



Independent Pricing and Regulatory Tribunal
New South Wales

Water NSW operating licences review - Cost Benefit Analysis

2017-2022

Final report
Water Licensing

May 2017



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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) has completed a 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.¹ Both of these have been reviewed to establish a new operating licence 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 for the maximum period of five years, to take effect from 1 July 2017 to 30 June 2022.²

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, IPART's *Water NSW operating licences review - Final Report*. The CBA contained within this document supports the recommended changes contained in the final report, and other documents in the licence package (ie, operating licence and Reporting Manual).³

1.2 Overview of Cost Benefit Analysis and Multi-Criteria Analysis

We conducted a CBA of proposed changes to Water NSW's operating licences and the associated Reporting Manual.⁴ This CBA is part of the end of term review of Water NSW's

¹ 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".

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

³ 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).

⁴ 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.

operating licences and has been conducted in accordance with the NSW Government's *Guide to Better Regulation* and NSW Treasury guidance.⁵ Consistent with NSW Treasury guidance we:

- ▼ assumed a realistic base case using a 'business as usual' (ie, a 'no policy change') scenario
- ▼ used a social discount rate of 7% (and for sensitivity testing lower and upper bounds of 3% and 10% respectively), and
- ▼ where more than one option other than the base case was considered, complemented our CBA analysis using Multi-Criteria Analysis (MCA).⁶

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).

Where more than one option, other than the base case, was considered we used an MCA framework to complement our CBA analysis. MCA was used to provide a structured, systematic and transparent framework for comparing options (including options with some non-quantified costs and/or benefits) and assist in determining the option with the greatest net social benefit. The scores applied to cost and benefit criterion for each option were based on evidence included in the CBA and represent the relative effects of each criterion on each option considered. Consistent with best practice, and to control bias arising from the relative size of total costs and benefits within an option considered, we applied neutral weights of 50 percent in total for cost-related criteria and 50 percent in total for benefit-related criteria.⁷

The timeframe of the CBA is the 5-year period 1 July 2017 to 30 June 2022. 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 four Requests for Information (RFIs) to Water NSW for information about the costs and benefits of proposed changes to the operating licence.

⁵ Department of Finance, Services & Innovation, *NSW Guide to Better Regulation*, October 2016. See <https://www.finance.nsw.gov.au/better-regulation> and NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017.

⁶ NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, pp 9, 45 and 67.

⁷ The approach of 50:50 weighting of costs and benefits is consistent with, for example, the Victorian Commissioner for Better Regulation, *Guidance Note - Multi-Criteria Analysis*. See <http://www.betterregulation.vic.gov.au/Guidance-and-Resources>.

Water NSW provided responses to IPART on 21 December 2016, 20 January 2017, 25 January 2017 and 26 April 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.

1.3 Overview of topics

For this CBA we assessed the impact of 56 separate topics broadly grouped as:

- ▼ Licence context and authorisations
 - end of term licence review period
 - compliance with IPART pricing determinations
- ▼ Water source protection and conservation
 - Water Quality Management System
 - Water Conservation Strategy
 - catchment infrastructure management
 - Water Supply System Yield
 - managing and protecting catchments
 - catchment research and catchment health
 - catchment related reporting
- ▼ Bulk water storage and transmission
 - water supply
 - bulk water releases to Local Water Utilities
 - constructing, maintaining and operating water management works
 - flood mitigation
 - bulk water reporting
- ▼ Performance standards
 - supply performance standards
 - capture, store and release performance standards
 - system performance standards reporting
 - water balance reporting
 - performance standards reporting
- ▼ Organisational systems management
 - Asset Management System
 - Environmental Management System
 - management systems reporting
- ▼ Customer and stakeholder relations
 - delivery to customers
 - metering and monitoring
 - customer advisory groups
 - community education
 - memorandums of understanding with stakeholders
 - customer related reporting
- ▼ Performance monitoring
 - operational audits
 - performance monitoring reporting.

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 3.1). 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.

Water Conservation Strategy

A Water Conservation Strategy encompasses many of the benefits from a similar Economic Level of Water Conservation (ELWC) methodology, but is less comprehensive, and involves less cost to develop and maintain. A Water Conservation Strategy could include:

- ▼ documentation of current practices and methods,
- ▼ comparison and selection of various practices and methods, and
- ▼ consideration of new options to conserve water.

We considered options to replace the existing obligation in the previous State Water Licence with a requirement to take all reasonable steps to conserve water by either developing an:

- ▼ ELWC methodology, or
- ▼ a Water Conservation Strategy.

We considered both the costs and benefits of each of the options including the base case. We also compared each option using Multi-Criteria Analysis (MCA). The CBA assessment indicated, on the basis of CBA and MCA alone, Option B (ie, requiring a Water Conservation Strategy) is preferred.

The proposed obligation would give rise to direct costs relating to development, documentation, submission to IPART for approval, and reporting of a strategy. These costs are likely to be substantially less than those that would arise from a requirement for an ELWC.

Benefits from the proposed option include:

- ▼ a Water Conservation Strategy better reflects actual benefits of water conservation projects (ie, may identify potential improvements or new projects that are shown to have a net social benefit)
- ▼ increased transparency around selection of candidate water conservation projects
- ▼ does not have the additional regulatory burden of requiring the Tribunal's approval, as is the case for the ELWC methodology
- ▼ improved auditability of licence conditions, and
- ▼ increased consistency of regulation between public water utilities as requiring a water conservation methodology is consistent with other utility licences.

Considerations

A Water Conservation Strategy (ie, Option B) may assist Water NSW to realise substantial benefits arising from more efficient resource allocation in water conservation activities. These benefits may be greater using an ELWC methodology (ie, Option C). However we considered carefully Water NSW's statement that 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 considered that an ELWC methodology 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,⁸ instead, for water conservation measures, a different fourth element could be developed; 'water storage and transmission'. This variation alone could justify significant differences in an appropriate strategy or methodology.

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 either a Water Conservation Strategy or an ELWC methodology to be an extension and refinement of this requirement that provides greater clarity and auditability.

We also note that the costs relating to a Water Conservation Strategy are likely to be substantially less than the development and maintenance of an ELWC strategy. We

⁸ 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.

considered that a Water Conservation Strategy would likely provide greater benefits than the related cost.

Catchment research and catchment health

Water NSW conducts programs to research catchments and catchment health including capturing catchment information and data, understanding catchment risk and scientific review and monitoring. The cost of these activities in 2015-16 was \$1.5 million.⁹

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 terms and conditions authorising 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 3.6).

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 would be substantially less than this estimate.

The possible 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.

⁹ Water NSW, *Annual Catchment Management Report 2015-16*, pp 3-4 and 21.

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 section 4.4). The CBA assessment indicated, on the basis of CBA alone, the preferred option is to not authorise flood mitigation in any areas and not include terms and conditions in the proposed licence. Flood mitigation activities would be authorised and regulated under the *Water Management Act 2000* and the *Water Act 1912* (Option B below).

Considerations

Flood mitigation and management 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.¹⁰ 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 decides flood management is one of the purposes of Warragamba Dam, or other dams in the Sydney catchment area, these activities can be regulated by the existing Water NSW (SCA) water supply work approvals under the *Water Management Act 2000*. As an alternative the Government could amend the operating licence on IPART’s recommendation or directly by the Minister.

The CBA considered four options and preferred an option not to authorise, nor include terms and conditions relating to, flood mitigation in the proposed licence. The preferred option would mean Water NSW can rely entirely on the *Water Management Act 2000* and the *Water Act 1912* to authorise and regulate this function.

Benefits arise, under the preferred option, from more timely flood mitigation responses without the need to amend the proposed licence, if the appropriate work orders are in place. The potential cost of legal liability is exceeded by the benefit of additional flexibility of authorising flood mitigation activities where these activities can be, and are, authorised using Water Supply Work Approvals.

The preferred option provided the greatest net social benefit of all considered options, as it provides the greatest flexibility for Water NSW in undertaking flood mitigation activities with no potential for regulatory duplication. We also noted that the proposed obligations placed on Water NSW for the Sydney catchment have historically applied to State Water for many years and that section 11 of the *State Owned Corporations Act 1989* contains provisions for recovery of costs relating to Ministerial directions.

¹⁰ This is because terms and conditions already exist within the individual works approvals for each dam.

Community education

Water NSW currently undertakes community education programs including community education capacity building, school education, providing educational information and resources and community consultation. The cost of these activities in 2015-16 was \$1.7 million.¹¹

The CBA assessment indicated, on the basis of CBA and MCA alone, the preferred option is for the operating licence to require Water NSW to conduct educational programs for the community, on its activities and functions in Declared Catchments only, consistent with its objectives under the Act, and report on these activities in accordance with the Reporting Manual.

Section 6(1)(c) of the Water NSW Act describes one of Water NSW's objectives as "to ensure that Declared Catchment areas and water management works in such areas are managed and protected so as to promote water quality, the protection of public health and public safety, and the protection of the environment"

Considerations

Both options we considered, other than the base case of no requirement for community education, were to add a clause to the proposed licence requiring Water NSW to educate the community on its activities and functions, however:

- ▼ one option was to add a requirement for Declared Catchments only, and
- ▼ the other option was to add a requirement for all catchments (ie, including declared and Non-Declared Catchments).

The first option would formalise a requirement for activities already undertaken by Water NSW and the second option would expand current activities from Declared Catchments to all catchments

We noted Water NSW's statement, in response to our RFI, 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.¹²

In conducting the CBA we assumed that educational materials already in use could meet the requirements of the option to require community education in the Declared Catchment only. Therefore, there were no costs relating to the development of new materials for this option.

Water NSW's budgeted 2018 operating expenditure for community education in the Declared Catchment only is \$1.1 million. Under the proposed licence, Water NSW assumed that if community education was required across all catchments, this level of expenditure would be multiplied across the 13 valleys in Water NSW's area and would result in an annual cost of around \$14.0 million.¹³ We considered this to be an overestimate of likely costs, as we did not propose specifying the level or type of community education required, but that additional cost would still be substantial.

¹¹ Water NSW, *Annual Catchment Management Report 2015-16*, pp 6-9 and 21.

¹² Water NSW reply to IPART request for information, 20 January 2017, p 24.

¹³ Water NSW reply to IPART request for information, 20 January 2017, p 24.

Benefits included assurance arising from formalising requirement for, and improved auditability of, community education activities that support the management and protection of Declared Catchments areas consistent with section 6(1)(c) of the Water NSW Act.

The CBA indicated that, for the preferred option, the benefits exceeded the related costs and the option provided the greatest net social benefit.

1.4 Summary of preferred options

We considered the incremental costs and benefits in relation to each identified issue and arrived at a preferred option. Preferred options are based on comparing costs and benefits, using CBA and MCA, to determine the net social benefit or greatest net social benefit, consistent with NSW Treasury guidance.¹⁴

Table 1.1 contains a summary of preferred options, for which there were related costs and benefits incremental to the base case. For each of the topics in Table 1.1 the CBA assessment indicated, on the basis of CBA alone, the preferred option provided:

- ▼ Incremental benefits that were greater than the related costs, and
- ▼ the greatest net social benefit from among the options considered.

Table 1.2 contains a summary of preferred options for topics for which the option considered (ie, other than the base case option of making no change to the licence) represented a drafting change only and for which there were no related costs or benefits incremental to the base case. For each of the topics in Table 1.2 the CBA assessment indicated, on the basis of CBA alone, the preferred option provided continuity of licence and reporting manual requirements from the previous Water NSW (SCA) and Water NSW (State Water) operating licences to the proposed new operating licence.

For a more detailed summary of the issues relating to the topics in Table 1.2 see Appendix A.

¹⁴ NSW Treasury, *tpg 07-5, NSW Government Guidelines for Economic Appraisal*, July 2007, p 52.

