



Cotter Dam OEMP

Operational Environmental Management Plan

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1 Document management

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3 Introduction

3.1 Background of Cotter Dam

The Enlarged Cotter Dam (ECD) is one of the four dams used by Icon Water to store drinking water for the local community. The ECD has a total capacity of 76 gegalitres (GL), which is approximately 30 per cent of the total storage capacity of the four dams.

Construction of the ECD commenced in November 2009 and concluded in October 2013. Construction of this dam involved building a new 80 metre high dam approximately 100 metres downstream of the original Cotter Dam, as well as two substantial earth embankment dams adjacent to the main dam. This significantly increased the inundation area of the dam, with the ECD increasing the capacity by approximately 20 times.

The Environmental Impact Statement (EIS) and Public Environment Report (PER) developed for the Cotter Dam construction project contain extensive project and site information, which is not duplicated in this OEMP. These documents can be found on the [Icon Water website](#).

3.2 Purpose of the OEMP

Icon Water has developed this Operational Environmental Management Plan (OEMP) to outline the overarching environmental governance framework under which the ECD operates following construction completion in October 2013 and acceptance of responsibility for the construction-affected area and biodiversity offsets in 2016 by the ACT Parks and Conservation Service. The OEMP framework includes a series of sub plans and activities specific to environmental elements as required under the conditions of approval.

Icon Water will ensure that environmental controls are properly implemented and are regularly monitored and audited to assess their effectiveness. Reviews, as specified in Section 7, are designed to identify and instigate improvements to controls where necessary.

The OEMP is consistent with:

- Icon Water's ECD [Public Environment Report](#) commitment under Section 2.4.5 (p36) to develop an OEMP for the ECD
- Icon Water's approach to ecologically sustainable development as outlined in its Environmental Policy (Appendix A)
- Icon Water's Integrated Management System certified quality (ISO 9001), environmental (ISO 14001) and safety (AS 4801) management system, which includes procedures, work instructions and activity-specific environmental work method statements
- Icon Water's Guardian incident, action and risk management system
- Icon Water's Water Supply and Sewerage Emergency Plan
- Icon Water's operations and maintenance works through its works management system (WASP).

4 Statutory framework

The ECD is regulated by and operated in compliance with approvals granted by the Commonwealth and ACT governments prior to construction, and the *Licence to Take Water (WU67)* under the *Water Resources Act 2007* (ACT). Approvals granted prior to the construction of the ECD which continue to regulate the operation of the dam include:

- ACT Planning and Land Authority – Notice of Decision dated 16 September 2009 with Conditions of Approval under Section 165 of the *Planning and Development Act 2007* (ACT);
- Commonwealth Department of the Environment – Approval Decision dated 21 October 2009 of the Public Environment Report with Conditions of Approval under Sections 130(1) and 133 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth); and
- Icon Water – Environmental Impact Statement Chapter 8 Commitments completed in June 2009.

Icon Water's compliance with these obligations is tracked using the operational Compliance Tracking Plan. Further information on this plan can be found in Section 5.2.

Icon Water also complies with the comprehensive list of environmental legislation, standards, guidelines and approvals relating to environmental management for the operation of the Cotter Dam outlined at Appendix B.

5 ECD Sub plans

In compliance with development approvals and Environmental Impact Statement commitments, Icon Water has developed a series of issue specific sub plans for the management of the ECD's operation.

Commonwealth Sub Plans

Plans currently in place to ensure compliance with the Conditions of Approval determined by the Commonwealth Department of the Environment include:

- Fish Management Plan (including Alien Fish Management Plan).

ACT Sub Plans

Plans currently in place to ensure compliance with the Conditions of Approval determined by the ACT Planning and Land Authority include:

- Compliance Tracking Plan.

Plans completed

A number of plans relevant to the OEMP only during the filling phase of the ECD and the defect liability period are now considered closed.¹ These plans include:

- Filling Plan (called Management of Macquarie Perch during Filling Phase Report) (now the Fish Management Plan)
- Biodiversity Offset Implementation Program (land now managed by ACT Parks and Conservation Services)
- Terrestrial Flora and Fauna Management Plan (land now managed by ACT Parks and Conservation Services)
- Landscape Rehabilitation Management Plan (land now managed by ACT Parks and Conservation Services)
- Below Dams Ecological Monitoring Program (requirements now included in the *Licence to Take Water (WU67)*)
- Enlarged Cotter Dam and Murrumbidgee Pump Station Environmental Flow Plan (requirements now included in the *Licence to Take Water (WU67)*).

