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Department of Defence

DEFENCE INSTRUCTIONS (GENERAL)

New instruction

LOG 4-5-012

Regulation of technical integrity of Australian Defence Force materiel

Department of Defence
CANBERRA ACT 2600

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Cancellation

DI(G) LOG 8-15 ISSUE NO LOG B/2/2004 of 25 JUN 2004 (AL1) is cancelled. Replaced by DI(G) LOG 4-5-012.

REGULATION OF TECHNICAL INTEGRITY OF AUSTRALIAN DEFENCE FORCE MATERIEL

INTRODUCTION

1. The Service Chiefs are accountable to the Chief of the Defence Force (CDF) for ensuring that Australian Defence Force (ADF) materiel is fit for service, and only poses acceptable risk to personnel, public safety, and the environment.
2. Technical regulation is how Service Chiefs, as capability output managers, establish confidence in the processes by which the fitness for service and requisite levels of safety of materiel are achieved.

POLICY STATEMENT

3. The Service Chiefs, through the ADF Regulatory Framework, are accountable to CDF for the technical integrity of all ADF materiel.

SCOPE

4. This Instruction provides the policy under which effective and efficient technical regulation is to be established. It applies to all Defence personnel as defined in [annex A](#).

DEFINITIONS

5. Where not included in the body of this Instruction additional defined terms are included in [annex A](#).

POLICY APPLICATION

Regulatory requirements

6. The degree of regulation of technical integrity of ADF materiel must be determined in accordance with sound risk management practice. Regulatory requirements must be justified in terms of risks to fitness for service, safety and the environment. ADF materiel must be designed, manufactured and maintained, to approved standards, by competent and authorised individuals who are acting as members of an authorised organisation, and whose work is certified as correct.
7. The regulatory processes applied to the technical integrity of ADF materiel are to be developed with an awareness and recognition of the civil regulatory regimes applicable to similar technologies.
8. The degree of regulation to be applied to a type or class of materiel is to be based on formal risk management principles. The level of risk attached to operational equipment in an operational or training environment may warrant a higher degree of regulation. Technical Regulatory Authorities (TRA) must identify and promulgate in instructions differing degrees of regulation applicable to different materiel.
9. Technical regulation is to identify, analyse, assess, treat, monitor and communicate risk in the areas of safety, performance and environmental compliance. The final decision on any trade-off between level of operational constraint and cost on one-hand and reduced risk on the other must not be made by the TRA in isolation. Accordingly, the TRA must ensure that over-regulation does not occur by establishing administrative mechanisms through which stakeholders are consulted and by which disputed requirements can be referred to the Service Chief through appropriate levels of review.
10. In the development of new requirements, TRA must consider adoption or adaptation of existing requirements promulgated by other TRA.

The Australian Defence Force Regulatory Framework

11. The ADF Regulatory Framework establishes the technical integrity environment within which internal and external organisations are to provide ADF materiel and services to Defence. Service Chiefs, as capability output managers, are accountable for the safety, fitness for service and environmental compliance (collectively referred to as 'technical integrity') of materiel introduced into and operated by the Services. The Service Chiefs must implement systems to assure the technical integrity of materiel. Service Chiefs are to delegate appropriate authority to TRA for assuring the technical integrity of maritime, land and air materiel and explosive ordnance (EO). In addition, the Commander Joint Logistics (CJLOG) is to delegate appropriate authority to the Director Ordnance Safety for the regulation of transport and storage of EO.

12. An ADF materiel manager may be directly accountable for technical integrity to more than one TRA. The single-Services are to recognise the authority of the TRA to regulate materiel within the applicable environment, across Defence. Each TRA is accountable to the appropriate Service Chief for establishing a regulatory framework and auditing compliance within that framework.

13. Common materiel under joint materiel management must be subject to the regulatory standards of all applicable TRA. Common standards must be adopted to the maximum possible extent. Where additional or differing standards are determined to be necessary, the relevant TRA must specify the additional requirements and any associated additional assurance activities.

