

DHW Technical Guideline

TG009 Commissioning and Handover

1. Purpose

This guide sets out Department of Housing and Works (DHW) requirements for the commissioning and handover of new government non-residential buildings. This guide should be circulated as appropriate to consultants and contractors.

2. Commissioning

2.1. DHW Requirements

All government buildings should be commissioned to meet the design intent of the systems before practical completion and tuned between practical completion and final completion. Generally, buildings are occupied at practical completion which is then followed by a defect's liability period before final completion. The design team, contractor and subcontractors are responsible for ensuring that all building systems operate to meet the design intent at practical completion and are monitored and tuned in the defect's liability period between practical completion and final completion.

Proper commissioning should reduce the number of callouts received after practical completion and reduce the cost of rectifying defects during the defect's liability period before final completion.

Commissioning involves ensuring that:

- Equipment and systems are installed in accordance with the client agency's project requirements,
- Equipment and systems operate to meet the design intent,
- Operation and maintenance requirements are fully documented,
- Facility manager(s) are trained to operate the building and
- Maintenance staff are trained to maintain the building.

A commissioning report detailing the commissioning results should be submitted to the project manager at practical completion. The commissioning report will serve as a reference and benchmark document for future tuning and recommissioning of the facility.

During the defect's liability period and before final completion the building should be tuned. Building tuning identifies and corrects building system problems whilst maintaining an optimised system performance and is carried out on a continual basis.

At the end of the defect's liability period and before final completion, all commissioned equipment and systems should be re-commissioned and further tuned as necessary to ensure optimum building performance is maintained.

It should be noted re-commissioning is not intended to be a repeat process of the entire commissioning process, rather it is a review and subsequent adjustment of the systems to ensure that the original performance criteria / design intent is being achieved.

The re-commissioning review together with details of any building tuning should be documented before undertaking any physical recommissioning works. This review should be included in the final commissioning report.

The commissioning reports and reviews should be tailored to the systems installed. It would not be expected that a wall mounted split system would require lengthy reports or reviews, however a large building with centralised plant and extensive air distribution systems would require detailed commissioning reports and reviews.

DHW project managers should forward all commissioning reports and reviews to Building Technical Services.

Email reports to: principal.architect@dohw.wa.gov.au

2.2. Sub-consultant scope

The project manager and lead consultant need to ensure that the scope for mechanical, hydraulic and electrical engineering works includes the requirement to oversee subcontractors undertaking commissioning to the specified requirements, and monitoring energy consumption during the defect's liability period.

DHW Building Technical Services can provide advice on the required commissioning and monitoring standard for individual projects, if necessary.

Email queries to: principal.architect@dohw.wa.gov.au

2.3. Programming

The most significant factor affecting commissioning is the project program. Proper commissioning requires that the program:

- · allows sufficient time for the commissioning activities, and
- is enforced so that prerequisite tasks are completed on time.

If the program is not enforced and there are construction delays, it is imperative that this time is not taken from the commissioning programme without prior consultation and approval with both DHW and commissioning engineers / technicians.

2.4. Independent commissioning agent

For complex buildings valued over \$10 million, an independent commissioning agent (ICA) may be appointed to manage the commissioning process. If an ICA is to be used, they should be engaged during the design phase and provide input to both the project

program and specification, especially NATSPEC worksections 0164 *Commissioning* and 0127 *Commissioning* – *information*.

Please note that these two worksections should only be used for projects where an ICA has been engaged. For all other projects, commissioning specification is covered in 0171 *General requirements* and relevant technical worksections.

2.5. Environmentally sustainable design (ESD) requirements

Consultants shall refer to TG040 Environmentally sustainable design guideline for non-residential government buildings for requirements on ESD.

3. Handover

3.1. Pre-handover meeting

3.1.1. The meeting should include the following attendees:

- DHW project manager
- Superintendent's representative
- Contractor
- Agency asset manager
- Agency facility manager or other representative
- DHW Maintenance representative (if applicable)
- External maintenance contractor

3.1.2. The meeting agenda should include:

- Roles and responsibilities
- Project status and practical completion
 - Outstanding works, including as constructed drawings and operation manuals
 - Variations
 - Work by others
- Defects liability period
 - Fault recording
 - Fault reporting
 - Actioning faults
- Insurances and release of security
- Building security
 - Arming and disarming security systems
 - Temporary fencing
- Commissioning
 - Initial commissioning before practical completion

- Tuning procedures after practical completion and before final completion
- Handover
 - Keys
 - Access control cards
- Energy and water monitoring
- Final Completion processes
- Other matters

3.2. As Constructed drawings and operating and maintenance manuals

The Lead Consultant is to provide As Constructed drawings to:

- DHW Building Records in dwg and pdf formats via an approved compatible digital platform
- Agency representative (preferably facility and asset managers) in pdf format

The Superintendent's Representative is to provide all operating and maintenance manuals to the DHW project manager and the agency facility manager.

