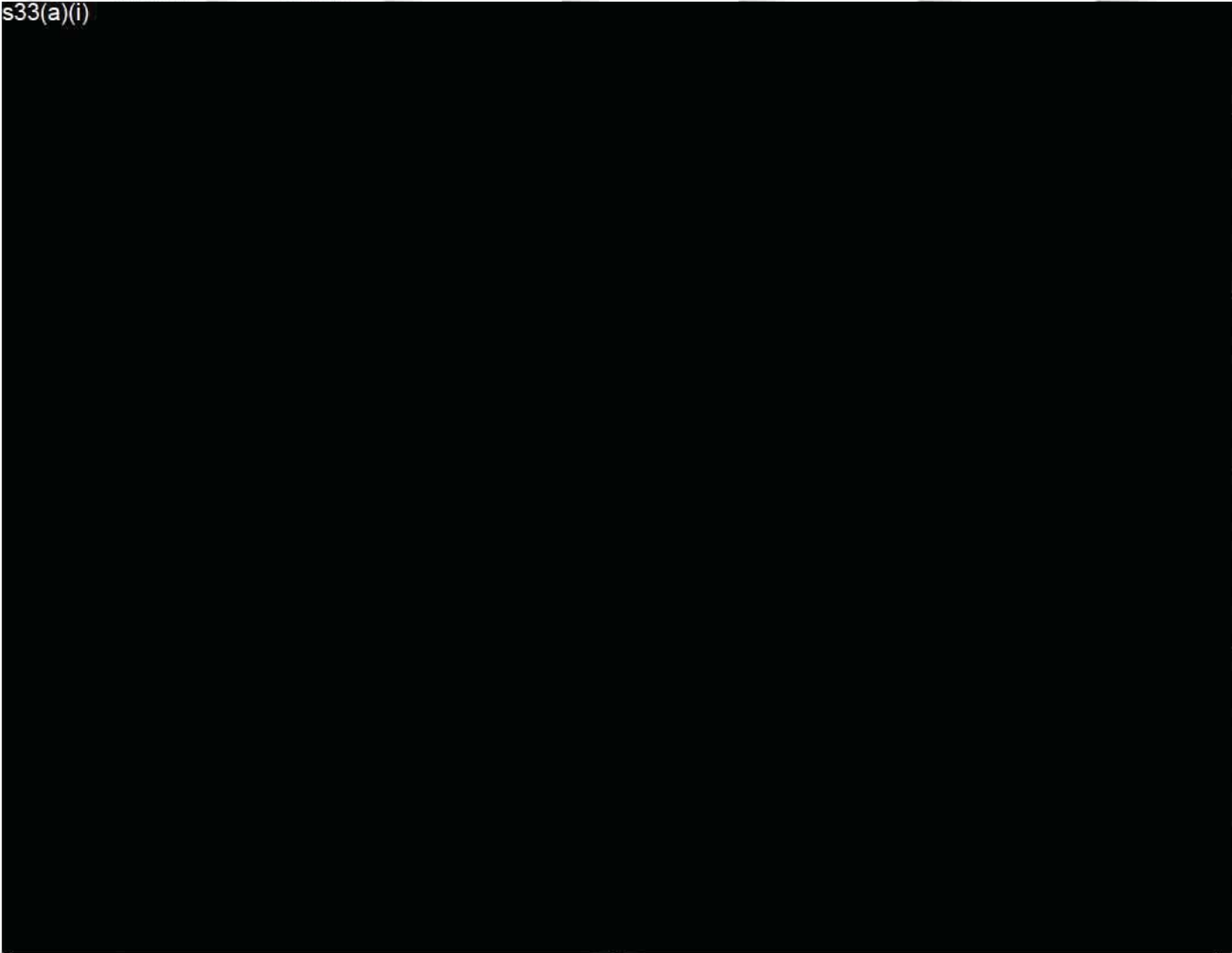
2.2.12 *Communications*

s33(a)(i)



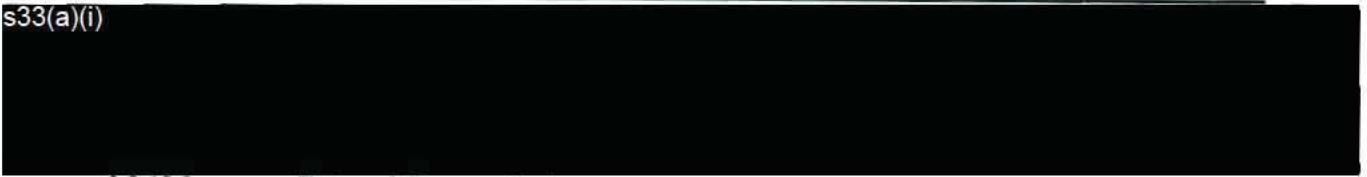
2.2.12.1 *General*

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JP2048 Phase 3 FPS Version 1.0

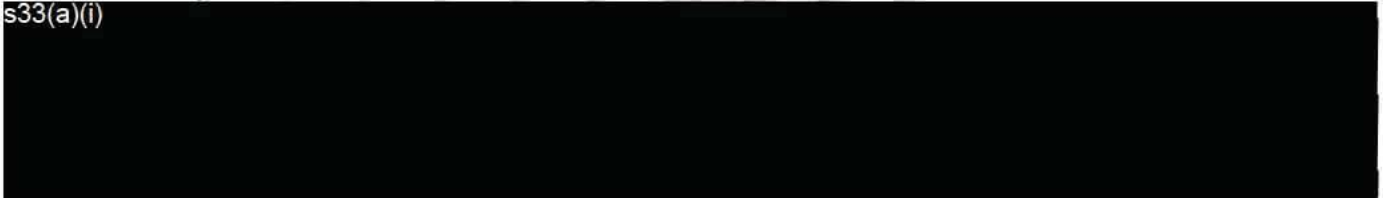
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2.2.12.2 External Communications