14. Joint materiel organisations (including acquisition projects) must meet the process requirements of the TRA by operating a single technical management system. For these joint organisations, a lead TRA is to be agreed. For acquisition projects, agreement of the lead TRA must occur prior to project approval. Joint organisations must comply with the regulatory processes of the lead TRA. The lead TRA must ensure any additional regulatory process requirements of the other TRA are identified and complied with. If there are any process requirements conflicts between TRA, the TRA must deliberate on and agree process requirements that can be met by a single management system.

15. Technical regulatory requirements must be promulgated by TRA as:

- a. instructions that define policy;
- b. publications that primarily define process requirements; and
- c. ADF materiel standards (maritime/land/air/EO).

16. TRA must promulgate regulatory requirements for the technical competencies and management systems required by internal and external organisations providing ADF materiel and services. Suppliers must provide assurances of the quality of the materiel and services they provide and, in particular, of conformance with materiel and process standards approved by the TRA. The credibility of their assurance is to be established primarily by compliance with the regulatory requirements.

17. All Defence Groups responsible for acquiring or maintaining materiel must comply with the technical regulatory requirements promulgated by the TRA on behalf of the Service Chiefs.

18. The ADF philosophy of technical regulation is based on a process of certification, recognition of competence, compliance assurance and reporting.

Certification

19. The ADF philosophy of technical regulation is that organisations responsible for delivering supplies or services are required to certify that the materiel for which they are responsible complies with specified standards and is technically fit for service in the intended role. TRA must ensure that required standards are defined and that responsible authorities are competent to discharge their responsibilities, are so authorised and have appropriate management systems in place.

20. Acceptance of the materiel type or class and individual equipment into operational service is outside the scope of technical regulation. However, certificates required under the technical regulatory system will be considered by Service Chiefs in deciding whether to accept materiel into service.

21. **Acquisition of materiel.** For each acquisition, the relevant TRA or delegate must approve a technical certification plan that defines the certification process for each acquisition, including the certificates that are required and the certification authority authorised to raise each certificate. Certificates may be issued only by organisations and individuals authorised by the TRA or delegate. Acquisition project offices, supplying contractors, third party contractors and Defence organisations outside the project may be authorised to provide certificates. Technical regulation of acquisition must encompass:

- a. certification of the specification as complying with required standards;
- b. certification of supplier competency;
- c. certification by the supplier of compliance with the technical regulatory aspects of the specification; and
- d. if appropriate, certification of verification of compliance with the technical regulatory aspects of the specification.

22. The TRA or delegate must assess and recognise the competency of suppliers and their compliance with regulatory requirements, in a manner and to a level consistent with the assessed risk associated with the intended supplies. When appropriate, the Acquisition Project is to budget for, fund and arrange verification of materiel compliance by organisations independent of the supplier.

23. **In-service materiel.** The documents that form the certification basis for any acquired ADF materiel must be maintained until disposal of the materiel and in accordance with relevant departmental archival policy. In-service logistic managers must ensure that materiel design, build states and maintenance programs remain compliant with the certification basis unless otherwise authorised by the TRA or delegate.

24. **In-service design changes.** The processes for managing design changes to in-service materiel must include consideration of relevant technical, occupational health and safety, human systems integration, systems safety and environmental requirements.

Recognition of competence

25. The objective of recognition of the competence of organisations responsible for the design, manufacture or maintenance of ADF materiel is to achieve a satisfactory level of confidence in the certifications provided by the organisation. TRA must only recognise organisations as competent where they meet the following criteria:

- a. **Systems.** The organisation must have an established quality system appropriate to the type of work being performed, and any other technical management systems that the TRA may require, such as engineering management plans and configuration management plans.
- b. **People.** Individuals within the organisation must have the appropriate training, qualifications, experience, demonstrated competence and integrity to undertake the activities required, and must be authorised to perform those activities within the quality system.
- c. **Processes.** The procedures and plans that specify and define technical activities must be controlled and approved by an appropriately qualified individual, nominated within the quality system. The organisation must be able to demonstrate compliance with those procedures and plans.
- d. **Data.** The information applied to, and derived from, technical activities must be authoritative, accurate, appropriate and complete. Such data must always be accessible, but need not be retained in-house.

