



Murrumbidgee to Googong Water Transfer Annual Performance Report 2017

**For the period September 2016 to
August 2017**

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2 Contents

3	Introduction	4
3.1	Purpose	4
3.2	Background	4
3.3	M2G Status	4
4	Performance	5
4.1	Performance against Commonwealth Conditions of Approval	6
4.2	Performance against Objectives and Targets of the OEMP	8

3 Introduction

3.1 Purpose

This report addresses Commonwealth Condition of Approval No.6 of approval EPBC 2009/5124 for the Murrumbidgee to Googong Water Transfer (M2G) project under the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*.

3.2 Background

The Murrumbidgee to Googong Water Transfer (M2G) is a 12km pipeline that enables the pumping of water from the Murrumbidgee River, ACT to Burra Creek, NSW, where it then flows ~13 km to the Googong Reservoir.

Following regulatory approvals from the Commonwealth, ACT and NSW, construction of the pipeline commenced in January 2011, and the M2G became operational in September 2012.

3.3 M2G Status

Since construction completion in September 2012, regular maintenance runs (every 2-3 months) have been undertaken to ensure pumps and other equipment are maintained. There have been no operational runs (with the aim of transferring bulk water to Googong Reservoir) to date.

Icon Water holds a pipelines licence in relation to M2G, issued by the NSW Government under the Pipelines Act 1967. A management plan for the ongoing operation and management of the licence has been approved by the NSW Government. Compliance with the management plan is regularly audited.

At project completion, commissioning of the M2G system consisted of a five day operating period. The system was never operated for any extended period and so reliability was not proven. During the subsequent period of standby mode the system experienced a number of technical issues. A non-conformance for “witness safe operation” was escalated to critical non-conformance in December 2016.

A surveillance audit was undertaken in late June 2017 to extend the certification of the current licence.

A package of evidence was provided to the auditor to demonstrate that given the recent weather related constraints, all the operational requirements have been met to demonstrate safe operation of the pipeline. Notably, the hydro generator had recently been returned to service, which addressed a major concern of the auditor.

During the audit the entire system, including the hydro generator, operated safely and in accordance with the design parameters at full capacity without any interruption. This satisfied the closure of the outstanding critical non-conformance and removal of the conditional certification of the licence.

In the short-medium term, the scheme is unlikely to be required for bulk transfers, based on a number of factors including current overall water storage levels across the systems, and favourable climate/rainfall and demand conditions.

4 Performance

Commonwealth Condition of Approval No. 6 (Publication Requirements) requires Icon Water to provide an Annual Performance Report on the implementation of the conditions of approval and any approved plans required under these conditions. This Annual Performance Report details the performance of M2G from September 2016 – August 2017.

Performance is reported against:

- Commonwealth Conditions of Approval (EPBC 2009/5124) in Section 4.1
- Table 4 'Objectives and Targets' of the M2G Operation Environmental Management Plan (OEMP) in Section 4.2.

4.1 Performance against Commonwealth Conditions of Approval

CoA Ref#	Requirement	Compliance Status	Comments
1.	Submit an Extraction & Gauging Plan that meets CoA 1a-1d.	Condition met	Original Plan approved 22 March 2012.
	Implement Extraction & Gauging Plan	Ongoing	<p>The Extraction & Gauging Plan was incorporated into an updated Streamflow & Water Quality Management Plan, which was approved on 4 August 2014. A variation to this plan was approved by the Commonwealth on 28 July 2015.</p> <p>The Streamflow & Water Quality Management Plan was implemented throughout reporting period.</p> <p>Note that a revised Operational Environment Management Plan (OEMP) and corresponding sub-plans including the Streamflow & Water Quality Management Plan were submitted to the Commonwealth for approval in May 2017. As at 30 October 2017, Commonwealth and ACT approval of the revised plans is still pending (NSW approved the new plan on 21/08/17).</p>
2.	Submit a Sustainable Diversion Limit Plan	Condition met	Original Plan approved 15 April 2011.
	Implement Sustainable Diversion Limit Plan	Ongoing	<p>The Sustainable Diversion Limit Plan was incorporated into an updated Streamflow & Water Quality Management Plan approved on 4 August 2014. A variation to this plan was approved by the Commonwealth on 28 July 2015.</p> <p>The Streamflow & Water Quality Management Plan was implemented throughout the reporting period.</p> <p>Note that a revised Operational Environment Management Plan (OEMP) and corresponding sub-plans including the Streamflow & Water Quality Management Plan were submitted to the Commonwealth for approval in May 2017. As at 30 October 2017, Commonwealth and ACT approval of the revised plans is still pending (NSW approved the new plan on 21/08/17).</p>
3.	Submit a Biodiversity Management & Offset Plan that meets CoA 1a-1l.	Condition met	Original Plan approved 15 April 2011.