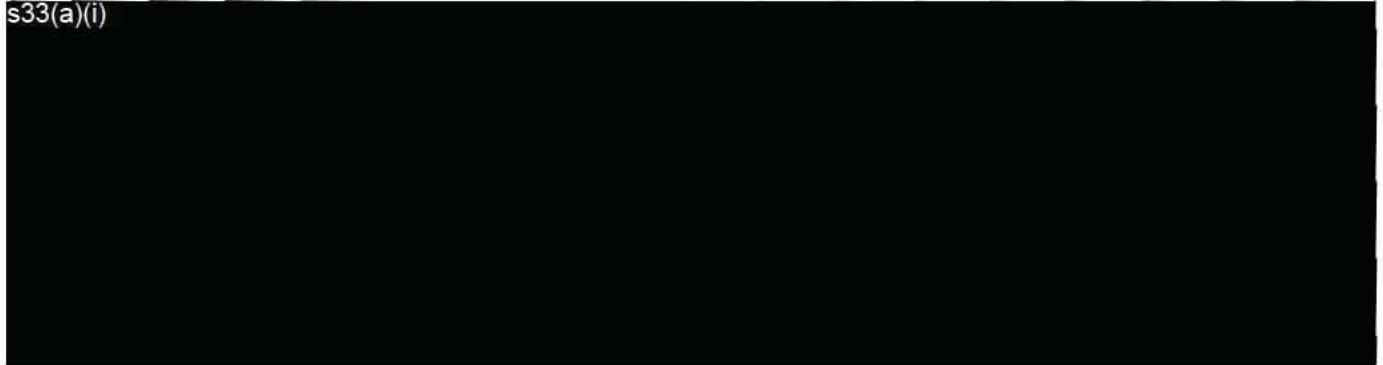
Military - Secure Voice

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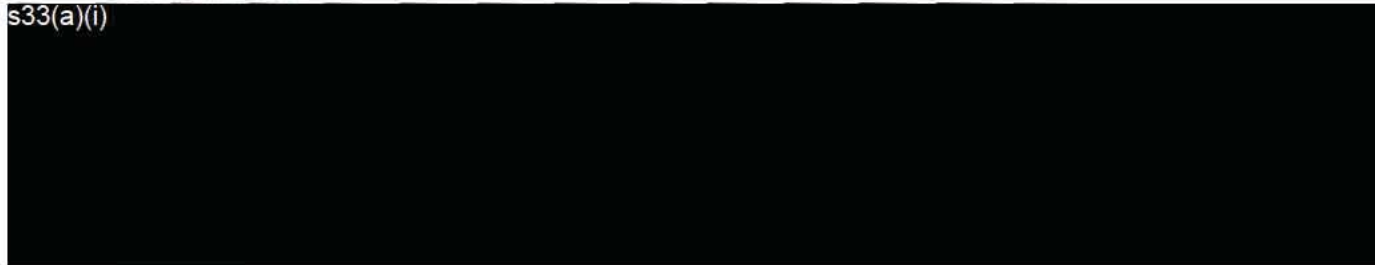
Military - Secure Data

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Non-secure Data

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Commercial

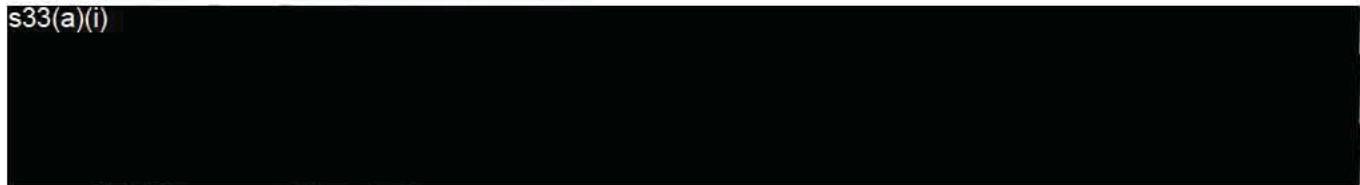
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JP2048 Phase 3 FPS Version 1.0

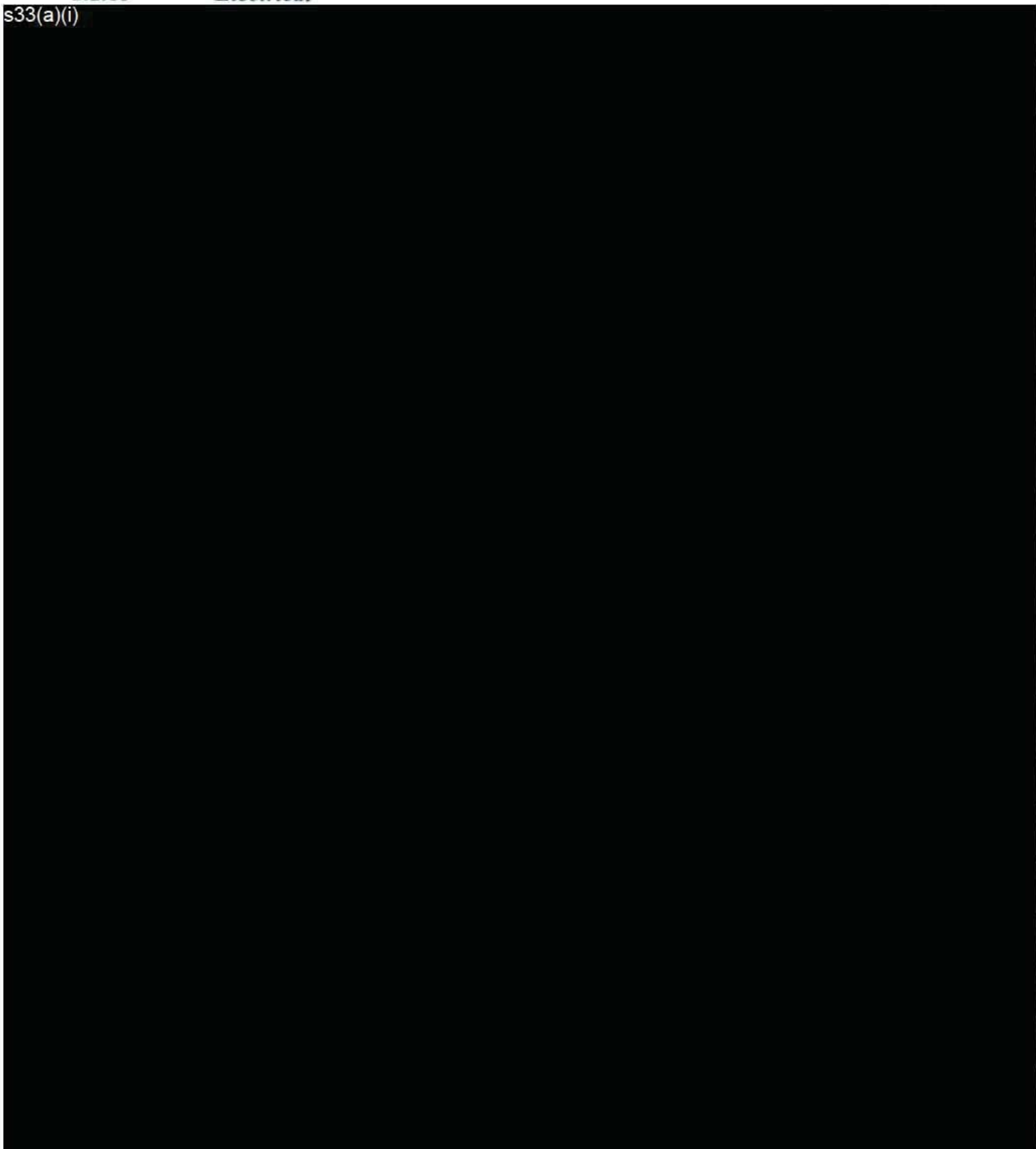
2.2.12.3 Internal Communications

s33(a)(i)