Table 1.1 Summary of preferred options

Topic considered	Preferred option (assessed as greatest net social benefit)	Nature of costs and/or benefits
End of Term Review	Include Part 8 of the existing Water NSW (State Water) operating licence (updated to reflect the term of the licence) in the proposed licence.	<p>Costs: Benefits not realised include:</p> <ul style="list-style-type: none"> ▼ cost savings from more efficient regulation ▼ better targeted performance standards in the licence, and ▼ allowing time for the development of outcomes-based regulation targets. <p>We consider the impact of these benefits likely to be minimal</p> <p>Benefits: Avoided cost of additional labour and other direct costs of an additional review being held before the maximum term of the licence has expired.</p>
Pricing compliance	Make no change to the proposed licence regarding pricing compliance.	<p>Benefits: The preferred option avoids possible regulatory duplication with the <i>Independent Pricing and Regulatory Tribunal Act 1992</i> and the <i>Water Act 2007</i> (Cth), and subordinate instruments.</p> <p>Costs:</p> <ul style="list-style-type: none"> ▼ forgone increased ability to audit and enforce compliance ▼ forgone administrative streamlining, and ▼ inconsistency with clauses similar to proposed clause contained in the Sydney Water and Hunter Water licences.
Water Quality Management System - Non-Declared Catchments	Include a new clause in the proposed licence that requires Water NSW to maintain a WQMS for water supplied in Non-Declared Catchments.	<p>Benefit: Assurance that water quality management is formally required and regulated.</p> <p>Cost: Avoids duplicative regulation.</p>

Topic considered	Preferred option (assessed as greatest net social benefit)	Nature of costs and/or benefits
Water Conservation Strategy	Include obligations in the proposed licence that require an Water Conservation Strategy to be developed, approved and annually reported and which would replace the existing water conservation obligations of the Water NSW operating licence.	<p>Costs: Direct costs relating to development, documentation, submission to IPART for approval, and reporting of a Water Conservation Strategy.</p> <p>Benefits:</p> <ul style="list-style-type: none"> ▼ increased efficiency from better project selection ▼ a rigorous methodology better reflects actual net benefits of water conservation projects ▼ increased transparency around selection of candidate water conservation projects ▼ less regulatory burden than the ELWC approach ▼ improved auditability of licence conditions, and ▼ increased consistency of regulation between public water utilities.
Catchment infrastructure management	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).	<p>Benefits:</p> <ul style="list-style-type: none"> ▼ assurance from having formal requirement for Asset Management System (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.
Water Supply System Yield	Make no change regarding calculation of Water Supply System Yield in the proposed licence.	<p>Costs: Does not improve modelling capacity.</p> <p>Benefits: Avoids costs of</p> <ul style="list-style-type: none"> ▼ 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 will make yield evaluation too complex and time consuming.

Topic considered	Preferred option (assessed as greatest net social benefit)	Nature of costs and/or benefits
Manage and protect catchments	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.	Benefits: <ul style="list-style-type: none"> increased confidence that asset management and environmental management are competently managed within an 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.
Catchment research and catchment health	Include in the proposed licence Part 7.2 of the Water NSW (SCA) operating licence (and add terms and conditions requiring Water NSW to maintain a program of research in Declared Catchments, and authorising research in all catchments generally, in accordance with its objectives and functions and report on this research).	Cost: A potential, but unlikely, estimated annual operating cost increase of between \$0.5 million to \$1.0 million per year relating to an increase in research activity. Benefits: <ul style="list-style-type: none"> may improve research effectiveness by allowing flexibility to determine the scope of research program, and benefits of the research program can be extended to catchments outside the Declared Catchment area.
Reporting Manual – water conservation strategy – periodic reporting	Include in the proposed Reporting Manual a new reporting requirement, consistent with requirements of the proposed licence, for Water NSW to submit to IPART its Water Conservation Strategy.	Costs: Minimal costs relating to passing existing information to IPART. Benefits: Increased assurance, transparency and support for the audit process.
Reporting Manual - water conservation work program – periodic reporting	Include in the proposed Reporting Manual a new reporting requirement for Water NSW to submit to IPART its water conservation work program which is consistent with the Water Conservation Strategy.	Costs: Minimal costs relating to passing existing information to IPART. Benefits: Increased assurance, transparency and support for the audit process.
Reporting Manual – water conservation program – annual reporting	Include in the proposed Reporting Manual a new reporting requirement for Water NSW to report to IPART and make available to the public, consistent with requirements of the proposed licence, an annual report of Water NSW’s progress against the water conservation program.	Costs: Minimal costs relating to passing existing information to IPART and the public. Benefits: Increased assurance, transparency and support for the audit process.
Water supply	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).	Benefit: It may be easier for Water Supply customers who hold properties in Fish River and Sydney to use the same agreement for both.

Topic considered	Preferred option (assessed as greatest net social benefit)	Nature of costs and/or benefits
Bulk water releases to Local Water Utilities	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 report to IPART on the outcomes of the review.	<p>Costs: Some additional administrative costs.</p> <p>Benefits: May improve efficiency and public safety through sharing of health related monitoring information.</p>
Construct, maintain and operate water management works	Add a new clause to the proposed licence that links the construction, maintenance and operation of water management works to Water NSW's AMS for the purposes of section 12(2)(a) of the Water NSW Act.	<p>Benefits: Efficiencies arise from synergies related to the AMS.</p>
Flood mitigation	Do not authorise flood mitigation in any areas and do not include terms and conditions in the proposed licence. Rely entirely on the <i>Water Management Act 2000</i> and the <i>Water Act 1912</i> to authorise and regulate this function.	<p>Benefits:</p> <ul style="list-style-type: none"> ▼ allows for a flexible and timely response by Water NSW in the event of flood ▼ allows for DPI Water to enact Government decisions through amendments to the Water Supply Work Approvals ▼ ensures clarity over which government agency is responsible for regulating this function, and ▼ limits concerns raised by Water NSW regarding flood mitigation related legal liability and costs, especially prior to a final decision by government in the Sydney catchment area.
Reporting Manual - water balance reporting	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 water balance reporting requirements.	<p>Benefit: Assurance of formal requirements, consistent with the proposed licence, being included in the proposed Reporting Manual</p>
Reporting Manual – water released to Local Water Utilities	Include in the proposed Reporting Manual a new reporting requirement, consistent with requirements of the proposed licence, for Water NSW to report on its review of water quality monitoring in relation to its Capture and Store Water and Release Water to Local Water Utilities functions.	<p>Costs: Minimal costs relating to passing existing information to IPART.</p> <p>Benefits: Increased assurance, transparency and support for the audit process.</p>

Topic considered	Preferred option (assessed as greatest net social benefit)	Nature of costs and/or benefits
Reporting Manual – water balance reports – public reporting	Include in the proposed Reporting Manual section 3.2 of the Water NSW (State Water) Reporting Manual with some updates that would add a new requirement to make available the details of the Local Water Utilities Information Request Procedure.	<p>Costs: Costs relating to making the Local Water Utilities Information Request Procedure available to the public to are minimal.</p> <p>Benefits: Increased assurance, transparency and support for the audit process.</p>
System performance standards - supply	Include clauses in the proposed licence which have terms and conditions for water quality and service interruption system performance standards.	<p>Costs: Additional costs related to collection and reporting of information.</p> <p>Benefits: Assurance that system performance standards are formally required and regulated.</p>
System Performance Standards - capture, store and release	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.	<p>Benefits: Assurance that system performance standards are formally required and regulated.</p>
Asset Management System	Include in the proposed licence Part 4 of the existing Water NSW (State Water) operating licence with updates that remove the requirement for certification and with a new sub clause requiring Water NSW to implement and carry out all relevant activities in accordance with an Asset Management System.	<p>Cost: Increased IPART audit costs.</p> <p>Benefits:</p> <ul style="list-style-type: none"> ▼ direct costs relating to certification can be avoided ▼ removal of unnecessary regulation, and ▼ efficiencies arising from allowing Water NSW to decide on AMS certification and/or design.
Reporting Manual - asset management - intermittent reporting	Include section 5.3 of the Water NSW (SCA) Reporting Manual (with some updates) in the proposed Reporting Manual.	<p>Cost: Cost of preparing a State of the Assets report.</p> <p>Benefit: Benefit of producing at least one State of the Assets report to take stock of un-reported assets previously held by State Water.</p>
Reporting Manual - asset management - significant changes to AMS	Make no change to the proposed licence regarding notification of changes to the AMS.	<p>Cost: Reduced assurance for IPART of being aware of significant changes to the AMS and ensuring the related licence conditions are being met.</p> <p>Benefit: Cost of duplicative regulation avoided by not requiring notification.</p>
Reporting Manual - asset management - annual reporting	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.	<p>Benefit: Assurance that annual reporting of compliance and performance of the AMS is formally required and regulated.</p>

Topic considered	Preferred option (assessed as greatest net social benefit)	Nature of costs and/or benefits
Reporting Manual – asset management – public reporting	Include in the proposed Reporting Manual section 4.2 of the Water NSW (State Water) Reporting Manual with some updates that would allow these sections to apply to the current Declared Catchment and other declared catchments if they were created in the future.	<p>Costs: Minimal costs relating to providing a compliance and performance report on Water NSW's website.</p> <p>Benefits: Assurance from transparency of Water NSW's compliance with, and performance of, its public reporting requirements.</p>
Environmental Management System	Include in the proposed licence Part 6 of the Water NSW (State Water) and Part 7 of the Water NSW (SCA) operating licences, with updates that remove the requirement for ISO certification and with a new sub clause requiring Water NSW to implement and carry out all relevant activities in accordance with an Environmental Management System.	<p>Cost: Increased IPART audit costs.</p> <p>Benefits:</p> <ul style="list-style-type: none"> ▼ direct costs relating to certification can be avoided. ▼ removal of unnecessary regulation, and ▼ efficiencies arising from allowing Water NSW to decide on EMS certification and/or design.
Reporting Manual - Environment - annual reporting	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.	<p>Costs: Additional costs relating to reporting activities.</p> <p>Benefits: Assurance the EMS is maintained, related activities undertaken and performance measured.</p>
Reporting Manual - environment – public reporting	Include in the proposed Reporting Manual section 6.2 of the Water NSW (State Water) Reporting Manual and section 7.4 of the Water NSW (SCA) Reporting Manual updated to remove requirements to make environmental programs publicly available.	<p>Costs: Minimal costs relating to providing a compliance and performance report on Water NSW's website.</p> <p>Benefits: Assurance from transparency of Water NSW's compliance with, and performance of, its public reporting requirements.</p>
Delivery to customers	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.	Benefits: Reduction in regulatory duplication arising from all three Options. The greatest reduction in duplication arises from Option D.
Customer advisory groups	Include in the proposed licence Part 5 of the existing Water NSW (State Water) operating licence (updated and with some new sub clauses requiring representative area-based customer advisory groups and Customer Advisory Group Charters).	Benefits: Better awareness of the purpose of customer advisory groups and customer rights for customers.
Community Education	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.	Benefits: More efficient water use and operations arising from communities across the State being better informed about Water NSW's operations.

Topic considered	Preferred option (assessed as greatest net social benefit)	Nature of costs and/or benefits
MoUs - NSW Health and EPA	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.	Benefit: A benefit of assurance from formal recognition of the purpose of the MoUs in the licence.
MoU - Local Land Services	Make no change to the proposed licence relating to an MoU with Local Land Services.	<p>Costs: Does not assist collaboration in identifying issues and implementing practical, efficient catchment management. Impact likely to be small however given the current successful collaboration, without an MOU, between Water NSW and Local Land Services.</p> <p>Benefits: Avoided costs of:</p> <ul style="list-style-type: none"> ▼ direct costs of establishing and complying with an MoU, and ▼ impact of MoU on current contractual and regulatory relationships between Local Land Services and Water NSW.
MoU - DPI water	Make no change to the proposed licence relating to a roles and responsibilities agreement with DPI Water.	<p>Costs: Forgone benefit of some efficiency gains arising from the clarification of roles, however we note that these gains may be marginal.</p> <p>Benefits: Avoided costs of direct costs of establishing and complying with an MoU.</p>
MoU - Department of Planning and Environment	Include terms and conditions in the licence requiring Water NSW to use best endeavours to establish and comply with a Memorandum of Understanding with the Department of Planning and Environment regarding its role in the review and implementation of the Metropolitan Water Plan.	Benefits: Efficiency gains arising from the clarification of roles of Water NSW and DP&E.
Reporting Manual - customers	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 Groups, Customer Advisory Group Charters and publicly available documents).	<p>Benefits:</p> <ul style="list-style-type: none"> ▼ better awareness of the purpose of customer advisory groups and customer rights for customers, and ▼ improved communication from making documents available to the public.
Reporting Manual – customers and stakeholders – public reporting	Include section 5.2 of the Water NSW (State Water) Reporting Manual (with some updates) in the proposed Reporting Manual.	<p>Cost: Minor costs from small change to Water NSW's website.</p> <p>Benefit: Assurance from continuity of reporting requirements from previous licences.</p>

Topic considered	Preferred option (assessed as greatest net social benefit)	Nature of costs and/or benefits
Operational Audits	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.	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.
Reporting Manual - performance monitoring - NWI finance indicators	Make no change to the proposed Reporting Manual regarding performance monitoring of NWI financial indicators.	Costs: Forgone benefit from assurance provided by financial indicator reporting being expanded to all of Water NSW activities however benefit would be minimal as indicators are for urban water utilities. Benefits: Avoided additional direct costs due to increase of scope of performance indicator reporting.

