



Independent Pricing and Regulatory Tribunal  
New South Wales

# Water NSW operating licences review - Cost Benefit Analysis

**Draft report**



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## Invitation for submissions

IPART invites written comment on this document and encourages all interested parties to provide submissions addressing the matters discussed.

### **Submissions are due by 7 April 2016**

We would prefer to receive them electronically via our online submission form <[www.ipart.nsw.gov.au/Home/Consumer\\_Information/Lodge\\_a\\_submission](http://www.ipart.nsw.gov.au/Home/Consumer_Information/Lodge_a_submission)>.

You can also send comments by mail to:

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# 1 Cost Benefit Analysis framework

## 1.1 The review of Water NSW operating licences

The Independent Pricing and Regulatory Tribunal (IPART) is conducting an end of term review of Water NSW's operating licences.

Water NSW was formed on 1 January 2015 by the effective merger of two organisations; the former State Water Corporation (State Water) and the Sydney Catchment Authority (SCA). As Water NSW, the business currently operates under authorisation of both the existing State Water and SCA operating licences.<sup>1</sup> Both of these are currently being reviewed to establish a new operating licence (or licences) for Water NSW.

We last reviewed State Water's operating licence in 2013 and the SCA's operating licence in 2012. We propose renewing the licence(s) for the maximum period of five years, to take effect from 1 July 2017 to 30 June 2022.<sup>2</sup>

Section 11 of the *Water NSW Act 2014* (Water NSW Act) allows options to retain the current arrangement (ie, more than one licence) or to consolidate the licence conditions into one licence.

We have proposed one combined operating licence to replace the two existing Water NSW (State Water and SCA) licences. The one licence will reflect Water NSW's combined organisation since the merger of the previous State Water and SCA on 1 January 2015. Discussion regarding this proposal is contained in the report that is part of this review, IPART's *Water NSW operating licences review - Draft Report* (February 2017) (Draft Report).

This Cost Benefit Analysis (CBA) document should be read as an accompaniment to the document it supports, the Draft Report. The CBA contained within this document supports the draft recommended changes contained in the Draft Report, and other documents in the draft licence package (ie, draft operating licence and draft Reporting Manual).<sup>3</sup>

## 1.2 Overview of Cost Benefit Analysis

We conducted a CBA of proposed changes to Water NSW's operating licence and the associated Reporting Manual.<sup>4</sup> This CBA is part of the end of term review of Water NSW's operating licence and has been conducted in accordance with the NSW Government's *Guide*

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<sup>1</sup> Section 4(1) of the Water NSW Act renamed the former State Water Corporation "Water NSW". The Water NSW Act also abolished the former Sydney Catchment Authority and conferred its functions on Water NSW. In this report we refer to that process as the former State Water Corporation and the former Sydney Catchment Authority being "effectively merged".

<sup>2</sup> As allowed by section 14 of the *Water NSW Act 2014* (Water NSW Act).

<sup>3</sup> These documents are available on IPART's website. See [https://www.ipart.nsw.gov.au/Home/Industries/Water/Reviews/Licensing-Water NSW/Review-of-the-Water NSW-operating-Licences](https://www.ipart.nsw.gov.au/Home/Industries/Water/Reviews/Licensing-Water%20NSW/Review-of-the-Water-NSW-operating-Licences).

<sup>4</sup> The Reporting Manual consolidates and details all reporting requirements imposed under the operating licence, including required performance indicators and the format and timetable of reporting.

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to *Better Regulation*.<sup>5</sup> The extent of our analysis is proportionate to the relative significance of each proposed change.

We considered the costs and benefits of requirements and conditions when drafting Water NSW's proposed operating licence. The costs and benefits considered in this report are incremental to the 'base case' of the current operating licences and current 'business as usual' practices (in all cases this is referred to as "Option A"). At times the base case was not easy to identify because we have proposed to merge the two previous licences into a single new licence using a first-principles approach.

Costs and benefits are defined broadly to include all identifiable economic costs and benefits (ie, all costs and benefits to Water NSW, Water NSW's customers, the environment and the broader community).

The timeframe of the CBA is the 5-year period 2017-18 to 2021-22. This period aligns with the expected term of Water NSW's next operating licence. The decision to limit the time frame for the CBA to five years was made in order to simplify the process and related data requirements, while retaining the relevance of the analysis.

As part of this CBA, we sent three Requests for Information (RFIs) to Water NSW for information about the costs and benefits of proposed changes to the operating licence. Water NSW provided responses to IPART on 21 December 2016, 20 January 2017 and 25 January 2017. Much of the analysis in this document is informed by Water NSW's responses to our RFIs.

Where possible, we sought to quantify costs and benefits. However, in many instances, we assessed costs and benefits in qualitative terms, that is, by taking account of their value based on a quality or characteristic rather than on a dollar, quantity or measured value. This reflects the availability of information as well as the nature of the requirements and conditions of the proposed operating licence.

Where we proposed changes that result in increased efficiency, cost savings or improved standards of service, we assumed these benefits will flow through to Water NSW's customers.

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<sup>5</sup> Department of Finance, Services & Innovation, *NSW Guide to Better Regulation*, October 2016. See <https://www.finance.nsw.gov.au/better-regulation>, last accessed 17 January 2017.



### 1.3 Overview of issues

For this CBA we assessed the impact of 44 separate issues. These issues can be broadly grouped as:

- ▼ Utility context
  - compliance with pricing determinations
  - end of term review period
- ▼ Water source protection and conservation
  - water quality management
  - Economic Level of Water Conservation (ELWC)
  - catchment infrastructure management
  - system yield
  - managing and protecting catchments
  - catchment research and health
- ▼ Bulk water storage and transmission
  - water supply
  - capture store and release
  - constructing, maintaining and operating water management works
- ▼ Performance standards
  - supply performance standards
  - capture, store and release performance standards
  - flood mitigation
- ▼ Organisational systems management
  - asset management systems
  - environmental management systems
- ▼ Customer and stakeholder relations
  - delivery to customers
  - metering and monitoring
  - customer advisory groups
  - community education
  - MoUs with stakeholders
- ▼ Performance monitoring
  - operational audits
  - performance monitoring.

The greatest reported impact on stakeholders in terms of quantitative and/or qualitative costs or benefits were in the areas of water quality management, water conservation, catchment research/health, flood mitigation and community education. We summarise these issues below.

## Water Quality Management System - non-declared catchments

The CBA assessment indicated adding a new clause to Water NSW's operating licence requiring Water NSW to maintain a Water Quality Management System is preferred (see section 3.2). This clause would only apply to water supplied in non-declared catchments, consistent with section 7(1)(g) of the Water NSW Act which states that a listed function of Water NSW is to "protect and enhance the quality and quantity of water in declared catchment areas".

### Considerations

The preferred option may represent duplicative regulation as the obligations with respect to areas where Water NSW supplies drinking water are found in Part 3, Division 1 of the *Public Health Act 2010*. However there is a potential benefit arising from the assurance that water quality management is formally required and regulated by including the clause in the proposed licence.

Furthermore, with a requirement to have a Water Quality Management System, NSW Health grants Water NSW an exemption from having a Water Quality Plan which would otherwise be required by Part 3, Division 1 of the *Public Health Act 2010*. This exemption removes the potential issue of regulatory duplication.

The CBA assessment indicated, on the basis of CBA alone, the benefits of requiring Water NSW to maintain a Water Quality Management System as exceeding the costs, resulting in a net social benefit. Therefore adding a new clause to Water NSW's proposed operating licence is preferred.

## Economic Level of Water Conservation

The CBA assessment indicated, on the basis of CBA alone, including obligations in the proposed Water NSW operating licence for an Economic Level of Water Conservation (ELWC) methodology to be developed, approved and annually reported on is preferred (see section 3.3). The ELWC obligations would replace the existing water conservation obligations of the Water NSW operating licence.

### Outcomes

The proposed obligation would:

- ▼ add a requirement to develop an economic level of water conservation methodology for the Sydney catchment area, and
- ▼ replace the existing obligation in the previous State Water Licence to 'take all reasonable steps' to conserve water with a requirement to develop an economic level of water conservation methodology in the rest of NSW.

There is no explicit water conservation requirement in the existing Water NSW (SCA) operating licence, however water conservation can currently be considered within Water NSW's Environmental Management System. The existing Water NSW (State Water) operating licence water conservation obligations require Water NSW to take all reasonable steps to conserve water and minimise water losses that result from undertaking its

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operations under the licence and can be considered conceptually similar to the ELWC that might apply to Water NSW.

## Considerations

We note that clause 3.1.4 of the existing Water NSW (State Water) operating licence already requires water conservation. We consider this to be the base case and the proposed requirement for ELWC methodology to be an extension and refinement of this requirement, that provides greater clarity and auditability, rather than a new requirement.

Water NSW indicated in its response to our RFI that costs relating to the development and maintenance of an ELWC were too uncertain to be quantified but were expected to be substantial.

We note Water NSW's comments that an ELWC methodology for Water NSW would need to allow for variances occurring in natural systems (eg, evaporation and seepage from rivers and dams). This is in contrast, for example, to Sydney Water which calculates an ELWC only allowing for variations that occur in man-made systems (eg, infrastructure such as pipes). Man-made systems are more easily able to be monitored for losses and have significantly less variation than natural systems. Water NSW stated that accurate calculation of probable variations in its natural systems could cost tens of millions of dollars, which is disproportionate to any likely benefits.

We consider that an ELWC methodology developed by Water NSW could vary substantially from that developed by Sydney Water: for example, the three elements that apply to Sydney Water's methodology do not apply to Water NSW, instead a different, fourth element, has been developed (ie, 'water storage and transmission') for water conservation measures. This variation alone could justify significant differences in an appropriate methodology for Water NSW.

Water NSW could, therefore, include in its ELWC methodology existing calculation methods used for water loss in natural systems (eg, 'unaccounted differences' when transmitting water down a river or evaporation calculations for dam storage). By designing an ELWC methodology appropriate for Water NSW's circumstances, using a cost benefit approach for deciding on the ELWC methodology design, the excessive costs relating to the development of an overly prescriptive methodology could be avoided. These are matters that could be considered during the development of the appropriate principles, approach and methodology itself in the first 18 months of the proposed licence.

The benefits of adopting an ELWC include increased efficiency by:

- ▼ reducing the likelihood resources are inefficiently allocated in achieving arbitrary water conservation targets
- ▼ better understanding of actual net benefits of water conservation projects
- ▼ increased transparency around identification and selection of candidate water conservation projects, and
- ▼ consistency of regulation between public water utilities, in terms of requiring each of them to develop an appropriate water conservation methodology.

## Catchment research and catchment health

The CBA assessment indicated, on the basis of CBA alone, including clause 7.2 of the Water NSW (SCA) operating licence in the proposed licence, which would meet the requirements of section 12(2)(b) of the Water NSW Act, and adding a clause requiring Water NSW to maintain a program of research on catchments in accordance with its objectives and functions and report on this program (consistent with section 7(1)(j) of the Water NSW Act), is preferred (see section 3.7).

### Considerations

Water NSW estimates that the CBA preferred option could give rise to an annual operating cost increase of between \$0.5 million to \$1 million per year which relates to an increase in research activity beyond the Declared Catchment area to all catchments generally. The mid-point of this estimate equates to a cost of between \$3.4 million and \$4.3 million in 2015-16 dollars over the five years of the proposed licence term. These costs were based on an extrapolation of the costs incurred in the declared catchments.

We do not however propose specifying research areas, requirements or scope and therefore, we anticipate the costs could be less than this estimate.

The benefits of the recommended option are:

- ▼ improved knowledge of the water systems outside the Sydney Metropolitan Region and use of this information to inform better management and operational practices for Water NSW
- ▼ improved research effectiveness by allowing Water NSW flexibility to determine the scope of its research program, and
- ▼ that the benefits of the research program can be applied to catchments outside the declared catchment area.

### Requirements of the Water NSW Act

Section 12(2)(b) of the Water NSW Act states:

- 2) The operating licence must include terms or conditions under which Water NSW is required:
  - b) in connection with an operating licence that authorises Water NSW to exercise functions with respect to a declared catchment area-to compile indicators of the direct impact of Water NSW's activities (including, but not limited to, the impact of energy used and waste generated) on the environment so as to provide information about its performance and enable reports to be prepared.

Section 7(1)(j) of the Water NSW Act states that a listed function of Water NSW is "to undertake research on catchments generally, and in particular on the health of declared catchment areas".

## Flood mitigation

We considered three options, other than the base case, in relation to the flood mitigation and management function in section 7(1)(i) of the Water NSW Act (see Box 1.1 and section 5.5).

The CBA assessment indicated, on the basis of CBA alone, the preferred option is adding a clause to the proposed licence authorising Water NSW to undertake flood mitigation activities throughout NSW. This would contain terms and conditions including undertaking flood mitigation activities on direction of the Minister for Regional Water (the Minister) where not already required to do so under any other Act (Option D below).

## Considerations

Flood mitigation activities are currently authorised by the Water NSW (State Water) operating licence with no terms and conditions, and with the exception of the Sydney declared catchment area, throughout NSW.<sup>6</sup> Outside Sydney's declared catchment area, flood mitigation activities are regulated under the *Water Management Act 2000* (NSW) and the *Water Act 1912* (Cth).

If the Government decided flood management was one of the purposes of Warragamba Dam, or other dams in the Sydney catchment area, the operating licence could be amended at the time (on IPART's recommendation or directly by the Minister). Flood management in the Sydney catchment area could also be regulated by DPI Water by amendment of the existing Water NSW (SCA) water supply work approvals under the *Water Management Act 2000*.

### Box 1.1 Flood mitigation options considered

**Option A (base case):** Make no change to the proposed licence regarding authorisation or terms and conditions relating to flood mitigation activities.

**Option B:** Do not authorise flood mitigation in any areas and do not include terms and conditions in the proposed licence. Rely entirely on the *Water Management Act 2000* and the *Water Act 1912* (Cth) to authorise and regulate this function.

**Option C:** Authorise flood mitigation throughout NSW but do not include terms and conditions in the proposed licence. (Reporting obligations are included in water balance reporting licence requirements.)

**Option D:** Authorise flood mitigation throughout NSW and include terms and conditions in the proposed licence including, where not already required to do so under any other Act, undertaking flood mitigation activities on direction of the Minister.

The CBA considered four options, and indicated, on the basis of CBA alone, Option D is preferred. The costs relating to options C and D include that Water NSW and its employees may be exposed to substantial legal liability for which there is inadequate and uninsurable statutory protection. Water NSW described this cost as “unquantifiable but potentially excessive”.

We noted however that the proposed obligations placed on Water NSW for the Sydney catchment have historically applied to State Water for many years. In addition, we also noted that section 11 of the *State Owned Corporations Act 1989* contains provisions for recovery of costs relating to Ministerial directions.

<sup>6</sup> This is because terms and conditions already exist within the individual works approvals for each dam.

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The benefits arising from both Option C and Option D are that authorising flood mitigation allows for a more flexible and timely response by Water NSW in the event of flood and an instruction from the Government to manage that flood; that is, the authorisation would already exist and a licence amendment would not be required at the time. Option D has the additional benefit of applying terms and conditions that restrict Water NSW's flood response to those made by Ministerial direction, therefore limiting concerns raised by Water NSW regarding legal liability and cost if they were authorised to undertake flood mitigation but chose not to do so.

## **Community education**

The CBA assessment indicated, on the basis of CBA alone, the preferred option is to include a new clause in the proposed licence that requires Water NSW to conduct educational programs for the community on its activities and functions consistent with its objectives under the Act, and report on its activities in accordance with the Reporting Manual (see section 7.5). The proposed clause would formalise an obligation for activities already undertaken by Water NSW.

### **Considerations**

We noted Water NSW's statement, in response to our RFI, that including a clause in the licence is unnecessary as section 7(1)(k) of the Water NSW Act broadly describes its educative role. We also noted Water NSW's further response that an educational program would have limited benefit for rural customers.

In conducting the CBA we assumed that educational materials already in use could meet the requirements of the proposed licence. Therefore, there were no costs relating to the development of new materials.

Water NSW's budgeted 2018 operating expenditure for community education in the declared catchment is \$1,071,782. Under the proposed licence, Water NSW have assumed this would be multiplied across the 13 valleys in Water NSW's area and would result in an annual cost of \$13,933,166. We considered this to be an overestimate of likely costs, as we do not propose specifying the level or type of community education required. We expect, therefore, that Water NSW would make decisions regarding the level of community education activities on a cost benefit basis. We have included this expectation in our analysis.

Water NSW has forecast substantial quantifiable costs relating to Option B. However, given that we have not proposed specifying the level of community education related activity Water NSW should undertake, we consider it likely that these costs would be substantially lower than this forecast. The CBA assessment indicated, on the basis of CBA alone, Option B is preferred.

## **1.4 Summary of preferred options**

We considered the incremental costs and benefits in relation to identified issues and arrived at a preferred option based on comparing costs and benefits to determine the greatest net

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social benefit. We applied sensitivity analysis to our Net Present Value (NPV) calculations consistent with NSW Treasury guidance.<sup>7</sup>

Table 1.1 is a summary of preferred options based on this CBA.

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<sup>7</sup> NSW Treasury, *tpp 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52.



Table 1.1 Summary of preferred options

Topic considered	Costs and benefits	Preferred option
Pricing must comply with the IPART determination	<p><b>Cost:</b> Possible regulatory duplication.</p> <p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>▼ able to audit and enforce compliance</li> <li>▼ administrative streamlining, and</li> <li>▼ consistency with similar clauses contained in the Sydney Water and Hunter Water licences.</li> </ul>	Include a new clause in the proposed licence which ensures Water NSW's compliance with IPART pricing determinations.
End of Term Review	Drafting change only which gives rise to no net cost or benefit.	Include Part 8 of the existing Water NSW (State Water) operating licence (updated to reflect the term of the licence) in the proposed licence.
Water Quality Management System - declared catchments	Drafting change only which gives rise to no net cost or benefit.	Include in the proposed licence Part 2 of the Water NSW (SCA) operating licence, updated and with some new sub clauses that require a WQMS for water in the declared catchment areas.
Water Quality Management System - non-declared catchments	<p><b>Cost:</b> Possible regulatory duplication.</p> <p><b>Benefit:</b> Assurance that water quality management is formally required and regulated.</p>	Include a new clause in the proposed licence that requires Water NSW to maintain a WQMS for water supplied in non-declared catchments.