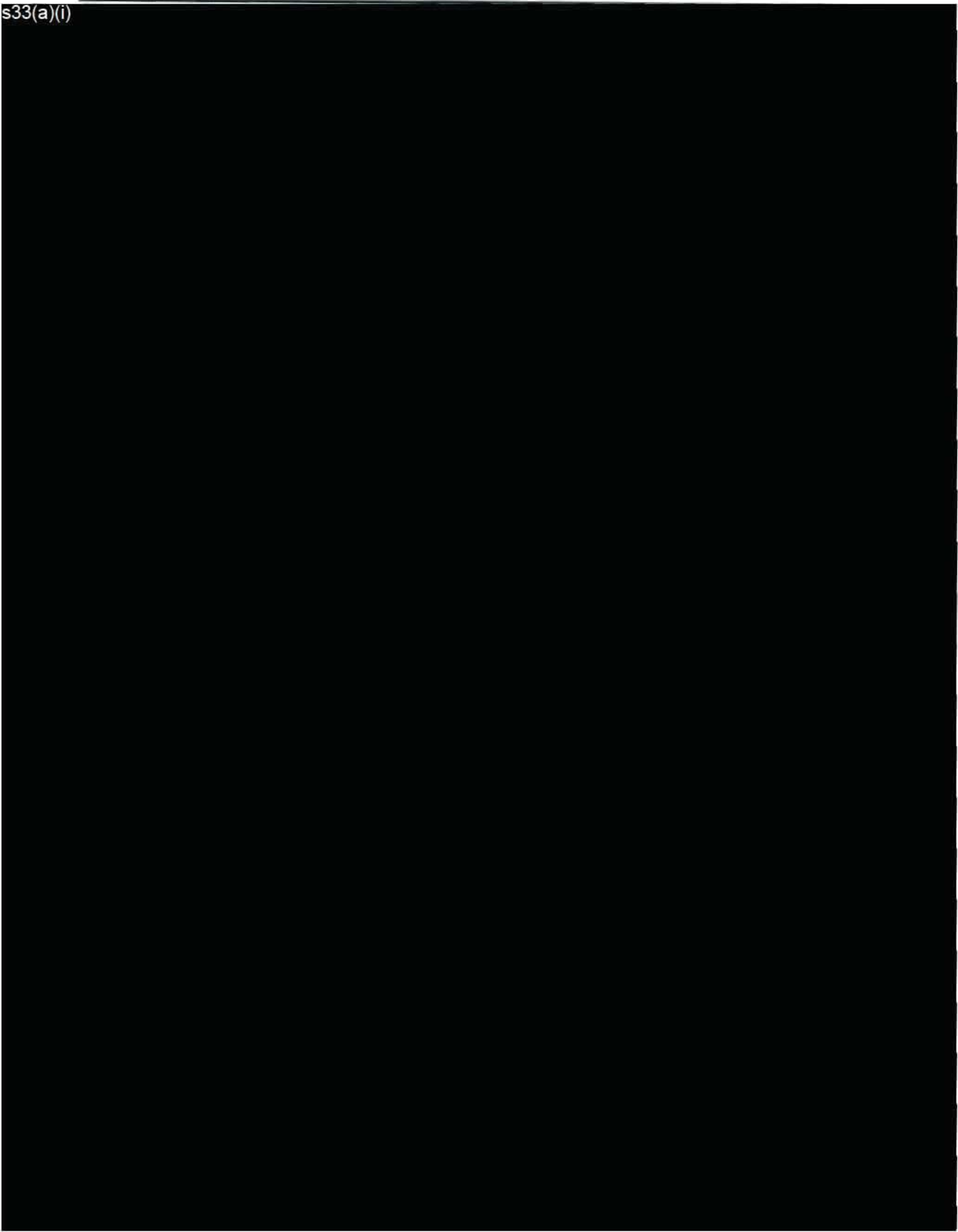
2.2.13 Electrical

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s33(a)(i)



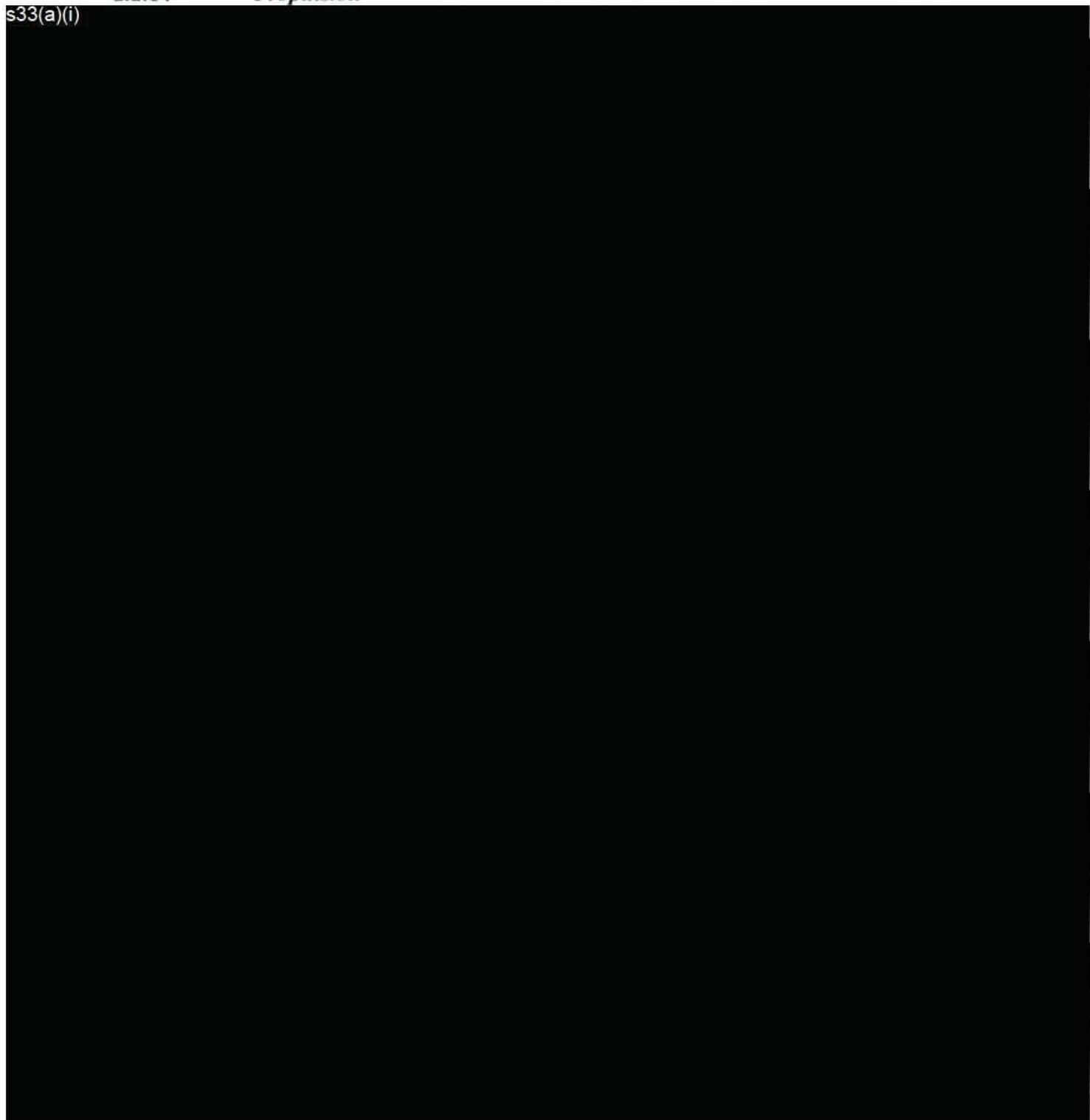
JP2048 Phase 3 FPS Version 1.0

s33(a)(i)