	Implement Biodiversity Management & Offset Plan	Ongoing	<p>The Biodiversity Management & Offset Plan was incorporated into an updated Offset Delivery Plan approved in April 2012.</p> <p>The M2G Offset Delivery Plan was implemented throughout reporting period.</p> <p>The M2G Offset Delivery Plan is expected to be revised during the next reporting period to reduce the vegetation survey monitoring and reporting frequency to biennially and include an additional requirement for biannual environmental condition assessment of the Offset Property to inform adaptive management.</p> <p>Note that a revised Operational Environment Management Plan (OEMP) and corresponding sub-plans including the Offset Delivery Plan (ODP) and the Landscape Rehabilitation and Terrestrial Ecology Management Plan (LRTEMP) were submitted to the Commonwealth for approval in May 2017. As at 30 October 2017, Commonwealth and ACT approval of the revised plans is still pending (NSW approved the new plan on 21/08/17).</p>
4.	Submit a Burra Creek Environmental Management Plan that meets CoA 4a-4e.	Condition met	Original Plan approved 22 March 2012.
	Implement Burra Creek Environmental Management Plan	Ongoing	<p>The Burra Creek Environmental Management Plan was incorporated into the updated Aquatic Ecology Management Plan approved on 4 August 2014. A variation to this plan was approved by the Commonwealth on 28 July 2015.</p> <p>The Aquatic Ecology Management Plan was implemented throughout reporting period.</p> <p>Note that a revised Operational Environment Management Plan (OEMP) and corresponding sub-plans including the Aquatic Ecology Management Plan (AEMP) were submitted to the Commonwealth for approval in May 2017. As at 30 October 2017, Commonwealth and ACT approval of the revised plans is still pending (NSW approved the new plan on 21/08/17).</p>
5.	Prepare and implement a Decommissioning & Closure Plan at least one year prior to decommissioning	N/A	Decommissioning is not anticipated in the medium to long term.
6.	Provide Annual Performance Reports and publish on Icon Water website	Ongoing	2013, 2014, 2015 and 2016 Annual Performance Reports submitted to the Commonwealth and published on external website. This report will be published on the external website following submission to the Commonwealth.

7.	Maintain accurate records of activities and make available on request	Ongoing	Accurate records are kept and are available on request. No data requests were made during the reporting period.
8.	Variations must be submitted to Minister for approval; and implemented if approved.	N/A	No variations have been sought regarding the Commonwealth conditions of approval. Variations of the Operational Environmental Management Plan and associated Sub Plans were sought by Icon Water in May 2017 during the reporting period. As at 30 October 2017, Commonwealth and ACT approval of the revised plans is still pending (NSW approved the new plans on 21/08/17).
9.	Variations sought by the Minister	N/A	No variations were sought by the Minister during the reporting period.
10.	Advise Department of commencement of construction and operation.	Condition met	Icon Water advised the Commonwealth of commencement of construction on 31/01/2011. Icon Water advised the Commonwealth of commencement of operation on 27/09/12 in a letter dated 04/10/12. Note that although the infrastructure is operation ready, no operational runs (with the aim of transferring bulk water to Googong Reservoir) have taken place to date.
11.	Upon direction of the Minister an independent audit of compliance with the CoA is conducted and reported to the Minister.	N/A	Icon Water did not receive a direction from the Minister during the reporting period.

4.2 Performance against Objectives and Targets of the OEMP

Objectives	Performance (Sep 2016 - Aug 2017)	Targets	Performance (Sep 2016 - Aug 2017)
1. To employ practices which ensure that the operation and maintenance of the water transfer infrastructure:	Icon Water implemented the full suite of management plans for the reporting period. The current approved plans are: • Operation Environmental	Ensure the Operation Environmental Management Plan (OEMP) and relevant sub plans and Icon Water policies, processes and systems capture all environmental legislative requirements and compliance with all planning approvals.	The M2G Compliance Register, mapping conditions of approval and EIS/PER commitments to a plan/process and responsible person, is retained on Icon Water's SharePoint record system.