5.1 Fish Management Plan

The Fish Management Plan (FMP) consists of four versions designed to assist in the protection of threatened aquatic species potentially impacted by the construction and operation of the Cotter Dam at various stages of the project. All versions have been subject to the approval of ACT Parks and Conservation Service, Transport Canberra and City Services and the Commonwealth Department of Environment and Energy before finalisation.

During the ECD design and construction, [FMP Version 1](#) was released in February 2009 and [FMP Version 2](#) was released in November 2010. [FMP Version 3](#) was approved in November 2013 and manages the reservoir during the filling phase. FMP Version 4 is currently in development and is expected to be released in 2017/18; this version of the plan will outline the management of the reservoir now that it has filled.

The Fish Management Plan V3 specifically includes:

¹ Filling of the ECD was completed in June 2016, and the defect liability period ended and construction affected areas were accepted in 2016 by the enduring land manager, ACT Parks and Conservation Services.

- A comprehensive fish monitoring program that test ten key hypotheses
- A Macquarie perch Translocation Program
- A Macquarie perch management during Filling Phase Plan
- An ECD Alien Fish Management Plan.

5.2 Compliance Tracking Plan

The Compliance Tracking Plan is designed to track and audit the requirements of and compliance with the ECD conditions of approval. Separate plans exist for construction and operations. The Compliance Tracking Plan (22 May 2014) was approved by ACTPLA on 5 June 2014.

The Compliance Tracking Plan includes:

- Provisions for periodic review of the compliance status of the development against the requirements and conditions of approval;
- Provision for periodic reporting of compliance status to ACTPLA and the EPA; and
- Mechanisms for rectifying any non-compliance identified during auditing or review of compliance.

A Cotter Dam Development Approval and EIS Compliance Obligations Register was developed under the Plan as the key instrument to facilitate ongoing compliance tracking. This register is subject to periodic review.

6 Existing Systems and Functions

For many operational environmental management aspects, existing business systems and functions were utilised rather than isolated sub plans which would otherwise duplicate existing processes and procedures. The most pertinent of these are discussed below.

6.1 Environmental Impact Statement and Public Environment Report Commitments

The [Environmental Impact Statement \(EIS\)](#) and [Public Environment Report \(PER\)](#), developed for the Cotter Dam construction project, contain extensive environmental impact and risk mitigation measures, which are not duplicated in this OEMP. These can be viewed on Icon Water's public internet page. Particular chapters of relevance include:

- PER Chapter 8. Environmental Values and Management of Impacts: Aquatic
- EIS Chapter 5. Potential Environmental Impacts
- EIS Chapter 6. Potentially Significant Environmental Impacts.

6.2 Icon Water's Commitment to Sustainability

Icon Water is governed by the *Territory-Owned Corporations Act 1990 (ACT)*. The main objective of the Act is for Icon Water to operate in accordance with the objective of ecologically sustainable development; defined as the effective integration of environmental and economic considerations in decision-making processes. This requirement is supported by Icon Water's Environmental Policy (Appendix A).

6.3 Environmental Incident Response and Notification

Environmental incidents and non-compliances with environmental licences or development approval conditions are required to be recorded and tracked using Icon Water's incident response and reporting protocols set out in *WI03.00.03 Environmental Incident Response and Notification* under the certified Integrated Management System. Incident response and notification ensures that:

- The environmental impact is minimised and cleaned up as soon as practicable
- All relevant parties, including regulators, are informed of the incident
- Mitigation measures are explored and implemented as appropriate to prevent recurrence.

6.4 Water Supply and Sewerage Emergency Plan

The Cotter Dam has been designed to mitigate plausible system failures associated with flooding, power outage and blockages. In the case of failures beyond design parameters or exposure to emergencies such as flooding, bushfire or terrorism, the *Water Supply and Sewerage Emergency Plan* is enacted. The Plan is a single functional emergency and incident response document under the *Utilities – Emergency Planning Code* and *Utilities Act 2000 (ACT)* that combines procedures for managing all emergencies in Icon Water's water and sewerage networks. Any emergency arising from the operations and maintenance of the Cotter Dam will be dealt with under this plan and sub plans (e.g. Dam Safety Plan Cotter River Dams)

Key emergency contacts are listed in Appendix C.