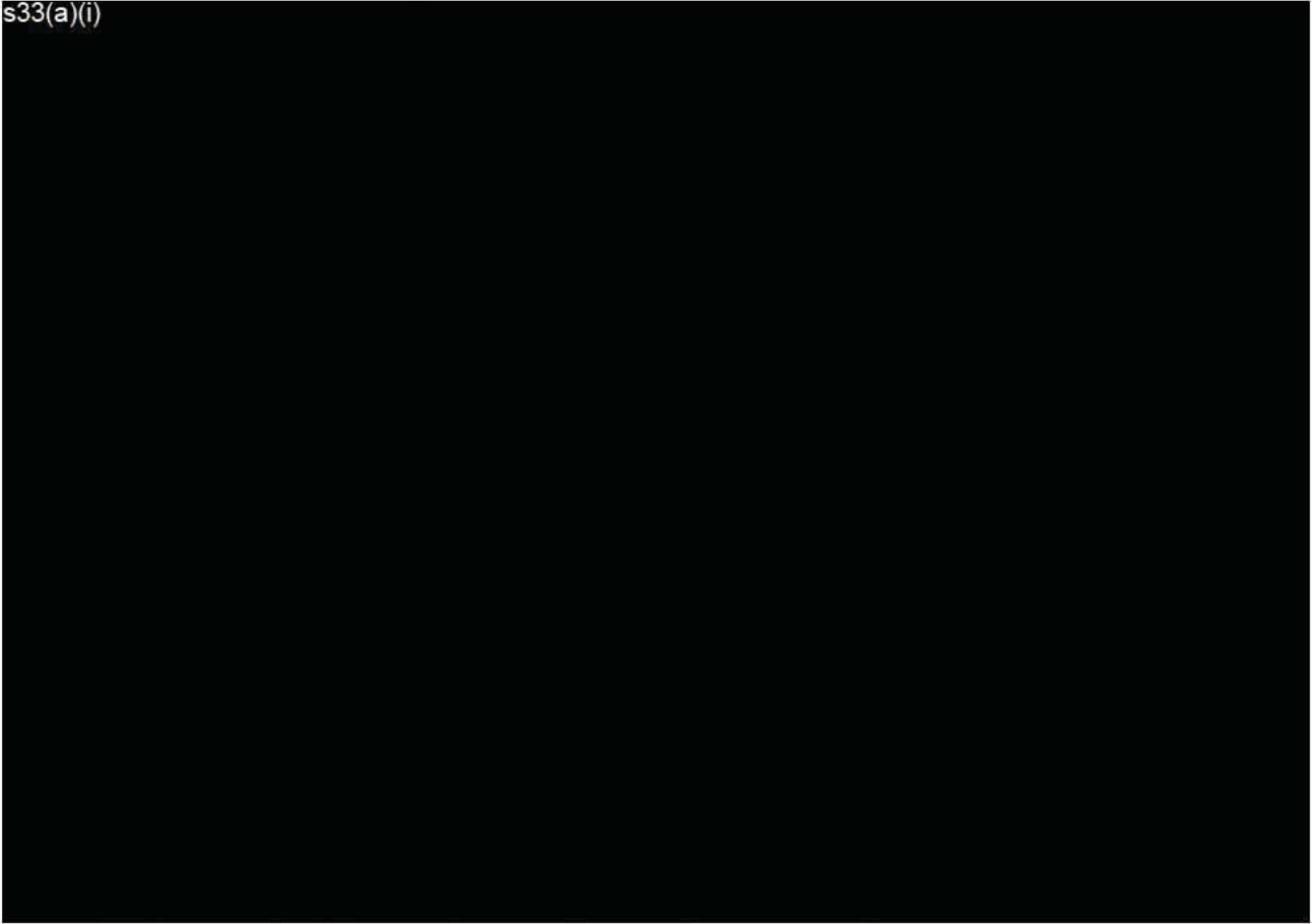
2.2.14 *Propulsion*

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s33(a)(i)