Topic considered	Costs and benefits	Preferred option
Economic Level of Water Conservation	<p><b>Cost:</b> Costs relating to the development and maintenance of an Economic Level of Water Conservation (ELWC) are too uncertain due to variances occurring in natural systems.</p> <p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>▼ reduces likelihood Water NSW will allocate resources towards achieving an arbitrary water conservation target</li> <li>▼ ELWC methodology better reflects actual net benefits of water conservation projects, and</li> <li>▼ increased transparency around selection of candidate water conservation projects.</li> </ul>	Include ELWC obligations in the proposed licence that require an ELWC methodology to be developed, approved and annually reported and which would replace the existing water conservation obligations of the Water NSW operating licence and apply to all or some of Water NSW's functions.
Catchment infrastructure management	<p><b>Cost:</b> No additional costs.</p> <p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>▼ assurance from having formal requirement for Asset Management System (AMS) for catchment related infrastructure</li> <li>▼ certification audit reports can satisfy regulatory auditing and reporting requirements so additional reporting to IPART is not required, and</li> <li>▼ IPART does not need to engage third party subject matter experts to audit systems and processes.</li> </ul>	Include in the proposed licence Part 3 of the Water NSW (SCA) operating licence (updated to include a requirement to manage catchment infrastructure consistent with an AMS).

Topic considered	Costs and benefits	Preferred option
Water Supply System Yield	<p><b>Costs:</b></p> <ul style="list-style-type: none"> <li>▼ additional computing resources and staff time for yield evaluation and model maintenance</li> <li>▼ requirement for Sydney Water and other customers to provide input to the model development, and</li> <li>▼ incorporating all uncertainties included in current yield evaluation will make yield evaluation too complex and time consuming.</li> </ul> <p><b>Benefit:</b> Improved modelling capacity which may lead to better decision making capability.</p> <p><b>NPV of option considered but not recommended:</b> -\$942,492.</p>	Make no change regarding calculation of Water Supply System Yield in the proposed licence.
Manage and protect catchments	<p><b>Cost:</b> No additional costs.</p> <p><b>Benefit:</b> Creates understanding and agreement of indicators relating to the catchment intervention program for the Water Quality Protection Framework.</p>	Include Part 4 of the current Water NSW (SCA) operating licence in the proposed licence, which will extend the requirements of Part 4 to all Water NSW declared catchment areas.
Catchment research and health	<p><b>Cost:</b> An estimated annual operating cost increase of between \$0.5 million to \$1.0 million per year relating to an increase in research activity.</p> <p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>▼ may improve research effectiveness by allowing flexibility to determine the scope of research program, and</li> <li>▼ benefits of the research program can be extended to catchments outside the Declared Catchment area.</li> </ul> <p><b>NPV of recommended option (mid-range):</b> -\$3,831,960.</p>	Include in the proposed licence Part 7.2 of the Water NSW (SCA) operating licence (updated and with a new clause requiring Water NSW to maintain a program of research on catchments in accordance with its objectives and functions and report on this program).

Topic considered	Costs and benefits	Preferred option
Reporting Manual - catchment management - periodic reporting	Drafting change only which gives rise to no net cost or benefit	Include in the proposed Reporting Manual section 2.1 and section 4.1 of the Water NSW (SCA) Reporting Manual (with updates and new clauses requiring Water NSW to report to IPART).
Reporting Manual - catchment management - annual reporting	Drafting change only which gives rise to no net cost or benefit.	Include in the proposed Reporting Manual section 2.2, section 3.2, and section 4.2 of the Water NSW (SCA) Reporting Manual (with updates and with new clauses requiring Water NSW to report to IPART).
Reporting Manual - environment - environmental indicators	Drafting change only which gives rise to no net cost or benefit.	Include in the proposed Reporting Manual section 7 of the Water NSW (SCA) Reporting Manual (updated and with some new sub clauses requiring specific waste and energy indicators).
Reporting Manual - catchment management - publicly available documents	Drafting change only which gives rise to no net cost or benefit.	Include section 2.4, section 3.4 and section 4.4 of the Water NSW (SCA) Reporting Manual (with minor editing changes) in the proposed Reporting Manual.
Reporting Manual - performance monitoring - significant changes	Drafting change only which gives rise to no net cost or benefit.	Include section 8.3 of the Water NSW (State Water and SCA) reporting manuals (with updates) in the proposed Reporting Manual.
Water supply	<p><b>Cost:</b> No additional costs.</p> <p><b>Benefit:</b> It may be easier for Water Supply customers who hold properties in Fish River and Sydney to use the same agreement for both.</p>	Include in the proposed licence Part 6 of the Water NSW (SCA) operating licence (updated with some new sub clauses requiring the establishment of a code of conduct).

Topic considered	Costs and benefits	Preferred option
Bulk water releases to Local Water Utilities	<p><b>Costs:</b> Some additional administrative costs.</p> <p><b>Benefits:</b> May improve efficiency and public safety through sharing of health related monitoring information to customers.</p>	Include in the proposed licence Part 2 in the existing Water NSW (State Water) operating licence, with updates and new sub clauses requiring Water NSW to consult with customers in completing a review of its health related monitoring of water quality released to Local Water Utilities, and update its information request procedure in accordance with the review.
Construct, maintain and operate water management works - Asset Management System	<p><b>Cost:</b> No additional costs.</p> <p><b>Benefits:</b> Efficiencies arise from:</p> <ul style="list-style-type: none"> <li>▼ reduced site induction and business familiarisation for each audit from having a consistent audit team across audits</li> <li>▼ utilisation of common elements between AMS, EMS and WHS</li> <li>▼ a single consolidated schedule for auditors that can audit against multiple ISO standards</li> <li>▼ reduced impact on site teams utilising single ISO audit site visits for AMS, EMS and WHS audits</li> <li>▼ commonality between ISO systems which means corporate elements only need to be reviewed once</li> <li>▼ certification audit reports that can satisfy regulatory auditing and reporting requirements so additional reporting to IPART is not required, and</li> <li>▼ reducing need for third party subject matter experts to audit systems and processes for IPART.</li> </ul> <p><b>NPV of recommended option:</b> \$240,544.</p>	Add a new clause to the proposed licence that links the construction, maintenance and operation of water management works to Water NSW's certified AMS for the purposes of section 12(2)(a) of the Water NSW Act.

Topic considered	Costs and benefits	Preferred option
System performance standards - supply	<p><b>Costs:</b> Additional costs related to collection and reporting of information.</p> <p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>▼ assurance that system performance standards are formally required and regulated</li> </ul> <p><b>NPV of recommended option (Option B):</b> -\$141,016.</p>	Include clauses in the proposed licence which have terms and conditions for water quality and service interruption system performance standards.
System Performance Standards - capture, store and release	<p><b>Costs:</b> No related cost.</p> <p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>▼ assurance that system performance standards are formally required and regulated.</li> </ul>	Include a new clause in the proposed licence based on the existing State Water performance indicators, with some updates regarding service interruptions, delivery of water orders and allocation trades.
Reporting Manual - system performance standards reporting	Drafting change only which gives rise to no net cost or benefit.	Include a new clause in the proposed Reporting Manual requiring annual reporting consistent with licence obligations for system performance standards reporting.
Reporting Manual - water balance reporting	<p><b>Cost:</b> No related cost.</p> <p><b>Benefit:</b> Assurance of formal requirements, consistent with the proposed licence, being included in the proposed Reporting Manual</p>	Include in the proposed Reporting Manual a general requirement for water balance reporting clauses that allow Water NSW to provide copies of water balances produced for the Minister or Department of Primary Industries – Water to be used to satisfy this requirement.
Flood mitigation	<p><b>Cost:</b> No related cost</p> <p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>▼ allows for a more flexible and timely response by Water NSW in the event of flood, and</li> <li>▼ limits concerns raised by Water NSW regarding flood mitigation related legal liability and costs.</li> </ul>	Add a clause to the proposed licence authorising Water NSW to undertake flood mitigation activities throughout NSW and include terms and conditions in the proposed licence including, where not already required to do so under any other Act, undertaking flood mitigation activities on direction of the Minister.

Topic considered	Costs and benefits	Preferred option
Reporting Manual - water balance reporting - flood mitigation	<p><b>Costs:</b> Cost of development and maintenance of website reports.</p> <p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>▼ avoided cost of manual preparation of reports, and</li> <li>▼ consistency in requirements between the proposed licence and Reporting Manual.</li> </ul>	Include requirements in the proposed Reporting Manual for water balance reporting if flood mitigation is authorised.
Asset Management System	<p><b>Cost:</b> No related cost (Water NSW already maintains a certified AMS).</p> <p><b>Benefits:</b> Efficiencies arise from:</p> <ul style="list-style-type: none"> <li>▼ reduced site induction and business familiarisation for each audit from having a consistent audit team across audits</li> <li>▼ utilisation of common elements between AMS, EMS and WHS</li> <li>▼ a single consolidated schedule for auditors that can audit against multiple ISO standards.</li> <li>▼ reduced impact on site teams utilising single ISO audit site visits for AMS, EMS and WHS audits</li> <li>▼ commonality between ISO systems which means corporate elements only need to be reviewed once</li> <li>▼ certification audit reports that can satisfy regulatory auditing and reporting requirements so additional reporting to IPART is not required, and</li> <li>▼ reducing need for third party subject matter experts to audit systems and processes for IPART.</li> </ul>	Include Part 4 of the existing Water NSW (State Water) operating licence (with some updates) in the proposed licence and include new sub clauses that require Water NSW to fully implement, maintain, and carry out all relevant activities in accordance with, an AMS.
Reporting Manual - asset management - intermittent reporting	<p><b>Cost:</b> No related cost.</p> <p><b>Benefit:</b> Avoided cost of preparing a State of the Assets report.</p> <p><b>NPV of recommended option:</b> \$320,724.</p>	Remove from the proposed Reporting Manual the requirement for the State of the Assets report and rely on existing outputs and reports from Water NSW's AMS.

Topic considered	Costs and benefits	Preferred option
Reporting Manual - asset management - notification of Asset Management System audits	<p><b>Costs:</b> Additional labour cost relating to increased information requests from IPART audit attendees.</p> <p><b>Benefit:</b> Provides IPART with an opportunity to evaluate first-hand the rigour of the audit process, and improve IPART's understanding of the AMS audit process.</p> <p><b>NPV of recommended option:</b> -\$53,456.</p>	Add a requirement to the proposed Reporting Manual for Water NSW, prior to any AMS precertification, certification, recertification or surveillance audits, to notify IPART with enough notice to allow for IPART attendance as an observer at the audit.
Reporting Manual - asset management - significant changes to AMS	<p><b>Cost:</b> Requiring notification may be unnecessarily duplicative.</p> <p><b>Benefit:</b> Assurance for IPART from being aware of significant changes to the AMS and ensuring the related licence conditions are being met.</p>	Make no change to the proposed licence regarding notification of changes to the AMS.
Reporting Manual - asset management - annual reporting	<p><b>Cost:</b> Annual reporting may represent unnecessarily duplicative regulation.</p> <p><b>Benefit:</b> Assurance that annual reporting of compliance and performance of the AMS is formally required and regulated.</p>	Include section 4.1 of the Water NSW (State Water) Reporting Manual in the proposed Reporting Manual, updated and with some new sub clauses requiring annual reporting of compliance with, and performance of, the AMS.
Environmental Management System	<p><b>Cost:</b> No related cost.</p> <p><b>Benefits:</b> Benefits include:</p> <ul style="list-style-type: none"> <li>▼ assurance from an EMS, consistent with ISO standards</li> <li>▼ enhanced efficiency from cost savings and service improvements arising from EMS</li> <li>▼ reduced risk of service or system failure</li> <li>▼ reduced cost in providing information to stakeholders (eg, NSW Health and customer groups)</li> <li>▼ audit cost savings, and</li> <li>▼ formal assurance the EMS is formally required and regulated.</li> </ul>	Include in the proposed licence Part 6 of the Water NSW (State Water) and Part 7 of the Water NSW (SCA) operating licences, updated and with a new sub clause requiring the EMS to be fully implemented on licence commencement.

Topic considered	Costs and benefits	Preferred option
Reporting Manual - Environment - annual reporting	<p><b>Costs:</b> Additional costs relating to reporting activities.</p> <p><b>Benefits:</b> Assurance the EMS is maintained, related activities undertaken and performance measured.</p> <p><b>NPV of recommended option:</b> -\$498,662</p>	Include in the proposed Reporting Manual section 6.1 of the Water NSW (State Water) Reporting Manual, updated and with new sub clauses requiring annual reporting of EMS activities and performance.
Reporting Manual - asset management - Notification of EMS audits	<p><b>Costs:</b> Additional labour cost relating to increased information requests from IPART audit attendees.</p> <p><b>Benefits:</b> Provides IPART with an opportunity to evaluate first-hand the audit process, and improve IPART's understanding of the EMS and EMS audit process.</p> <p><b>NPV of recommended option:</b> -\$53,456</p>	Add a requirement to the proposed Reporting Manual for Water NSW, prior to any EMS precertification, certification, recertification or surveillance audits, to notify IPART with enough notice to allow for IPART attendance as an observer at the audit.
Reporting Manual - environment - publicly available documents	<p><b>Costs:</b> Minimal costs relating to providing a compliance and performance report on Water NSW's website.</p> <p><b>Benefits:</b> Assurance from transparency of Water NSW's compliance with, and performance of, its EMS.</p>	Include in the proposed Reporting Manual section 6 of the Water NSW (State Water) Reporting Manual and section 7.4 of the Water NSW (SCA) Reporting Manual, updated and with some new sub clauses requiring reporting of compliance with, and performance of, the EMS to be available free of charge for any person on its website.
Delivery to customers	<p><b>Costs:</b> There were no costs arising from any of the three options considered.</p> <p><b>Benefits:</b> There is a benefit of a reduction in regulatory duplication arising from all three Options. The greatest reduction in duplication arises from Option D.</p>	Include Part 3 of the existing Water NSW (State Water) operating licence (edited and with some new sub clauses) in the proposed licence, and delete the whole of clause 3.1.3.
Metering and Monitoring	Drafting change only which gives rise to no net cost or benefit.	Include a new clause in the proposed licence requiring metering, monitoring, account management and billing activities.



Topic considered	Costs and benefits	Preferred option
Customer advisory groups	<p><b>Costs:</b> No costs identified.</p> <p><b>Benefits:</b> Better awareness of the purpose of customer advisory groups and customer rights for customers.</p>	Include in the proposed licence Part 5 of the existing Water NSW (State Water) operating licence (updated and with some new sub clauses requiring area-based customer advisory groups and Customer Advisory Group Charters).
Reporting Manual - customers	<p><b>Costs:</b> No costs identified.</p> <p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>▼ better awareness of the purpose of customer advisory groups and customer rights for customers, and</li> <li>▼ improved communication from making documents available to the public.</li> </ul>	Include in the proposed Reporting Manual section 5.1 of the Water NSW (State Water) Reporting Manual (updated and with some new sub clauses relating to Customer Advisory Group Charters and publicly available documents).
Community Education	<p><b>Costs:</b> Labour costs arising from preparing and producing educative material and developing and undertaking educative programs.</p> <p><b>Benefits:</b> More efficient water use and operations arising from communities across the State being better informed about Water NSW's operations.</p> <p><b>NPV of option recommended:</b> -\$53,621,255 (based on Water NSW data, however actual cost expected to be substantially less, but not quantified).</p>	Include a new clause in the proposed licence that requires Water NSW to conduct educational programs for the community on its activities and functions consistent with its objectives under the Act, and report on its activities in accordance with the proposed Reporting Manual.
MoUs - NSW Health and EPA	<p><b>Cost:</b> There are no costs arising from Option B.</p> <p><b>Benefit:</b> A benefit of assurance from formal recognition of the purpose of the MoUs in the licence.</p>	Include Part 9 of the Water NSW (SCA) operating licence (updated and with some new sub clauses describing the purpose of the memorandum) in the proposed licence.

Topic considered	Costs and benefits	Preferred option
MoU - Local Land Services	<p><b>Costs:</b></p> <ul style="list-style-type: none"> <li>▼ a statewide MoU may need to be so general it would not add specific value over current arrangements, and</li> <li>▼ MoU may also clash with current contractual and regulatory relationships between Local Land Services and Water NSW.</li> </ul> <p><b>Benefits:</b> May assist collaboration in identifying issues and implementing practical, efficient catchment management. Incremental benefit may be small however given the current successful collaboration, without an MOU, between Water NSW and Local Land Services.</p>	Make no change to the proposed licence relating to an MoU with Local Land Services.
MoU - DPI water	<p><b>Costs:</b> Additional staffing costs.</p> <p><b>Benefits:</b> Some efficiency gains arising from the clarification of roles, however we note that these gains may be marginal.</p>	Make no change to the proposed licence relating to an MoU with Department of Primary Industries – Water.
Operational Audits	<p><b>Costs:</b> No costs arise from Option B.</p> <p><b>Benefits:</b> There is a benefit of assurance that performance monitoring systems will be maintained by Water NSW arising from formalising a requirement in the proposed licence.</p>	Include in the proposed licence Part 7 of the existing Water NSW (State Water) operating licence and Part 8 of the existing Water NSW (SCA) operating licence (updated and with some new sub clauses requiring Water NSW to maintain performance measurement systems) to meet the requirements of section 12(2)(b) of the Water NSW Act.
Reporting Manual - performance monitoring - audit	Drafting change only which gives rise to no net cost or benefit.	Include in the proposed Reporting Manual sections 8.1 and 8.2 of the Water NSW (State Water and SCA) reporting manuals, and section 7 of the Water NSW (State Water) Reporting Manual.