<ul style="list-style-type: none"> • meet all environmental legislative requirements and compliance with all planning approvals • are conducted in a manner that minimises adverse environmental impacts. 	<p>Management Plan</p> <ul style="list-style-type: none"> • Aquatic Ecology Management Plan • Streamflow & Water Quality Management Plan • Landscape Rehabilitation & Terrestrial Ecology Management Plan • Biodiversity Offsets Delivery Plan <p>Note that a revised Operational Environment Management Plan (OEMP) and corresponding sub-plans were submitted to the Commonwealth for approval in May 2017. As at 30 October 2017, Commonwealth and ACT approval of the revised plans is still pending (NSW approved the new plan on 21/08/17).</p>	<p>Maintain up-to date and regularly reviewed versions of the OEMP and relevant sub plans and carry out all operation and maintenance activities according to these documents.</p>	<p>The current OEMP and sub-plans are available on the Icon Water Integrated Management System (IMS) and external internet site and form the basis of all operations and maintenance activities. The revised plans will be uploaded once approved by all three regulators.</p>
		<p>Report all environmental incidents to the relevant authorities as outlined in the relevant approval documentation and legislation.</p>	<p>All M2G environmental incidents were reported to the relevant authorities and entered into Icon Water's Incident Management System (Guardian). Incidents that occurred and were reported during the reporting period were:</p> <ol style="list-style-type: none"> 1. INC-11317 During M2G maintenance run from 10/11/16 to 5/12/16, pH water quality triggers were exceeded and flow step down procedures were non-compliant due to multiple equipment failures. 2. INC-11414 During maintenance testing of the M2G pumps and mini-hydro between 22/02/17 and 23/02/17, the M2G pipeline was operated outside of the management guidelines for water quality. 3. INC-11889 pH level in Burra Creek outside management plan guideline during the routine maintenance pump run on 26/06/17 and 27/06/17.
		<p>If environmental incidents do occur, review and modify the OEMP and relevant sub-plans as required in order to ensure that similar incidents do not occur in the future.</p>	<p>The three incidents that took place during the reporting period were responded to, as specified in the Streamflow and Water Quality Management Plan:</p> <ol style="list-style-type: none"> 1. The incident was verbally notified to the Commonwealth within 24 hours 2. A Preliminary Incident Report was submitted to the Commonwealth within five working days 3. A Final Incident Report was submitted to the Commonwealth within 30 working days
<p>2. To employ practices which minimise impacts on aquatic ecology.</p>	<p>The Aquatic Ecology Management Plan (AEMP) and Streamflow & Water Quality Management Plan (SF&WQMP) were implemented as required.</p>	<p>Establish a credible aquatic ecology and water quality baseline data set before operation commences.</p>	<p>Pre-operation baseline data for the Murrumbidgee River and Burra Creek has been established (commenced 2008-09) through the MEMP.</p>
		<p>Take all reasonable measures to prevent fish impingement on intake</p>	<p>The design of M2G results in very low water velocities into the intake structure when the project is operating. Icon Water is expects to undertake</p>