Table 1.2 Other Topics considered (see Appendix A for more detail)

Topic considered	Preferred option (assessed as greatest net social benefit)
Water Quality Management System - Declared Catchments	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.
Reporting Manual - catchment management - periodic reporting	Include in the proposed Reporting Manual section 2.1 and section 4.1 of the Water NSW (SCA) Reporting Manual (with some updates).
Reporting Manual - catchment management - annual reporting	Include in the Reporting Manual section 2.2, section 3.2 and section 4.2 of the Water NSW (SCA) Reporting Manual (with some updates).
Reporting Manual - environment - environmental indicators	Include in the proposed Reporting Manual section 7.2.2 of the Water NSW (SCA) Reporting Manual (updated and with new IPART waste and energy indicators that apply to all Declared Catchment areas).
Reporting Manual - catchment management - public reporting	Include section 2.4, section 3.4 and section 4.4 of the Water NSW (SCA) Reporting Manual (with some updates) in the proposed Reporting Manual.
Reporting Manual – public health indicators – annual reporting	Include in the proposed Reporting Manual section 2.2.4 of the Water NSW (SCA) Reporting Manual (with minor updates).
Reporting Manual – water quality monitoring indicators – annual reporting	Include in the proposed Reporting Manual section 2.2.3 of the Water NSW (SCA) Reporting Manual (with some updates).
Reporting Manual – incident reporting	Include in the proposed Reporting Manual section 2.3 of the Water NSW (SCA) Reporting Manual (with some updates).

Topic considered	Preferred option (assessed as greatest net social benefit)
Reporting Manual – System Yield reporting	Include in the proposed Reporting Manual section 3.3.1 of the Water NSW (SCA) Reporting Manual (with some updates).
Reporting Manual – when future demand may exceed System Yield	Include in the proposed Reporting Manual section 3.3.3 of the Water NSW (SCA) Reporting Manual (with some updates).
Reporting Manual – review of System Yield model	Include in the proposed Reporting Manual section 3.3.2 of the Water NSW (SCA) Reporting Manual (with some updates).
Reporting Manual - system performance standards reporting	Include a new clause in the proposed Reporting Manual requiring annual reporting consistent with licence obligations for system performance standards reporting.
Metering and Monitoring	Include a new clause in the proposed licence requiring metering, monitoring, account management and billing activities.
Reporting Manual - performance monitoring - audit	Include in the proposed Reporting Manual sections 8.1 and 8.2 of the Water NSW (State Water and SCA) reporting manuals, but not section 7 of the Water NSW (State Water) Reporting Manual.
Reporting Manual - performance monitoring – public reporting	Include section 7.2 of the Water NSW (State Water) Reporting Manual (with editing and some minor updates) in the proposed Reporting Manual.
Reporting Manual - performance monitoring - significant changes	Include section 8.3 of the Water NSW (State Water and SCA) reporting manuals (with updates) in the proposed Reporting Manual.
Reporting Manual – statement of compliance	Include in the proposed Reporting Manual section 8.4 of the Water NSW (State Water) Reporting Manual with some minor updates for consistency with other utility reporting manuals.

2 Licence context and authorisations

The Licence context and authorisations chapter of the proposed licence refers to provisions on licence objectives and purpose. We considered issues of pricing enforcement and the term of the proposed licence.

2.1 End-of-term licence review

IPART conducts an end-of-term licence review prior to recommending the terms of a new licence. Section 14 of the Water NSW Act sets the maximum term of a licence as five years and section 13 allows the NSW Governor, on the recommendation of the relevant portfolio Minister, to amend, make changes or substitute a new licence for Water NSW at any time.

We considered options to allow for other ways to initiate an end-of-term licence review before the end of the statutory five year term of the licence, including:

- ▼ An end-of -term review initiation process contained in the licence, and
- ▼ specifying a two year term for the licence.

Preferred option

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

Options

Option A (base case): Make no change to the proposed licence regarding end of term reviews (ie, include Part 8 of the existing Water NSW (State Water) operating licence, updated to reflect the term of the licence, in the proposed licence).

Option B: Include in the licence procedures to initiate an end-of-term licence review before the term of the licence has expired.

Option C: Specify a two year term for the licence, in the licence.

Assumptions

No assumptions made.

Qualitative and Quantitative Costs and Benefits

Option B:

Costs: Costs include the potential additional labour and other direct costs of an additional review being held before the maximum term of the licence has expired. There is also a risk of possible uncertain outcomes from having a review trigger contained in the licence, when the Water NSW Act already allows for a review before the end of the licence term.

Examples of possible uncertain outcomes are:

- ▼ Starting a review process when the information from the first audit of the licence is not yet available, or becomes available at a date so close to the review that there is limited time to consider the audit results. This would not allow for the most recent performance related information to be considered during the review.
- ▼ That the information from the first audit of the licence does not cover all aspects of the licence (as the audit program covers several years, specific areas are only targeted from year to year). As a result the recent performance in some licence areas covered in the review will be unknown.

Option C:

Costs: Additional labour and other direct costs of an additional review being held before the maximum term of the licence has expired.

Options B and C:

Benefits: Water NSW indicated in its submission to the draft review package that benefits arise from imposing a two year term on the proposed licence. These benefits include:

- ▼ cost savings from more efficient regulation
- ▼ better targeted performance standards in the licence, and
- ▼ allowing time for the development of outcomes-based regulation targets.¹⁵

We consider the impact of these benefits likely to be minimal.

Outcomes-based regulation targets could include better targeted performance standards, which may increase efficiency in performance, and regulation, of the utility.

Net Present Value analysis

Table 2.1 Quantitative costs and benefits relating to Options B and C (2015-16 dollars)

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost – IPART			-723,000		
Cost – Water NSW			-170,000		
Benefit (not quantified)					
Net (cost)/benefit			-893,000		

Source: Email from Water NSW, 9 May 2017 and IPART estimates.

¹⁵ Water NSW, *WaterNSW submission to the Independent Pricing and Regulatory Tribunal review of the WaterNSW operating licences*, April 2017, p 15.

Table 2.2 Net Present Value (NPV) analysis of cash flows of Options B and C (2015-16 dollars)

Sensitivity range	Low	Mid	High
Discount rate	3%	7%	10%
Cost – IPART	-642,376	-551,573	-493,819
Cost – Water NSW	-151,043	-129,692	-116,112
Benefit (not quantified)			
Net present value	-793,419	-681,265	-609,931

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, p 45. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

Source: Email from Water NSW, 9 May 2017 and IPART estimates.

Multi-Criteria Analysis

Table 2.3 Multi Criteria Analysis of options.

Criteria	Criterion weight (%)	Option A (base case)		Option B		Option C	
		score	weighted score	score	weighted score	score	weighted score
Avoid cost – IPART	25	20	5	10	2.5		
Avoid Cost – Water NSW	25	10	2.5	5	1.25		
Efficiency from better targeted regulation	50	10	5	15	7.5	15	7.5
Total	100		12.5		11.25		7.5

Note: Score is out of 20 and is representative of both the quantum, and probability that cost or benefits will be realised, for each option.

Assessment

There are substantial costs arising from a two year licence term as it may result in an additional operating licence review (over the five years considered in this CBA). Water NSW indicated however that benefits relating to more efficient regulation, improved performance standards and a move towards outcomes-based regulatory targets can be realised from imposing a two year term on the licence. For a net social benefit to be achieved a clear benefit, exceeding the cost of an additional licence review, would need to be established. We consider that this benefit was not clearly established at this time.

We compared the costs and benefits of each option using Multi-Criteria Analysis (MCA). The CBA assessment indicated, on the basis of CBA and MCA alone, Option A (ie, the base case) is preferred.

2.2 Pricing compliance with IPART determinations

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 the current Sydney Water and Hunter Water licences.¹⁶

Preferred option

Make no change to the proposed licence regarding pricing compliance.

Options

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

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

Assumptions

No assumptions made.

¹⁶ 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.¹⁷

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).¹⁸

We note that these incremental benefits may be limited as powers under Part 3A of the IPART Act currently give IPART the ability to obtain information for the purpose of monitoring compliance with pricing determinations. These powers are not the equivalent of a licence compliance audit, however they are similar enough to limit the incremental benefits of Option B.

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. However these benefits are limited due to powers that already exist in the IPART Act, and are exceeded by the related costs.

The CBA assessment indicated therefore, on the basis of CBA alone, Option A (ie, the Base Case) is preferred.

¹⁷ Water NSW reply to IPART request for information, 20 January 2017, p 7.

¹⁸ Water NSW reply to IPART request for information, 20 January 2017, p 7.

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 - 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 in Non-Declared Catchment areas. 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. The Water Quality Management System must be consistent with at least one of the following:

- a) a relevant quality assurance program under section 25 of the *Public Health Act 2010* (NSW);
- b) the Australian Drinking Water Guidelines;
- c) the Australian Guidelines for Water Recycling; or
- d) other requirements as specified or approved by NSW Health or IPART,

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

[Note: It is generally expected that Water NSW will manage the water under its control in light of its knowledge of the downstream water supply system, including that of its Customers. Therefore the Water Quality Management System should be developed in consultation with the relevant Customers to whom it Supplies water.]

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

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, 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, Option B is preferred.

3.2 Water Conservation Strategy

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.¹⁹

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, 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.

An option which encompasses some of the benefits from an ELWC methodology, but is less comprehensive, and involves less cost, is to develop a Water Conservation Strategy. A Water Conservation Strategy could include:

- ▼ documentations of current practices and methods
- ▼ comparison and selection of various practices and methods, and
- ▼ consideration of new options to conserve water.

We considered options to replace the existing obligation in the previous State Water Licence with a requirement to take all reasonable steps to conserve water by either developing an:

- ▼ ELWC methodology, or
- ▼ a Water Conservation Strategy.

Preferred option

Include obligations in the proposed licence that require a Water Conservation Strategy to be developed, approved and annually reported and which would replace the existing water conservation obligations of the Water NSW operating licence.

¹⁹ An Environmental Management System is required by clause 7.1 of the *Water NSW (SCA) operating licence*.

Options

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

Option B: Include obligations in the proposed licence that require a Water Conservation Strategy to be developed, approved and annually reported and which would replace the existing water conservation obligations of the Water NSW operating licence.

Option C: 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.

Assumptions

No assumptions made.

Qualitative and Quantitative Costs and Benefits

Option B:

Costs: Costs of requiring a Water Conservation Strategy include the direct costs relating to development, documentation, submission to IPART for approval, and reporting of a strategy. These costs are likely to be substantially less than those relating to Option C.

Benefits: Benefits include:

- ▼ a Water Conservation Strategy better reflects actual benefits of water conservation projects (ie, may identify potential improvements or new projects that are shown to have a net social benefit)
- ▼ increased transparency around selection of candidate water conservation projects
- ▼ does not have the additional regulatory burden of requiring the Tribunal's approval, as is the case for the ELWC methodology
- ▼ improved auditability of licence conditions, and
- ▼ increased consistency of regulation between public water utilities as requiring a water conservation methodology is consistent with other utility licences.

Option C:

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.²⁰

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.

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 (ie, may identify potential improvements or new projects that are shown to have a net social benefit)
- ▼ 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 initiatives²¹
- ▼ improved auditability of licence conditions, and
- ▼ increased 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 reply to our RFI Water NSW stated that rural customers use water as an input to production (ie, to grow crops). 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.²² 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.

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

²¹ IPART, *Cost benefit analysis of proposed changes to Hunter Water Corporation’s operating licence – Draft Report*, December 2016, p 15.

²² Water NSW reply to IPART request for information, 20 January 2017, pp 13-14.

Multi-Criteria Analysis

Table 3.1 Multi Criteria Analysis of options.

Criteria	Criterion weight (%)	Option A (base case)		Option B		Option C	
		score	weighted score	score	weighted score	score	weighted score
Avoid direct costs of development and maintenance of strategy/methodology	50	20	10	15	7.5	5	2.5
Increased efficiency from better conservation targets	10			20	2	20	2
Better selection of water conservation projects	10			10	1	10	1
Increased transparency	10			10	1	20	2
Improved auditability of licence conditions	10			10	1	10	1
Increased consistency between public water utilities	10			10	1	10	1
Total	100		10		13.5		9.5

Note: Score is out of 20 and is representative of both the quantum, and probability that cost or benefits will be realised, for each option.

Assessment

A Water Conservation Strategy (ie, Option B) may assist Water NSW to realise substantial benefits arising from more efficient resource allocation in water conservation activities. These benefits may be greater using an ELWC methodology (ie, Option C). However we considered carefully Water NSW's statement that 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 considered that an ELWC methodology 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,²³ instead, for water conservation measures, a different fourth element could be developed; 'water storage and transmission'. This variation alone could justify significant differences in an appropriate strategy or methodology.

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 either a Water Conservation Strategy or an ELWC methodology to be an extension and refinement of this requirement that provides greater clarity and auditability.

We also note that the costs relating to a Water Conservation Strategy are likely to be substantially less than the development and maintenance of an ELWC strategy. We considered that a Water Conservation Strategy would likely provide greater benefits than the related cost.