Topic considered	Costs and benefits	Preferred option
Reporting Manual - performance monitoring - NWI finance indicators	<p><b>Costs:</b> Additional labour costs due to increase of scope of performance indicator reporting to previous State Water area operations.</p> <p><b>Benefits:</b> Assurance provided by financial indicator reporting being expanded to all of Water NSW activities.</p> <p><b>NPV of recommended option:</b> \$88,135.</p>	Include section 8.4 of the Water NSW (SCA) Reporting Manual (with some updates) in the proposed Reporting Manual.
Reporting Manual - performance monitoring - publicly available documents	Drafting change only which gives rise to no net cost or benefit.	Include section 7.2 of the Water NSW (State Water) Reporting Manual (with editing and some minor updates) in the proposed Reporting Manual.
<p><b>Note:</b> Net Present Value (NPV) calculations are in 2015-16 dollars and assume a given 7% discount rate consistent with guidance in NSW Treasury, <i>tpg 07-5, NSW Government Guidelines for Economic Appraisal</i>, July 2007, p 52. Analysis shows NPV over the term of the proposed operating licence ie, five years.</p>		

## 2 Utility context

The Utility context chapter of the proposed licence refers to the licence context and authorisation, including provisions on licence objectives and purpose. We considered issues of pricing and the term of the proposed licence.

### 2.1 Pricing compliance with IPART determination

We considered adding a new clause Water NSW's operating licence requiring Water NSW to ensure its fees and charges are consistent with the Water NSW Act, the licence and any IPART pricing determination. The wording of the proposed clause is:

Water NSW must ensure that the level of fees, charges and other amounts payable for its services are applied subject to the terms of this Licence, the Act and the maximum prices and methodologies for fixing maximum prices determined from time to time by IPART under the IPART Act or other lawful determination.

[Note: at the time of granting of the licence IPART is the body responsible for determining prices for Water NSW's services and is also an accredited determining body on behalf of the ACCC.]

Similar clauses are contained in Sydney Water and Hunter Water licences.<sup>8</sup>

#### Preferred option

- 1 Include a new clause in the proposed licence which ensures Water NSW's compliance with IPART pricing determinations.

#### Options

**Option A (base case):** Make no change to the proposed licence regarding pricing.

**Option B:** Include a new clause in the proposed licence which ensures Water NSW compliance with IPART pricing determinations.

#### Assumptions

No assumptions made.

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<sup>8</sup> Sydney Water Corporation Operating Licence 2015-2020, clause 1.9.1, and Hunter Water Corporation Operating Licence 2012-2017, clause 1.9.1.

## Qualitative and Quantitative Costs and Benefits

**Costs:** Possible regulatory duplication as Water NSW's:

- ▼ obligation to comply with IPART pricing determinations is set out in Division 5 of the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act), and
- ▼ business is also governed by the *Water Act 2007* (Cth), and its subordinate instruments, which allows the Commonwealth Government to change the regulatory regime under which Water NSW operates during the term of the licence.<sup>9</sup>

**Benefits:**

- ▼ allows auditing of Water NSW's application of IPART pricing determinations and the ability to make recommendations in relation to the application of price determinations in between reviews, if necessary
- ▼ provides administrative streamlining of compliance by including a requirement to comply with a price set by IPART in the licence, rather than relying on the IPART Act, or the responsible Minister's directions, and
- ▼ provides consistency with similar clauses contained in the Sydney Water and Hunter Water licences (we note however Water NSW's comment in its response to our RFI that consistency should not be considered a benefit for this analysis).<sup>10</sup>

## Assessment

We note that including a pricing clause in the proposed licence (Option B) gives rise to both qualitative costs and benefits, including a potential cost of regulatory duplication. We consider that the pricing clause only has impact in the event IPART makes a price determination that applies to Water NSW. If this occurs then a benefit arises from being able to audit and enforce pricing determinations. Option B also streamlines related administrative processes and is consistent with other water utility licences. This benefit is greater than the cost of potentially duplicative regulation. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

## 2.2 End of term review

IPART conducts an end of term review prior to recommending the terms of a new licence. The options below relate to the arrangements for an end of term review.

We considered an option to update the proposed licence to require an end of term review in or around the first quarter of 2021.

### Preferred option

- 2 Include Part 8 of the existing Water NSW (State Water) operating licence (updated to reflect the term of the licence) in the proposed licence.

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<sup>9</sup> Water NSW reply to IPART request for information, 20 January 2017, p 7.

<sup>10</sup> Water NSW reply to IPART request for information, 20 January 2017, p 7.

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## Options

**Option A (base case):** Make no change to the proposed licence regarding end of term reviews.

**Option B:** Include Part 8 of the existing Water NSW (State Water) operating licence (updated to reflect the term of the licence) in the proposed licence.

## Assumptions

No assumptions made.

## Qualitative and Quantitative Costs and Benefits

Option B represents a drafting change only which gives rise to no net cost or benefit.<sup>11</sup>

## Assessment

Option B represents a drafting change only with no net cost or benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

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<sup>11</sup> Water NSW reply to IPART request for information, 21 December 2016, p 170.

## 3 Water source protection and conservation

The Water source protection and conservation chapter of the proposed licence includes provisions relating to the Water Quality Management System (WQMS), catchment management, information on the declared catchment area, catchment infrastructure management, calculation and review of water supply system yield, the Economic Level of Water Conservation (ELWC), and research on catchments.

### 3.1 Water Quality Management System - declared catchments

We considered an option to include Part 2 of the Water NSW (SCA) operating licence, updated and with some new sub clauses that require a WQMS for water in the declared catchment areas, consistent with section 7(1)(g) of the Water NSW Act, in the proposed licence.

Section 7(1)(g) of the Water NSW Act states that a listed function of Water NSW is to “protect and enhance the quality and quantity of water in declared catchment areas”.

#### Preferred option

- 3 Include in the proposed licence Part 2 of the Water NSW (SCA) operating licence, updated and with some new sub clauses that require a Water Quality Management System for water in the declared catchment areas.

#### Options

**Option A (base case):** Make no change to the proposed licence relating to water quality management.

**Option B:** Include in the proposed licence Part 2 of the Water NSW (SCA) operating licence, updated and with some new sub clauses that require a WQMS for water in the declared catchment areas.

## Assumptions

We assumed that the insertion of the term 'Declared Catchment' in the clause in the proposed licence would not constrain the proposed WQMS from covering its current areas of management. These include the water supplied from:

- ▼ the declared catchment
- ▼ locations where Water NSW supplies water intended for drinking
- ▼ Fish River supply, and
- ▼ the drinking water supplies at Water NSW-owned rural establishments.<sup>12</sup>

## Qualitative and Quantitative Costs and Benefits

Option B represents a drafting change in the licence only and therefore does not give rise to incremental costs or benefits.

## Assessment

Option B represents a drafting change to the licence only which has no related net cost or benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

### 3.2 Water Quality Management System - non-declared catchments

Section 7(1)(g) of the Water NSW Act states that a listed function of Water NSW is to "protect and enhance the quality and quantity of water in declared catchment areas".

We considered adding a new clause to the proposed licence requiring Water NSW to maintain a WQMS. This clause will only apply to water supplied (as defined below) in non-declared catchments. We note that the current licences that apply to Water NSW operations do not contain this, or a similar, clause.

The proposed clause is:

#### Clause 2.1.2

With respect to non-declared catchment areas from which Water NSW supplies water, Water NSW must maintain a Water Quality Management System to manage the risks to Water Quality supplied. The Water Quality Management System must be consistent with:

- a) The Australian Drinking Water Guidelines; or
- b) The Australian Guidelines for Water Recycling; or
- c) Other requirements as specified or approved by NSW Health or IPART

as relevant to the source and final end use of water.

*[Note: If a Quality Assurance Program is required under the Public Health Act 2010, the Quality Assurance Program developed will satisfy the requirements of this condition. It is generally expected that Water NSW will manage the water under its control in light of its knowledge of the*

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<sup>12</sup> Water NSW reply to IPART request for information, 21 December 2016, p 11.



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*downstream water supply system, including that of its customers. Therefore the Water Quality Management System should be developed in consultation with its relevant supply customers].*

The proposed licence defines “supply” to be when Water NSW extracts water out of the State’s water rights, under its own water access licences, and uses active or passive management or operating actions to manage that water. These actions use water management works owned and/or controlled by Water NSW to transfer the water of a requested quantity and quality (in accordance with appropriate water supply agreements) to a downstream customer at an agreed handover point. These downstream customers do not have their own water entitlements. For the purposes of the licence, Water NSW is considered to be supplying water to the Fish River Water Supply Scheme.

#### Preferred option

- 4 Include a new clause in the proposed licence that requires Water NSW to maintain a Water Quality Management System for water supplied in non-declared catchments.

### Options

**Option A (base case):** Make no change to the proposed licence relating to water quality management (ie, no conditions currently exist).

**Option B:** Include a new clause in the proposed licence that requires Water NSW to maintain a WQMS for water supplied in non-declared catchments.

### Assumptions

We assumed a Quality Assurance Program required and developed under the *Public Health Act 2010* would satisfy the requirements of the proposed clause.

### Qualitative and Quantitative Costs and Benefits

**Cost:** Option B may have represented duplicative regulation as Part 3, Division 1 of the *Public Health Act 2010* contains similar obligations with respect to drinking water supplied by Water NSW (ie, the requirement for a Water Quality Plan). We note, however, that Water NSW is granted an exemption from having a Water Quality Plan if Water NSW has a WQMS. This exemption removes the duplicative regulation issue as both a Water Quality Plan and a WQMS would not be required at the same time.

**Benefit:** By including the clause in the proposed licence a benefit arises from the assurance that water quality management is formally required and regulated.

### Assessment

We considered the qualitative costs and benefits relating to Option B. On balance, the CBA assessed the benefits of Option B as exceeding the costs, resulting in a net social benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

### 3.3 Economic Level of Water Conservation

Clause 3.1.4 of the existing Water NSW (State Water) operating licence includes a non-prescriptive condition requiring Water NSW to:

...take all reasonable steps to conserve water and minimise water losses that result from undertaking its operations under this [State Water] licence.

There is no explicit water conservation requirement in the existing Water NSW (SCA) operating licence, however water conservation can be considered within Water NSW's Environmental Management System.<sup>13</sup>

The existing Water NSW (State Water) operating licence water conservation obligations are conceptually similar to the Economic Level of Water Conservation (ELWC).

The concept of ELWC incorporates water recycling, water efficiency activities (including demand management) and water leakage, in its definition. We considered an option to include in the proposed licence a requirement for Water NSW to develop and implement an ELWC methodology.

We note, however, that Water NSW will likely need to include natural systems (ie, river, canals and dams) in its ELWC calculations. Natural systems are inherently more variable than man-made systems (ie, water delivery infrastructure such as pipes). This means that Water NSW's ELWC methodology would need to make allowance for natural system variability where, for example, Sydney Water Corporation's ELWC methodology may not. An example is the calculation of water loss from a river that may need to incorporate the currently used concept of 'unaccounted differences' when developing an ELWC methodology.

The proposed obligation would:

- ▼ add a requirement to develop an ELWC methodology for the Sydney catchment area, and
- ▼ replace the existing obligation in the previous State Water Licence to take all reasonable steps to conserve water with a requirement to develop an ELWC methodology in the rest of NSW.

#### Preferred option

- 5 Include Economic Level of Water Conservation (ELWC) obligations in the proposed licence that require an ELWC methodology to be developed, approved and annually reported and which would replace the existing water conservation obligations of the Water NSW operating licence and apply to all or some of Water NSW's functions.

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<sup>13</sup> An Environmental Management System is required by clause 7.1 of the *Water NSW (SCA) operating licence*.

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## Options

**Option A (base case):** Make no change to the proposed licence relating to water conservation.

**Option B:** Include ELWC obligations in the proposed licence that require an ELWC methodology to be developed, approved and annually reported and which would replace the existing water conservation obligations of the Water NSW operating licence and apply to all or some of Water NSW's functions.

## Assumptions

No assumptions made.

## Qualitative and Quantitative Costs and Benefits

**Costs:** Water NSW indicated in its response to our RFI that costs relating to the development and maintenance of an ELWC were too uncertain to be quantified, but were expected to be substantial.

We also note Water NSW's comments that an ELWC methodology for Water NSW would need to allow for variances occurring in natural systems (eg, evaporation and seepage from rivers and dams). This is in contrast to other water utilities (eg, Sydney Water) that calculate an ELWC only allowing for variations that occur in man-made systems (ie, infrastructure such as pipes). Man-made systems are more easily able to be monitored for losses and have significantly less variation than natural systems. Water NSW stated that accurate calculation of probable variations in its natural systems could cost tens of millions of dollars which is disproportionate to any likely benefits.<sup>14</sup>

Water NSW proposed that the cost relating to calculating variances could be reduced by changing the wording of a proposed ELWC clause to only (or mostly) include activities that Water NSW can control. The current licence obligation only applies to Water NSW losses that result "from undertaking its operations under this licence". Therefore, the obligation would only apply in respect of the actions of Water NSW and not in respect to the natural system as a whole.

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<sup>14</sup> Water NSW reply to IPART request for information, 20 January 2017, pp 12-14.

**Benefits:** Benefits of adopting an ELWC may include:

- ▼ increased efficiency by reducing likelihood Water NSW will allocate resources towards achieving an arbitrary water conservation target
- ▼ a rigorous ELWC methodology better reflects actual net benefits of water conservation projects
- ▼ increased transparency around selection of candidate water conservation projects, through the publication of likely costs and benefits of water conservation activities (including external costs and benefits), and reporting on net benefits of particular initiatives,<sup>15</sup> and
- ▼ consistency of regulation between public water utilities, in terms of requiring each of them to develop an appropriate water conservation methodology, which is already in place for Sydney Water.

We note that efficiency benefits may be achieved without an ELWC methodology. In its reply to our RFI, Water NSW stated that rural customers have incentives to use more water as water is an input to a means of production (ie, if they have more water, they can grow more crops and earn a greater return). As an input to production, Water NSW's customers have their own financial incentive to conserve water on a per hectare basis as it is an input for which they have to pay.<sup>16</sup> We consider however that efficiency gains achieved by Water NSW customers do not preclude Water NSW from making water conservation related efficiency gains from its own activities.

## Assessment

An ELWC methodology may assist Water NSW to realise substantial benefits arising from more efficient resource allocation in water conservation activities. We deliberated Water NSW's response that stated when variations from natural systems (eg, evaporation and seepage from rivers and dams) are introduced to an ELWC methodology, similar to Sydney Water's, the costs of estimating these variations may become disproportionately larger than the related benefits. We also considered Water NSW's comments that these costs could be substantially reduced by wording the proposed licence sub clause to restrict ELWC considerations to Water NSW activities (ie, man-made infrastructure) only.

We note that clause 3.1.4 of the existing Water NSW (State Water) operating licence already requires water conservation. We consider this to be the base case and the proposed requirement for ELWC methodology to be an extension and refinement of this requirement, that provides greater clarity and auditability, rather than a new requirement.

We consider that an ELWC methodology developed by Water NSW could vary substantially from that developed by Sydney Water; for example, the three elements that apply to Sydney Water's methodology do not apply to Water NSW,<sup>17</sup> instead a different, fourth element, has

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<sup>15</sup> IPART, *Cost benefit analysis of proposed changes to Hunter Water Corporation's operating licence – Draft Report*, December 2016, p 15.

<sup>16</sup> Water NSW reply to IPART request for information, 20 January 2017, pp 13-14.

<sup>17</sup> Clause 3.2.1 of the *Sydney Water Corporation Operating Licence 2015-2020* requires the ELWC to include water leakage, water recycling and water efficiency (including demand management) as elements of water conservation.

been developed (ie, 'water storage and transmission'), for water conservation measures. This variation alone could justify significant differences in an appropriate methodology.

Water NSW could therefore include existing calculation methods used for water loss in natural systems (eg, 'unaccounted differences' when transmitting water down a river or evaporation calculations for dam storage) in its ELWC methodology. By designing an ELWC methodology appropriate for Water NSW's circumstances, using a cost benefit approach for deciding on the ELWC methodology design, the excessive costs relating to the development of an overly prescriptive methodology could be avoided. These are matters that could be considered during the development of the appropriate principles, approach and methodology itself in the first 18 months of the proposed licence.

We have considered these factors and concluded that, for Option B, the related benefits exceed the probable costs, producing a net social benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred

### 3.4 Catchment infrastructure management

We considered an option to include a clause in the proposed licence relating to the management of catchment infrastructure. The option considered was to include Part 3 of the Water NSW (SCA) operating licence (updated to include a requirement to manage catchment infrastructure consistent with an Asset Management System) in the proposed licence.

For this clause, we proposed the following wording (updated wording in italics):

Water NSW must ensure that, in declared catchment areas, the Catchment Infrastructure is operated and managed consistently with the Design Criteria *and the asset management system of clause 5.1.*

Clause 5.1 requires the AMS to be fully implemented and consistent with, and certified to International Standards Organisation's standard for asset management: ISO 55001:2014.

#### Preferred option

- 6 Include in the proposed licence Part 3 of the Water NSW (SCA) operating licence (updated to include a requirement to manage catchment infrastructure consistent with an Asset Management System).

#### Options

**Option A (base case):** Make no change to the proposed licence regarding catchment infrastructure management.

**Option B:** Include in the proposed licence Part 3 of the Water NSW (SCA) operating licence (updated to include a requirement to manage catchment infrastructure consistent with an AMS).

## Assumptions

We assumed that current practice for ISO 55001 AMS certification and surveillance audits, internal coordination of audits and internal responses to audit findings would meet proposed licence clause requirements relating to catchment infrastructure.

## Qualitative and Quantitative Costs and Benefits

**Costs:** Additional incremental costs would not be incurred as Water NSW already maintains a certified AMS for catchment infrastructure.

### Benefits:

- ▼ assurance from having formal requirement for an AMS for catchment related infrastructure
- ▼ certification audit reports can satisfy regulatory auditing and reporting requirements so additional reporting to IPART is not required, and
- ▼ IPART does not need to engage third party subject matter experts to audit systems and processes.

## Assessment

Given the qualitative benefits, and lack of costs, relating to Option B, the CBA assessment indicated, on the basis of CBA alone, that Option B is preferred.