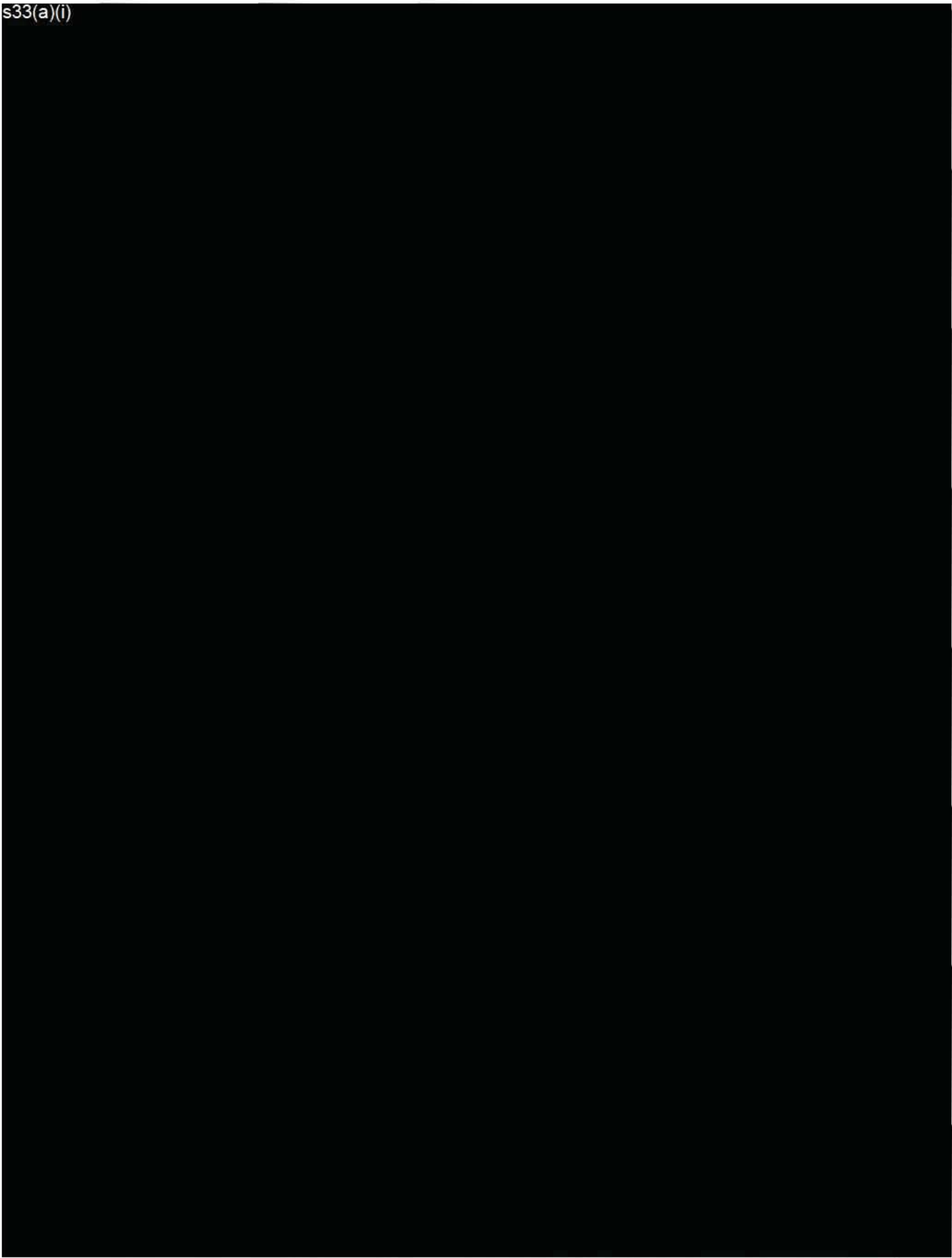
2.2.15 *Life Support Systems*

s33(a)(i)



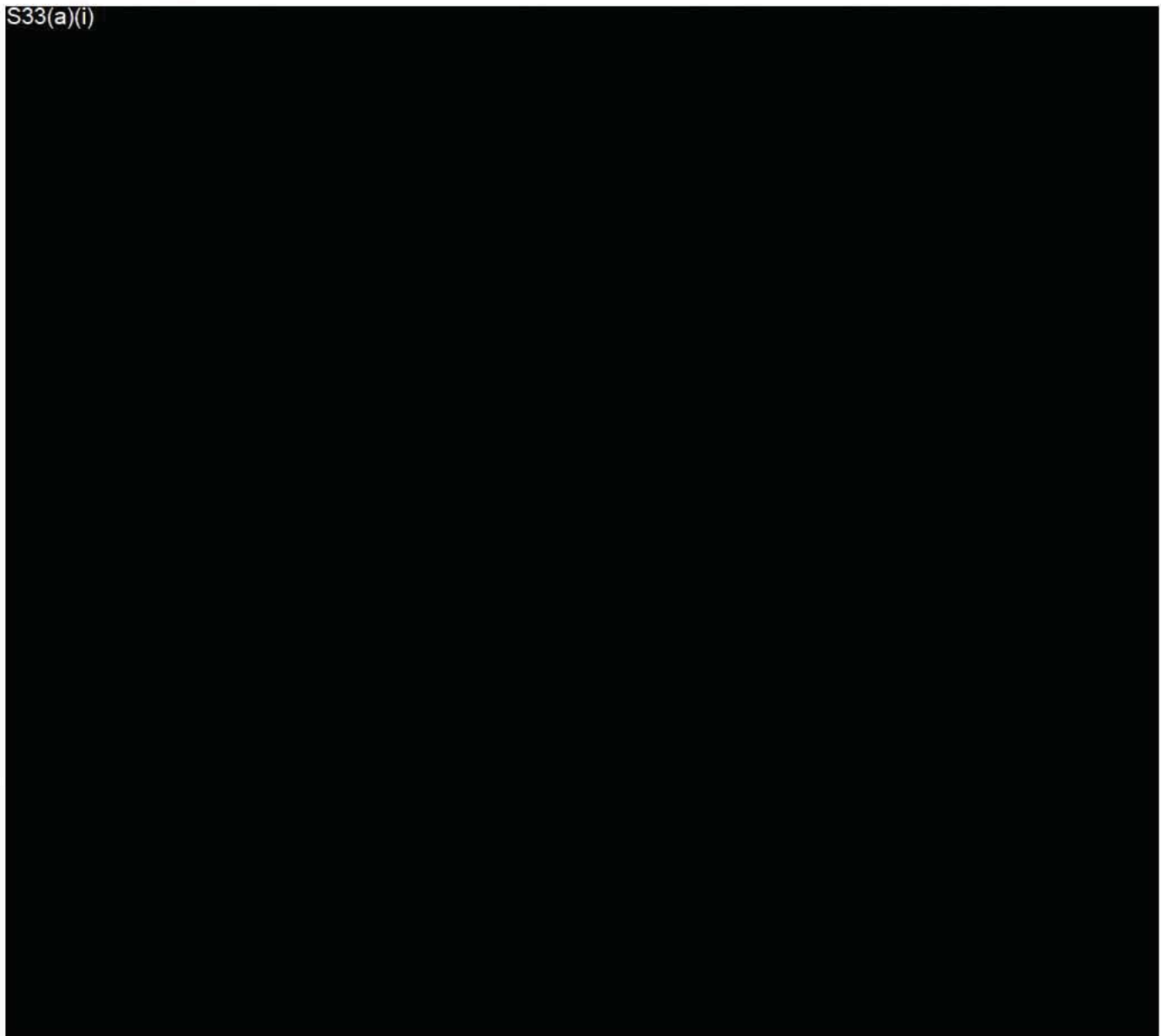
JP2048 Phase 3 FPS Version 1.0

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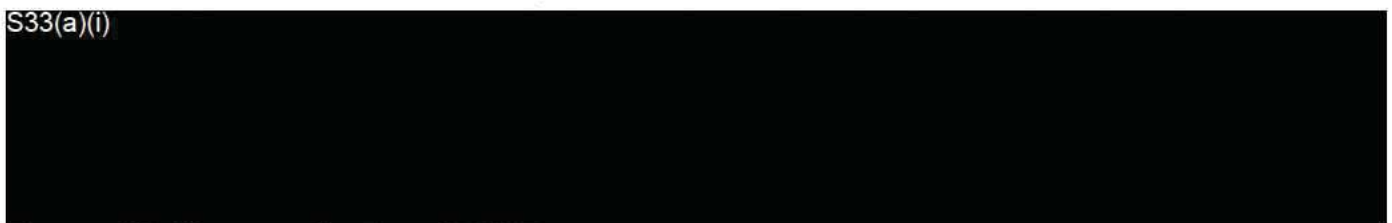
JP2048 Phase 3 FPS Version 1.0

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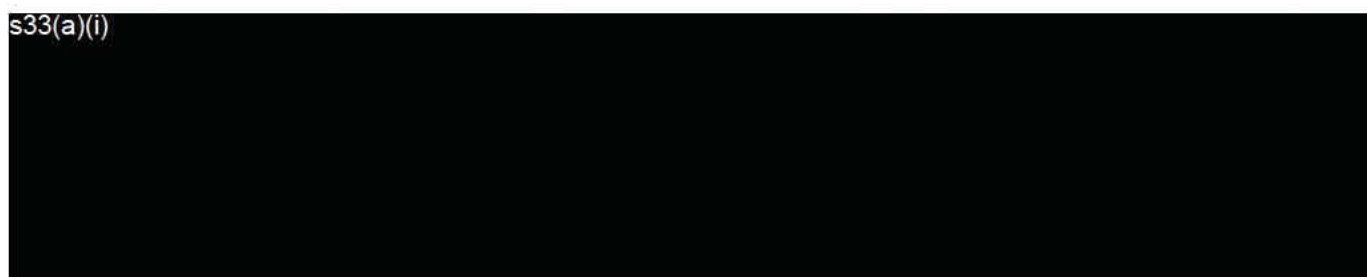
2.2.18 *Mission Critical Systems*