We have considered both the costs and benefits of each of the options including the base case. We also compared option using Multi-Criteria Analysis (MCA). The CBA assessment indicated therefore, on the basis of CBA and MCA alone, Option B is preferred.

3.3 Catchment infrastructure management

Water NSW manages a wide range of infrastructure within its catchments including dams, canals, tunnels, reservoirs, pipelines, treatment plants, pump stations, roads, weather stations, buildings, vehicles and equipment. For 2015-16, catchment infrastructure related operating expenditure was \$163 million, capital expenditure was \$58 million and the total accounting value of catchment infrastructure was \$2,272 million.²⁴

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.

²³ 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.

²⁴ Water NSW reply to IPART request for information, 26 April 2017.

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 implemented and consistent with the International Standards Organisation's standard for asset management: ISO 55001:2014.

Preferred option

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, Option B is preferred.

3.4 Water Supply System Yield

Clause 3.2 of the existing Water NSW (SCA) operating licence include a longstanding provision for the re-calculation of Water Supply System Yield on the occurrence of a number of trigger events. The trigger events are:

- ▼ 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.²⁵

Further, clause 3.3 of the existing Water NSW (SCA) operating licence includes a requirement to regularly review the model for calculating Water Supply System Yield. These requirements are currently only applicable to the Declared Catchment area.

We considered an option to include additional requirements for Water NSW to re-calculate Water Supply System Yield, using Time-Varying Water Supply System Yield²⁶ and Fixed Water Supply System Yield,²⁷ in Declared Catchment areas.

Both options are 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”. The requirement for calculating yield relates to the quantity of water in Declared Catchments.

Preferred option

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 an additional requirement in the proposed licence for Water NSW to re-calculate the Water Supply System Yield, using Time-Varying Water Supply System Yield and Fixed Water Supply System Yield, in Declared Catchment areas.

²⁵ 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*”.

²⁶ 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.

²⁷ The Fixed Water Supply System Yield is based on the currently used methodology, which calculates the ‘maximum fixed annual supply volume of water.

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.²⁸

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.²⁹

Net Present Value analysis

Table 3.2 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)					
Net (cost)/benefit	-300,000	-230,000	-230,000	-230,000	-230,000

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

Table 3.3 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)

Sensitivity range	Low	Mid	High
Discount rate	3%	7%	10%
Cost - computer model development	-282,779	-262,032	-247,934
Cost - computer model maintenance	-805,856	-680,460	-602,536
Benefit (not quantified)			
Net present value	-1,088,635	-942,492	-850,470

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, p 45. 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.

²⁸ Water NSW reply to IPART request for information, 21 December 2016, p 16.

²⁹ Water NSW reply to IPART request for information, 21 December 2016, pp 16-17.

Assessment

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

3.5 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 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

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 Framework³⁰
- ▼ the proposed process for the Catchment Health Indicators is not that required by section 41 of the Water NSW Act
- ▼ 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.^{31 32}

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.

Benefits: Benefits include:

- ▼ increased confidence that asset management and environmental management are competently managed as a result of them being managed within an 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, Option B is preferred.

3.6 Catchment research and catchment health

Water NSW conducts programs researching catchments and catchment health including capturing catchment information and data, understanding catchment risk and scientific review and monitoring. The cost of these activities in 2015-16 was \$1.5 million.³³

³⁰ Sydney Catchment Authority, *Water Quality Management Framework 2012 – 2017*, November 2012, http://www.watnsw.com.au/_data/assets/pdf_file/0011/55982/WQMF-2012-2017.pdf.

³¹ 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>.

³² Water NSW reply to IPART request for information, 21 December 2016, pp 19-20.

³³ Water NSW, *Annual Catchment Management Report 2015-16*, pp 3-4 and 21.

We considered a options to include Part 7.2 of the Water NSW (SCA) operating licence and add terms and conditions requiring Water NSW to:

- ▼ maintain and report on a program of research, on catchments generally, in the proposed licence (ie, extend research beyond the Declared Catchment to all catchments), or
- ▼ maintain a program of research on Declared Catchments, and authorising only research in all catchments generally (ie, leave the decision to extend the research program beyond the Declared Catchment to Water NSW).

We note that Water NSW currently only has a program of research in the Declared Catchment. Both of these options would meet the requirements of section 7(1)(j) and section 12(2)(b) of the Water NSW Act.

Preferred option

Include in the proposed licence Part 7.2 of the Water NSW (SCA) operating licence (and add terms and conditions requiring Water NSW to maintain a program of research in Declared Catchments, and authorising research in all catchments generally, in accordance with its objectives and functions and report on this research).

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 (and add terms and conditions requiring Water NSW to maintain a program of research on catchments generally in accordance with its objectives and functions and report on this program).

Option C: Include in the proposed licence Part 7.2 of the Water NSW (SCA) operating licence (and add terms and conditions requiring Water NSW to maintain a program of research in Declared Catchments, and authorising research in all catchments generally, in accordance with its objectives and functions and report on this research).

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.³⁴

Qualitative and Quantitative Costs and Benefits

Option B:

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 based on an extrapolation of the costs incurred in the Declared Catchments.

Option C:

Costs: Water NSW provided an estimated annual operating cost increase of between \$0.5 million to \$1 million per year,³⁵ which relates to an increase in research activity, outside the Declared Catchment area, to all catchments generally based on an extrapolation of the costs incurred in the Declared Catchments.

However, for Option C we did not propose specifying research areas, requirements or scope and therefore we anticipate the costs could be less than this estimate, as Water NSW currently does not conduct research in Non-Declared Catchment areas and will have discretion regarding the scope of research in Non-Declared Catchments. For the purpose of CBA we assumed that research costs would remain the same as the base case.

Benefits:

Options B and C:

- ▼ 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.³⁶

As Option B could require an expanded research program we anticipated these benefits would be more likely to arise, and be therefore greater, for Option B than Option C. The benefits would be less likely to arise, and therefore be lower, under Option C as this option would authorise, but make discretionary, an expanded research program.

³⁴ Water NSW reply to IPART request for information, 21 December 2016, pp 24.

³⁵ Water NSW reply to IPART request for information, 21 December 2016, p 24.

³⁶ Water NSW reply to IPART request for information, 21 December 2016, p 24.

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 could 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 3.4 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)					
Net (cost)/benefit	-750,000	-750,000	-750,000	-750,000	-750,000

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

Table 3.5 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)

Sensitivity range	Low	Mid	High
Discount rate	3%	7%	10%
Cost - expansion of research program	-3,334,738	-2,873,970	-2,584,627
Benefit (not quantified)			
Net present value	-3,334,738	-2,873,970	-2,584,627

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, p 45. 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.

Multi-Criteria Analysis

Table 3.6 Multi Criteria Analysis of options.

Criteria	Criterion weight (%)	Option A (base case)		Option B		Option C	
		score	weighted score	score	weighted score	score	weighted score
Avoided cost of expansion of research program	50	20	10			15	7.5
Improved knowledge and better management of catchments beyond the Declared Catchment Area	20			20	4	5	1
Improved research effectiveness by allowing flexibility of research scope	15			10	1.5	20	3
Benefits of the research program can be applied to catchments outside the Declared Catchment area	15	5	0.75	20	3	10	1.5
Total	100		10.75		8.5		13

Note: Score is out of 20 and is representative of both the quantum, and probability that cost or benefits will be realised, for each option.

Assessment

Water NSW has forecast substantial cost attached to Option B and C. However, we do not propose specifying research requirements or scope in Non-Declared Catchments for Option C. Therefore the level of research undertaken would be decided by Water NSW and can be on a cost-benefit or business case basis. This means that Option C, by allowing Water NSW to determine its level of research activity, is self-correcting. We anticipate costs would be substantially less, and less likely to occur, than those forecast for this option.

There are also substantial benefits under both Options relating to an expansion of research scope to catchments generally for both options, which is greater under Option B (as it is may be required under this option) than under Option C (as it is clearly discretionary under this option).

Both Option B and C would meet the requirements of the Water NSW Act and have benefits that are greater than the related costs. We used Multi-Criteria Analysis (MCA) to compare each option, including the base case. The MCA indicated that Option C represented the greatest net benefit.

The CBA assessment indicated therefore, on the basis of CBA and MCA alone, Option C is preferred.

3.7 Reporting Manual – water conservation strategy – periodic reporting

We considered an option to add a new reporting requirement, consistent with requirements of the proposed licence, for Water NSW to submit to IPART its Water Conservation Strategy. The strategy should include:

- ▼ identification and documentation of existing water conservation activities
- ▼ a process for identifying additional options for conserving water
- ▼ a process for comparing these options, and
- ▼ a process for selecting options for implementation.

Preferred option

Include in the proposed Reporting Manual a new reporting requirement, consistent with requirements of the proposed licence, for Water NSW to submit to IPART its Water Conservation Strategy.

Options

Option A (base case): Make no change to the proposed Reporting Manual regarding reporting of the Water Conservation Strategy (ie, no requirement).

Option B: Include in the proposed Reporting Manual a new reporting requirement, consistent with requirements of the proposed licence, for Water NSW to submit to IPART its Water Conservation Strategy.

Assumptions

No assumptions made.

Qualitative and Quantitative Costs and Benefits

Costs: Option B adds a requirement to report to IPART information that would already be created by the Water Conservation Strategy requirements of the proposed licence. The costs of the Water Conservation Strategy are considered in section 3.2 of this CBA. For this reason we consider the costs relating to passing existing information to IPART to be minimal.

Benefits: Option B give rise to benefits of:

- ▼ assurance arising from monitoring by IPART of the Water Conservation Strategy
- ▼ increased transparency, and
- ▼ support for the audit process.

Assessment

Option B represents a minimal cost with a larger related benefit. The CBA assessment indicated therefore, on the basis of CBA alone, Option B is preferred.

3.8 Reporting Manual - water conservation work program – periodic reporting

We considered an option to add a new reporting requirement for Water NSW to submit to IPART its water conservation work program which is consistent with the Water Conservation Strategy.

Preferred option

Include in the proposed Reporting Manual a new reporting requirement for Water NSW to submit to IPART its water conservation work program which is consistent with the Water Conservation Strategy.

Options

Option A (base case): Make no change to the proposed Reporting Manual regarding reporting of the water conservation work program (ie, no requirement).

Option B: Include in the proposed Reporting Manual a new reporting requirement for Water NSW to submit to IPART its water conservation work program which is consistent with the Water Conservation Strategy.

Assumptions

No assumptions made.

Qualitative and Quantitative Costs and Benefits

Costs: Option B adds a requirement to report to IPART information that would already be created by the Water Conservation Strategy requirements of the proposed licence. The costs of the Water Conservation Strategy are considered in section 3.2 of this CBA. For this reason we consider the costs relating to passing existing information to IPART to be minimal.

Benefits: Option B give rise to benefits of:

- ▼ assurance arising from monitoring by IPART of the water conservation work program
- ▼ increased transparency, and
- ▼ support for the audit process.

Assessment

Option B represents a minimal cost with a larger related benefit. The CBA assessment indicated therefore, on the basis of CBA alone, Option B is preferred.

3.9 Reporting Manual – water conservation program – annual reporting

We considered an option to add a new reporting requirement for Water NSW to report to IPART and make available to the public, consistent with requirements of the proposed licence, an annual report of Water NSW's progress against the water conservation program.

Preferred option

Include in the proposed Reporting Manual a new reporting requirement for Water NSW to report to IPART and make available to the public, consistent with requirements of the proposed licence, an annual report of Water NSW's progress against the water conservation program.

Options

Option A (base case): Make no change to the proposed Reporting Manual regarding reporting progress against the water conservation program (ie, no requirement).

Option B: Include in the proposed Reporting Manual a new reporting requirement for Water NSW to report to IPART and make available to the public, consistent with requirements of the proposed licence, an annual report of Water NSW's progress against the water conservation program.

Assumptions

No assumptions made.

Qualitative and Quantitative Costs and Benefits

Costs: Option B adds a requirement to report to IPART and the public information that would already be created by the Water Conservation Strategy requirements of the proposed

licence. The costs of the Water Conservation Strategy are considered in section 3.2 of this CBA. For this reason we consider the costs relating to passing existing information to IPART to be minimal.

Benefits: Option B give rise to benefits of:

- ▼ assurance arising from monitoring by IPART of progress against the water conservation program
- ▼ increased transparency, and
- ▼ support for the audit process.

Assessment

Option B represents a minimal cost with a larger related benefit. The CBA assessment indicated therefore, on the basis of CBA alone, 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)³⁷ 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 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

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.³⁸

³⁷ See sections **Error! Reference source not found.**, 3.1, 5.1, 5.2, and 6.1 of this report.

³⁸ Water NSW reply to IPART request for information, 21 December 2016, p 49.

Qualitative and Quantitative Costs and Benefits

Costs: No costs arise from Option B.