3.3. Training

The contractor is responsible for arranging training sessions for facility management and maintenance staff on each of the building systems before practical completion.

Training sessions should be provided on:

- Electrical services
- Mechanical services
- Hydraulic services
- Control systems and building management systems
- · Security services
- Lift services
- Fire services
- Irrigation services

Generally, all training sessions should be attended by participants of the pre-handover meeting.

Copies of all operating and maintenance manuals are to be supplied to facility management and maintenance staff.

3.4. Defect's liability period

Ensure the process for managing repair and maintenance work during the defect's liability period (DLP) is clear.

Ensure that the Superintendent's Representative, Contractor and agency are all aware of their responsibilities during the defects period. In general:

3.4.1. Superintendent's Representative is required to:

Administer the contract, including assessing any defects and faults.

3.4.2. Contractor is required to:

- Maintain the building services (including tuning and monitoring energy consumption) and landscaping as per the contract requirements
- Provide a schedule of routine maintenance to be done by the agency facility manager (i.e. not part of DLP)
- Rectify any defects or faults as directed by the Superintendent's Representative

3.4.3. Agency is required to:

- Occupy and operate the building in accordance with the functional brief.
- Maintain the building in good repair.
- · Insure and maintain security of the building.
- Observe, record and notify the Superintendent's Representative of any faults.

4. References and further information

- AIRAH Commissioning Ecolibrium April 2012 pp31-32
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- AIRAH New-look building commissioning Ecolibrium April 2012 pp31-32
 http://www.airah.org.au/imis15_prod/Content_Files/EcoLibrium/2012/April2012/2012
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- 3. Building Services Research and Information Association (BSRIA) *Soft landings* https://www.bsria.co.uk/services/design/soft-landings/
- Chartered Institution of Building Services Engineers (CIBSE) The Soft Landings
 Framework Australia and New Zealand CIBSE ANZ 1/2014
 https://www.cibse.org/networks/regions/australia-new-zealand/anz-regional-news/the-soft-landing-framework-australia-new-zealand-m
- Chartered Institution of Building Services Engineers (CIBSE) DE9 Application of Soft Landings & Government Soft Landings in Building Services Engineering Aug 2018 https://www.cibse.org/knowledge/knowledge- items/detail?id=a0q0O00000EhcW2QAJ
- 6. Chartered Institution of Building Services Engineers (CIBSE) CIBSE Commissioning codes https://www.cibse.org/knowledge/cibse-publications/cibse-commissioning-codes
- 7. National Environmental Balancing Bureau *Building Systems Commissioning Specifications* NEBB April 2014 http://www.nebb.org/resources/specifications/

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- 8. National Environmental Balancing Bureau Procedural Standard for Whole Building Systems Technical Commissioning 4th edition NEBB April 2014 (now superceded by ANSI/NEBB s110-2018 Whole Building Technical Commissioning of New Construction http://www.nebb.org/resources/nebb_publications/
- 9. NATSPEC TECHnote GEN 010 Mechanical commissioning strategies NATSPEC amended October 2025 http://www.natspec.com.au/index.php/resources/technotes
- 10. NATSPEC TECHnote GEN 020 *Building commissioning* NATSPEC October 2021 http://www.natspec.com.au/index.php/resources/technotes
- 11. DHW Technical Guideline <u>TG040 Environmentally Sustainable Design Guideline for Non-residential Government Buildings</u>

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2.0	October 2025	BTS	Update to DHW Updated links Delete Energy and Water Monitoring section and renumber subsequent sections Update Green Star Requirements to reference TG040	All All 2.2 2.6 / 2.5

Document approval

This guideline was endorsed and approved for use on 3 November 2025 by:

Dean Wood, Principal Architect

Department of Housing and Works

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