## 3.5 Water Supply System Yield

We considered an option to include a requirement for Water NSW to re-calculate the Water Supply System Yield, including Time-Varying Water Supply System Yield<sup>18</sup> and Fixed Water Supply System Yield,<sup>19</sup> in declared catchment areas. This was to occur at:

- ▼ the conclusion of any drought event
- ▼ the commencement of any modification or augmentation to the Catchment Infrastructure or the Water Supply System Infrastructure which will have a significant impact on Water NSW's supply of water
- ▼ any substantial change to the operating rules of the Catchment Infrastructure, or
- ▼ any substantial change to the Design Criteria.<sup>20</sup>

This is consistent with section 7(1)(g) of the Water NSW Act 2014 which states that a listed function of Water NSW is to “protect and enhance the quality and quantity of water in

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<sup>18</sup> The Time-varying Water Supply System Yield is the maximum long-term average annual supply volume of water with time varying demands based on climatic and storage conditions. See Water NSW reply to IPART request for information, 21 December 2016, p 14.

<sup>19</sup> The Fixed Water Supply System Yield is based on the currently used methodology, which calculates the maximum fixed annual supply volume of water.

<sup>20</sup> Design Criteria is defined in the proposed licence as “the levels of service for security, robustness and reliability of water available for supply to Customers other than a *Small Customer*”.

declared catchment areas". The requirement for calculating yield relates to the quantity of water in declared catchments.

#### Preferred option

- 7 Make no change regarding calculation of Water Supply System Yield in the proposed licence.

### Options

**Option A (base case):** Make no change regarding calculation of Water Supply System Yield in the proposed licence.

**Option B:** Include a requirement in the proposed licence for Water NSW to re-calculate the Water Supply System Yield, including Time-Varying Water Supply System Yield and Fixed Water Supply System Yield, in declared catchment areas.

### Assumptions

Our analysis makes the following assumptions:

- ▼ a demand model can be developed at the required level confidence
- ▼ weather data and other demographic data available is for all supply zones
- ▼ stakeholders can understand reported yield assumptions, and
- ▼ climate change impact can be incorporated in calculation of forecast demand.<sup>21</sup>

### Qualitative and Quantitative Costs and Benefits

#### Costs:

- ▼ additional computing resources and staff time for yield evaluation and model maintenance
- ▼ requirement for Sydney Water and other customers to provide input to the model development, and
- ▼ incorporating all uncertainties included in current yield evaluation may make yield evaluation too complex and time consuming

**Benefit:** Improved modelling capacity which may lead to better decision-making capability.<sup>22</sup>

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<sup>21</sup> Water NSW reply to IPART request for information, 21 December 2016, p 16.

<sup>22</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 16-17.



## Net Present Value analysis

**Table 3.1 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost - computer model development	-300,000				
Cost - computer model maintenance		-230,000	-230,000	-230,000	-230,000
Benefit (not quantified)					
<b>Net (cost)/benefit</b>	<b>-300,000</b>	<b>-230,000</b>	<b>-230,000</b>	<b>-230,000</b>	<b>-230,000</b>

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 16, and IPART calculations.

**Table 3.2 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost - computer model development	-277,367	-262,032	-247,934
Cost - computer model maintenance	-771,890	-680,460	-602,536
Benefit (not quantified)			
<b>Net present value</b>	<b>-1,049,257</b>	<b>-942,492</b>	<b>-850,470</b>

**Note:** Discount rates are recommended by NSW Treasury, *tpp 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 16, and IPART calculations.

## Assessment

Given the costs of Option B, compared to the minimal benefits, the CBA assessment indicated, on the basis of CBA alone, that maintaining the Base case (Option A) is preferred.

## 3.6 Manage and protect catchments

We considered an option to include Part 4 of the Water NSW (SCA) operating licence (with minor updates) in the proposed licence. This would extend a requirement to all Water NSW declared catchment areas to:

- ▼ manage and protect the Declared Catchment Areas consistently with its objectives and functions under the Act, the Asset Management System and the Environmental Management System required by the proposed licence
- ▼ prepare indicators of the direct impact of Water NSW's activities, in the declared catchment areas, on the environment (the Declared Catchment Health Indicators)
- ▼ monitor and compile data on the Declared Catchment Health Indicators
- ▼ provide the data on the Declared Catchment Health Indicators to the Catchment Auditor in accordance with the Reporting Manual; and
- ▼ report on the Declared Catchment Health Indicators to IPART in accordance with the Reporting Manual.

This is consistent with section 7(1)(h) of the Water NSW Act 2014 which states that a listed function of Water NSW is to “manage and protect declared catchment areas and water



management works vested in or under the control of Water NSW that are used within or for the purposes of such areas”.

### Preferred option

- 8 Include Part 4 of the current Water NSW (SCA) operating licence in the proposed licence, which will extend the requirements of Part 4 to all Water NSW declared catchment areas.

## Options

**Option A (base case):** Make no change to the proposed licence regarding management and protection of declared catchment areas and water management works.

**Option B:** Include Part 4 of the current Water NSW (SCA) operating licence in the proposed licence (with minor updates).

## Assumptions

In its response to our RFI, Water NSW assumed that for Option B:

- ▼ no capital investment is required
- ▼ AMS and EMS requirements are similar to current practice
- ▼ proposed indicators are not required for ‘business as usual’ activities (ie, science, communications, land management and development assessment and compliance)
- ▼ the proposed indicators are identical to headline indicators for the catchment intervention program contained within the Water Quality Protection Framework<sup>23</sup>
- ▼ the proposed process for the Catchment Health Indicators is not that required by section 41 of the Water NSW Act 2014
- ▼ the proposed indicators use established frameworks for data collection and reporting
- ▼ data gathered and reported is transparent, and
- ▼ proposed Option B does not use a process similar to that for Catchment Health Indicators.<sup>24 25</sup>

## Qualitative and Quantitative Costs and Benefits

**Costs:** No additional cost as proposed indicators are required to be built into programs under the base case as part of sound management principles.

<sup>23</sup> Sydney Catchment Authority, *Water Quality Management Framework 2012 – 2017*, November 2012, [http://www.watarnsw.com.au/\\_\\_data/assets/pdf\\_file/0011/55982/WQMF-2012-2017.pdf](http://www.watarnsw.com.au/__data/assets/pdf_file/0011/55982/WQMF-2012-2017.pdf), last accessed 19 January 2017.

<sup>24</sup> In 2008 the former Department of Water and Energy (now NSW Office of Water) developed and published catchment health indicators for the Sydney drinking water catchment area. See <http://www.water.nsw.gov.au/water-management/monitoring/catchments>, last accessed 19 January 2017.

<sup>25</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 19-20.

**Benefits:** Benefits include:

- ▼ increased confidence that asset management and environmental management are competently managed as a result of them being managed within an accredited AMS and EMS, and
- ▼ increased understanding and agreement on choice of indicators relating to the catchment intervention program contained within the Water Quality Protection Framework.

## Assessment

Given the related benefit of defining and agreement of the indicators relating to the catchment intervention program for the Water Quality Protection Framework, and the lack of cost, the CBA assessment indicated, on the basis of CBA alone, that Option B is preferred.

### 3.7 Catchment research and catchment health

We considered an option to include Part 7.2 of the Water NSW (SCA) operating licence and add a clause requiring Water NSW to maintain, and report on, a program of research on catchments in the proposed licence. This would meet the requirements of section 7(1)(j) and section 12(2)(b) of the Water NSW Act.

#### Preferred option

- 9 Include in the proposed licence Part 7.2 of the Water NSW (SCA) operating licence (updated and with a new clause requiring Water NSW to maintain a program of research on catchments in accordance with its objectives and functions and report on this program).

Section 7(1)(j) of the Water NSW Act states that a listed function of Water NSW is to “to undertake research on catchments generally, and in particular on the health of declared catchment areas”.

Section 12(2)(b) of the Water NSW Act states:

in connection with an operating licence that authorised Water NSW to exercise functions with respect to a declared catchment area, the operating licence must include terms or conditions under which Water NSW is required to compile indicators of the direct impact of Water NSW's activities (including, but not limited to, the impact of energy used and waste generated) on the environment.

## Options

**Option A (base case):** Make no change regarding the terms or conditions under which Water NSW is required to compile indicators of the direct impact of its activities on the environment.

**Option B:** Include in the proposed licence Part 7.2 of the Water NSW (SCA) operating licence (updated and with a new clause requiring Water NSW to maintain a program of research on catchments in accordance with its objectives and functions and report on this program).

## Assumptions

It is assumed that the wording of the proposed licence clause would enable Water NSW to determine the scope of its research program, but not compel a fundamental change of research objectives.<sup>26</sup>

## Qualitative and Quantitative Costs and Benefits

**Costs:** Water NSW provided an estimated annual operating cost increase of between \$0.5 million to \$1 million per year, which relates to an increase in research activity, outside the Declared Catchment area, to all catchments generally.

These costs were based on an extrapolation of the costs incurred in the declared catchments. We do not propose specifying research areas, requirements or scope and therefore, we anticipate the costs could be less than this estimate.

**Benefits:** Benefits include:

- ▼ improved knowledge of the water systems outside the Sydney Metropolitan Region and use of this information to inform better management and operational practices for Water NSW
- ▼ improved research effectiveness by allowing Water NSW flexibility to determine the scope of its research program, and
- ▼ that the benefits of the research program can be applied to catchments outside the Declared Catchment area.<sup>27</sup>

## Net Present Value analysis

In its response to IPART's RFI, Water NSW estimated the cost of expansion of the catchment management related research program would be between \$0.5 million and \$1.0 million per annum. In calculating a NPV for the incremental cost or benefit of Option B we have chosen a value which is the mid-point of this range (ie, \$0.75 million per annum)

**Table 3.3 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost - expansion of research program	-750,000	-750,000	-750,000	-750,000	-750,000
Benefit (not quantified)					
<b>Net (cost)/benefit</b>	<b>-750,000</b>	<b>-750,000</b>	<b>-750,000</b>	<b>-750,000</b>	<b>-750,000</b>

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 24, and IPART calculations.

<sup>26</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 24.

<sup>27</sup> Water NSW reply to IPART request for information, 21 December 2016, p 24.

**Table 3.4 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost - expansion of research program	-4,280,598	-3,831,960	-3,446,170
Benefit (not quantified)			
<b>Net present value</b>	<b>-4,280,598</b>	<b>-3,831,960</b>	<b>-3,446,170</b>

**Note:** Discount rates are recommended by NSW Treasury, *tpg 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 24, and IPART calculations.

## Assessment

Water NSW has forecast substantial cost attached to Option B. Given we do not propose specifying research requirements or scope we therefore anticipate the costs could be less than this estimate. There is also substantial benefit relating to expansion of research scope to catchments generally, as well as meeting the requirements of the Water NSW Act. For these reasons the CBA assessment indicated, on the basis of CBA alone, that Option B is preferred.

## 3.8 Reporting Manual - catchment management - periodic reporting

We considered an option to include in the proposed Reporting Manual section 2.1 and section 4.1 of the Water NSW (SCA) Reporting Manual (with updates new clauses requiring Water NSW to report to IPART).

Section 2.1 and section 4.1 of the Water NSW (SCA) Reporting Manual require, as part of catchment management functions, Water NSW to report to its customers and NSW Health the results of routine monitoring. This routine monitoring is undertaken under the monitoring program that it develops as part of the Water Quality Management System, with respect to water in the declared catchment areas.

### Preferred option

- 10 Include in the proposed Reporting Manual section 2.1 and section 4.1 of the Water NSW (SCA) Reporting Manual (with updates and new clauses requiring Water NSW to report to IPART).

## Options

**Option A (base case):** Make no change to the proposed Reporting Manual regarding periodic reporting relating to catchment management.

**Option B:** Include in the proposed Reporting Manual section 2.1 and section 4.1 of the Water NSW (SCA) Reporting Manual (with updates and new clauses requiring Water NSW to report to IPART).

## Assumptions

No assumptions made.

## Qualitative and Quantitative Costs and Benefits

Option B represents a drafting change only which gives rise to no net cost or benefit.

## Assessment

Option B represents a drafting change only with no net cost or benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

### 3.9 Reporting Manual - catchment management - annual reporting

Sections 2.2, 3.2 and 4.2 of the Water NSW (SCA) Reporting Manual require Water NSW, as part of catchment management functions, to annually report to its customers and NSW Health on its Water Quality Management System (WQMS).

We considered an option to include these sections from the current licences in the proposed Reporting Manual updated and with new clauses requiring Water NSW to report to IPART.

#### Preferred option

- 11 Include in the proposed Reporting Manual section 2.2, section 3.2 and section 4.2 of the Water NSW (SCA) Reporting Manual (with updates and with new clauses requiring Water NSW to report to IPART).

## Options

**Option A (base case):** Make no change to the proposed Reporting Manual regarding annual reporting relating to catchment management.

**Option B:** Include in the licence sections 2.2, 3.2 and 4.2 of the Water NSW (SCA) Reporting Manual (with updates and with new clauses requiring Water NSW to report to IPART).

## Assumptions

No assumptions made.

## Qualitative and Quantitative Costs and Benefits

Option B represents a drafting change which and gives rise to no net cost or benefit.

## Assessment

Option B represents a drafting change only with no net cost or benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

### 3.10 Reporting Manual - environment - environmental indicators

We considered an option to include section 7 of the Water NSW (SCA) Reporting Manual (updated and with some new sub clauses requiring specific waste and energy indicators) in the proposed Reporting Manual.

Section 7 of the Water NSW (SCA) Reporting Manual refers to external reporting in addition to indicators. We considered an option to include this section and specific waste and energy indicators in the proposed Reporting Manual.

This is consistent with section 12(2)(b) of the Water NSW Act which requires the operating licence to include terms and conditions requiring Water NSW to compile indicators of the direct impact Water NSW's activities on the environment. This includes, but is not limited to, the impact of energy used and waste generated.

#### Preferred option

- 12 Include in the proposed Reporting Manual section 7 of the Water NSW (SCA) Reporting Manual (updated and with some new sub clauses requiring specific waste and energy indicators).

## Options

**Option A (base case):** Make no change to the proposed Reporting Manual regarding environmental indicators.

**Option B:** Include in the proposed Reporting Manual section 7 of the Water NSW (SCA) Reporting Manual (updated and with some new sub clauses requiring specific waste and energy indicators).

## Assumptions

No assumptions made.

## Qualitative and Quantitative Costs and Benefits

Option B represents a drafting change only which gives rise to no net cost or benefit.

## Assessment

Option B represents a drafting change only with no net cost or benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

### 3.11 Reporting Manual - catchment management - publicly available documents

We considered an option to include sections 2.4, 3.4 and 4.4 of the Water NSW (SCA) Reporting Manual (with minor editing changes) in the proposed Reporting Manual.

Sections 2.4, 3.4 and 4.4 of the Water NSW (SCA) Reporting Manual require Water NSW to make available free of charge and on its website for download:

- ▼ the Water Quality Monitoring Report
- ▼ the Design Criteria
- ▼ any changes to the Water Supply System Yield (including reasons for the changes)
- ▼ the report on the review of the model and procedure for calculating the water supply system, and
- ▼ information collected by Water NSW on water quality relevant to the Declared Catchment Area.

#### Preferred option

- 13 Include section 2.4, section 3.4 and section 4.4 of the Water NSW (SCA) Reporting Manual (with minor editing changes) in the proposed Reporting Manual.

### Options

**Option A (base case):** Make no change to the proposed Reporting Manual regarding publicly available documents.

**Option B:** Include sections 2.4, 3.4 and 4.4 of the Water NSW (SCA) Reporting Manual (with minor editing changes) in the proposed Reporting Manual.

### Assumptions

No assumptions made.

### Qualitative and Quantitative Costs and Benefits

Option B represents a drafting change only which gives rise to no net cost or benefit.

### Assessment

Option B represents a drafting change only with no net cost or benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

### 3.12 Reporting Manual - performance monitoring - significant changes

We considered an option to include section 8.3 of the Water NSW (State Water and SCA) reporting manuals (with updates) in the proposed Reporting Manual.

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Section 8.3 of the of the Water NSW (State Water and SCA) reporting manuals require Water NSW to report to IPART each year on any significant changes that have been made, including to its; Water Quality Management System, Design Criteria, operation or management of catchment infrastructure, management and protection of the Declared Catchment Area, Asset Management System, Customer Advisory Group Charter, Customer Service Charter or Environmental Management System.

#### Preferred option

- 14 Include section 8.3 of the Water NSW (State Water and SCA) reporting manuals (with updates) in the proposed Reporting Manual.

### Options

**Option A (base case):** Make no change to the proposed Reporting Manual regarding significant changes to performance monitoring.

**Option B:** Include section 8.3 of the Water NSW (State Water and SCA) reporting manuals (with updates) in the proposed Reporting Manual.

### Assumptions

No assumptions made.

### Qualitative and Quantitative Costs and Benefits

Option B represents a drafting change only which gives rise to no net cost or benefit.

### Assessment

Option B represents a drafting change only with no net cost or benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.



## 4 Bulk water storage and transmission

The Bulk water storage and transmission chapter of the proposed licence includes provisions relating to water management works, water supplied, bulk water released to local water utilities for drinking water purposes, and dam operation during floods and spills (flood mitigation).

### 4.1 Water supply

In addition to the Water Quality Management System (WQMS), system performance standards and Asset Management System (AMS), (which we have considered separately)<sup>28</sup> we considered an option to include in the proposed licence Part 6 of the Water NSW (SCA) operating licence (updated with some new sub clauses requiring the establishment of a code of conduct). These conditions apply to supply in accordance with supply agreements, establishing agreements, complaints handling and code of conduct.

Section 12(2)(a)(i) of the Water NSW Act 2014 states that the operating licence must include terms or conditions under which Water NSW is required to provide, construct, operate, manage and maintain efficient, co-ordinated and commercially viable systems and services to capture, store, release or supply water.

#### Preferred option

- 15 Include in the proposed licence Part 6 of the Water NSW (SCA) operating licence (updated with some new sub clauses requiring the establishment of a code of conduct).