Benefits: It may be easier for Water Supply customers who hold properties in Fish River and Sydney to use the same agreement for both.³⁹

Assessment

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

4.2 Bulk water releases to Local Water Utilities

Water NSW has 38 Local Water Utility customers which were supplied at least 9,722 water order days (ie, the number of days for which water is ordered by a customer for extraction) in 2015-16.⁴⁰

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 report to IPART on the outcomes of 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

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 report to IPART on the outcomes of 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 report to IPART on the outcomes of the review.

³⁹ Water NSW reply to IPART request for information, 21 December 2016, p 49.

⁴⁰ Water days excludes two Fish River council customers. Water NSW reply to IPART request for information, 26 April 2017.

Assumptions

We assumed:

- ▼ direct labour costs of two full time positions for three months, and
- ▼ the review would be completed in 2017-18 (as required by clause 3.4.6 of proposed licence).

Qualitative and Quantitative Costs and Benefits

Costs: Direct costs from completing a review of health related monitoring of water quality released to Local Water Utilities is considered in our NPV analysis below.

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

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 – direct labour cost relating to review	72,000				
Benefit					
Net (cost)/benefit	72,000				

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)

Sensitivity range	Low	Mid	High
Discount rate	3%	7%	10%
Cost – direct labour cost relating to review	67,867	62,888	59,504
Benefit			
Net present value	67,867	62,888	59,504

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, p 45. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

Source: IPART assumptions.

Assessment

Option B has direct costs relating to the proposed review of health related monitoring of water quality released to Local Water Utilities which is offset by potential efficiency and public health benefits. We considered the qualitative benefits were greater than the related costs.

The CBA assessment indicated therefore, on the basis of CBA alone, 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 AMS for the purposes of section 12(2)(a) of the Water NSW Act.

Preferred option

Add a new clause to the proposed licence that links the construction, maintenance and operation of water management works to Water NSW's 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 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.⁴¹

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.⁴²

Net Present Value analysis

Table 4.3 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 efficiency	62,773	62,773	62,773	62,773	62,773
Net (cost)/benefit	62,773	62,773	62,773	62,773	62,773

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

⁴¹ Water NSW reply to IPART request for information, 21 December 2016, pp 56-57.

⁴² Water NSW reply to IPART request for information, 21 December 2016, pp 56-57.

Table 4.4 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)

Sensitivity range	Low	Mid	High
Discount rate	3%	7%	10%
Cost			
Benefit - savings from increased audit efficiency	279,109	240,544	216,326
Net present value	279,109	240,544	216,326

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, p 45. 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, Option B is preferred.

4.4 Flood mitigation

We considered three options, other than the base case, 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.⁴³

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 decides flood management is one of the purposes of Warragamba Dam, or other dams in the Sydney catchment area, these activities can be regulated by the existing Water NSW (SCA) water supply work approvals under the *Water Management Act 2000*. As an alternative the Government could amend the operating licence on IPART's recommendation or directly by the Minister.

Preferred option

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.

Options

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

⁴³ This is because terms and conditions already exist within the individual works approvals for each dam.

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.

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.⁴⁴

Qualitative and Quantitative Costs and Benefits

Benefits relating to Option B include:

- ▼ allows for a flexible and timely response by Water NSW in the event of flood
- ▼ allows for DPI Water to enact Government decisions through amendments to the Water Supply Work Approvals
- ▼ ensures clarity over which government agency is responsible for regulating this function, and
- ▼ limits concerns raised by Water NSW regarding flood mitigation related legal liability and costs, especially prior to a final decision by government in the Sydney catchment area.

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

⁴⁴ Water NSW reply to IPART request for information, 21 December 2016, p 81.

this cost as “unquantifiable but potentially excessive”.⁴⁵ 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.

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.

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 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 B could require an amendment to the licence before Water NSW can undertake flood mitigation, therefore reducing flexibility and timeliness of response. However, the need for a licence amendment can be avoided by Water NSW having the appropriate work approval that includes authorisation of flood mitigation activities.

⁴⁵ Water NSW reply to IPART request for information, 21 December 2016, pp 83-85.

Multi-Criteria Analysis

Table 4.5 Multi Criteria Analysis of options.

Criteria	criterion weight (%)	Option A (base case)		Option B		Option C		Option D	
		score	weighted score	score	weighted score	score	weighted score	score	weighted score
Avoid legal exposure	50	5	2.5	15	7.5	0	0	5	2.5
Flexibility in response to flood event	50	15	7.5	15	7.5	20	10	20	10
Total	100		10		15		10		12.5

Note: Score is out of 20 and is representative of both the quantum, and probability that cost or benefits will be realised, for each option. .

Assessment

Benefits arise from more timely flood mitigation responses without the need to amend the proposed licence under Options C and D and, if the appropriate work orders are in place, under Option B. Under Option B, the potential cost of legal liability is exceeded by the benefit of additional flexibility of authorising flood mitigation activities where these activities can be, and are, authorised using Water Supply Works Approvals.

We also compared the benefits of each option using Multi-Criteria Analysis (MCA). The CBA assessment indicated therefore, on the basis of CBA and MCA alone, Option B is preferred.

4.5 Reporting Manual - water balance reporting

Clause 3.3.1 of the Water NSW (State Water) operating licence requires Water NSW to prepare water balance reports, for each valley, in accordance with the Reporting Manual.

Existing water balance reporting obligations in section 3.2 of the Water NSW (State Water) Reporting Manual require the water balance reports to be made available to the public free of charge to the public and on its website.

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

Preferred option

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.

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 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 (DPI Water) to be used to satisfy water balance reporting requirements.

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.

This option would mean the removal of obligations to prepare water balance reports that reside in section 3.3 of the current operating licence and section 3.1 of the current Water NSW (State Water) Reporting Manual.

Option D: Other reporting requirements may already exist, but are not required to be publicly available.⁴⁶

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.

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

Options C and D: There are no incremental costs from these options.

⁴⁶ Water NSW reply to IPART request for information, 21 December 2016, pp 75 and 77-78.

Benefits:

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

Net Present Value analysis

Option B:

Table 4.6 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					
Net (cost)/benefit	-18,134	-18,134	-18,134	-18,134	-18,134

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

Table 4.7 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)

Sensitivity range	Low	Mid	High
Discount rate	3%	7%	10%
Cost	-80,630	-69,489	-62,493
Benefit			
Net present value	-80,630	-69,489	-62,493

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, p 45. 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.

Multi-Criteria Analysis

Table 4.8 Multi Criteria Analysis of options.

Criteria	criterion weight (%)	Option A (base case)		Option B		Option C		Option D	
		score	weighted score	score	weighted score	score	weighted score	score	weighted score
Avoid labour costs	50					15	7.5	15	7.5
Assurance of formal requirements	50	15	7.5	15	7.5	20	10		
Total	100		7.5		7.5		17.5		7.5

Note: Score is out of 20 and is representative of both the quantum, and probability that cost or benefits will be realised, for each option.

Assessment

In comparing the three proposed options (and the base case), we considered the incremental costs arising from Option B and the lack of incremental costs arising from Options C and D. We also considered the benefits, compared to the base case, of options B, C and D, and used Multi-Criteria Analysis (MCA) to compare each option. For Option C a net social benefit is achieved as the benefits from having formal requirements for water balance reporting exceeds the related incremental cost (ie, no related incremental cost) of producing this reporting.

The CBA assessment indicated therefore, on the basis of CBA and MCA alone, Option C is preferred.

4.6 Reporting Manual – water released to Local Water Utilities

We considered an option to add a new reporting requirement, consistent with requirements of the proposed licence, that would require Water NSW to submit to IPART a report of the outcomes of its review of water quality monitoring in relation to its Capture and Store Water and Release Water to Local Water Utilities functions.

The proposed licence requires Water NSW to complete a review of its water quality monitoring of water released to Local Water Utilities in consultation with NSW Health, Local Water Utility Customers and its customer advisory groups, by 31 December 2018.

Preferred option

Include in the proposed Reporting Manual a new reporting requirement, consistent with requirements of the proposed licence, for Water NSW to report on its review of water quality monitoring in relation to its Capture and Store Water and Release Water to Local Water Utilities functions.

Options

Option A (base case): Make no change to the proposed Reporting Manual regarding reporting of the Water Conservation Strategy (ie, no requirement).

Option B: Include in the proposed Reporting Manual a new reporting requirement, consistent with requirements of the proposed licence, for Water NSW to report on its review of water quality monitoring in relation to its Capture and Store Water and Release Water to Local Water Utilities functions.

Assumptions

No assumptions made.

Qualitative and Quantitative Costs and Benefits

Costs: Option B adds a requirement to report to IPART information that would already be created by requirements of the proposed licence. For this reason we consider the costs relating to passing existing information to IPART to be minimal.

Benefits: Option B gives rise to benefits of assurance, transparency and support for the audit process arising from monitoring by IPART of the review of water quality monitoring of water released to Local Water Utilities.

Assessment

Option B represents a minimal cost with a larger related benefit. The CBA assessment indicated therefore, on the basis of CBA alone, Option B is preferred.

4.7 Reporting Manual – water balance reports – public reporting

We considered an option to include in the proposed Reporting Manual section 3.2 of the Water NSW (State Water) Reporting Manual with some updates that would add a new requirement to make available the details of the Local Water Utilities Information Request Procedure.

Section 3.2 of the Water NSW (State Water) Reporting Manual requires Water NSW to make available free of charge and on its website water balance reports. The proposed licence would also require Water NSW to make available free of charge and on its website details of the Local Water Utilities Information Request Procedure.

Preferred option

Include in the proposed Reporting Manual section 3.2 of the Water NSW (State Water) Reporting Manual with some updates that would add a new requirement to make available the details of the Local Water Utilities Information Request Procedure.

Options

Option A (base case): Make no change to the proposed Reporting Manual regarding public reporting of water balances.

Option B: Include in the proposed Reporting Manual section 3.2 of the Water NSW (State Water) Reporting Manual with some updates that would add a new requirement to make available the details of the Local Water Utilities Information Request Procedure.

Assumptions

No assumptions made.

Qualitative and Quantitative Costs and Benefits

Costs: We consider the costs relating to making the Local Water Utilities Information Request Procedure available to the public to be minimal.

Benefits: Option B gives rise to benefits of assurance and transparency and support for the audit process.

Assessment

Option B represents a minimal cost with a larger related benefit. The CBA assessment indicated therefore, on the basis of CBA alone, 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 clauses are as follows:

4.2.2 Water NSW must manage the quality of water Supplied to its Customers in accordance with the relevant Water Quality Management System required under clause 2.1.2 or 2.1.3 (**Supply Water Quality Performance Standard**).

4.2.3 Water NSW must manage service interruptions in accordance with the Asset Management System required under clause 5.1.1 (**Supply Service Interruption Standard**).

Preferred option

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 Water NSW 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.⁴⁷

⁴⁷ 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.

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.⁴⁸

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					
Net (cost)/benefit	-36,800	-36,800	-36,800	-36,800	-36,800

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
Discount rate	3%	7%	10%
Cost	-163,624	-141,016	-126,819
Benefit			
Net present value	-163,624	-141,016	-126,819

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, p 45. 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, Option B is preferred.

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.

⁴⁸ 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.

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:

4.3.1 The Performance Standards set out in clause 4.3.2 – 4.3.7 apply in respect of the Capture Store and Release Water.

4.3.2 Water NSW must ensure that:

- a) 99% of Customers who place a Non-complying Water Order are contacted within one working day to rectify that order (**Capture and Store Water and to Release Water Delivery Standard A**)
- b) this is calculated as a percentage of all Non-complying Water Orders placed.

4.3.3 Water NSW must ensure that:

- a) 99% of Water Orders are Delivered within one day of the scheduled day of Delivery (**Capture and Store Water and to Release Water Delivery Standard B**);
- b) this is calculated as a percentage of all complying Water Orders placed. The scheduled day of Delivery takes into account the period of required notice specified in Water Management Work approvals, licences, or entitlements. This could be measured by Complaints and/or if Water NSW identifies a Delivery delay, eg, through its staff, systems or otherwise identifies or becomes aware of a delivery delay.

4.3.4 Water NSW must ensure that:

- a) 100% of Water Orders rescheduled, are rescheduled in consultation with an affected Customer within one working day of an expected water shortage, or other delivery delay (**Capture and Store Water and to Release Water Service Interruptions Standard**);
- b) this is calculated as a percentage of all Water Orders rescheduled due to an expected shortage or Delivery delay.

4.3.5 Water NSW must ensure **that no less than 90%** of complying Temporary Trades within the State are processed within five working days of Water NSW's receipt of a correct application and fee (**Capture and Store Water and to Release Water Account Processing Standard A**);

4.3.6 Water NSW must ensure that no less than 90% of Interstate Temporary Trades (except to South Australia) are processed within 10 days (**Capture and Store Water and to Release Water Account Processing Standard B**);

4.3.7 Water NSW must ensure that no less than 90% of Interstate Temporary Trades to South Australia are processed within 20 days (**Capture and Store Water and to Release Water Account Processing Standard C**).