Compliance assurance

26. TRA must conduct compliance assurance, including auditing, of the technical regulatory system for which they are responsible. The lead TRA must agree an audit plan with the other TRA that identifies any additional regulatory process requirements and resources. TRA may also audit ADF materiel to ensure that it is properly certified. TRA must establish audit programs appropriate to the criticality of the ADF materiel involved, adjusting the extent and frequency of audit according to an organisation's auditing history. Where so directed, Defence personnel must provide TRA with any documentation or information that is relevant to the conduct of a particular audit. The audits must:

- a. review the evidence recorded in support of the certificates;
- b. include a degree of product audit; and
- c. check that recognised organisations are employing sound processes within their quality systems.

27. **Reporting.** TRA must report to the Service Chiefs periodically on the state of the regulatory system in their area of responsibility.

28. The Technical Regulatory Authority Council must promote an efficient and effective approach to technical integrity regulation across the ADF. TRA are accountable to the Service Chiefs for assuring the technical integrity of maritime, land and air materiel and EO. Each TRA provides appropriate assurance through establishing a regulatory framework and auditing compliance with that framework. TRA have established a council, consisting of a Steering Group and a Working Group, to promote a more efficient and effective approach to technical integrity regulation across the ADF. The terms of reference for the TRA Council are in [annex C](#) of this Instruction.

ROLES AND RESPONSIBILITIES

Commander Joint Logistics

29. CJLOG has overall management responsibility for the regular comprehensive review of this Instruction.

IMPLEMENTATION

30. This policy cancels Defence Instruction (General) LOG 8–15—*Regulation of technical integrity of Australian Defence Force materiel*, issued 25 June 2004. Groups and Services must ensure that all processes and procedures required for the effective implementation of this policy are clearly promulgated within six months of this policy being issued.

COMPLIANCE/MONITORING/REPORTING

31. **Compliance.** Compliance with the directions laid down in this Instruction is mandatory and enforceable. Non-compliance may result in disciplinary action for civilian personnel under the [Public Service Act 1999](#), or Defence members for breach of a lawful general order pursuant to [section 29](#) of the *Defence Force Discipline Act 1982*.

32. **Monitoring systems in place to ensure compliance of the policy.** The chairman of the TRA Steering Group, as the senior ADF TRA representative, is responsible for monitoring the TRA activity for Defence, in accordance with the responsibilities laid down in [annex C](#), to ensure that Defence personnel comply with this Instruction.

33. **Reporting requirements.** The chairman of the TRA Steering Group, as a full member of the Defence Logistics Committee, will report the results of TRA compliance across Defence, to the Defence Logistics Committee when required.

RELATED INSTRUCTIONS

34. This Instruction is to be read in conjunction with the related policy/instruments/documents shown in [annex B](#).

Annexes:

- A. [Definitions](#)
- B. [Related Instructions](#)
- C. [Technical Regulatory Authority Council—Terms of reference](#)

DEFINITIONS

Certification. The act of issuing a certificate that provides assurance that an entity, including product, service or organisation, complies with a stated specification, standard or other requirement.

Certification basis. The suite of standards against which materiel is to be certified, derived from or judged to be equivalent to a subset of the materiel standards approved by a Technical Regulatory Authority (TRA).

Defence personnel. For the purposes of this Instruction, Defence personnel are defined as:

- members of the Permanent Navy, the Regular Army or the Permanent Air Force, or members of the Reserves who are rendering continuous full-time service or are on duty or in uniform;
- persons employed in the Department of Defence under the [Public Service Act 1999](#);
- Defence civilians, as defined in [section 3](#) of the *Defence Force Discipline Act 1982*;
- Defence Locally Engaged Employees overseas;
- members of other Defence organisations on exchange; and
- external service providers, specifically contractors, consultants and professional service providers employed by Defence whose terms of service require compliance with this Instruction.

Fitness for service. In the context of this Instruction, fitness for service is the materiel's ability to satisfy operational requirements, and is hence a subset of technical integrity.

Materiel. All items including ships, tanks, self-propelled weapons, aircraft etc and related spares, repair parts and support necessary to equip, maintain and support military activities without distinction as to its application for administrative or combat purposes. ([Australian Defence Force Publication 101—Glossary](#).)

Technical integrity. An item's fitness for service, safety and compliance with regulations for environmental protection.