#### Options

**Option A (base case):** Make no change to the proposed licence regarding water supply.

**Option B:** Include in the proposed licence Part 6 of the Water NSW (SCA) operating licence (updated with some new sub clauses requiring the establishment of a code of conduct).

#### Assumptions

We assumed that Option B would require the same workload to issue and maintain customer agreements as the base case.<sup>29</sup>

#### Qualitative and Quantitative Costs and Benefits

**Costs:** No costs arise from Option B.

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<sup>28</sup> See sections 3.1, 3.2, 5.1, 5.2, and 6.1 of this report.

<sup>29</sup> Water NSW reply to IPART request for information, 21 December 2016, p 49.

**Benefits:** It may be easier for Water Supply customers who hold properties in Fish River and Sydney to use the same agreement for both.<sup>30</sup>

## Assessment

Option B represents minor change with an attached small net benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

### 4.2 Bulk water releases to Local Water Utilities

We considered an option to include Part 2 in the existing Water NSW (State Water) operating licence in the proposed licence, with updates and new sub clauses requiring Water NSW to consult with customers in completing a review of its health related monitoring of water quality released to Local Water Utilities, and update its information request procedure in accordance with the review.

Part 2 of the existing Water NSW (State Water) operating licence requires Water NSW to share information which it currently collects with interested Local Water Utilities, where that information could usefully inform a Local Water Utility's Drinking Water quality assurance program.

#### Preferred option

- 16 Include in the proposed licence Part 2 in the existing Water NSW (State Water) operating licence, with updates and new sub clauses requiring Water NSW to consult with customers in completing a review of its health related monitoring of water quality released to Local Water Utilities, and update its information request procedure in accordance with the review.

## Options

**Option A (base case):** Make no changes to the proposed licence regarding bulk water releases to Local Water Utilities.

**Option B:** Include in the proposed licence Part 2 in the existing Water NSW (State Water) operating licence, with updates and new sub clauses requiring Water NSW to consult with customers in completing a review of its health related monitoring of water quality released to Local Water Utilities, and update its information request procedure in accordance with the review.

## Assumptions

We assumed the costs of Option B would be something to be agreed between Water NSW and NSW Health. In its response to our RFI, Water NSW stated it was not possible to quantify these costs.<sup>31</sup>

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<sup>30</sup> Water NSW reply to IPART request for information, 21 December 2016, p 49.

<sup>31</sup> Water NSW reply to IPART request for information, 21 December 2016, p 53.

## Qualitative and Quantitative Costs and Benefits

**Costs:** Some additional administrative costs.

**Benefits:** Option B may improve efficiency and public safety through sharing of health-related monitoring information with customers.

### Assessment

Option B has an unquantified administrative cost which is offset by potential efficiency and public health benefits. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

## 4.3 Construct, maintain and operate water management works

Section 7(1)(f) of the Water NSW Act includes a listed function requiring Water NSW to construct, maintain and operate water management works (including providing or constructing systems or services for supplying water).

Relevantly, section 12(2) of the Water NSW Act states:

The operating licence must include terms or conditions under which Water NSW is required:

- (a) in connection with an operating licence that authorises Water NSW to capture, store, release or supply water:
  - i) to provide, construct, operate, manage and maintain efficient, co-ordinated and commercially viable systems and services to capture, store, release or supply water, and
  - ii) to ensure that the systems and services meet the performance standards specified in the operating licence in relation to water delivery, water quality, service interruptions or any other matters set out in the operating licence...

In relation to this function, a number of licence conditions relate to this condition (such as the requirement to maintain an AMS). We considered an option to add an additional condition which would more clearly link this function to its certified AMS for the purposes of section 12(2)(a) of the Water NSW Act.

### Preferred option

- 17 Add a new clause to the proposed licence that links the construction, maintenance and operation of water management works to Water NSW's certified Asset Management System for the purposes of section 12(2)(a) of the Water NSW Act.

### Options

**Option A (base case):** Make no change to the proposed licence regarding the the development and maintenance of an AMS.

**Option B:** Add a new clause to the proposed licence that links the construction, maintenance and operation of water management works to Water NSW's certified AMS for the purposes of section 12(2)(a) of the Water NSW Act.

## Assumptions

In its response to our RFI, Water NSW assumed that:

- ▼ current practice for ISO 55001 AMS certification and surveillance audits, internal coordination of audits and internal responses to audit findings will meet proposed licence clause requirements
- ▼ gathering data on processes and preparation of presentations for an IPART AMS audit requires the equivalent of 20 working days
- ▼ response to follow up questions from IPART requires the equivalent of 10 working days
- ▼ site inspections by IPART auditors requires the equivalent of 15 working days of additional time of site personnel and ISO auditors, and
- ▼ third party subject matter experts and auditors are not required.<sup>32</sup>

## Qualitative and Quantitative Costs and Benefits

**Costs:** Additional incremental costs do not occur as Water NSW already maintains a certified AMS.

**Benefits:** Efficiencies arise from:

- ▼ reduced site induction and business familiarisation for each audit from having a consistent audit team across audits
- ▼ utilisation of common elements between AMS, EMS and WHS.
- ▼ a single consolidated schedule for auditors that can audit against multiple ISO standards
- ▼ reduced impact on site teams utilising single ISO audit site visits for AMS, EMS and WHS audits
- ▼ commonality between ISO systems which means corporate elements only need to be reviewed once
- ▼ certification audit reports that can satisfy regulatory auditing and reporting requirements so additional reporting to IPART is not required
- ▼ reducing need for third party subject matter experts to audit systems and processes for IPART, and
- ▼ a simplified licence referencing AMS certification reduces internal and external regulatory effort.<sup>33</sup>

## Net Present Value analysis

**Table 4.1 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost					
Benefit - savings from increased audit	62,773	62,773	62,773	62,773	62,773

<sup>32</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 56-57.

<sup>33</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 56-57.

efficiency

<b>Net (cost)/benefit</b>	62,773	62,773	62,773	62,773	62,773
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**Source:** Water NSW reply to IPART request for information, 21 December 2016, pp 56-57, and IPART calculations.

**Table 4.2 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

<b>Sensitivity range</b>	<b>Low</b>	<b>Mid</b>	<b>High</b>
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost			
Benefit - savings from increased audit efficiency	268,706	240,544	216,326
<b>Net present value</b>	268,706	<b>240,544</b>	216,326

**Note:** Discount rates are recommended by NSW Treasury, *tpg 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, pp 56-57, and IPART calculations.

## Assessment

Given the substantial benefits gained with little or no cost under option B, the CBA assessment indicated, on the basis of CBA alone, that Option B is preferred.

## 5 Performance standards

The performance standards chapter of the proposed licence relates to performance standards in relation to the water supply and capture storage and release of water.

### 5.1 System performance standards - supply

System performance standards includes water quality and service interruption standards for 'supply' of water to Water NSW's customers.

We considered an option to include clauses in the proposed licence which have terms and conditions for water quality and service interruption system performance standards that will satisfy the requirements of section 12(2)(a)(ii) of the Act.

The wording of the proposed clause is as follows:

**Clause 5.1.1 The Performance Standards set out in paragraphs (a)-(d) below apply in respect of the Supply of water by Water NSW.**

- a) *Quality of Water Supplied Standard A:* Water Supplied to Customers meets relevant Bulk Water quality standards >95% of the time.
- b) *Quality of Water Supplied Standard B:* Water Supplied to Customers meets health standards 100% of the time.
- c) *Delivery and Service Interruption regarding Water Supplied Standard A:* Water is Supplied to Customers on time 100% of the time.
- d) *Delivery and Service Interruption regarding Water Supplied Standard B:* Water is Supplied to Customers in the agreed quantities 100% of the time

*[Note: these are the minimum water Supply and interruption standards. Water NSW must also Supply water in accordance with the terms and conditions of the relevant Customer Supply Agreement.]*

#### Preferred option

- 18 Include clauses in the proposed licence which have terms and conditions for water quality and service interruption system performance standards.

#### Options

**Option A (base case):** Make no change to the proposed licence regarding system performance standards.

**Option B:** Include clauses in the proposed licence which have terms and conditions for water quality and service interruption system performance standards that will satisfy the requirements of section 12(2)(a)(ii) of the Act.

## Assumptions

For Option B Water NSW assumed an extra level of activity relating to information collection reporting would require the equivalent of about 0.2 full time equivalent.<sup>34</sup>

## Qualitative and Quantitative Costs and Benefits

**Costs:** For Option B, there are labour and resource costs relating to additional collection and reporting of information. There were no incremental costs arising from Option C.<sup>35</sup>

**Benefits:** For all options there is assurance arising from formalisation of requirement for system performance standards that will satisfy the requirements of section 12(2)(a)(ii) of the Water NSW Act.

## Net Present Value analysis

### Option B:

**Table 5.1 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost - reporting	-36,800	-36,800	-36,800	-36,800	-36,800
Benefit					
<b>Net (cost)/benefit</b>	<b>-36,800</b>	<b>-36,800</b>	<b>-36,800</b>	<b>-36,800</b>	<b>-36,800</b>

**Source:** Water NSW reply to IPART request for information, 21 December 2016, pp 66, and IPART calculations.

**Table 5.2 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost	-157,526	-141,016	-126,819
Benefit			
<b>Net present value</b>	<b>-157,526</b>	<b>-141,016</b>	<b>-126,819</b>

**Note:** Discount rates are recommended by NSW Treasury, *tp 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, pp 66, and IPART calculations.

## Assessment

Option B gives rise to a modest cost but also gives rise to a greater benefit of assurance arising from formalisation of requirements for system performance standards that will satisfy the Water NSW Act. The CBA assessment indicated, on the basis of CBA alone, that Option B is preferred.

<sup>34</sup> Water NSW reply to IPART request for information, 21 December 2016, p 66, Water NSW reply to IPART request for information, 20 January 2017, pp 17-18.

<sup>35</sup> Water NSW reply to IPART request for information, 21 December 2016, p 66, Water NSW reply to IPART request for information, 20 January 2017, pp 17-18.

## 5.2 System performance standards - capture, store and release

System performance standards for water delivery includes standards relating to 'capture, store and release' of water to Water NSW's customers.

We considered an option to include clauses in the proposed licence which have terms and conditions for system performance standards that will satisfy the requirements of section 12(2)(a)(ii) of the Water NSW Act.

Part 3 of the current Water NSW (State Water) operating licence requires Water NSW to:

- ▼ process all water orders promptly and efficiently
- ▼ manage water orders so as to ensure the timely delivery of water to its customers
- ▼ maintain a water allocation account for each access licence, and
- ▼ conserve water and minimise water losses that result from undertaking its operations under the licence.

We consider this clause to be the base case and the proposed clauses represent an extension of the requirements of the clauses in Part 3 above, rather than new requirements.

The wording of the proposed clauses are as follows:

### Clause 3.5.2 Service interruption standards

- a) 100% of complying water orders rescheduled are rescheduled in consultation with an affected customer within 1 working day of an expected water shortage, or other delivery delay (service interruptions)

### Clause 3.5.3 System Performance Standards

- a) 99% of customers who place a non-complying water order, are contacted within 1 working day to rectify that order (Water delivery standard)

*[Note: This indicator should be calculated as a percentage of all non-complying water orders placed. A "non-complying water order" is a water order that does not comply with the relevant licence holder's licence conditions, or which contains insufficient information for State Water to supply water.]*

- b) 99% of complying water orders are delivered within +/- 1 day of the scheduled day of delivery (Water delivery standard)

*[Note: This indicator should be calculated as a percentage of all complying water orders placed. A complying water order is an order that complies with licence conditions, and which contains sufficient information for State Water to supply water. The scheduled day of delivery takes into account the period of required notice specified in water management work approvals, licences, or entitlements. This shall be measured by Complaints and/or if Water NSW identifies a delivery delay e.g. through its staff, systems or otherwise identify or become aware of a delivery delay.]*

- c) 100% of complying water orders rescheduled are rescheduled in consultation with an affected customer within 1 working day of an expected water shortage, or other delivery delay (service interruptions)



### **(Service interruption standards)**

*[Note: This indicator should be calculated as a percentage of all water orders rescheduled due to an expected shortage or delivery delay.]*

- d) 90% of complying temporary trades are processed within five working days of Water NSW's receipt of a correct application and fee
- e) 90% of interstate trades (except to South Australia) are to be processed within 10 days
- f) 90% of interstate trades to South Australia to be processed within 20 days.

### **(Water account management standards)**

*[Note: Temporary trade is the transfer of allocated water from one licence to another and includes transfers under the Water Management Act 2000 and Water Act 1912.]<sup>36</sup>*

Section 12(2)(a)(ii) of the Water NSW Act states:

- 2) The operating licence must include terms or conditions under which Water NSW is required:
  - a) in connection with an operating licence that authorises Water NSW to capture, store, release or supply water:
    - ii) to ensure that the systems and services meet the performance standards specified in the operating licence in relation to water delivery, water quality, service interruptions or any other matters set out in the operating licence...

### **Preferred option**

- 19 Include a new clause in the proposed licence based on the existing State Water performance indicators, with some updates regarding service interruptions, delivery of water orders and allocation trades.

## **Options**

**Option A (base case):** Make no change to the proposed licence regarding water delivery standards performance monitoring.

**Option B:** Include a new clause in the proposed licence based on the existing State Water performance indicators, with some updates regarding service interruptions, delivery of water orders and allocation trades.

## **Assumptions**

No assumptions made.

## **Qualitative and Quantitative Costs and Benefits**

**Costs:** There were no costs relating to Option B.

**Benefits:** For options B and C there is assurance arising from formalisation of requirement for system performance standards that will satisfy the requirements of section 12(2)(a)(ii) of the Water NSW Act.

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<sup>36</sup> Water NSW reply to IPART request for information, 20 January 2017, pp 15-21.

## Assessment

Option B gives rise to an additional qualitative benefit (with no related additional cost) of assurance arising from formalisation of requirement for system performance standards that will satisfy the requirements of the Water NSW Act. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

### 5.3 Reporting Manual - system performance standards reporting

We considered an option to add a clause to the proposed Reporting Manual to include annual system performance standards reporting requirements that relate to system performance standards reporting obligations in the proposed licence. This includes annual reporting requirements.

#### Preferred option

- 20 Include a new clause in the proposed Reporting Manual requiring annual reporting consistent with licence obligations for system performance standards reporting.

## Options

**Option A (base case):** Make no change to the proposed Reporting Manual regarding system performance standards reporting.

**Option B:** Include a new clause in the proposed Reporting Manual requiring annual reporting consistent with licence obligations for system performance standards reporting.

## Assumptions

No assumptions made.

### Qualitative and Quantitative Costs and Benefits

Option B represents a drafting change only for consistency with a proposed change in the proposed licence which gives rise to no net cost or benefit.

## Assessment

Option B represents a drafting change only, to provide consistency with a change in the proposed licence with no net cost or benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

### 5.4 Reporting Manual - water balance reporting

Existing water balance reporting obligations (clause 3.3.1 of the Water NSW (State Water) operating licence requires reporting in accordance with the reporting manual) detail the

format of water balance reporting and require Water NSW to make annual water balance reports available to the public.

We considered three different options to impose obligations on Water NSW regarding its water balance obligations.

### Preferred option

- 21 Include in the proposed licence a general requirement for water balance reporting clauses that allow Water NSW to provide copies of water balances produced for the Minister or Department of Primary Industries - Water to be used to satisfy this requirement.

## Options

**Option A (base case):** Make no changes to the proposed licence or proposed Reporting Manual regarding water balance reporting.

**Option B:** Include existing water balance reporting clauses (with some minor deletions) in the proposed licence.

**Option C:** Include in the proposed licence a general requirement for water balance reporting clauses that allow Water NSW to provide copies of water balances produced for the Minister or Department of Primary Industries – Water (DPI Water) to be used to satisfy this requirement.

**Option D:** Remove existing water balance reporting clauses from the proposed Reporting Manual.

## Assumptions

We used the following assumptions, based on Water NSW's response to our RFI:

**Option B:** Reporting would require the equivalent of one working day per year for each of 12 rural valleys and the Sydney catchment area (ie, 13 days).

**Option C:** Water Balance reports prepared for the Work Approvals are currently used to satisfy this requirement.

**Option D:** Other reporting requirements may already exist, but are not required to be publicly available.<sup>37</sup>

## Qualitative and Quantitative Costs and Benefits

### Costs:

**Option B:** Labour costs relating to development of procedures and training to implement water balance reports that are consistent with the Works Approval water balance reports.

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<sup>37</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 75 and 77-78.

There may also be a cost arising from customers being confused by two different versions of the water balance reports.

**Options C and D:** No incremental costs from these options.

#### Benefits:

**Option C and D:** These options give rise to a benefit from the assurance of formal requirements, consistent with the proposed licence, being included in the proposed Reporting Manual.

### Net Present Value analysis

#### Option B:

**Table 5.3 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost	-18,134	-18,134	-18,134	-18,134	-18,134
Benefit					
<b>Net (cost)/benefit</b>	<b>-18,134</b>	<b>-18,134</b>	<b>-18,134</b>	<b>-18,134</b>	<b>-18,134</b>

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 75, and IPART calculations.

**Table 5.4 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost	-77,624	-69,489	-62,493
Benefit			
<b>Net present value</b>	<b>-77,624</b>	<b>-69,489</b>	<b>-62,493</b>

**Note:** Discount rates are recommended by NSW Treasury, *tpg 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 75, and IPART calculations.

### Assessment

In comparing the three options (and the base case), we considered the costs arising from Option B with the lack of costs arising from Options C and D. Both C and D have a similar lack of incremental costs as both options would mean using existing reports to meet reporting requirements of the proposed licence. An important difference between options C and D is that Option C provides a benefit arising from assurance of regulatory oversight and public scrutiny. The CBA assessment indicated therefore, on the basis of CBA alone, that Option C is preferred.

## 5.5 Flood mitigation

We considered three options in relation to flood mitigation and the listed functions in section 7(1)(i) of the Water NSW Act. These options are detailed below.

