



Murrumbidgee to Googong Water Transfer Annual Performance Report 2018

**For the period September 2017 to
August 2018**

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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

Over the period there was only two 'operate to maintain' maintenance runs to ensure pumps and related infrastructure are in correct working order. Other maintenance runs were postponed due to low flows in the Murrumbidgee River. There were operational runs (with the aim of transferring bulk water to Googong Reservoir) during July and early August 2018 however due to low-river levels again in the Murrumbidgee River only low volume transfers occurred.

Icon Water holds a pipelines licence in relation to M2G, issued by the NSW Government under the *Pipelines Act 1967 (NSW)*. 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 and the next audit is scheduled in October 2018.

Icon Water has submitted a request to the NSW Department of Primary Industry (DPI) to have the M2G pipeline reclassified as a water pipeline. Subject to the approval of the Minister, the pipeline would then be managed under Icon Water's asset management framework and would not be subject to operating conditions under the Pipelines Act.

The M2G pipeline is currently (August 2018) in operation mode and is supplying water via Burra Creek to Googong Dam in compliance with the approved environmental management plans.

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 2017 – August 2018.

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. Variations to this plan were approved by the Commonwealth in 2015 and 2018.</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 approved by the Commonwealth in 2018.</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. Variations to this plan were approved by the Commonwealth in 2015 and 2018.</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 approved by the Commonwealth in 2018.</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 approved by the Commonwealth in 2018.</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. Variations to this plan were approved by the Commonwealth in 2015 and 2018.</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 approved by the Commonwealth in 2018.</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, 2016 and 2017 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	<p>No variations have been sought regarding the Commonwealth conditions of approval.</p> <p>Variations of the Operational Environmental Management Plan and associated Sub Plans were approved in this reporting period by the Commonwealth.</p>

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.
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 (Sept 2017 – Aug 2018)	Targets	Performance (Sep 2017 - Aug 2018)
<p>1. To employ practices which ensure that the operation and maintenance of the water transfer infrastructure:</p> <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 	<p>Icon Water implemented the full suite of management plans for the reporting period. The current approved plans are:</p> <ul style="list-style-type: none"> • Operation Environmental Management Plan • Aquatic Ecology Management Plan • Streamflow & Water Quality Management Plan • Landscape Rehabilitation & Terrestrial Ecology Management Plan • Biodiversity Offsets Delivery 	<p>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.</p>	<p>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 intranet system.</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.</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>

impacts.	Plan 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).		<ol style="list-style-type: none"> 1. INC-12392: Prior to commencement of pumping on 18 October and throughout pumping operations, the electrical conductivity (EC) levels in Burra Creek (measured at the Burra Creek at Burra Road gauge 410774) exceeded the operation guideline of 400 $\mu\text{S}/\text{cm}$, as specified in the Streamflow and Water Quality Management Plan. 2. INC-13177: Formal monitoring of land condition at the M2G Biodiversity property and M2G pipeline corridor was not conducted during spring 2017 as required under the M2G Operational Environment Management Plan sub plans. Although this monitoring was delayed until early Autumn 2018 due to resourcing constraints, active land management activities continued to be undertaken consistent with the plans including vegetation planting, erosion control works, fencing and bushfire hazard reduction. 3. INC-13189: On 21/06/2018 the remote plant maintenance crew was removing one of the fish egg filter elements when a small European carp was discovered inside the element. The fish was dead and approximately 20cm long. An incident analysis was undertaken and all aspects of the issue scrutinised. The analysis found that operation and maintenance of the fish egg filters is consistent with the activity conditions of approval with design measures in place to prevent the spread of invasive fish species. Further engineering reviews and environmental surveys are being undertaken to ensure biosecurity control efficacy.
		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.	The three incidents that took place during the reporting period were responded to, as specified in the Operational Environmental Management Plan.
2. To employ practices which minimise impacts on aquatic ecology.	The Aquatic Ecology Management Plan (AEMP) and Streamflow & Water Quality Management Plan (SF&WQMP) were implemented as required. Aquatic ecology monitoring programs required under the	Establish a credible aquatic ecology and water quality baseline data set before operation commences.	Pre-operation baseline data for the Murrumbidgee River and Burra Creek has been established (commenced 2008-09) through the MEMP.
		Take all reasonable measures to prevent fish impingement on intake screens at the Murrumbidgee River.	The design of M2G results in very low water velocities into the intake structure when the project is operating. Icon Water expects to undertake a scientific assessment of the effectiveness of this design at full operating

<p>AEMP have been implemented through the Murrumbidgee Ecological Monitoring Program (MEMP) and reports published on the Icon Water external website.</p>		<p>capacity once water flow within the Murrumbidgee River is sufficient and at the right time of year for detection of fish eggs.</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>With reference to the abovementioned incident (INC-13189) a dead juvenile European carp was detected within the main filter located at the Murrumbidgee River. A detailed and documented investigation concluded that only an undersized egg could have passed through the filter with the aid of mechanical force pushing the egg through one of the filter holes. The egg hatched in situ and academic advice confirmed the individual would be highly unlikely to successfully traverse the pipeline due to other engineering infrastructure in place.</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>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.</p> <p>Note that in May 2017, Icon Water submitted a revised Operational Environment Management Plan (OEMP) and related sub-plans to the Commonwealth, ACT and NSW regulators for approval. The revised Stream Flow and Water Quality Management Plan Version 6 2017 (not yet approved by the Commonwealth at the time of elevated EC levels reported under INC-12392) has water quality guidelines based on an independent scientific review of the latest time series data which recommends an upper limit for EC of 600 $\mu\text{S}/\text{cm}$ in Burra Creek. The EC during the October 2017 M2G tests was within this proposed revised range. The revised plan had been accepted by the New South Wales</p>

			regulator and as this maintenance pump test was compliant with the new guidelines this incident report is not relevant to New South Wales. Therefore no ecological monitoring was required.
		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 ecology.	The Landscape Rehabilitation & Terrestrial Ecology Management Plan and Offset Delivery Plan were implemented as required. Monitoring reports required under these plans have been published on the Icon Water external website.	Prior to operations commencing, establish a compensatory habitat offset package that meets the requirements of authorities in each of the three involved jurisdictions.	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 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 approved by the Commonwealth in 2018.
		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 Interaction Plans are in place and remain the key document outlining Icon Water's engagement 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 were assessed through twice yearly monitoring of easement plots during the first five years of rehabilitation. During the period all landholder rehabilitation areas had reached practicable rehabilitation completion and are in the process of being handed back. A number of landholder areas are however continuing to be impacted by unseasonably dry weather patterns, overgrazing and weeds. Further weed management activities will be undertaken in spring 2018. Version 5 of the LRTEMP, approved by the Commonwealth in 2018, included 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 consultant Ecological Australia.
5. To employ practices which minimise	The SF&WQMP (which manages transfer flow volumes	Take all reasonable measures to prevent incidences of erosion that	No erosion has been detected associated with M2G operations.

impacts on heritage.	to protect heritage values such as London Bridge) was implemented as required.	could cause structural weakening at London Bridge which could affect heritage values.	
	No additional works were undertaken within the reporting period that had any interactions with 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.	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.
	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.	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.
	Icon Water continues to manage noise and vibration arising from maintenance through control embedded within Work Instructions.	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	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).

		EPA. If necessary, utilise Source Control (best management practice 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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