6.5 Annual Operations Plan

The Icon Water Annual Operations Plan incorporates seasonal outlooks, water supply catchment and source conditions and expected customer demand to outline a plan for operating the ACT potable water supply network, including the Cotter Dam, for a future defined period.

6.6 Operations and Maintenance Manuals

Operation and maintenance of the ECD infrastructure is planned in line with manufacturers' recommendations and operational objectives, including environmental requirements. The Operations and Maintenance Manuals for the Cotter Dam were developed based on manufacturers' recommendations, details operational instructions and details/schedules maintenance requirements for the life of the infrastructure including dam safety, water quality, water operations, electrical mechanical systems, etc. Maintenance programs may also be adapted by considering performance based maintenance experience. Changes to the Asset Management Plan, Maintenance or Operations Program can be made based on the findings of asset management reviews.

6.7 Integrated Management System

Icon Water uses the Integrated Management System (IMS) to develop organisational strategy, translate it into operational actions, and to monitor and improve the effectiveness of both. The system is operated and continually improved to comply with PAS 99:2012 *Specification of common management system requirements as a framework for integration* (PAS 99) as set out in *PO11 Integrated Management System*. Icon Water is committed to maintaining certification for the following IMS components:

- Quality Management – certified to AS/NZS ISO 9001:2008 *Quality management systems – Requirements*
- Environmental Management – AS/NZS ISO 14001:2004 *Environmental management systems – Requirements with guidance for use*
- Safety Management – AS/NZS 4801:2001 *Occupational health and safety management systems – Specifications with guidance for use*.

6.8 Below Dams Ecological Monitoring Program

The Below Dams Ecological Monitoring Program consists of monitoring events in spring and autumn each year to determine the biological responses to and effectiveness of environmental flows for ACT aquatic ecosystems, subject to flow regulation versus unregulated reference sites.

As well as fulfilling the approval conditions of the Commonwealth and ACT governments for the construction of the ECD, this program meets compliance requirements included in WU67. Only the Below Dams Ecological Monitoring Program relevant to below Cotter Dam is pertinent to this OEMP.

Reports from the Below Dam Ecological Monitoring Program are published on the [Icon Water website](#) and inform adaptive management decisions by both Icon Water and the regulators, ensuring that the ACT aquatic resources are appropriately protected.

7 Review

This document is the third review of the ECD OEMP. Reviews were conducted in 2014, 2015 and 2016, meeting the requirement of the ACT and Commonwealth regulators. From this point forward, this document will remain as the final version of the ECD OEMP with compliance to be reviewed periodically to ensure adherence with the ECD conditions of approval.

8 Appendices

Appendix A: Environmental Policy

POLICY P03

Environmental management



Responsible Executive: General Manager Business Services
Date of issue: 14 October 2014 Version: 1.1 Next review date: 14 October 2017

1. Scope

- 1.1.1 All Icon Water workers must apply this policy to all work that they undertake. All Icon Water workers are responsible for understanding, implementing, maintaining and continuously improving the Environmental Management System in areas under their control.

2. Purpose

- 2.1.1 This policy provides high level direction and documents Icon Water's commitment to:
- provide safe water and wastewater services to its customers and the community
 - ensure environmental management and sustainability when designing, operating and maintaining Icon Water's assets
 - prevent pollution.

3. Policy

- 3.1.1 Icon Water is committed to operating and continually improving an effective Environmental Management System (EMS) that conforms to ISO 14001:2004 *Environment Management – Requirements with guidance for use* and support compliance with ACT, NSW and Commonwealth legal obligations including the *Environment Protection Act 1997 (ACT)*, *Water Resources Act 2007 (ACT)* and the *Territory-owned Corporations Act 1990 (ACT)*. The EMS will operate as a component of a broader Integrated Management System (IMS) and includes activities to support operations in accordance with the principles of Ecologically Sustainable Development
- 3.1.2 The General Manager Business Services is the executive responsible for the EMS and leads its operation and continual improvement. The executive responsible must establish and document EMS objectives (relating to the operation and continuous improvement of the EMS), along with performance measures and targets. The executive responsible also makes decisions in regard to:
- appointing the EMS Management Representative (MR)
 - the focus of improvement effort
 - authorising the EMS objectives, performance measures and targets.
- 3.1.3 All Executives play a key role in applying the EMS in areas under their control. They make decisions to determine the adequacy and effectiveness of environmental management and identify areas for improvement.
- 3.1.4 The EMS MR must:
- ensure the EMS requirements are established, implemented and maintained (in accordance with ISO14001)
 - report on the performance of the EMS to the IMS MR for review and as a basis for improvement of the EMS
 - promote an awareness of environmental requirements throughout the organisation

4. Definitions

Icon Water uses the terminology contained in ISO 14001:2004.