Flood mitigation activities are currently authorised, with no terms and conditions, throughout NSW with the exception of the Sydney Declared Catchment Area.<sup>38</sup>

Outside Sydney's Declared Catchment Area, flood mitigation activities are regulated under the *Water Management Act 2000* and *Water Act 1912* (Cth).

If the Government decided flood management was one of the purposes of Warragamba Dam, or other dams in the Sydney catchment area, the proposed licence could be amended at the time (on IPART's recommendation or directly by the Minister). Flood management in the Sydney catchment area could also be regulated by DPI Water by amendment of the existing Water NSW (SCA) water supply work approvals under the *Water Management Act 2000*.

### Preferred option

- 22 Add a clause to the proposed licence authorising Water NSW to undertake flood mitigation activities throughout NSW and include terms and conditions in the proposed licence including, where not already required to do so under any other Act, undertaking flood mitigation activities on direction of the Minister.

### Options

**Option A (base case):** Make no change to the proposed licence regarding authorisation or terms and conditions relating to flood mitigation activities.

**Option B:** Do not authorise flood mitigation in any areas and do not include terms and conditions in the proposed licence. Rely entirely on the *Water Management Act 2000* and the *Water Act 1912* to authorise and regulate this function.

**Option C:** Authorise flood mitigation throughout NSW but do not include terms and conditions in the proposed licence. (Reporting obligations are included in water balance reporting licence requirements.)

**Option D:** Authorise flood mitigation throughout NSW and include terms and conditions in the proposed licence including, where not already required to do so under any other Act, undertaking flood mitigation activities on direction of the Minister.

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<sup>38</sup> This is because terms and conditions already exist within the individual works approvals for each dam.

## Assumptions

We assumed under Option B that reliance is made not just on the *Water Management Act 2000* and the *Water Act 1912*, but also (and amongst other things):

- ▼ Works Approvals under the *Water Management Act 2000* which contain conditions relevant to water sharing plans in each valley and require operations to prioritise maintaining dam safety, ensuring that the dam is filled at the end of a flood event and lessening downstream damage, where possible
- ▼ the *State Emergency and Rescue Act 1989* and the State Flood Plan (clause 2.35.10) which requires Water NSW to “advise the downstream community of prospective and actual releases, except in those circumstances where the Bureau would issue flood warnings”
- ▼ the *Dam Safety Act 2015*, and
- ▼ the *Water Act 2007* which create obligations on Water NSW in relation to flood warning and forecasting and environmental water releases.<sup>39</sup>

## Qualitative and Quantitative Costs and Benefits

Option B has no related costs or benefits.

The costs and benefits relating to Options C and D are:

**Costs:** Water NSW and its employees could be exposed to substantial legal liability for which there is inadequate and uninsurable statutory protection. Water NSW has described this cost as “unquantifiable but potentially excessive”.<sup>40</sup> This issue is more significant for Option C, where Water NSW is authorised to undertake flood mitigation but may not choose to do so because it is not an obligation.

We note that the proposed obligations placed on Water NSW for the Sydney catchment have historically applied to State Water for areas outside Sydney for many years. In addition, we note that section 11 of the *State Owned Corporations Act 1989* contains provisions for recovery of costs relating to Ministerial directions.

**Benefits:** The benefits arising from both Options C and D are that authorising flood mitigation allows for a more flexible and timely response by Water NSW in the event of flood and an instruction from the Government to manage that flood; that is, the authorisation would already exist and a licence amendment would not be required at the time.

Option D has the additional benefit of applying terms and conditions that restrict Water NSW’s flood response to those made by Ministerial direction, therefore limiting concerns raised by Water NSW regarding legal liability and cost if they were authorised to undertake flood mitigation but chose not to do so.

Option D has the additional benefit of applying terms and conditions that restrict Water NSW’s flood response to those made by Ministerial direction, and therefore limits

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<sup>39</sup> Water NSW reply to IPART request for information, 21 December 2016, p 81.

<sup>40</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 83-85.

concerns raised by Water NSW regarding legal liability and cost to the extent that these would only arise after the Ministerial direction occurs.

## Assessment

Given the benefits arising from greater flexibility and timely flood mitigation responses without the need to amend the proposed licence, and under Options C and D the CBA indicated these options were preferred.

Of these two options, Option D has the additional benefit of applying terms and conditions that restrict Water NSW's flood response to those made by Ministerial direction, and therefore limits concerns raised by Water NSW regarding legal liability and cost to the extent that these would only arise after the Ministerial direction occurs. Option C does not have this benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option D is preferred.

## 5.6 Reporting Manual - water balance reporting - flood mitigation

Clause 3.3.1 of the Water NSW (State Water) operating licence requires Water NSW to make annual water balance reports available to the public in accordance with the Reporting Manual.

We considered adding a clause to the proposed Reporting Manual including an obligation for Water NSW to report on its water balance reporting if flood mitigation is authorised.

### Preferred option

- 23 Include requirements in the proposed Reporting Manual for water balance reporting if flood mitigation is authorised.

## Options

**Option A (base case):** Make no changes to the proposed Reporting Manual regarding water balance reporting and flood mitigation.

**Option B:** Include requirements in the proposed Reporting Manual for water balance reporting if flood mitigation is authorised.

## Assumptions

We assumed Option B would require the equivalent of two weeks of labour annually to develop and implement website changes. Website development would also save the equivalent of two weeks of labour annually in manual report preparation.<sup>41</sup>

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<sup>41</sup> Water NSW reply to IPART request for information, 21 December 2016, p 88.

## Qualitative and Quantitative Costs and Benefits

**Costs:** Development and maintenance of website reports.

**Benefits:** Benefits include the avoided cost of manual preparation of reports.

## Net Present Value analysis

**Table 5.5 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost - website reporting	-13,950	-13,950	-13,950	-13,950	-13,950
Benefit - saving of manual reporting	13,950	-13,950	-13,950	-13,950	-13,950
<b>Net (cost)/benefit</b>	-	-	-	-	-

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 88, and IPART calculations.

**Table 5.6 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost - website reporting	-59,714	-53,456	-48,074
Benefit - saving of manual reporting	59,714	53,456	48,074
<b>Net present value</b>	-	-	-

**Note:** Discount rates are recommended by NSW Treasury, *tpg 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 88, and IPART calculations.

## Assessment

We considered the small incremental benefit in having consistency in requirements between the proposed licence and proposed Reporting Manual. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.



## 6 Organisational systems management

The organisational systems management chapter of the proposed licence relates to Asset Management Systems (AMS) and Environmental Management Systems (EMS).

### 6.1 Asset Management System

We considered an option to include Part 4 of the existing Water NSW (State Water) operating licence in the proposed licence. We consider that Part 4 of the existing Water NSW (State Water) operating licence satisfies the requirements of section 12(2)(a)(i).

As part of our deliberation of Option B we also considered the addition of new clauses that require Water NSW to fully implement, maintain, and carry out all relevant activities in accordance with, an Asset Management System.

Section 12(2)(a)(i) of the Water NSW Act states that the operating licence must include terms or conditions under which Water NSW is required to provide, construct, operate, manage and maintain efficient, coordinated and commercially viable systems and services to capture, store, release or supply water.

#### Preferred option

- 24 Include Part 4 of the existing Water NSW (State Water) operating licence (with some updates) in the proposed licence and include new sub clauses that require Water NSW to fully implement, maintain, and carry out all relevant activities in accordance with, an Asset Management System.

#### Options

**Option A (base case):** Make no change to the proposed licence relating to obligations to develop and maintain an AMS.

**Option B:** Include Part 4 of the existing Water NSW (State Water) operating licence (updated and with some new sub clauses) in the proposed licence. Include new sub clauses that require Water NSW to fully implement, maintain, and carry out all relevant activities in accordance with, an AMS.

## Assumptions

In its response to our RFI, Water NSW assumed:

- ▼ current practice for ISO 55001 AMS certification and surveillance audits, internal coordination of audits and internal responses to audit findings will meet proposed licence clause requirements
- ▼ gathering data on processes and preparation of presentations for an IPART AMS audit requires the equivalent of 20 working days
- ▼ response to follow up questions from IPART requires the equivalent of 10 working days
- ▼ site inspections by IPART auditors requires the equivalent of 15 working days of additional time of site personnel and ISO auditors, and
- ▼ third party subject matter experts and auditors are not required.<sup>42</sup>

## Qualitative and Quantitative Costs and Benefits

**Costs:** Additional incremental costs do not occur as Water NSW already maintains a certified AMS in both the previous State Water and Sydney Catchment Authority areas.

**Benefits:** Efficiencies arise from:

- ▼ reduced site induction and business familiarisation for each audit from having a consistent audit team across audits
- ▼ utilisation of common elements between Asset Management System (AMS), Environmental Management System (EMS) and Work Health and Safety system (WHS).
- ▼ a single consolidated schedule for auditors that can audit against multiple ISO standards.
- ▼ reduced impact on site teams utilising single ISO audit site visits for AMS, EMS and WHS audits
- ▼ commonality between ISO systems which means corporate elements only need to be reviewed once
- ▼ certification audit reports that can satisfy regulatory auditing and reporting requirements so additional reporting to IPART is not required
- ▼ reducing the need for third party subject matter experts to audit systems and processes for IPART, and
- ▼ simplified licence referencing AMS certification reduces internal and external regulatory effort.<sup>43</sup>

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<sup>42</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 92-93.

<sup>43</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 92-93.

## Net Present Value analysis

**Table 6.1 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost (nil)					
Benefit - audit efficiencies gained	62,773	62,773	62,773	62,773	62,773
<b>Net (cost)/benefit</b>					

**Source:** Water NSW reply to IPART request for information, 21 December 2016, pp 92-93, and IPART calculations.

**Table 6.2 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost (nil)			
Benefit - audit efficiencies gained	268,706	240,544	216,326
<b>Net present value</b>	<b>268,706</b>	<b>240,544</b>	<b>216,326</b>

**Note:** Discount rates are recommended by NSW Treasury, *tp 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, pp 92-93, and IPART calculations.

## Assessment

Given the net benefit arising from Option B compared with the base case the CBA assessment indicated, on the basis of CBA alone, that Option B is preferred.

## 6.2 Reporting Manual - asset management - intermittent reporting

We considered two options to change the way intermittent reporting on asset reporting is made:

- ▼ Option B expands the requirement for a State of the Assets report from the previous SCA assets to all Water NSW assets.
- ▼ Option C would require reporting of information which is already produced as an output of the AMS and avoids duplication of similar reporting requirements.

Section 5.3 of the current Sydney Catchment Authority Reporting Manual requires a “State of the Assets” report, which reports on assets and asset conditions, once during the term of the licence. This condition does not currently apply to the State Water operating licence.

### Preferred option

- 25 Remove from the proposed Reporting Manual the requirement for the State of the Assets report and rely on existing outputs and reports from Water NSW’s Asset Management System.

## Options

**Option A (base case):** Make no change to the proposed Reporting Manual relating to intermittent asset reporting (ie, the State of the Assets report).

**Option B:** Include section 5.3 of the Water NSW (SCA) Reporting Manual (with some updates) in the proposed Reporting Manual.

**Option C:** Remove from the proposed Reporting Manual the requirement for the State of the Assets report and rely on existing outputs and reports from Water NSW's AMS (ie, management, certification and surveillance audit reports).

## Assumptions

In its response to our RFI, Water NSW assumed:

- ▼ a State of the Assets report requires the equivalent of 60 working days per year to compile, and
- ▼ the existing Annual Asset Health Report provides adequate asset condition and capability information for asset management purposes.<sup>44</sup>

## Qualitative and Quantitative Costs and Benefits

### Costs:

**Option B:** Additional cost of preparing a State of the Assets report for previous State Water assets.

### Benefits:

**Option B:** Benefit of producing at least one State of the Assets report to take stock of un-reported assets previously held by State Water.

**Option C:** Avoided cost of preparing a State of the Assets report.<sup>45</sup>

## Net Present Value analysis

### Option B:

**Table 6.3 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost - additional report preparation	-83,697	-83,697	-83,697	-83,697	-83,697
Benefit (nil)					
<b>Net (cost)/benefit</b>	<b>-83,697</b>	<b>-83,697</b>	<b>-83,697</b>	<b>-83,697</b>	<b>-83,697</b>

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 97, and IPART calculations.

<sup>44</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 97-98.

<sup>45</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 97-98.

**Table 6.4 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost - additional report preparation	-358,273	-320,724	-288,434
Benefit (nil)			
<b>Net present value</b>	<b>-358,273</b>	<b>-320,724</b>	<b>-288,434</b>

**Note:** Discount rates are recommended by NSW Treasury, *tpg 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 97, and IPART calculations.

### Option C:

**Table 6.5 Quantitative costs and benefits relating to Option C (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost (nil)					
Benefit - savings from removal of reporting requirement	83,697	83,697	83,697	83,697	83,697
<b>Net (cost)/benefit</b>	<b>83,697</b>	<b>83,697</b>	<b>83,697</b>	<b>83,697</b>	<b>83,697</b>

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 98, and IPART calculations.

**Table 6.6 Net Present Value (NPV) analysis of cash flows of Option C (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost (nil)			
Benefit - savings from removal of reporting requirement	358,273	320,724	288,434
<b>Net present value</b>	<b>358,273</b>	<b>320,724</b>	<b>288,434</b>

**Note:** Discount rates are recommended by NSW Treasury, *tpg 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 98, and IPART calculations.

## Assessment

There is a benefit arising from Option B which is likely greater than the related cost arising from reporting activities under Option B or the savings from Option C. This is because of the likely high total value of all assets previously held by State Water, but not yet reported in the State of the Assets report to date. The CBA assessment indicated, on the basis of CBA alone, that Option C is preferred.

### 6.3 Reporting Manual - asset management - notification of Asset Management System audits

We considered an option to include a requirement in the proposed Reporting Manual for Water NSW, prior to any AMS precertification, certification, recertification or surveillance audits, to notify IPART with enough notice to allow for IPART attendance as an observer at the audit.

## Preferred option

- 26 Add a requirement to the proposed Reporting Manual for Water NSW, prior to any Asset Management System precertification, certification, recertification or surveillance audits, to notify IPART with enough notice to allow for IPART attendance as an observer at the audit.

## Options

**Option A (base case):** Make no change to the proposed Reporting Manual regarding notification of Asset Management System audits.

**Option B:** Add a requirement to the proposed Reporting Manual for Water NSW, prior to any Asset Management System precertification, certification, recertification or surveillance audits, to notify IPART with enough notice to allow for IPART attendance as an observer at the audit.

## Assumptions

In its response to our RFI, Water NSW assumed that, under Option B:

- ▼ IPART audit attendees may seek to add additional scope or further evaluate existing scope to audits to increase their understanding of the extent of implementation of the AMS, and
- ▼ additional audit activities would require the equivalent of two full-time employees for five days (ie, 10 days) to respond to requests for additional information from IPART audit attendees.<sup>46</sup>

## Qualitative and Quantitative Costs and Benefits

**Costs:** Additional labour cost relating to increased information requests from IPART audit attendees.

**Benefits:** Provides IPART with an opportunity to evaluate first-hand the rigour of the certifying audit process, and improve IPART's understanding of the AMS and AMS audit process.<sup>47</sup>

## Net Present Value analysis

**Table 6.7 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost - additional labour cost	-13,950	-13,950	-13,950	-13,950	-13,950
Benefit					
<b>Net (cost)/benefit</b>	<b>-13,950</b>	<b>-13,950</b>	<b>-13,950</b>	<b>-13,950</b>	<b>-13,950</b>

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 101, and IPART calculations.

<sup>46</sup> Water NSW reply to IPART request for information, 21 December 2016, p 101.

<sup>47</sup> Water NSW reply to IPART request for information, 21 December 2016, p 101.

**Table 6.8 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost	-59,714	-53,456	-48,074
Benefit			
<b>Net present value</b>	<b>-59,714</b>	<b>-53,456</b>	<b>-48,074</b>

**Note:** Discount rates are recommended by NSW Treasury, *tpp 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 101, and IPART calculations.

## Assessment

There are minor costs arising from Option B, as well as important qualitative benefits. On balance, we consider that for Option B, the related benefits exceed the costs. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

## 6.4 Asset management - significant changes to Asset Management System

The proposed Water NSW licence will likely require Water NSW to develop, maintain and have implemented an AMS (ie, a Management System that is consistent with standards specified in the proposed licence).

We considered an option to add a new clause to the proposed licence requiring Water NSW to notify IPART of any significant changes that it proposes to make to the Asset Management System prior to implementing the changes.

### Preferred option

- 27 Make no change to the proposed licence regarding notification of changes to the Asset Management System.

## Options

**Option A (base case):** Make no change to the proposed licence regarding notification of changes to the AMS.

**Option B:** Add a new clause to the proposed licence requiring Water NSW to notify IPART of any significant changes that it proposes to make to the AMS prior to implementing the changes.

## Assumptions

In its response to our RFI, Water NSW assumed:

- ▼ notification cost will be negligible, and
- ▼ changes made to AMS will be in accordance with International Standards Organisation standards (ie, ISO 55001).<sup>48</sup>

## Qualitative and Quantitative Costs and Benefits

**Costs:** If changes are consistent with ISO 55001 then it may be unnecessarily duplicative to require notification of changes to IPART as there would be little value added by notification.

**Benefits:** A benefit arises from the assurance for IPART of being aware of significant changes to the AMS and ensuring the related licence conditions are being met.<sup>49</sup>

## Assessment

There are both qualitative costs and benefits arising from Option B. A benefit arises from IPART's awareness of significant changes. We consider however that the requirement for Water NSW to implement an AMS consistent with ISO standards means it is likely that changes to the AMS would be consistent with the proposed licence, therefore notification requirements may be duplicative. Given the cost of unnecessarily duplicative regulation likely exceeds the related benefit, the CBA assessment indicated, on the basis of CBA alone, that maintaining the base case (Option A) is preferred.

## 6.5 Reporting Manual - asset management - annual reporting

We considered an option to include section 4.1 of the Water NSW (State Water) Reporting Manual in the proposed Reporting Manual, updated and with some new sub clauses requiring annual reporting of compliance with, and performance of, the AMS.