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

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.



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, 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

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.

We considered an option to include Part 4 of the existing Water NSW (State Water) operating licence in the proposed licence, but remove the requirement for certification. The proposed clauses are:

- 5.1.1** Water NSW must at all times maintain a Management System for carrying out the functions authorised under this Licence that is consistent with the Australian Standard AS ISO 55001:2014 Asset Management – Management systems – Requirements, or other standard approved by IPART, on request by Water NSW
- 5.1.2** Water NSW must ensure that the Asset Management System is fully implemented and that all relevant activities are carried out in accordance with the Asset Management System

We consider that the proposed clauses would satisfy the requirements of section 12(2)(a)(i) of the Water NSW Act.

Preferred option

Include in the proposed licence Part 4 of the existing Water NSW (State Water) operating licence with updates that remove the requirement for certification and with a new sub clause requiring Water NSW to implement 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 in the proposed licence Part 4 of the existing Water NSW (State Water) operating licence with updates that remove the requirement for certification and with a new sub clause requiring Water NSW to implement and carry out all relevant activities in accordance with an Asset Management System.

Assumptions

In its response to our RFI, Water NSW assumed:

- ▼ current practice for AS 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 AS ISO auditors, and
- ▼ third party subject matter experts and auditors are not required.⁴⁹

We also made the following assumptions:

- ▼ a recertification audit occurs in 2017-18
- ▼ the cost of certification would be similar to certification costs that other utilities have incurred relating to management systems already certified (in 2016-17 certification costs ranged from \$11,475 to \$15,990 per system)
- ▼ surveillance audits occur annually between certification audits, and
- ▼ the recertification audit in 2020-21 (three yearly) is not capitalised.

Qualitative and Quantitative Costs and Benefits

Costs: Under Option B (ie, without a requirement for certification) Water NSW would still need to demonstrate in an audit that its management systems have been implemented and maintained consistent with the AS ISO standard. Certification would clearly demonstrate consistency however in the absence of certification a more detailed and costly audit may be required. Therefore, we considered that the removal of the existing certification obligations has not substantially changed the audit costs to Water NSW.

There would be however an increased audit cost for IPART if certification of the AMS was not continued as IPART would not be able to rely on certification to support some of its audit conclusions. Therefore we included this cost to IPART in our NPV analysis.

⁴⁹ Water NSW reply to IPART request for information, 21 December 2016, pp 92-93.

Water NSW forecast efficiencies that would arise from a requirement to have the AMS certified. Under Option B these efficiencies could be forgone (ie, a cost). The efficiencies were:

- ▼ 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 AS ISO standards.
- ▼ reduced impact on site teams utilising single AS ISO audit site visits for AMS, EMS and WHS audits
- ▼ commonality between AS 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.⁵⁰

We consider that these benefits can generally be realised with an AMS both certified to, or consistent with, AS ISO standards. We also note that under the 'business as usual' assumption for the base case, Water NSW already maintains a certified AMS which would meet the requirements of Option B. For this reason did not include the quantitative impact of these efficiencies forgone in our NPV analysis.

Benefits: Benefits include:

- ▼ direct costs relating to certification can be avoided.
- ▼ removal of unnecessary regulation, and
- ▼ efficiencies arising from allowing Water NSW to decide on AMS certification and/or design.

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 – increased IPART audit cost	-10,000	-10,000	-10,000	-10,000	-10,000
Benefit – annual and recurring certification costs	15,000	5,000	5,000	15,000	5,000
Net (cost)/benefit	5,000	-5,000	-5,000	5,000	-5,000

Source: IPART unpublished data and IPART calculations.

⁵⁰ Water NSW reply to IPART request for information, 21 December 2016, pp 92-93.

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

Sensitivity range	Low	Mid	High
Discount rate	3%	7%	10%
Cost – increased IPART audit cost	-44,463	-38,320	-34,462
Benefit – annual and recurring certification costs	40,284	35,024	31,705
Net present value	-4,180	-3,296	-2,757

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, p 45. Analysis shows Net Present Value (NPV) over the term of the proposed operating licence (ie, five years).

Source: IPART unpublished data and IPART calculations.

Assessment

We consider that the benefits arising from Option B exceed the related costs.

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

6.2 Reporting Manual - asset management - intermittent reporting

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.

We considered the State of the Assets report to be important as a full asset report has not been produced since the merger of the SCA and State Water to form Water NSW. A full asset stocktake would be required to produce a State of the Assets report and would be essential for accurate asset-related audit activities.

Further, given that Water NSW has taken possession of assets and infrastructure that were previously held by SCA, State Water and DPI Water, there is potential for:

- ▼ inaccuracies or omissions from current asset registers
- ▼ differences in asset valuation methodologies, and
- ▼ asset conditions being measured to inconsistent specifications.

The process of producing a State of the Assets report would help identify and address these issues.

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.

Preferred option

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

Options

Option A (base case): Make no change to section 5.3 of the Water NSW (SCA) 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.⁵¹

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: A benefit arises from producing at least one State of the Assets report during the licence period which will facilitate a comprehensive stock-take of all assets (including currently un-reported assets previously held by State Water) held by the recently merged organisation (ie, Water NSW).

Option C: Avoided cost of preparing a State of the Assets report.⁵²

⁵¹ Water NSW reply to IPART request for information, 21 December 2016, pp 97-98.

⁵² Water NSW reply to IPART request for information, 21 December 2016, pp 97-98.

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)					
Net (cost)/benefit	-83,697	-83,697	-83,697	-83,697	-83,697

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

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

Sensitivity range	Low	Mid	High
Discount rate	3%	7%	10%
Cost - additional report preparation	-372,143	-320,724	-288,434
Benefit (nil)			
Net present value	-372,143	-320,724	-288,434

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis, March 2017*, p 45. 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
Net (cost)/benefit	83,697	83,697	83,697	83,697	83,697

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
Discount rate	3%	7%	10%
Cost (nil)			
Benefit - savings from removal of reporting requirement	372,143	320,724	288,434
Net present value	372,143	320,724	288,434

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis, March 2017*, p 45. 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.

Multi-Criteria Analysis

Table 6.7 Multi Criteria Analysis of options.

Criteria	Criterion weight (%)	Option A (base case)		Option B		Option C	
		score	weighted score	score	weighted score	score	weighted score
Avoid cost of additional reporting (SCA assets not previously reported)	25			10	2.5		
Avoided cost of preparing a State of the Assets report	25	5	1.25	10	2.5	20	5
Benefit of producing at least one State of the Assets report to take stock of un-reported assets (SCA assets)	50	10	5	20	10		
Total	100		6.25		15		5

Note: Score is out of 20 and is representative of both the quantum, and probability that cost or benefits will be realised, for each option.

Assessment

The benefits arising from Option B outweigh the related costs arising from reporting activities under the base case, Option B and the savings from Option C. This is because of the unknown, but 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.

We also compared the benefits of each option using Multi-Criteria Analysis (MCA). The CBA assessment indicated, on the basis of CBA and MCA alone, Option B is preferred.

6.3 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

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 (ie, no requirements).

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).⁵³

⁵³ Water NSW reply to IPART request for information, 21 December 2016, p 105.

Qualitative and Quantitative Costs and Benefits

Costs: If changes are consistent with AS 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.⁵⁴

Assessment

There are both qualitative costs and benefits arising from Option B. A benefit arises from IPART's awareness of significant changes. However a summary of significant changes to the AMS is likely to be required in the annual AMS report (see section 6.4 of this report) 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, maintaining the base case (Option A) is preferred.

6.4 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 maintain and have implemented an AMS (ie, a Management System that is consistent with standards specified in the proposed licence) (see section 6.1 of this report).

Preferred option

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.

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.

⁵⁴ Water NSW reply to IPART request for information, 21 December 2016, p 105.

Assumptions

In its response to our RFI, Water NSW assumed:

- ▼ notification cost will be negligible, and
- ▼ changes made to AMS will be consistent with International Standards Organisation standards (ie, AS ISO 55001).⁵⁵

Qualitative and Quantitative Costs and Benefits

Costs: Given an AMS is required value added from annual reporting may be marginal and annual reporting may represent unnecessary 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, Option B is preferred.

6.5 Reporting Manual – asset management – public reporting

We considered an option to include in the proposed Reporting Manual section 4.2 of the Water NSW (State Water) Reporting Manual with some updates that would allow these sections to apply to the current Declared Catchment and other declared catchments if they were created in the future.

Preferred option

Include in the proposed Reporting Manual section 4.2 of the Water NSW (State Water) Reporting Manual with some updates that would allow these sections to apply to the current Declared Catchment and other declared catchments if they were created in the future.

Options

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

Option B: Include in the proposed Reporting Manual section 4.2 of the Water NSW (State Water) Reporting Manual with some updates that would allow these sections to apply to the current Declared Catchment and other declared catchments if they were created in the future.

⁵⁵ IPART assumptions.

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 arising from transparency of Water NSW's compliance with, and performance of, its public reporting requirements.

Assessment

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

6.6 Environmental Management System

Both existing licences require Water NSW to develop and implement an Environmental Management System (EMS).⁵⁶ We considered an option to retain and update these obligations (ie, Part 6 of the in the existing Water NSW (State Water) and Part 7 of the existing Water NSW (SCA) operating licences) in the proposed licence to cover all operations of Water NSW, but to remove the requirement for International Standards Organisation (ISO) certification. The proposed clauses are:

- 5.2.1** Water NSW must at all times maintain an Environmental Management System for carrying out the functions authorised under this Licence that is consistent with the Australian/New Zealand Standard AS/NZS ISO 14001:2016: Environmental management systems – Requirements with guidance for use, or other standard approved by IPART, on request by Water NSW (Environmental Management System).
- 5.2.2** Water NSW must ensure that the Environmental Management System is fully implemented, and that all relevant activities are carried out in accordance with the Environmental Management System.

Preferred option

Include in the proposed licence Part 6 of the Water NSW (State Water) and Part 7 of the Water NSW (SCA) operating licences, with updates that remove the requirement for ISO certification and with a new sub clause requiring Water NSW to implement and carry out all relevant activities in accordance with an Environmental Management System.

⁵⁶ 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, with updates that remove the requirement for ISO certification and with a new sub clause requiring Water NSW to implement and carry out all relevant activities in accordance with an EMS.

Assumptions

We made the following assumptions:

- ▼ That costs and benefits of an EMS would be similar to an AMS
- ▼ current practice for ISO EMS 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 EMS 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.
- ▼ a recertification audit occurs in 2017-18
- ▼ the cost of certification would be similar to certification costs that other utilities have incurred relating to management systems already certified (in 2016-17 certification costs ranged from \$11,475 to \$15,990 per system)
- ▼ surveillance audits occur annually between certification audits, and
- ▼ the recertification audit in 2020-21 (three yearly) is not capitalised.⁵⁷

Qualitative and Quantitative Costs and Benefits

Costs: Under Option B (ie, without a requirement for certification) Water NSW would still need to demonstrate in an audit that its management systems have been implemented and maintained consistent with the ISO standard. Certification would clearly demonstrate consistency however in the absence of certification a more detailed and costly audit may be required. Therefore, we considered that the removal of the existing certification obligations has not substantially changed the audit costs to Water NSW.

There would be however an increased audit cost for IPART if certification of the EMS was not continued as IPART would not be able to rely on certification to support some of its audit conclusions. Therefore we included this cost to IPART in our NPV analysis.

⁵⁷ Water NSW reply to IPART request for information, 21 December 2016, pp 92-93, and IPART estimates.

Benefits: Benefits include:

- ▼ direct costs relating to certification can be avoided.
- ▼ removal of unnecessary regulation, and
- ▼ efficiencies arising from allowing Water NSW to decide on EMS certification and/or design.

Net Present Value analysis

Table 6.8 Quantitative costs and benefits relating to Option B (2015-16 dollars)

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost – increased IPART audit cost	-10,000	-10,000	-10,000	-10,000	-10,000
Benefit – annual and recurring certification costs	15,000	5,000	5,000	15,000	5,000
Net (cost)/benefit	5,000	-5,000	-5,000	5,000	-5,000

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

Table 6.9 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)

Sensitivity range	Low	Mid	High
Discount rate	3%	7%	10%
Cost – increased IPART audit cost	-44,463	-38,320	-34,462
Benefit – annual and recurring certification costs	40,284	35,024	31,705
Net present value	-4,180	-3,296	-2,757

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, p 45. 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, IPART unpublished data and IPART calculations.

Assessment

We consider that the benefits arising from Option B exceed the related costs.