TRA. The appointment or organisation authorised by a single-Service Chief to issue instructions for the technical regulation of a nominated type of Australian Defence Force materiel.

RELATED INSTRUCTIONS

- Defence Instruction (General) (DI(G)) LOG 2-1—*Defence Quality Assurance*
- DI(G) LOG 4-5-007—*Defence Policy on Reliability, Availability and Maintainability*
- DI(G) LOG 4-5-009—*Materiel Maintenance Policy*
- DI(G) LOG 8-11—*Contingency Maintenance*
- DI(G) LOG 8-12—*Defence Policy on Materiel Standardisation*
- DI(G) LOG 4-5-015—*Regulation of the Technical Integrity of Land Materiel*
- DI(G) LOG 4-5-016—*Management of aircraft and engine structural integrity*

TECHNICAL REGULATORY AUTHORITY COUNCIL—TERMS OF REFERENCE

ACCOUNTABILITY/CHARTER

1. Technical Regulatory Authorities (TRA) are accountable to the Service Chiefs for assuring the technical integrity of maritime, land and air materiel and explosive ordnance (EO). Each TRA provides appropriate assurance through establishing a regulatory framework and auditing compliance with that framework. The TRA Council provides a means for interaction between the TRA and staff to promote an efficient and effective overall approach to technical integrity regulation.

TERMS OF REFERENCE

Membership

2. The TRA Council consists of two components, a Steering Group (SG) and a Working Group (WG).

3. **SG.** The SG consists of the three TRA (ie, Chief Naval Engineer, Director-General Technical Airworthiness and Director Technical Regulation—Army) and three applicable staff members, one being selected by each TRA and invited members. Standing invited members will be the Ordnance Safety Group (EO) and the Defence Materiel Organisation. SG meetings are to be held at least twice per year with the host to rotate between the respective TRA's in turn. The Senior TRA will chair the SG, and secretarial support will be provided by the host.

4. **WG.** The WG consists of applicable staff, selected by the TRA as having the competence and experience to appropriately progress tasks. WG meetings are to be held when deemed appropriate, but at least twice per year with the venue being agreed by the respective WG members. For each task or group of tasks, a 'primary TRA' is to be agreed by the WG members. The 'primary TRA' will chair, and provide secretarial support to, the WG.

Responsibilities

5. **SG.** The TRA SG is to:
- a. provide leadership and advice to promote an efficient and effective overall approach to technical integrity regulation;
 - b. remain informed of significant aspects impacting the technical integrity of Australian Defence Force materiel;
 - c. monitor the development and implementation of the respective regulatory frameworks and guide harmonisation of approaches;
 - d. champion technical integrity regulation and promote wide acceptance of the role of the TRA;
 - e. oversee and task the TRA WG;
 - f. convene at least twice per year;
 - g. direct investigation and implementation, through the WG, of initiatives aimed at:
 - (1) harmonising policy, principles, compliance assurance methodologies and terminology;
 - (2) reducing constraints imposed by respective regulatory frameworks;

- (3) improving training, awareness and understanding;
 - (4) reducing resources devoted to TRA activities; and
 - h. review and remedy professional concerns raised by individuals or groups from within the Defence Organisation technical community.
6. **WG.** The TRA WG is to assist the TRA SG in meeting its outcomes and respond to actions resulting from these responsibilities. In addition, TRA WG is to:
- a. convene as deemed appropriate, but at least twice per year;
 - b. be responsible for ensuring any issues raised by the workforce are developed by the issue originators, or appropriate TRA staff, as agendum papers for consideration by the TRA SG and/or WG;
 - c. action any tasks directed by the TRA SG or self-initiated;
 - d. provide the SG with progress reports, seeking guidance when necessary; and
 - e. promote wide acceptance of the need and roles of the TRA.

Meeting process

7. All TRA meetings will be based on a formal agenda promulgated prior to the meeting. Key issues must be sponsored by a member of the TRA SG, and should normally be properly researched, contain clear and positive recommendations, and be presented in a succinct manner. Outcomes of meetings are to be recorded and distributed appropriately. The SG is to be briefed on the progress of issues being addressed by the WG.