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2.2.19 *Auxiliary Systems*

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JP2048 Phase 3 FPS Version 1.0

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2.2.20 *Seamanship*

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2.2.21 Occupational Health and Safety

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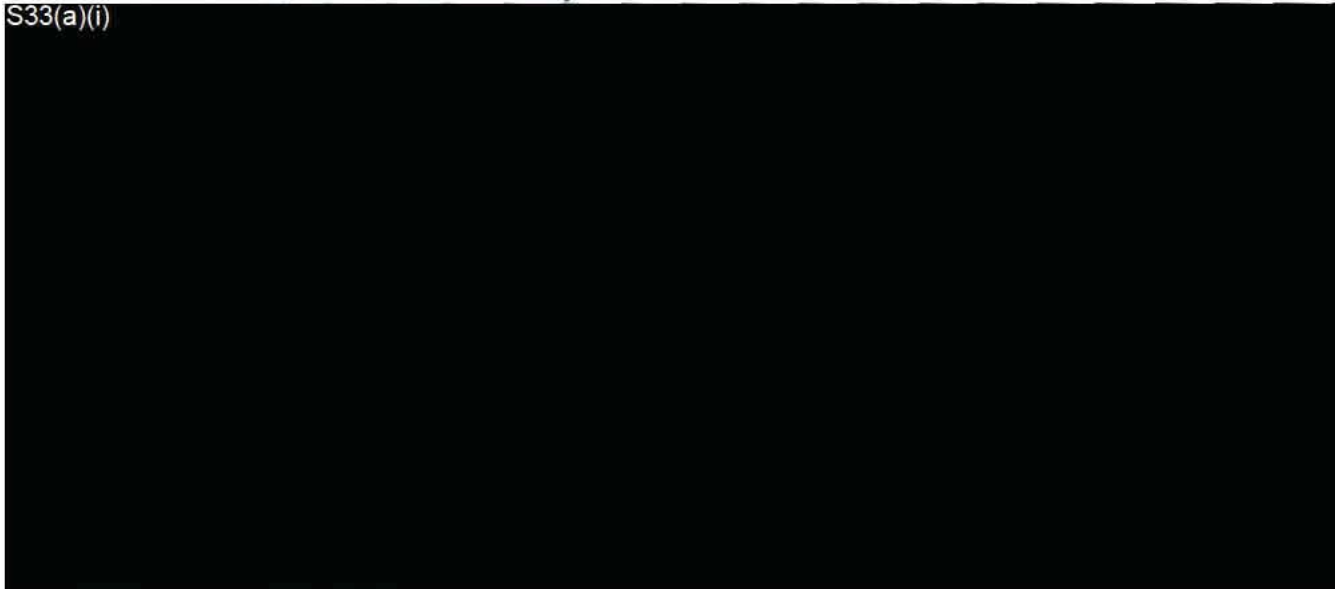
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2.3 INTEGRATED LOGISTIC SUPPORT


2.3.1 *Operational Availability*

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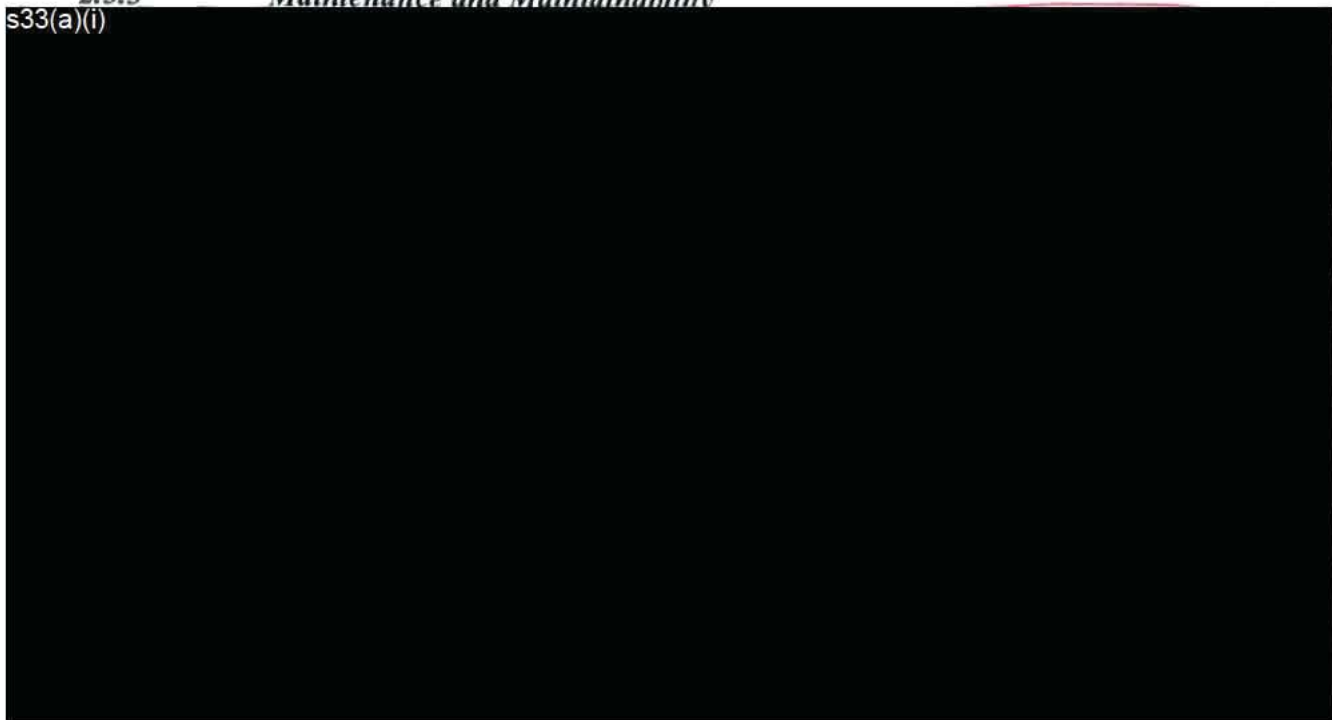
2.3.2 *Reliability*