The proposed option is consistent with our recommendation that the proposed licence require Water NSW to develop, maintain and have implemented an AMS (ie, a Management System that is consistent with standards specified in the proposed licence) (see section 6.1).

### Preferred option

- 28 Include section 4.1 of the Water NSW (State Water) Reporting Manual in the proposed Reporting Manual, updated and with some new sub clauses requiring annual reporting of compliance with, and performance of, the Asset Management System.

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<sup>48</sup> Water NSW reply to IPART request for information, 21 December 2016, p 105.

<sup>49</sup> Water NSW reply to IPART request for information, 21 December 2016, p 105.



## Options

**Option A (base case):** Make no change to the proposed Reporting Manual regarding annual reporting relating to the AMS.

**Option B:** Include section 4.1 of the Water NSW (State Water) Reporting Manual in the proposed Reporting Manual, updated and with some new sub clauses requiring annual reporting of compliance with, and performance of, the AMS.

## Assumptions

In its response to our RFI, Water NSW assumed:

- ▼ notification cost will be negligible, and
- ▼ changes made to AMS will be in accordance with International Standards Organisation standards (ie, ISO 55001).<sup>50</sup>

## Qualitative and Quantitative Costs and Benefits

**Costs:** Given the AMS is required to be consistent with International Standards Organisation standards (ie, ISO 55001), value added from annual reporting may be marginal. This may mean that annual reporting represents unnecessarily duplicative regulation.

**Benefits:** There is benefit of assurance of annual reporting of compliance and performance of the AMS arising from Option B.

## Assessment

We note the cost of duplicative regulation relating to Option B. However we consider the benefit of assurance arising from annual report of compliance and performance of the AMS is greater than the related cost. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

## 6.6 Environmental Management System

Both existing licences have system requirements for Water NSW to develop and implement an Environmental Management System (EMS).<sup>51</sup> We considered an option to retain and update these obligations in the proposed licence to cover all operations of Water NSW.

### Preferred option

- 29 Include in the proposed licence Part 6 of the Water NSW (State Water) and Part 7 of the Water NSW (SCA) operating licences, updated and with a new sub clause requiring the Environmental Management System to be fully implemented on licence commencement.

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<sup>50</sup> IPART assumptions.

<sup>51</sup> Water NSW (State Water) operating licence Part 6, and Water NSW (SCA) operating licence, Part 7.

## Options

**Option A (base case):** Make no change to the proposed licence relating to an EMS.

**Option B:** Include in the proposed licence Part 6 of the Water NSW (State Water) and Part 7 of the Water NSW (SCA) operating licences, updated and with a new sub clause requiring the EMS to be fully implemented on licence commencement.

## Assumptions

We have assumed that current EMS development and maintenance activities would satisfy the requirements of Option B, therefore there are no Option B related incremental costs or benefits of this nature.

## Qualitative and Quantitative Costs and Benefits

**Costs:** No incremental costs.

**Benefits:** Benefits include:

- ▼ assurance from an EMS consistent with ISO standards
- ▼ enhanced efficiency from cost savings and service improvements arising from EMS
- ▼ reduced risk of service or system failure
- ▼ reduced cost in providing information to stakeholders (eg, NSW Health and customer groups)
- ▼ audit cost savings, and
- ▼ formal assurance the EMS is formally required and regulated.

## Assessment

Given the lack of costs and the benefits resulting from Option B, the CBA assessment indicated, on the basis of CBA alone, that Option B is preferred.

## 6.7 Reporting Manual - environment - annual reporting

If the proposed licence requires an EMS, we considered an option to include obligations for EMS-related annual reporting in the new Reporting Manual.

### Preferred option

- 30 Include in the proposed Reporting Manual section 6.1 of the Water NSW (State Water) Reporting Manual, updated and with new sub clauses requiring annual reporting of Environmental Management System activities and performance.

## Options

**Option A (base case):** Make no change to the proposed Reporting Manual relating to EMS-related annual reporting.

**Option B:** Include in the proposed Reporting Manual section 6.1 of the Water NSW (State Water) Reporting Manual, updated and with new sub clauses requiring annual reporting of EMS activities and performance.

## Assumptions

We assume that requiring annual EMS-related reporting to IPART will create an additional, incremental cost higher than current base case-related reporting activities.

## Qualitative and Quantitative Costs and Benefits

**Costs:** Additional costs relating to reporting activities.

**Benefits:** Assurance the EMS is maintained, related activities undertaken and performance measured.

## Net Present Value analysis

**Table 6.9 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost - report generation	-124,200	-127,305	-130,488	-133,750	-137,094
Benefit					
<b>Net (cost)/benefit</b>	<b>-124,200</b>	<b>-127,305</b>	<b>-130,488</b>	<b>-133,750</b>	<b>-137,094</b>

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 118, and IPART calculations.

**Table 6.10 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost - report generation	-557,825	-498,662	-447,850
Benefit			
<b>Net present value</b>	<b>-557,825</b>	<b>-498,662</b>	<b>-447,850</b>

**Note:** Discount rates are recommended by NSW Treasury, *tpg 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 118, and IPART calculations.

## Assessment

There are both substantial costs and benefits relating to Option B. We have considered the costs relating to additional reporting as well as the qualitative benefits of an AMS and assurance that the AMS is being maintained. The CBA assessment indicated, on the basis of CBA alone, that Option B is preferred.

## 6.8 Reporting Manual - asset management - notification of Environmental Management System audits

We considered an option to include a requirement in the proposed Reporting Manual for Water NSW, prior to any EMS precertification, certification, recertification or surveillance audits, to notify IPART with enough notice to allow for IPART attendance as an observer at the audit.

### Preferred option

- 31 Add a requirement to the proposed Reporting Manual for Water NSW, prior to any Environmental Management System precertification, certification, recertification or surveillance audits, to notify IPART with enough notice to allow for IPART attendance as an observer at the audit.

### Options

**Option A (base case):** Make no change to the proposed Reporting Manual regarding notification of Environmental Management System audits.

**Option B:** Add a requirement to the proposed Reporting Manual for Water NSW, prior to any Environmental Management System precertification, certification, recertification or surveillance audits, to notify IPART with enough notice to allow for IPART attendance as an observer at the audit.

### Assumptions

In its response to our RFI, Water NSW assumed that, under Option B:

- ▼ IPART attendees may seek to add additional scope or further evaluate existing scope to audits to increase their understanding of the extent of implementation of the EMS, and
- ▼ additional audit activities would require the equivalent of two full-time employees for five days (ie, 10 days) to respond to requests for additional info from IPART audit attendees.<sup>52</sup>

### Qualitative and Quantitative Costs and Benefits

**Costs:** Additional labour cost relating to increased information requests from IPART audit attendees.

**Benefits:** Provides IPART with an opportunity to evaluate first-hand the rigour of the certifying bodies audit process, and improve IPART's understanding of the EMS and EMS audit process.<sup>53</sup>

<sup>52</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 101 and 122.

<sup>53</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 101 and 122.

## Net Present Value analysis

**Table 6.11 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost - additional labour cost	-13,950	-13,950	-13,950	-13,950	-13,950
Benefit					
<b>Net (cost)/benefit</b>	<b>-13,950</b>	<b>-13,950</b>	<b>-13,950</b>	<b>-13,950</b>	<b>-13,950</b>

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 101, and IPART calculations.

**Table 6.12 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost	-59,714	-53,456	-48,074
Benefit			
<b>Net present value</b>	<b>-59,714</b>	<b>-53,456</b>	<b>-48,074</b>

**Note:** Discount rates are recommended by NSW Treasury, *tpg 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 101, and IPART calculations.

## Assessment

There are minor costs arising from Option B as well as important qualitative benefits. On balance, we consider that for Option B, the related benefits exceed the costs. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

## 6.9 Reporting Manual - environment - publicly available documents

We considered an option to include in the proposed Reporting Manual section 6 of the Water NSW (State Water) Reporting Manual and section 7.4 of the Water NSW (SCA) Reporting Manual, updated and with some new sub clauses requiring reporting of compliance with, and performance of, the Environmental Management System to be available free of charge for any person on its website.

The proposed option is consistent with our recommendation that the proposed licence require Water NSW to develop, maintain and have implemented an Environmental Management System (EMS) (ie, a management system that is consistent with standards specified in the proposed licence).

### Preferred option

- 32 Include in the proposed Reporting Manual section 6 of the Water NSW (State Water) Reporting Manual and section 7.4 of the Water NSW (SCA) Reporting Manual, updated and with some new sub clauses requiring reporting of compliance with, and performance of, the Environmental Management System to be available free of charge for any person on its website.

## Options

**Option A (base case):** Make no change to the proposed Reporting Manual regarding publicly available documents relating to the Environmental Management System.

**Option B:** 32 Include in the proposed Reporting Manual section 6 of the Water NSW (State Water) Reporting Manual and section 7.4 of the Water NSW (SCA) Reporting Manual, updated and with some new sub clauses requiring reporting of compliance with, and performance of, the Environmental Management System to be available free of charge for any person on its website.

## Assumptions

No assumptions made.

## Qualitative and Quantitative Costs and Benefits

**Costs:** Minimal costs relating to providing the compliance and performance report on Water NSW's website.

**Benefits:** There is an assurance benefit to the community arising from transparency of Water NSW's compliance with, and performance of, its EMS.

## Assessment

Given the minimal cost and related benefits, the CBA assessment indicated, on the basis of CBA alone, that Option B is preferred.

## 7 Customer and stakeholder relations

The Customer and stakeholder relations chapter of the proposed licence includes provisions in relation to Customer supply agreements and service charter, water accounting, metering, notifications, customer advisory groups, payment difficulties, complaints handling education programs, codes of conduct with *Water Industry Competition Act 2006* (WICA) licensees and Memoranda of Understanding (MoU) and protocols with various Government agencies.

### 7.1 Delivery to customers

We considered three options to include Water NSW's current obligations in Part 3 of the existing Water NSW (State Water) operating licence obligations regarding maintenance of water allocation accounts in the proposed licence.

Part 3 of the current Water NSW (State Water) operating licence requires Water NSW to:

- ▼ process all water orders promptly and efficiently
- ▼ manage water orders so as to ensure the timely delivery of water to its customers
- ▼ maintain a water allocation account for each access licence, and
- ▼ conserve water and minimise water losses that result from undertaking its operations under the licence.

#### Preferred option

- 33 Include Part 3 of the existing Water NSW (State Water) operating licence (edited and with some new sub clauses) in the proposed licence, and delete the whole of clause 3.1.3.

#### Options

**Option A (base case):** Make no change to the proposed licence regarding delivery of water to customers.

**Option B:** Include Part 3 of the existing Water NSW (State Water) operating licence (updated and with some new sub clauses), AND with clause 3.1.3 that states: "Water NSW must maintain a Water Allocation Account each licence issued under the *Water Act 1912* (NSW)" in the proposed licence.

**Option C:** Include Part 3 of the existing Water NSW (State Water) operating licence (updated and with some new sub clauses), AND with clause 3.1.3 that states: "Water NSW must maintain a Water Allocation Account each licence issued under the *Water Act 1912* (NSW)," AND delete the function conferred under section 85(1) of the *Water Management Act 2000* in the proposed licence.

**Option D:** Include Part 3 of the existing Water NSW (State Water) operating licence (updated and with some new sub clauses) in the proposed licence, AND delete the whole of clause 3.1.3.

## Assumptions

In its response to our RFI, Water NSW assumed:

- ▼ staff time taken to explain change internally / externally is minimal
- ▼ insignificant change for Water NSW customers beyond small initial education of change in wording (there would be no actual change in the service provided by Water NSW), and
- ▼ deleting the whole of clause 3.1.3 (Option D) has no effect as Water NSW is required to keep a water allocation account for each water access licence under the *Water Management Act 2000* by the function conferred under section 85(1) of this Act, and there are no longer any customers who hold Water Management Licences to take water under the *Water Act 1912*.<sup>54</sup>

## Qualitative and Quantitative Costs and Benefits

**Costs:** There were no costs arising from any of the three options considered.

**Benefits:** There is a benefit of a reduction in regulatory duplication arising from options B, C and D. The greatest reduction in duplication, in IPART's view, arises from Option D.<sup>55</sup>

## Assessment

Given there are no costs relating to each of the Options considered, and that Option D provides the greatest benefit, the CBA assessment indicated, on the basis of CBA alone, that Option D is preferred.

## 7.2 Metering and monitoring

We considered an Option to replace clause 4.2 of the existing Water NSW (State Water) and clause 5.2 of the existing Water NSW (SCA) operating licences with a new clause relating to metering and monitoring.

The proposed clause is:

**Clause 5.3.1** Water NSW must determine the volume of water extracted by, or supplied to, each of its Customers, at least annually, for the purpose of accurate account management, billing and reporting.

<sup>54</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 128, 130 and 132.

<sup>55</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 128, 130 and 132-133.



Clause 4.2 of the existing Water NSW (State Water) and Clause 5.2 of the existing Water NSW (SCA) operating licences require and/or allow Water NSW to:

- ▼ read each of its customers' meters
- ▼ where provided for in any agreement between Water NSW and the Minister or DPI Water: read metering equipment, determine water extraction, and carry out any other specified water monitoring functions
- ▼ provide data obtained to DPI Water, and
- ▼ operate, replace, repair, maintain, remove, connect, disconnect or modify Metering Equipment installed under a government-funded meter program.

#### Preferred option

- 34 Include a new clause in the proposed licence requiring metering, monitoring, account management and billing activities.

### Options

**Option A (base case):** Make no change to the proposed licence regarding metering and monitoring.

**Option B:** Include a new clause in the proposed licence requiring metering, monitoring, account management and billing activities.

### Assumptions

No assumptions made.

### Qualitative and Quantitative Costs and Benefits

Option B represents a drafting change only which gives rise to no net cost or benefit.<sup>56</sup>

### Assessment

Option B represents a drafting change only with no net cost or benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

## 7.3 Customer advisory groups

We considered an option to include Part 5 of the existing Water NSW (State Water) operating licence (updated and with some new sub clauses requiring area-based customer advisory groups and Customer Advisory Group Charters for different customer advisory groups).

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<sup>56</sup> Water NSW reply to IPART request for information, 20 January 2017, pp 26-27.

Section 12(2)(a)(ii) of the Water NSW Act states that the operating licence must include terms or conditions under which Water NSW is required to ensure that the services meet the performance standards specified in the licence in relation to water delivery, water quality, service interruptions or any other matters set out in the operating licence.

#### Preferred option

- 35 Include in the proposed licence Part 5 of the existing Water NSW (State Water) operating licence (updated and with some new sub clauses requiring area-based customer advisory groups and Customer Advisory Group Charters).

### Options

**Option A (base case):** Make no change to the proposed licence regarding customer advisory groups.

**Option B:** Include in the proposed licence Part 5 of the existing Water NSW (State Water) operating licence (updated and with some new sub clauses requiring area-based customer advisory groups and Customer Advisory Group Charters).

### Assumptions

No assumptions made.

### Qualitative and Quantitative Costs and Benefits

**Costs:** No costs identified.

**Benefits:** There is benefit arising for customers from having better awareness of the purpose of customer advisory groups and customer rights.

### Assessment

Given the minimal cost and qualitative benefits of Option B, the CBA assessment indicated, on the basis of CBA alone, that Option B is preferred.

## 7.4 Reporting Manual - customers

We have considered an option to include section 5.1 of the Water NSW (State Water) licence (updated and with some new sub clauses relating to Customer Advisory Group Charters and publicly available documents) in the proposed Reporting Manual.

Section 5.1 of the Water NSW (State Water) Reporting Manual requires Water NSW to:

- ▼ maintain and implement a code of practice on payment difficulties (Licence clause 5.5)
- ▼ consult with its Customers through area based customer advisory groups Valley-based customer service committee or Customer Council and maintain a Customer Service Charter (Licence clauses 5.1 and 5.2), and
- ▼ maintain and implement an Internal Complaints Handling Procedure (Licence clause 5.6) and be a member of the external dispute resolution scheme (Licence clause 5.7).

#### Preferred option

- 36 Include in the proposed Reporting Manual section 5.1 of the Water NSW (State Water) Reporting Manual (updated and with some new sub clauses relating to Customer Advisory Group Charters and publicly available documents).

### Options

**Option A (base case):** Make no change to the proposed Reporting Manual regarding customer relations.

**Option B:** Include in the proposed Reporting Manual section 5.1 of the Water NSW (State Water) Reporting Manual (updated and with some new sub clauses relating to Customer Advisory Group Charters and publicly available documents).

### Assumptions

We made the following assumptions for Option B:

- ▼ no new systems required
- ▼ same level of resourcing as currently required to generate this publically available report, and
- ▼ Option B represents a drafting change, consistent with the proposed licence.<sup>57</sup>

### Qualitative and Quantitative Costs and Benefits

**Costs:** No costs identified.

**Benefits:** There are benefits arising for customers from having better awareness of the purpose of customer advisory groups and customer rights, and better communication from making documents available to the public.

### Assessment

Option B represents a drafting change and updating to reflect likely changes in the proposed licence relating to Customer Advisory Group Charters. A benefit arises from better

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<sup>57</sup> Water NSW reply to IPART request for information, 21 December 2016, p 143, and IPART.

customer relations and communication. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

## 7.5 Community education

We considered an option to add a clause to the proposed licence requiring Water NSW to educate the community on its activities and functions. The clause would formalise a requirement for activities already undertaken by Water NSW. The proposed clause is as follows:

**Clause 5.11.1** Water NSW must conduct educational programs for the community on its activities and functions consistent with its objectives under the Act, and report on its activities in accordance with the Reporting Manual.

### Preferred option

- 37 Include a new clause in the proposed licence that requires Water NSW to conduct educational programs for the community on its activities and functions consistent with its objectives under the Act, and report on its activities in accordance with the Reporting Manual.

### Options

**Option A (base case):** Make no change to the proposed licence relating to community education.

**Option B:** Include a new clause in the proposed licence that requires Water NSW to conduct educational programs for the community on its activities and functions consistent with its objectives under the Act, and report on its activities in accordance with the Reporting Manual.