Term	Definition
Environment	The term environment refers to an organisation's natural and human surroundings. An organisation's environment extends from within the organisation itself to the global system, and includes air, water, land, flora, fauna, as well as human beings.
Executives	Individuals with the title 'General Manager' who report directly to the Managing Director.
Ecologically sustainable development	Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends. This includes the effective integration of environmental and economic considerations in decision-making processes (As defined in the Territory-owned Corporations Act 1990).
Management Representative (MR)	The organisation's top management shall appoint a specific management representative(s) who, irrespective of other responsibilities, shall have defined roles, responsibilities and authority for the EMS (As defined in ISO14001:2004).
Sustainable outcomes	Outcomes achieved from a focus on sustainability, being: balancing financial health, environmental sustainability, cultural vitality and social responsibility to meet the needs of the present without compromising the ability for future generations to meet their own needs.
Worker	A person/s who carries out work in any capacity including an employee, contractor, employees of sub-contractors, labour hire workers, apprentices, students or volunteers (As defined in the ACT Work Health and Safety Act 2011).

5. References

5.1.1 *Environment Protection Act 1997 (ACT)*

5.1.2 *Water Resources Act 2007 (ACT)*

5.1.3 *ISO 14001:2004 Environment Management – Requirements with guidance for use*

6. Document control

Version	Short Description of Amendment
1.0	New policy for Icon Water IMS.
1.1	Administrative amendment – combined 3.1.1 and 3.1.2 policy requirements and included the definitions for sustainability and ecologically sustainable development.

Appendix B: Statutory Framework

B.1 Relevant Legislation

Key environmental legislation relating to environmental management for the operation of the Cotter Dam is listed in Table B.1.

Table B.1: Key Environmental Legislation

Legislation

Environment Protection Act 1997 (ACT) & Environment Protection Regulation 2005 (ACT)

Nature Conservation Act 2014 (ACT)

Fisheries Act 2000 (ACT)

Pest Plants and Animals Act 2005 (ACT)

Heritage Act 2004 (ACT)

Native Title Act 1994 (ACT)

Water and Sewerage Act 2000 (ACT)

Water Resources Act 2007 (ACT)

Utilities Act 2000 (ACT)

Territory-owned Corporations Act 1990 (ACT)

Dangerous Substances Act 2004 (ACT)

Waste Minimisation ACT 2004 (ACT)

B.2 Guidelines and Standards

The key reference material relevant to environmental management during the operation of the Cotter Dam is listed in Table B.2.

Table B.2: Guidelines and Standards

Guideline / Standard

General Environment Protection Policy (2007)

Water Quality Environment Protection Policy (2008)

Noise Environment Protection Policy (2010)

Air Environment Protection Policy (1999)

Environmental Guidelines for the Preparation of an Environment Management Plan (2009)

Environmental Guidelines for Construction and Land Development in the ACT (2011)

B.3 Approvals, Licences and Permits

The various approvals, permits and licences relevant to the Cotter Dam are listed in Table B.3.

Table B.3: Approvals, licenses and permits

Approval / License / Permit

Licence to Take Water from Cotter, Queanbeyan and Murrumbidgee Rivers (WU67)
under the *Water Resources Act 2007* (ACT)

Appendix C: Icon Water Emergency Contacts

Table C.1: Icon Water emergency contacts

Contact	Phone	Email
Water Distribution	0414 511 719	
Environment and Sustainability	6180 6229	
Icon Water Customers, Faults and Emergencies	6248 3111	talktous@iconwater.com.au

Table C.2: ACT Authority emergency contacts

Contact	Phone	Email
ESDD - EPA	13 22 81	Environment.protection@act.gov.au
ACT Health	6205 1700	HealthACT@act.gov.au
ACT Emergency Services	000 (all phones and mobiles) 112 (GSM phones) 106 (text)	

The Icon Water [Environmental Incident Response and Notification Work Instruction](#) outlines what to do and who to contact in response to an environmental incident.