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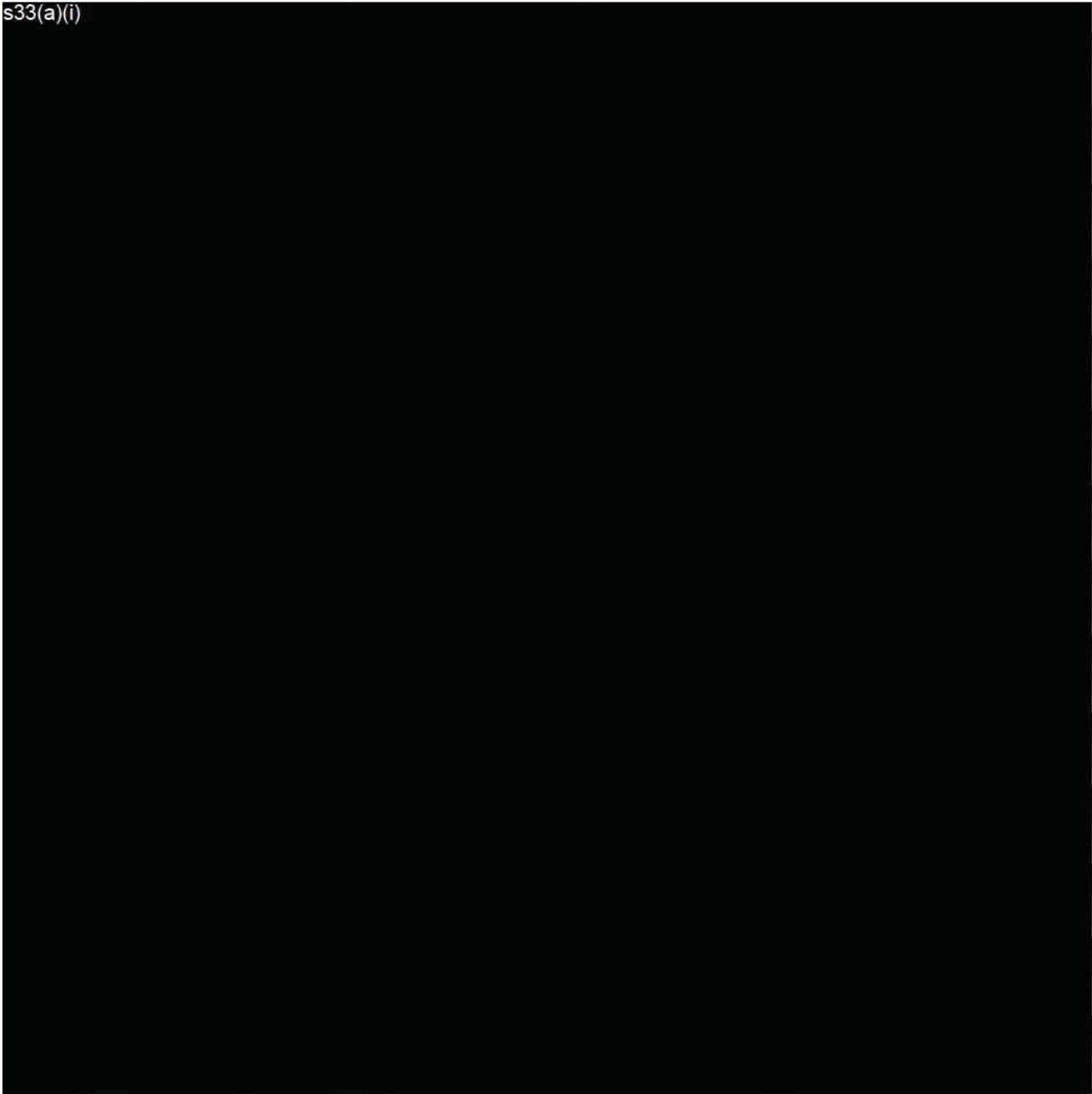
2.3.3 *Maintenance and Maintainability*

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s33(a)(i)



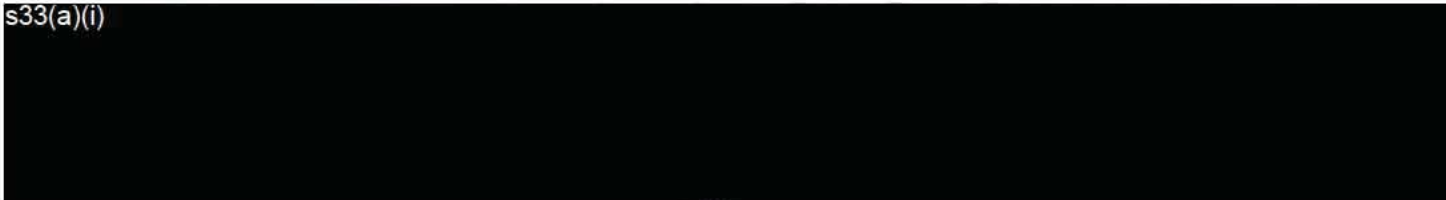
2.3.4 *Sustainability*

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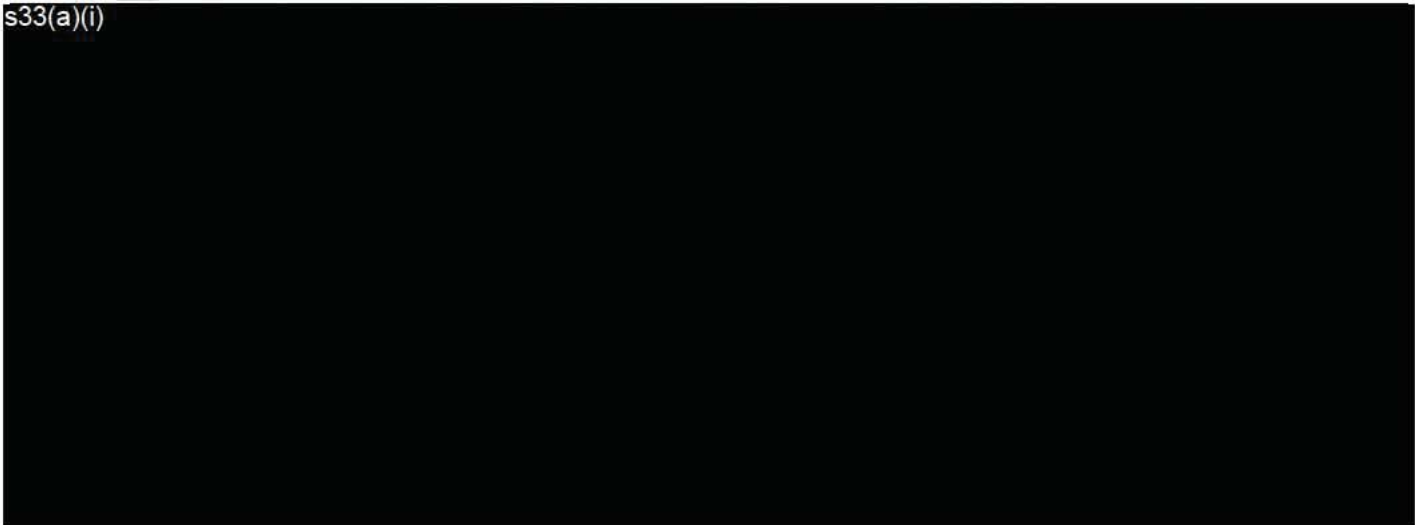
2.3.5 *Facilities*