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

The proposed option is consistent with our recommendation that the proposed licence require Water NSW to 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

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 6.10 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					
Net (cost)/benefit	-124,200	-127,305	-130,488	-133,750	-137,094

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

Table 6.11 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)

Sensitivity range	Low	Mid	High
Discount rate	3%	7%	10%
Cost - report generation	-579,697	-498,662	-447,850
Benefit			
Net present value	-579,697	-498,662	-447,850

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis, March 2017*, p 45. 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, Option B is preferred.

6.8 Reporting Manual - environment – public reporting

We considered an option to include in the proposed Reporting Manual section 6.2 of the Water NSW (State Water) Reporting Manual and section 7.4 of the Water NSW (SCA) Reporting Manual updated to remove existing requirements (from section 6.2 of the Water NSW (State Water) Reporting Manual) to make environmental programs publicly available.

Preferred option

Include in the proposed Reporting Manual section 6.2 of the Water NSW (State Water) Reporting Manual and section 7.4 of the Water NSW (SCA) Reporting Manual updated to remove requirements to make environmental programs publicly available.

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: Include in the proposed Reporting Manual, section 6.2 of the Water NSW (State Water) Reporting Manual and section 7.4 of the Water NSW (SCA) Reporting Manual updated to remove requirements to make environmental programs publicly available.

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 arising from transparency of Water NSW's compliance with, and performance of, its public reporting requirements.

Assessment

Given the minimal cost and related benefits, the CBA assessment indicated, on the basis of CBA alone, 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

In 2015-16, Water NSW delivered 93,259 water days (ie, the number of days for which water is ordered by a customer for extraction). From these orders Water NSW received \$46.4 million in revenue.⁵⁸

We considered three options to include Water NSW's current obligations in Part 3 of the existing Water NSW (State Water) operating licence 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

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.

⁵⁸ Water NSW reply to IPART request for information, 26 April 2017.

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:

- ▼ minimal staff time needed to explain change internally and externally
- ▼ 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*.⁵⁹

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.⁶⁰

⁵⁹ Water NSW reply to IPART request for information, 21 December 2016, pp 128, 130 and 132.

⁶⁰ Water NSW reply to IPART request for information, 21 December 2016, pp 128, 130 and 132-133.

Multi-Criteria Analysis

Table 7.1 Multi Criteria Analysis of options.

Criteria	Criterion weight (%)	Option A (base case)		Option B		Option C		Option D	
		score	weighted score	score	weighted score	score	weighted score	score	weighted score
Costs (incremental to base case)	50								
Reduction in regulatory duplication	50	0	0	0	0	10	5	20	10
Total	100		0		0		5		10

Note: Score is out of 20 and is representative of both the quantum, and probability that cost or benefits will be realised, for each option.

Assessment

There are no costs (incremental to the base case) relating to options B, C or D. We considered and compared the benefits arising from each option, including the base case) using Multi-Criteria Analysis (MCA) to compare each option. There were no costs identified with the options considered, however Option D provided the greatest benefit arising from a reduction of regulatory duplication.

The CBA assessment indicated therefore, on the basis of CBA and MCA alone, Option D is preferred.

7.2 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 representative area-based customer advisory groups and Customer Advisory Group Charters for different customer advisory groups).

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

Include in the proposed licence Part 5 of the existing Water NSW (State Water) operating licence (updated and with some new sub clauses requiring representative 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 representative 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, Option B is preferred.

7.3 Community education

Section 6(1)(c) of the Water NSW Act describes one of Water NSW's objectives as "to ensure that Declared Catchment areas and water management works in such areas are managed and protected so as to promote water quality, the protection of public health and public safety, and the protection of the environment"

Water NSW currently undertakes community education programs including community education capacity building, school education, providing educational information and resources and community consultation. The cost of these activities in 2015-16 was \$1.7 million.⁶¹

We considered options to add a clause to the proposed licence requiring Water NSW to educate the community on its activities and functions. One option was to add a requirement for Declared Catchments only and the other was to add a requirement for all catchments (ie, including Non-Declared Catchments). The first option (Option B) would formalise a requirement for activities already undertaken by Water NSW and the second option (Option C) would expand current activities from Declared Catchments to all catchments

Preferred option

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

Option C: 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

⁶¹ Water NSW, *Annual Catchment Management Report 2015-16*, pp 6-9 and 21.

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 only is \$1.1 million. Under the proposed licence, Water NSW assumed, if community education was required across all catchments, this level of expenditure would be multiplied across the 13 valleys in Water NSW's area and would result in an annual cost of around \$14.0 million.⁶² We considered this to be an overestimate of likely costs, as we did not propose specifying the level or type of community education required, but that additional cost would still be substantial.

Qualitative and Quantitative Costs and Benefits

Option B

Costs: There were no incremental costs for this option as Water NSW already conducts community education for Declared Catchment areas.

Benefits: Benefits included assurance arising from formalising requirement for, and improved auditability of, community education activities that support the management and protection of Declared Catchments areas consistent with section 6(1)(c) of the Water NSW Act.

As Water NSW is currently undertaking activities in the Declared Catchment that would be required under Option B, we did not find an incremental benefit of increased water use efficiency than the base case.

Option C

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 would likely be 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, and improved auditability of community educational activities across all catchments.

We note however Water NSW's statement, in response to our RFI, 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

⁶² Water NSW reply to IPART request for information, 20 January 2017, p 24.

educational program is unnecessary outside of the Declared Catchment and would have limited benefit for rural customers.⁶³

Net Present Value analysis

Option C

Table 7.2 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					
Net (cost)/benefit	-13,993,166	-13,993,166	-13,993,166	-13,993,166	-13,993,166

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

Table 7.3 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)

Sensitivity range	Low	Mid	High
Discount rate	3%	7%	10%
Cost	-62,899,124	-53,621,255	-48,222,826
Benefit			
Net present value	-62,899,124	-53,621,255	-48,222,826

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, p 45. 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.

⁶³ Water NSW reply to IPART request for information, 20 January 2017, p 24.

Multi-Criteria Analysis

Table 7.4 Multi Criteria Analysis of options

Criteria	Criterion weight (%)	Option A (base case)		Option B		Option C	
		score	weighted score	score	weighted score	score	weighted score
Avoid cost of educative material and programs	45	20	9	20	9		
Avoid cost of duplicative regulation	5	20	1	10	0.5		
Assurance arising from formalising requirements	15			10	1.5	20	3
Benefit of improved auditability	15			10	1.5	20	3
More efficient water use	20					20	4
Total	100		10		12.5		10

Note: Score is out of 20 and is representative of both the quantum, and probability that cost or benefits will be realised, for each option.

Assessment

Options B and C have benefits arising from assurance of formalisation of requirements and improved auditability. Option C has an additional benefit of better informed communities, leading to more efficient water use, in its areas of operation. We note Water NSW's response that a clause relating to community education is unnecessary outside of the Declared Catchment and would have limited benefit for rural customers.

Water NSW has forecast substantial quantifiable direct costs relating to Option C. We considered it likely that these costs would be lower than this forecast, but still substantially more than the expected benefits. Option B does not give rise to additional direct costs, but does give rise to benefits greater than related costs. Option B also provides greater benefits than the base case.

We also compared the benefits of each option using Multi-Criteria Analysis (MCA). The CBA assessment indicated therefore, on the basis of CBA and MCA alone, Option B is preferred.

7.4 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 a Memorandum 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

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, Option B is preferred.

7.5 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

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.⁶⁴

Qualitative and Quantitative Costs and Benefits

Costs: A statewide MoU with Local Land Services 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 Services regions. An MoU may also clash with current contractual and regulatory relationships between Local Land Services and Water NSW.⁶⁵

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.⁶⁶

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	-161,000	-115,000	-115,000	-115,000	-115,000
Benefit (not quantified)					
Net (cost)/benefit	-161,000	-115,000	-115,000	-115,000	-115,000

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

⁶⁴ Water NSW reply to IPART request for information, 21 December 2016, p 149.

⁶⁵ Water NSW reply to IPART request for information, 21 December 2016, p 149.

⁶⁶ Water NSW reply to IPART request for information, 21 December 2016, p 149.

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

Sensitivity range	Low	Mid	High
Discount rate	3%	7%	10%
Cost - additional staff costs	-554,686	-480,854	-434,326
Benefit (not quantified)			
Net present value	-554,686	-480,854	-434,326

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, p 45. 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 Services currently collaborate in several operational areas, and an MoU may assist this by formalising collaborative arrangements and improving coordination of these activities. We also note however that this benefit may be limited given the generalities that would be required in the MoU to include the various different activities undertaken in each geographical area.

We also note there are substantial costs attached to requiring an MoU, including the cost of staff time as well as increased rigidity in activities that vary between each Local Land Services area. We considered these costs exceed the marginal benefit that may arise from an MoU.

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

7.6 MoU - DPI water

Clause 1.4.3 of existing Water NSW (State Water) operating licence requires Water NSW to publish any roles and responsibilities agreement 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

Make no change to the proposed licence relating to a roles and responsibilities agreement with DPI Water.

Options

Option A (base case): Make no change to the proposed licence relating to a roles and responsibilities agreement 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 would 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.⁶⁷

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 have negotiated transaction documents (binding deeds) to accompany the conferral of functions from DPI Water to Water NSW.⁶⁸

The binding deeds 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 amendment and are intended to be dynamic documents that capture the evolving relationships between the parties.⁶⁹

Net Present Value analysis

Table 7.7 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)	-161,000	-115,000	-115,000	-115,000	-115,000
Cost - additional staff costs (DPI Water)	-70,000	-50,000	-50,000	-50,000	-50,000
Benefit (nil)					
Net (cost)/benefit	-231,000	-165,000	-165,000	-165,000	-165,000

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

⁶⁷ Water NSW reply to IPART request for information, 21 December 2016, p 152.

⁶⁸ As proposed in the Water NSW Amendment (Staff Transfers) Bill 2016: see <http://www.water.nsw.gov.au/water-management/water-nsw-amendment>.

⁶⁹ Water NSW reply to IPART request for information, 21 December 2016, p 153.

Table 7.8 Net Present Value (NPV) analysis of cash flows of Option B (2015-16 dollars)

Sensitivity range	Low	Mid	High
Discount rate	3%	7%	10%
Cost - additional staff costs (Water NSW)	-554,686	-480,854	-434,326
Cost - additional staff costs (DPI Water)	-241,168	-209,067	-188,837
Benefit (nil)			
Net present value	-795,854	-689,920	-623,163

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, p 45. 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, maintaining the base case (Option A) is preferred.

7.7 MoU - Department of Planning and Environment

The 2017 Metropolitan Water Plan is the NSW Government's plan to ensure there is sufficient water to meet the needs of the people and environment of the Greater Sydney region, now and for the future.⁷⁰ The NSW Government has stated that Water NSW has a role, consistent with other water public water utilities, in the review and implementation of the Metropolitan Water Plan.⁷¹

We considered options to require Water NSW to establish a working relationship with the Department of Planning and Environment (DPE) for the purpose of supporting Water NSW's role in the review and implementation of the Metropolitan Water Plan.

The Metropolitan Water Plan is administered by the Metropolitan Water Directorate. The role of the Directorate was, until March 2017, with DPI Water but is now with the Department of Planning and Environment (DPE).⁷² The current licence does not require Water NSW to establish a relationship with DPE.

We considered options to include terms and conditions in the licence that:

- ▼ prescribe Water NSW's role in the review and implementation of the Metropolitan Water Plan, or
- ▼ require Water NSW to use its best endeavours to establish and comply with a MoU with DPE regarding its role in the review and implementation of the Metropolitan Water Plan.

⁷⁰ Metropolitan Water Directorate, 2017 Metropolitan Water Plan, see <https://www.metrowater.nsw.gov.au/2017-metropolitan-water-plan>.

⁷¹ NSW Government submission to IPART review, March 2017, p 5.

⁷² NSW Government, *Review of the Draft WaterNSW Operating Licence*, March 2017, p 5 (submission to the Draft Operating Licence consultation).

Preferred option

Include terms and conditions in the licence requiring Water NSW to use best endeavours to establish and comply with a Memorandum of Understanding with the Department of Planning and Environment regarding its role in the review and implementation of the Metropolitan Water Plan.

Options

Option A (base case): Make no change to the proposed licence regarding Water NSW's role in the review and implementation of the Metropolitan Water Plan.

Option B: Include prescriptive terms and conditions in the licence regarding Water NSW's role in the review and implementation of the Metropolitan Water Plan.

Option C: Include terms and conditions in the licence requiring Water NSW to use best endeavours to establish and comply with an MoU with DPE regarding its role in the review and implementation of the Metropolitan Water Plan.

Assumptions

For our analysis we made assumptions similar to those provided by Water NSW relating to an MoU with DPI Water. These assumptions assumed the establishment and maintenance of an MoU would require:

- ▼ 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 DPE.

Qualitative and Quantitative Costs and Benefits

Option B:

Cost: There is a cost arising from inflexibility of having Water NSW's role relating to the Metropolitan Water Plan being prescribed in the licence.