### Assumptions

In its response to our RFI, Water NSW assumed that educational materials already in use could meet the requirements of the proposed licence, and therefore there were no costs relating to the development of new materials.

Water NSW's budgeted 2018 operating expenditure for community education in the declared catchment is \$1,071,782. Under the proposed licence, Water NSW has assumed this level of expenditure would be multiplied across the 13 valleys in Water NSW's area and would result in an annual cost of \$13,933,166. We considered this to be an overestimate of likely costs, as we do not propose specifying the level or type of community education required. We expect therefore that Water NSW would make decisions regarding the level of community education activities on a cost-benefit basis. We have included this expectation in our considerations.<sup>58</sup>

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<sup>58</sup> Water NSW reply to IPART request for information, 20 January 2017, p 24.

## Qualitative and Quantitative Costs and Benefits

**Costs:** Costs include labour costs associated with preparing and producing educative material and developing and undertaking educative programs. We have included Water NSW's forecasts in our Net Present Value analysis but, as discussed above, expect the actual costs to be influenced by the expected level of related benefits and therefore substantially less than this forecast.

**Benefits:** More efficient water use and operations arising from communities across the State being better informed about Water NSW's operations.

We note however Water NSW's statement, in response to our RFI, that its educative role is broadly described by section 7(1)(k) of the Water NSW Act and that including a clause in the proposed licence is unnecessary. We also note Water NSW's further response that an educational program would have limited benefit for rural customers.<sup>59</sup>

## Net Present Value analysis

**Table 7.1 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost	-13,993,166	-13,993,166	-13,993,166	-13,993,166	-13,993,166
Benefit					
<b>Net (cost)/benefit</b>	<b>-13,993,166</b>	<b>-13,993,166</b>	<b>-13,993,166</b>	<b>-13,993,166</b>	<b>-13,993,166</b>

**Source:** Water NSW reply to IPART request for information, 20 January 2017, p 22, and IPART calculations.

**Table 7.2 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost	-59,899,124	-53,621,255	-48,222,826
Benefit			
<b>Net present value</b>	<b>-59,899,124</b>	<b>-53,621,255</b>	<b>-48,222,826</b>

**Note:** Discount rates are recommended by NSW Treasury, *tpg 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 20 January 2017, p 22, and IPART calculations.

## Assessment

Option B has some related qualitative benefits arising from better informed communities in its areas of operation. We note Water NSW's response that a clause relating to community education in the proposed licence is unnecessary and would have limited benefit for rural customers.

Water NSW has forecast substantial quantifiable costs relating to Option B. However, given that we have not proposed specifying the level of community education related activity Water NSW should undertake, we consider it likely that these costs would be substantially

<sup>59</sup> Water NSW reply to IPART request for information, 20 January 2017, p 24.

lower than this forecast. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

## 7.6 MoUs - NSW Health and EPA

We have considered an option to include Part 9 of the Sydney Catchment Authority (SCA) operating licence (updated and with some new sub clauses describing the purpose of the memorandum) in the proposed licence. This is consistent with section 20 of the Water NSW Act.

Part 9 of the Sydney Catchment Authority (SCA) operating licence requires Water NSW to maintain an Memoranda of Understanding (MoU) with the Secretary of the Ministry of Health and the Environment Protection Authority.

Section 20 of the Water NSW Act requires Water NSW is to enter into MoU with NSW Health and the Environment Protection Authority. Section 21(2) of the Water NSW Act states “a memorandum of understanding is to be of the nature referred to in an operating licence”.

### Preferred option

- 38 Include Part 9 of the Sydney Catchment Authority (SCA) operating licence (updated and with some new sub clauses describing the purpose of the memorandum) in the proposed licence.

## Options

**Option A (base case):** Make no change to the proposed licence regarding an MoU with NSW Health and the Environment Protection Authority.

**Option B:** Include Part 9 of the Sydney Catchment Authority (SCA) operating licence (updated and with some new sub clauses describing the purpose of the memorandum) in the proposed licence.

## Assumptions

No assumptions made.

## Qualitative and Quantitative Costs and Benefits

**Costs:** There are no costs arising from Option B.

**Benefits:** A benefit of assurance from formal recognition of the purpose of the MoUs in the proposed licence.

## Assessment

Given there is net benefit arising from Option B, the CBA assessment indicated, on the basis of CBA alone, that Option B is preferred.

### 7.7 MoU - Local Land Services

We considered an Option to include a new requirement in the proposed licence requiring Water NSW to undertake a MoU with Local Land Services.

#### Preferred option

- 39 Make no change to the proposed licence relating to an Memorandum of Understanding with Local Land Services.

## Options

**Option A (base case):** Make no change to the proposed licence relating to an MoU with Local Land Services.

**Option B:** Include new requirement in the proposed licence for an MoU with Local Land Services.

## Assumptions

In its response to our RFI, Water NSW assumed:

- ▼ cost of initial negotiation and documentation of MoU is equivalent to 20 working days
- ▼ staff will be required to attend quarterly half-day meetings
- ▼ Water NSW representation will be required at nine Local Land Services regional half-day meetings, and
- ▼ current arrangements include:
  - pest animal control funded by Water NSW under service level agreements
  - Water NSW participation in Local Land Services led regional weed committees
  - Local Land Services provide poison baits for coordinated wild dog control on Water NSW land, and
  - significant funding from Water NSW to South East Local Land Services in a partnership to provide incentives and extension services to graziers to improve farm management practice in the Sydney declared catchment area.<sup>60</sup>

## Qualitative and Quantitative Costs and Benefits

**Costs:** A statewide MoU with Local Land Service may need to be so general to cover all possibilities it would not add specific value over current arrangements which vary significantly between different Local Land Service regions. An MoU may also clash with

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<sup>60</sup> Water NSW reply to IPART request for information, 21 December 2016, p 149.

current contractual and regulatory relationships between Local Land Services and Water NSW.<sup>61</sup>

**Benefits:** May assist Water NSW and Local Land Services to collaborate in identifying issues and working together to bring about practical, efficient improvements for catchment management. We note that the incremental benefit may be small given the current successful collaboration, without an MoU, between Water NSW and Local Land Services.<sup>62</sup>

## Net Present Value analysis

**Table 7.3 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost - additional staff costs	-161,000	-115,000	-115,000	-115,000	-115,000
Benefit (not quantified)					
<b>Net (cost)/benefit</b>	<b>-161,000</b>	<b>-115,000</b>	<b>-115,000</b>	<b>-115,000</b>	<b>-115,000</b>

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 149, and IPART calculations.

**Table 7.4 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost - additional staff costs	-534,798	-480,854	-434,326
Benefit (not quantified)			
<b>Net present value</b>	<b>-534,798</b>	<b>-480,854</b>	<b>-434,326</b>

**Note:** Discount rates are recommended by NSW Treasury, *tp 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 149, and IPART calculations.

## Assessment

We note that Water NSW and Local Land Service currently collaborate in several operational areas. This suggests that an MoU may assist by formalising collaborative arrangements and improving coordination of these activities. However we also note there are substantial costs attached to requiring an MoU, including the cost of staff time as well as bringing rigidity into activities that vary between each Local Land Services area. We also note the limited value added by requiring an MoU given the generalities that would be required to include the various activities undertaking in each area.

The CBA assessment indicated therefore, on the basis of CBA alone, that maintaining the base case (Option A) is preferred.

<sup>61</sup> Water NSW reply to IPART request for information, 21 December 2016, p 149.

<sup>62</sup> Water NSW reply to IPART request for information, 21 December 2016, p 149.



## 7.8 MoU - DPI water

Clause 1.4.3 of existing Water NSW (State Water) operating licence requires Water NSW to undertake a MoU with the Department of Primary Industries - Water (DPI Water).

We considered an Option to include a new requirement, replacing clause 1.4.3, in the proposed licence requiring Water NSW to undertake a MoU with DPI Water.

### Preferred option

- 40 Make no change to the proposed licence relating to an Memorandum of Understanding with DPI Water.

### Options

**Option A (base case):** Make no change to the proposed licence relating to an MoU with DPI Water.

**Option B:** Add a new requirement to the proposed licence for Water NSW to undertake an MoU with DPI Water which will replace Clause 1.4.3 of existing Water NSW (State Water) operating licence.

### Assumptions

In its response to our RFI, Water NSW assumed the establishment and maintenance of MoU with DPI water will require the services of:

- ▼ one lawyer for four weeks
- ▼ two expert staff for one month (ie, the full time equivalent of one staff member for two months) for Water NSW, and
- ▼ similar staffing requirements for DPI Water.<sup>63</sup>

### Qualitative and Quantitative Costs and Benefits

**Costs:** Staffing costs as detailed in the Net Present analysis below.

**Benefits:** Some efficiency gains arising from the clarification of roles. However we note that these gains may be marginal given Water NSW and DPI Water are currently engaged in negotiation of transaction documents (binding deeds) to accompany the conferral of functions from DPI Water to Water NSW.<sup>64</sup>

The binding deeds will form the basis for determining roles and responsibilities between Water NSW and DPI Water and further (less-binding) MoUs may not be required, or be of marginal value. The three deeds (Deed of Business Transfer, Water NSW Service Provision Deed and Department of Industry Service Provision Deed) have mechanisms for

<sup>63</sup> Water NSW reply to IPART request for information, 21 December 2016, p 152.

<sup>64</sup> As proposed in the Water NSW Amendment (Staff Transfers) Bill 2016: see <http://www.water.nsw.gov.au/water-management/water-nsw-amendment>, last accessed 22 January 2017.

amendment and are intended to be dynamic documents that capture the evolving relationships between the parties.<sup>65</sup>

## Net Present Value analysis

**Table 7.5 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost - additional staff costs (Water NSW)	-161000	-115000	-115000	-115000	-115000
Cost - additional staff costs (DPI Water)	-70000	-50000	-50000	-50000	-50000
Benefit (nil)					
<b>Net (cost)/benefit</b>	<b>-231,000</b>	<b>-165,000</b>	<b>-165,000</b>	<b>-165,000</b>	<b>-165,000</b>

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 152, and IPART calculations.

**Table 7.6 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost - additional staff costs (Water NSW)	-534,798	-480,854	-434,326
Cost - additional staff costs (DPI Water)	-232,521	-209,067	-188,837
Benefit (nil)			
<b>Net present value</b>	<b>-767,319</b>	<b>-689,920</b>	<b>-623,163</b>

**Note:** Discount rates are recommended by NSW Treasury, *tpg 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 152, and IPART calculations.

## Assessment

There are substantial costs and marginal benefits arising from a requirement for an MoU between Water NSW and DPI Water in the proposed licence. The CBA assessment indicated therefore, on the basis of CBA alone, that maintaining the base case (Option A) is preferred.

<sup>65</sup> Water NSW reply to IPART request for information, 21 December 2016, p 153.

## 8 Performance monitoring

The performance monitoring chapter of the proposed licence includes provisions in relation to performance audits, reporting and provision of information.

### 8.1 Operational audits

We considered an option to include Part 7 of the existing Water NSW (State Water) and Part 8 of the existing Water NSW (SCA) licences in the proposed licence, with some updates. We also considered the addition of sub clauses requiring Water NSW to maintain performance measurement systems. Examples of the proposed sub clauses are:

**Part IX** Performance indicators and system performance standards

**Clause IX.1** Water NSW must maintain record systems that are sufficient (to IPART's satisfaction) to enable Water NSW to measure accurately its performance against the performance indicators and System Performance Standards specified in this licence and the Reporting Manual.

**Clause IX.2** In the case of any ambiguity in the interpretation or application of any performance indicators specified in the Reporting Manual, IPART's interpretation or assessment of the application of the indicators will prevail.

Part 7 and Part 8 provide terms and conditions relating mostly to audit. This is consistent with section 12(3) of the Water NSW Act which states, "the terms and conditions of an operating licence are to make provision for the preparation of operational audits by IPART". These provisions are in addition to obligations which relate to record keeping and reporting for the purposes of monitoring of performance of the operating licence.

#### Preferred option

- 41 Include in the proposed licence Part 7 of the existing Water NSW (State Water) operating licence and Part 8 of the existing Water NSW (SCA) operating licence (updated and with some new sub clauses requiring Water NSW to maintain performance measurement systems) to meet the requirements of section 12(2)(b) of the Water NSW Act.

#### Options

**Option A (base case):** Make no change to the proposed licence relating to performance monitoring.

**Option B:** Include in the proposed licence Part 7 of the existing Water NSW (State Water) operating licence and Part 8 of the existing Water NSW (SCA) operating licence (updated and with some new sub clauses requiring Water NSW to maintain performance measurement systems) to meet the requirements of section 12(2)(b) of the Water NSW Act.

## Assumptions

We assumed that current level of performance monitoring activities would meet the requirements of Option B (ie, no increase in activity is required under Option B).

## Qualitative and Quantitative Costs and Benefits

**Costs:** No costs arise from Option B.

**Benefits:** There is a benefit of assurance that performance monitoring systems will be maintained by Water NSW arising from formalising a requirement in the proposed licence.

## Assessment

A marginal qualitative net benefit arises from Option B. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

## 8.2 Reporting Manual - performance monitoring - audit

We considered an option to include sections 8.1 and 8.2 of the Water NSW (State Water and SCA) reporting manuals, and section 7 of the Water NSW (State Water) Reporting Manual in the proposed Reporting Manual.

Section 8.1 and section 8.2 of the Water NSW (State Water and SCA) reporting manuals, and section 7 of the Water NSW (State Water) Reporting Manual include requirements for Water NSW regarding reporting on the results of operational audits, implementation of improvements, and compliance and performance monitoring.

### Preferred option

- 42 Include in the proposed Reporting Manual sections 8.1 and 8.2 of the Water NSW (State Water and SCA) reporting manuals, and section 7 of the Water NSW (State Water) Reporting Manual.

## Options

**Option A (base case):** Make no change to the proposed Reporting Manual regarding performance monitoring audits.

**Option B:** Include in the proposed Reporting Manual sections 8.1 and 8.2 of the Water NSW (State Water and SCA) reporting manuals, and section 7 of the Water NSW (State Water) Reporting Manual.

## Assumptions

No assumptions made.

## Qualitative and Quantitative Costs and Benefits

Option B represents a drafting change only which gives rise to no net cost or benefit.<sup>66</sup>

### Assessment

Option B represents a drafting change only with no net cost or benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

## 8.3 Reporting Manual - performance monitoring - NWI finance indicators

We considered an option to include section 8.4 of the Water NSW (SCA) Reporting Manual (with some updates) in the proposed Reporting Manual. This would have the effect of expanding National Water Initiative (NWI) financial indicator reporting from the previous Sydney Catchment Authority activities to all of Water NSW's activities.

Section 8.4 of the Water NSW (SCA) Reporting Manual requires Water NSW to report annually to IPART on NWI financial indicators listed in Table B.1 of the Reporting Manual.

### Preferred option

- 43 Include section 8.4 of the Water NSW (SCA) Reporting Manual (with some updates) in the proposed Reporting Manual.

### Options

**Option A (base case):** Make no change to the proposed Reporting Manual regarding performance monitoring of NWI financial indicators.

**Option B:** Include section 8.4 of the Water NSW (SCA) Reporting Manual (with some updates) in the proposed Reporting Manual.

### Assumptions

In its response to our RFI, Water NSW assumed that the equivalent of 10% of a full time position would be used for additional data manipulation relating to NWI indicators.<sup>67</sup>

## Qualitative and Quantitative Costs and Benefits

**Costs:** Additional labour costs due to scope of performance indicator reporting expanding to previous State Water area operations.<sup>68</sup>

**Benefits:** There is a benefit arising from assurance provided by financial indicator reporting being expanded to all Water NSW activities.<sup>69</sup>

<sup>66</sup> Water NSW reply to IPART request for information, 21 December 2016, p 28.

<sup>67</sup> Water NSW reply to IPART request for information, 21 December 2016, p 168.

<sup>68</sup> Water NSW reply to IPART request for information, 21 December 2016, pp 168-169.

<sup>69</sup> IPART.

## Net Present Value analysis

**Table 8.1 Quantitative costs and benefits relating to Option B (2015-16 dollars)**

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost - additional labour	23,000	23,000	23,000	23,000	23,000
Benefit					
<b>Net (cost)/benefit</b>	<b>23,000</b>	<b>23,000</b>	<b>23,000</b>	<b>23,000</b>	<b>23,000</b>

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 168, and IPART calculations.

**Table 8.2 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)**

Sensitivity range	Low	Mid	High
<b>Discount rate</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>
Cost	98,454	88,135	79,262
Benefit			
<b>Net present value</b>	<b>98,454</b>	<b>88,135</b>	<b>79,262</b>

**Note:** Discount rates are recommended by NSW Treasury, *tp 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

**Source:** Water NSW reply to IPART request for information, 21 December 2016, p 168, and IPART calculations.

## Assessment

There is a cost arising from Option B, however we consider this cost is offset by a related qualitative benefit of expanding NWI financial indicator reporting to all of Water NSW's activities. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.

### 8.4 Reporting Manual - performance monitoring - publicly available documents

We considered an option to include section 7.2 of the Water NSW (State Water) Reporting Manual (with minor updates) in the proposed Reporting Manual.

Section 7.2 of the Water NSW (State Water) Reporting Manual requires Water NSW to make its compliance and performance report on performance indicators (referred to in section 7.1.1 of this Reporting Manual) available free of charge on its website.

#### Preferred option

- 44 Include section 7.2 of the Water NSW (State Water) Reporting Manual (with editing and some minor updates) in the proposed Reporting Manual.

## Options

**Option A (base case):** Make no change to the proposed Reporting Manual regarding making performance monitoring reports publicly available.

**Option B:** Include section 7.2 of the Water NSW (State Water) Reporting Manual (with minor updates) in the proposed Reporting Manual.

## Assumptions

No assumptions made.

## Qualitative and Quantitative Costs and Benefits

Option B represents a drafting change only and gives rise to no net cost or benefit.

## Assessment

Option B represents a drafting change only with no net cost or benefit. The CBA assessment indicated therefore, on the basis of CBA alone, that Option B is preferred.