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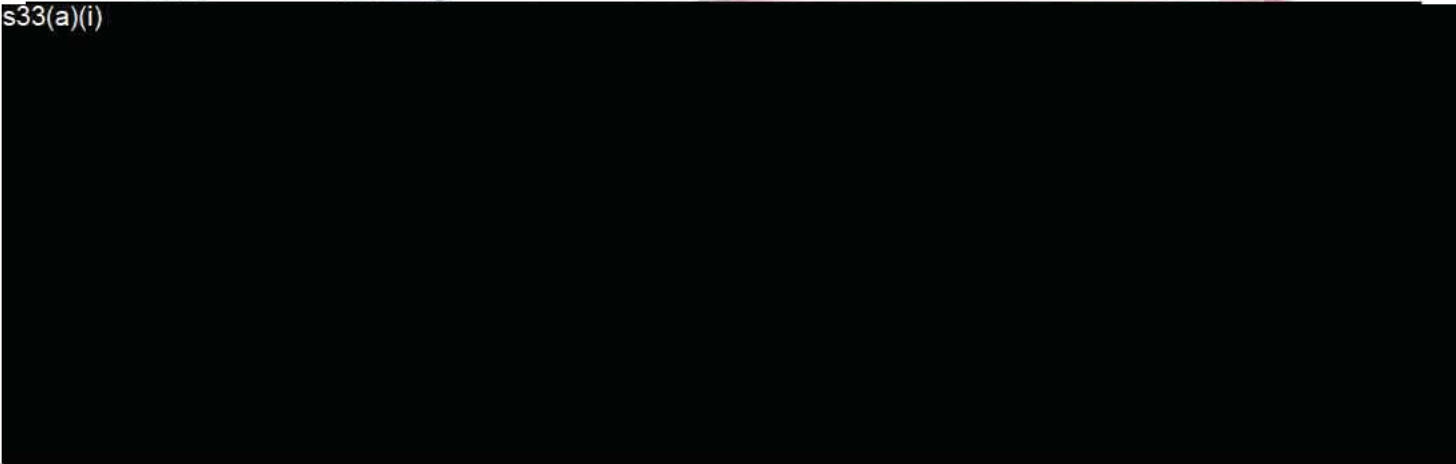
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2.3.6

Training

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ANNEX A

LIST OF ABBREVIATIONS

| | |
|-----------|--|
| ABR | Australian Book of Reference |
| ADF | Australian Defence Force |
| AGFI | Australian Government Furnished Information |
| AGFM | Australian Government Furnished Materiel |
| ALTC | Army Logistic Training Centre |
| AMSA | (Australian Maritime Safety Authority) Marine Orders |
| AS | Australian Standard |
| ASLAV | Australian Light Armoured Vehicle |
| CES | Complete Equipment Schedule |
| CoA | Commonwealth of Australia |
| DEF(AUST) | Australian Defence Standard |
| DSTO | Defence Science and Technology Organisation |
| DSC | Digital Select Calling |
| ECDIS | Electronic Chart Display and Information System |
| FPS | Functional Performance Specification or Function and Performance Specification |
| GFM | Government Furnished Materiel |
| GVM | Gross Vehicle Mass |
| GMDSS | Global Maritime Distress Safety System |
| HF | High Frequency |
| IACS | International Association of Classification Societies |
| ILS | Integrated Logistic Support |
| IMO | International Maritime Organisation |
| ISO | International Organisation for Standardisation |
| LARC V | Lighter Amphibious Resupply Cargo – 5 Tonne |
| LCM8 | Landing Craft Mechanised 8 |
| LHD | Amphibious Assault Ship |
| MW | Maritime Wing |
| NATO | North Atlantic Treaty Organisation |
| NSCV | National Standard for Commercial Vessels |
| nm | Nautical Miles |
| NVG | Night Vision Goggles |
| OH&S | Occupational Health & Safety |
| PFD | Personal Floatation Devices |
| PPE | Personal Protective Equipment |
| RAMD | Reliability, Availability, Maintainability Data |
| RAN | Royal Australian Navy |
| SI | International Standard System of Units |
| TOPP3 | Threat Oriented Protective Posture 3 |
| UHF | Ultra High Frequency |
| USL | Uniform Shipping Laws Code |
| VHF | Very High Frequency |
| WC | Water Closet |

ANNEX B**LIST OF APPLICABLE DOCUMENTS**

Admiralty Manual of Seamanship Vol II (Sea State Scale)

| | |
|-----------|--|
| AMSA | (Australian Maritime Safety Authority) Marine Orders |
| AS 1000 | The International System of Units (SI) and its application |
| AS 1345 | Identification of the contents of pipes, conduits and ducts |
| AS 2239 | Galvanic (sacrificial) anodes for cathodic protection |
| AS 2254 | Acoustics – Recommended noise levels for various areas of occupancy in vessels and offshore mobile platforms |
| AS 2670 | Evaluation of human exposure to whole-body vibration |
| AS 3112 | Approval and test specification – Plugs and socket outlets |
| COLREG 72 | International regulations for the prevention of collisions at sea, 1972 |
| DDS 079-1 | Stability and Buoyancy of U.S. Naval Surface Ships (for ships less than 100m in length, for Intact and Damage stability criteria). Note- Taking account that the standard is difficult to apply to a landing craft as it is derived from other ship types, the following has been applied: Margin Line referred to the upper deck; Reserve Buoyancy is considered intact; and Regarding the permeability requirements of the cargo deck, it has been considered the permeability average for the cargo spaces included in the DDS-079 standard in table 8, section 079-1-e, part IV |

| | |
|--------------------------|--|
| | (Calculation Methods) page 68, where it is not required a direct modelling of permeability. |
| DEF(AUST) 206F | Handbook of Liquid fuels, lubricants and Allied Products |
| DEF(AUST) 5000 | ADF Maritime Materiel Requirement Set (MRS) |
| DEF(AUST) 5168 | The Climatic Environmental Conditions Affecting the Design of Military Materiel (Amendment 2 Feb 1983) |
| DEF(AUST) 5213 A | Fuel, Naval, Distillate Specification (NATO Code F-76, DIESO F76) |
| EMEI MARINE L 139-11 | Electrical & Mechanical Engineering Instructions – Paint System General Instruction (Note: EMEI MARINE A 520 to be used as surface preparation reference) |
| Lloyd's Register Rules | |
| MARPOL 73/78 | International convention for the prevention of pollution from ships, 1973 |
| MIL-STD-6017A | Variable Message Format |
| MIL-STD-2045-47001D | Connectionless Data Transfer Application Layer Standard |
| Montreal Protocol | Ozone Protection Act 1989 Schedule 3 |
| National OH&S Commission | Hazardous Substances |
| NSCV | National Standard for Commercial Vessels |
| USL | Uniform Shipping Laws Code |

ANNEX C

**LIST OF AUSTRALIAN GOVERNMENT FURNISHED MATERIEL
(AGFM)**

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