<p>Aquatic ecology monitoring programs required under the AEMP have been implemented through the Murrumbidgee Ecological Monitoring Program (MEMP) and reports published on the Icon Water external website.</p>	<p>screens at the Murrumbidgee River.</p>	<p>a scientific assessment of the effectiveness of this design at full operating capacity in the next performance period.</p> <p>To provide a comprehensive test of the intake screens. The test needs to be conducted in conjunction with a test of the efficacy of the fish egg filters. The filter tests were not conducted during this reporting period as the pumps were operated at full capacity (nominal 100 ML/day) in June 2017 when there was sufficient water in the Murrumbidgee River but there were no relevant fish eggs in the river at that time of year.</p>
	<p>No translocation of alien fish species from the Murrumbidgee River to Burra Creek.</p>	<p>The fish egg filters installed in M2G intake infrastructure are designed to exclude fish eggs from being transferred into Burra Creek. The filters have been maintained in accordance with the maintenance plan. In December 2013 Icon Water undertook in-situ investigations into the transfer of fish eggs at M2G at ~50% operating capacity. The work, undertaken by University of Canberra, reported that neither fish nor fish eggs were detected at the Burra Creek outlet.</p> <p>No further tests were conducted during this reporting period as the pumps were operated at full capacity (nominal 100 ML/day) in June 2017 when there were no relevant fish eggs in the Murrumbidgee River.</p>
	<p>Establish credible site specific water quality trigger levels for Burra Creek in accordance with the principles of the ANZECC Guidelines.</p>	<p>Site specific water quality trigger levels for Burra Creek are outlined in the M2G Streamflow & Water Quality Management Plan. The trigger levels are based on advice from the consultant monitoring ecologist (GHD) and the ANZECC Guidelines.</p> <p>In August 2016 GHD conducted an independent review of the water quality trigger levels for Burra Creek based on the latest time series data. These revised triggers are incorporated in the revised Streamflow & Water Quality Management Plan that was submitted to the Commonwealth for approval in May 2017.</p>
	<p>Undertake additional ecological monitoring if the quality of water transferred is outside site specific ANZECC Guideline trigger levels.</p>	<p>All quality of water transferred in the reporting period was within the trigger levels in the revised M2G Streamflow & Water Quality Management Plan submitted to the Commonwealth for approval in May 2017..</p>

		Take all reasonable measures to prevent exceedance of site specific impact thresholds for species in the Murrumbidgee River and Burra Creek.	All reasonable measures to prevent exceedance of site specific impact thresholds for species in the Murrumbidgee River and Burra Creek are being undertaken.
3. To employ practices which minimise impacts on the geomorphology of Burra Creek.	The SF&WQMP (which manages transfer flow volumes to protect geomorphological integrity) was implemented as required. Geomorphology monitoring undertaken based on the requirements of the AEMP and delivered through the MEMP has been published on the Icon Water external website.	Prior to operations commencing, establish monitoring programs for bank erosion.	A geomorphology monitoring program has been in place since 2009 as part of the baseline data collection (MEMP).
		Respond within reasonable timeframes with appropriate mitigation measures if bank erosion is detected.	No bank erosion has been detected associated with M2G operations.
		Prior to operations commencing, establish monitoring programs for erosion of pond forming bars.	A geomorphology monitoring program has been in place since 2009 as part of the baseline data collection (MEMP).
		Respond within reasonable timeframes with appropriate mitigation measures if pond forming bars are eroded.	No pond forming bars has been detected associated with M2G operations.
		Prior to operations commencing, establish monitoring programs for London Bridge karst formation.	A geomorphology monitoring program has been in place since 2009 as part of the baseline data collection (MEMP).
		Take all reasonable measures to prevent incidences of erosion that could cause structural weakening at London Bridge.	No erosion has been detected in Burra Creek associated with M2G operations.
4. To employ practices which minimise impacts on terrestrial	The Landscape Rehabilitation & Terrestrial Ecology Management Plan and Offset Delivery Plan	Prior to operations commencing, establish a compensatory habitat offset package that meets the	The M2G Biodiversity and Offset Management Plan was approved by the ACT, NSW and Commonwealth regulators in 2010 for implementation during construction. The M2G Offset Delivery Plan was approved in 2012

ecology.	were implemented as required. Monitoring reports required under these plans have been published on the Icon Water external website.	requirements of authorities in each of the three involved jurisdictions.	for delivery during operations. A revised Operational Environment Management Plan (OEMP) and corresponding sub-plans including the Offset Delivery Plan (ODP) and the Landscape Rehabilitation and Terrestrial Ecology Management Plan (LRTEMP) were submitted to the Commonwealth for approval in May 2017. As at 30 October 2017, Commonwealth and ACT approval of the revised plans is still pending (NSW approved the new plan on 21/08/17).
		Take all reasonable measures to prevent weed infestation after start up. If infestation occurs, they will be treated as agreed in the relevant Property Interaction Plan with the landholder.	Weed management is being undertaken in accordance with the M2G Landscape Rehabilitation and Terrestrial Ecology Management Plan. Property Management Plans are in place and remain the key document to control Icon Water's interaction with property owners.
		Consistent compliance with the construction area rehabilitation plan requirements throughout the scheme's operation.	Landscape rehabilitation is being undertaken in accordance with the M2G Landscape Rehabilitation and Terrestrial Ecology Management Plan. Rehabilitation KPIs have been assessed through twice yearly monitoring of easement plots during the first five years of rehabilitation. To date, nine landholder rehabilitation areas have reached the required targets and been handed back to the landowner for productive use. A number of other landholder areas were near to their rehabilitation targets (in the autumn 2016 assessment). Version 5 of the LRTEMP, submitted for Commonwealth approval in May 2017, proposes changes to key performance indicators for pipeline easement landscape rehabilitation, accounting for the original landscape condition and variability of climatic conditions, and sets out how landholders will be able to accept the condition of their land as 'rehabilitation complete'. The changes are based upon scientific review and advice from Ecological Australia.
5. To employ practices which minimise impacts on heritage.	The SF&WQMP (which manages transfer flow volumes to protect heritage values such as London Bridge) was	Take all reasonable measures to prevent incidences of erosion that could cause structural weakening at London Bridge which could affect	No erosion has been detected associated with M2G operations.

