

ESD and WOL Plan Guide

Introduction

Purpose of ESD and WOL Plan

The ESD and WOL Plan (the Plan) should outline how the project will maximise Ecologically Sustainable Development (ESD) and Whole of Life (WOL) outcomes during design and construction activities, while meeting the performance criteria and overall functionality of the infrastructure being delivered.

The ESD and WOL Plan should be developed with reference to the following:

- Defence ESD Principles
- Defence WOL Objectives
- Smart Infrastructure Handbook (Smart Infrastructure)
- Defence Building Energy Performance Manual (BEPM)
- resource efficiency requirements in other Defence engineering manuals
- relevant Commonwealth, State or Territory legislation and regulations, policies, guidelines and Defence policies, strategies, and guidelines.

Key Personnel and Stakeholders

The ESD and WOL Plan should outline the key project personnel and Defence stakeholders, and their roles and responsibilities to maximise ESD and WOL outcomes for Defence during relevant design and construction activities.

Design activities

Approach

The ESD and WOL Plan should outline the following:

- How the design will consider ESD and WOL during the infrastructure's lifecycle including construction, operation, maintenance, decommissioning and disposal stages?
- How ESD and WOL related requirements, targets and opportunities will be considered in the design?
- How the design will consider better-practice and innovative design solutions by applying better-practice tools and benchmarks?
- How WOL assessment will be integrated into the overall design approach, where appropriate, including the use of site-specific parameters, to ensure that the preferred option will maximise the return on investment opportunities over the asset's useful life?
- Key ESD and WOL activities that will be undertaken during each design stage, such as workshops.
- Key stakeholders that will provide ESD and WOL related input during design development, including but not limited to infrastructure users, Estate Maintenance and Operations Services (EMOS) and waste contractors, Directorate of Environmental Resource Management and Sustainability (DERMS) and Environment and Sustainability Managers and Officers.

The Plan should highlight which types of opportunities appropriate to the project scope of works will be identified, investigated, assessed and reported, including but not limited to:

- building and infrastructure level considerations
- broader site-wide or precinct-wide considerations
- alternative or renewable energy supply considerations
- alternative water supply considerations and
- future-proofing infrastructure.

Setting Resource Intensity Performance Targets

The ESD and WOL Plan should outline how resource intensity performance targets specific to Defence infrastructure will be developed and reported during design, and outline the strategy to be adopted such that the performance of this infrastructure can be measured and monitored by Defence over the asset life.

Reference should be made to Defence's Resource Data Management System and the Smart Infrastructure Metering Strategy.

Reporting

The Plan should outline how the development of ESD and WOL outcomes will be tracked and reported to Defence including but not limited to the following:

- WOL reporting detailing the WOL assessment including all assumptions to allow verification of assessment.
- Reporting in accordance with other relevant Defence Manuals, e.g. Energy Consumption Reporting detailed in BEPM.
- Reporting in accordance with Smart Infrastructure including the Smart Infrastructure Handbook Design and Construct (D&C checklist) and Metering Strategy, submitted at each design review stage.
- Reporting requirements as per the relevant Contract, e.g. ESD and WOL sections in routine reports, and specific ESD and WOL reports.

Transfer of Design Knowledge and Intent

Where required and in accordance with the relevant Contract, the ESD and WOL Plan should outline how ESD and WOL initiatives implemented in the design will be captured and communicated to infrastructure users and operators such that the design intent is understood and benefits realised in the operation and maintenance of the delivered infrastructure.

Construction Activities

Approach

The ESD and WOL Plan should outline how ESD and WOL initiatives will be considered, assessed, implemented and managed during construction and associated activities including but not limited to:

- equipment selection and quality of finish to ensure ESD and WOL performance requirements and design targets are met or exceeded
- optimising construction methods that result in reduced resource use and/or reduced impact on the surrounds during construction, e.g. minimisation of hazardous materials, savings in water and energy consumption, reduction of waste sent to landfill
- auditing/quality assurance to ensure construction activities, including those carried out by subcontractors, maximise ESD and WOL outcomes and follow relevant management plans
- proactive use of procedures, forms and registers to demonstrate the application of ESD and WOL initiatives on site (and subsequent resource and cost savings) and
- capture and transfer of ESD and WOL specific knowledge to infrastructure users and operators to maximise ESD and WOL outcomes once operation of the infrastructure begins.

Reporting

The ESD and WOL Plan should outline how ESD and WOL construction initiatives will be reported to Defence including but not limited to:

- reporting requirements as per the relevant Contract, e.g. ESD and WOL sections in routine monthly (or agreed equivalent) reporting
- reporting of any deviations from the final pre-construction design documentation and whether the proposed alternative will meet or exceed the ESD and WOL performance targets set during design
- additional opportunities identified and implemented during construction, e.g. alternative waste minimisation strategies to maximise landfill reduction opportunities
- monitoring and revising, as circumstances change, the implementation of ESD and WOL initiatives and management measures in relevant environmental management plans
- monitoring and reporting the percentage of construction waste recycled and reused compared to the pre-construction target
- monitoring and reporting of actual performance against design resource intensity performance targets using the Smart Infrastructure Metering Strategy and reporting requirements outlined in BEPM during the following activities in accordance with the relevant Contract:
 - Commissioning¹
 - Defects Liability Period (DLP), including reporting of any tuning activities that may have been undertaken
 - Post Occupancy Evaluation (POE).
- Submission of the final D&C checklist and metering strategy at the Commissioning Hand Over and Take Over (CHOTO)

Handover Activities and Documentation

The ESD and WOL Plan should outline how ESD and WOL initiatives included in the design and/or implemented during construction will be captured and ESD and WOL specific knowledge transferred to the relevant infrastructure user, operator, and/or Defence representative, through the following documents and processes:

- Commissioning and Handover Plan and associated documentation
- Operation and Maintenance Manuals

¹ Noting that full occupancy and operation of the facility may not occur at commissioning, the intent is to report on the implementation of the Metering Strategy, verify against the original design, and track any changes since Design Completion.

- Building User's Guide, Energy Management Plans, and Utility Management Plans
- Training courses, manuals and other communications
- Completed D&C checklist and metering strategy

Further Guidance

This document is sponsored by the Directorate of Environmental Resource Management and Sustainability (DERMS) within Environment and Engineering Branch.

This document will be systematically reviewed by DERMS and can be accessed from the DEQMS website. The most current version shall be referred to when developing the ESD and WOL Plan. Enquiries may be directed to:

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