	implemented as required. No additional works were undertaken within the reporting period that had any interactions with heritage values.	heritage values. Take all reasonable measures to prevent complaints about impact at recognised aboriginal heritage sites due to operation or maintenance	Icon Water has not received any complaints regarding M2G operations and maintenance interacting with recognised aboriginal heritage sites.
6. To employ practices which minimise noise and vibration impacts.	In 2013 Icon Water sent to the ACT and NSW regulators a <i>M2G Compliance Noise Assessment</i> (Feb 2013) and a <i>M2G Discharge Structure Noise Monitoring Report</i> (Mar 2013) assessing noise impacts associated with the operation of the discharge structure at the M2G project. Both regulators approved the noise report, which specifically outlined the operational noise levels and concluded that the noise levels comply with Icon Water's legislative and project requirements. Icon Water continues to manage noise and vibration arising from maintenance through control embedded within Work Instructions.	Take all reasonable measures to prevent noise and vibration complaints associated with operation and maintenance activities. If complaints are received they will be responded to following the Icon Water Complaints Handling Process outlined in Figure 5.1 of the M2G Community Information Plan.	Icon Water continues to manage the potential for noise and vibration impacts to occur during operations and maintenance. No complaints were received during the reporting period.
		Take all reasonable measures to prevent structural damage claims associated with vibration impacts as a result of operation and maintenance activities.	Icon Water continues to manage the potential for noise and vibration impacts to occur during operations and maintenance. No complaints were received during the reporting period.
		Maintain noise levels in compliance with Schedule 2 Part 2.2 of the Environmental Protection Regulation 2005 (ACT), or at levels endorsed by the ACT EPA.	Icon Water continues to operate M2G in the same way outlined in the M2G Discharge Structure Noise Monitoring Report which was approved by the ACT EPA (30 Apr 2013).
		Maintain noise levels in NSW below 35 dB L _{Aeq} (15 minute) in compliance with NSW Criteria limits as set out in the NSW Industrial Noise Policy (INP) (DECC 2000), or at levels endorsed by the NSW EPA. If necessary, utilise Source Control (best management practice	Icon Water continues to operate M2G in the same way outlined in the M2G Discharge Structure Noise Monitoring Report which was approved by the NSW Department of Infrastructure (3 Feb 2014).

		and best available technology economically achievable) in conjunction with Transmission Control prior to Receiver Controls (refer INP Section 7) to ensure noise levels are not exceeded.	
7. To employ practices which minimise impact on air quality	Icon Water continues to manage for the prevention of dust emissions and odours arising from operation and maintenance. No complaints were received during the reporting period.	Take all reasonable measures to prevent visible dust emissions and offensive odours during operation and maintenance.	Icon Water continues to manage for the prevention of dust emissions and odours arising from operation and maintenance. No complaints were received during the reporting period.
8. To employ measures which minimise bushfire hazard and manage bushfire risk	The Offset Delivery Plan was implemented as required, including a Bushfire Management Sub Plan. Icon Water requires all works to follow Work Instructions, which include bushfire hazard and ignition risk controls.	Take all reasonable measures to prevent bushfires attributable to water transfer operations and maintenance.	Icon Water continues to manage for the prevention of bushfires arising from operation and maintenance. Icon Water Work Instructions are the primary management control for this issue (e.g. no hot works in high bushfire danger periods, fuel load and fire trail inspection during the biannual offset condition assessments).



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