Benefit: Efficiency gains arising from the clarification of Water NSW and the Metropolitan Water Directorate's roles which would facilitate the ongoing review and implementation of the Metropolitan Water Plan.

Option C:

Cost: there are no costs relating to this option other than the quantitative costs described below.

Benefit: Efficiency gains arising from the clarification of Water NSW and the Metropolitan Water Directorate's roles which would facilitate the ongoing review and implementation of the Metropolitan Water Plan.

Net Present Value analysis

For Option B there were too many unknown costs relating to what the prescribed role of Water NSW may be to establish quantitative measurement and an NPV analysis. However the costs were considered likely to be similar to Option C, as both options have similar outcomes.

Option C:

Table 7.9 Quantitative costs and benefits relating to Option C (2015-16 dollars)

	2017-18	2018-19	2019-20	2020-21	2021-22
Cost - additional staff costs (Water NSW)	-161,000	-115,000	-115,000	-115,000	-115,000
Cost - additional staff costs (DPE)	-70,000	-50,000	-50,000	-50,000	-50,000
Benefit (nil)					
Net (cost)/benefit	-231,000	-165,000	-165,000	-165,000	-165,000

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

Table 7.10 Net Present Value (NPV) analysis of cash flows of Option C (2015-16 dollars)

Sensitivity range	Low	Mid	High
Discount rate	3%	7%	10%
Cost - additional staff costs (Water NSW)	-554,686	-480,854	-434,326
Cost - additional staff costs (DPE)	-241,168	-209,067	-188,837
Benefit (nil)			
Net present value	-795,854	-689,920	-623,163

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, p 45. 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.

Multi-Criteria Analysis

Table 7.11 Multi Criteria Analysis of options.

Criteria	Criterion weight (%)	Option A (base case)		Option B		Option C	
		score	weighted score	score	weighted score	score	weighted score
Avoid cost of cost arising from inflexibility of Water NSW role	25	20	5	20	5		
Avoided cost of establishing and complying with an MoU with DPE	25	20	5			20	5
Benefit of efficiency gains arising from the clarification of roles of Water NSW and DPE	50			15	7.5	20	10
Total	100		10		12.5		15

Note: Score is out of 20 and is representative of both the quantum, and probability that cost or benefits will be realised, for each option.

Assessment

Options B and C have benefits arising from efficiency gains arising from the clarification of roles of Water NSW and DPE, however the benefit from Option B is limited as having a prescribed role for Water NSW may inhibit efficiency by inhibiting flexibility.

Both option A (base case) and B avoid the cost relating to the inflexibility of proscribing Water NSW's role. Option B gives rise to direct costs relating to establishing and complying with an MoU.

We compared each option using Multi-Criteria Analysis (MCA). The benefits exceeded the costs, and the net benefits were greater than the base case, for the preferred option.

The CBA assessment indicated, on the basis of CBA and MCA alone, Option C is preferred.

7.8 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 Groups, Customer Advisory Group Charters and publicly available documents) in the proposed Reporting Manual.

Preferred option

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 Groups, 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 Groups, 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.⁷³

⁷³ Water NSW reply to IPART request for information, 21 December 2016, p 143, and IPART.

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

7.9 Reporting Manual – customers and stakeholders – public reporting

We considered an option to include section 5.2 of the Water NSW (State Water) Reporting Manual (with some updates) in the proposed Reporting Manual.

Section 5.2 of the Water NSW (State Water) Reporting Manual requires Water NSW to make available free of charge and on its website for download compliance and performance report on its customer management. We considered an option to include this section in the Reporting Manual with updates that would add a requirement to make available:

- ▼ the Customer Advisory Group Charter(s)
- ▼ the Customer Service Charter(s)
- ▼ information on the Code of Practice on Payment Difficulties
- ▼ information concerning internal Complaints handling, explaining how to make a Complaint and how Water NSW will receive, respond to and resolve Complaints
- ▼ information that explains how the external disputes resolution service works and how it can be accessed
- ▼ the Memorandum of Understanding with NSW Health, and
- ▼ the Memorandum of Understanding with the Environmental Protection Authority (EPA).

Of the additions to section 5.2 above, all except the Memorandum of Understanding with NSW Health and the Memorandum of Understanding with the EPA are required by the existing Water NSW (State Water) licence. The costs relating to maintaining the Memorandums of Understanding with NSW Health and the EPA are already considered in section 7.4 of this CBA.

Of the additions to section 5.2 above, all except the Customer Advisory Group Charter are currently made available to the public.

Preferred option

Include section 5.2 of the Water NSW (State Water) Reporting Manual (with some updates) 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 section 5.2 of the Water NSW (State Water) Reporting Manual (with some updates) in the proposed Reporting Manual.

Assumptions

No assumptions made.

Qualitative and Quantitative Costs and Benefits

Option B: Costs may arise from a requirement to make available additional reports. However as the information in the reports is already produced under the base case, and that this requirement would mean minimal change to Water NSW's website, for the Customer Advisory Group Charter, we consider these costs will be minor. A related benefit arises from the assurance from continuity of reporting requirements from previous licences.

Other changes represent a drafting change only and give rise to no net cost or benefit.

Assessment

Option B represents a drafting change only with minor cost or benefits. We considered the benefit in this case was greater than the related cost. The CBA assessment indicated therefore, on the basis of CBA alone, Option B is preferred.

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

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, Option B is preferred.

8.2 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. We note however that these indicators are for urban water utilities and would have no effect on Water NSW's reporting.

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

Make no change to the proposed Reporting Manual regarding performance monitoring of NWI financial indicators.

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.⁷⁴

⁷⁴ Water NSW reply to IPART request for information, 21 December 2016, p 168.

Qualitative and Quantitative Costs and Benefits

Costs: Additional labour costs due to scope of performance indicator reporting expanding to previous State Water area operations.⁷⁵

Benefits: The indicators referred to in section 8.4 are for urban water utilities and would have little or minimal effect on Water NSW's reporting. There is therefore minimal benefit arising from assurance provided by financial indicator reporting being expanded to all Water NSW activities.

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					
Net (cost)/benefit	23,000	23,000	23,000	23,000	23,000

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
Discount rate	3%	7%	10%
Cost	102,265	88,135	79,262
Benefit			
Net present value	102,265	88,135	79,262

Note: Discount rates are recommended by NSW Treasury, *TPP 17-03, NSW Government Guide to Cost-Benefit Analysis*, March 2017, p 45. 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 which is greater than the minimal 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, Option A (base case) is preferred.

⁷⁵ Water NSW reply to IPART request for information, 21 December 2016, pp 168-169.

A Other topics considered

Table A.1 lists topics for which the CBA option considered (ie, other than the base case option of making no change to the licence) represented a drafting change only and for which there were no related costs or benefits incremental to the base case. For each of the topics in Table A.1 the preferred option provided continuity of licence and reporting manual requirements from the previous Water NSW (SCA) and Water NSW (State Water) operating licences to the proposed new operating licence.

Table A.1 Other topics considered

Topic considered	Description of issues	Preferred option
Water Quality Management System - Declared Catchments	<p>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.</p> <p>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”.</p>	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.
Reporting Manual - catchment management - periodic reporting	<p>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 some updates that would allow these sections to apply to other declared catchments if they were declared in the future.</p> <p>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 periodic and routine monitoring.</p> <p>Routine monitoring required by section 2.1 is undertaken under the monitoring program that is developed as part of the Water Quality Management System, with respect to water in the Declared Catchment areas.</p>	Include in the proposed Reporting Manual section 2.1 and section 4.1 of the Water NSW (SCA) Reporting Manual (with some updates).

Topic considered	Description of issues	Preferred option
Reporting Manual - catchment management - annual reporting	<p>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 IPART and NSW Health on its Water Quality Management System (WQMS). In summary, within the Water NSW (SCA) Reporting Manual:</p> <ul style="list-style-type: none"> ▼ Section 2.2 requires annual WQMS reporting to IPART and water quality monitoring reporting to IPART and NSW Health. ▼ Section 3.2 requires reporting of National Water Initiative (NWI) water resource and IPART indicators to IPART. ▼ Section 4.2 requires annual catchment management reporting to IPART. <p>We considered an option to include these sections from the current licences in the proposed Reporting Manual (with some updates). Updates include:</p> <ul style="list-style-type: none"> ▼ Section 2.2 and 4.2 would apply to current and any future Declared Catchments, and section 2.2.2 would apply to water 'Supplied' from Non-Declared Catchment areas. ▼ Section 4.2 would include new community education reporting requirements that would apply to reporting already made by Water NSW. 	Include in the Reporting Manual section 2.2, section 3.2 and section 4.2 of the Water NSW (SCA) Reporting Manual (with some updates).
Reporting Manual - environment - environmental indicators	<p>Section 7.2.2 of the Water NSW (SCA) Reporting Manual requires reporting on NWI environmental indicators. We considered an option to include this section and include new 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.</p>	Include in the proposed Reporting Manual section 7.2.2 of the Water NSW (SCA) Reporting Manual (updated and with new IPART waste and energy indicators that apply to all Declared Catchment areas).

Topic considered	Description of issues	Preferred option
Reporting Manual - catchment management – public reporting	<p>We considered an option to include sections 2.4, 3.4 and 4.4 of the Water NSW (SCA) Reporting Manual (with some updates) in the proposed Reporting Manual. These sections require Water NSW to make available free of charge and on its website for download:</p> <ul style="list-style-type: none"> ▼ the Annual 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. <p>The option considered would remove the requirement to make available the Design Criteria but would add new requirements to make available routine water quality monitoring reports and the annual Water Conservation Work Program Report.</p>	Include section 2.4, section 3.4 and section 4.4 of the Water NSW (SCA) Reporting Manual (with some updates) in the proposed Reporting Manual.
Reporting Manual – public health indicators – annual reporting	<p>We considered an option to include in the proposed Reporting Manual section 2.2.4 of the Water NSW (SCA) Reporting Manual with some minor updates.</p> <p>Section 2.2.4 of the Water NSW (SCA) Reporting Manual requires Water NSW to report annually on indicators that relate to water quality in the catchment waterways which impact on public health.</p>	Include in the proposed Reporting Manual section 2.2.4 of the Water NSW (SCA) Reporting Manual (with minor updates).
Reporting Manual – water quality monitoring indicators – annual reporting	<p>We considered an option to include in the proposed Reporting Manual section 2.2.3 and of the Water NSW (SCA) Reporting Manual with some updates that would allow these sections to apply to the current Declared Catchment and other declared catchments if they were created in the future.</p> <p>Section 2.2.3 of the Water NSW (SCA) Reporting Manual requires Water NSW to report to IPART annually on indicators of water quality in the catchment waterways, and must include an analysis of trends in the data (including possible causes or actions proposed in response to any improvement or deterioration in performance).</p>	Include in the proposed Reporting Manual section 2.2.3 of the Water NSW (SCA) Reporting Manual (with some updates).
Reporting Manual – incident reporting	<p>We considered an option to include in the proposed Reporting Manual section 2.3 of the Water NSW (SCA) Reporting Manual with some updates that would allow these sections to apply to other declared catchments if they were created in the future and water supplied from Non-Declared Catchment areas.</p> <p>Section 2.3 of the Water NSW (SCA) Reporting Manual requires Water NSW to report to NSW Health and its Customers immediately if there is an incident where the Raw Water it supplies poses a risk to human health.</p>	Include in the proposed Reporting Manual section 2.3 of the Water NSW (SCA) Reporting Manual (with some updates).

Topic considered	Description of issues	Preferred option
Reporting Manual – System Yield reporting	<p>We considered an option to include in the proposed Reporting Manual section 3.3.1 of the Water NSW (SCA) Reporting Manual with some updates that would allow these sections to apply to other declared catchments if they were created in the future and water supplied from Non-Declared Catchment areas.</p> <p>Section 3.3.1 of the Water NSW (SCA) Reporting Manual requires Water NSW to re-calculate the Water Supply System Yield if certain events occur, and report any changes to the Yield to the Minister and the public.</p>	Include in the proposed Reporting Manual section 3.3.1 of the Water NSW (SCA) Reporting Manual (with some updates).
Reporting Manual – when future demand may exceed System Yield	<p>We considered an option to include in the proposed Reporting Manual section 3.3.3 of the Water NSW (SCA) Reporting Manual with some updates that would allow these sections to apply to other declared catchments if they were created in the future and water supplied from Non-Declared Catchment areas.</p> <p>Section 3.3.3 of the Water NSW (SCA) Reporting Manual requires Water NSW to advise the Minister if it considers that future demand for Raw Water may exceed the Water Supply System Yield.</p>	Include in the proposed Reporting Manual section 3.3.3 of the Water NSW (SCA) Reporting Manual (with some updates).
Reporting Manual – review of System Yield model	<p>We considered an option to include in the proposed Reporting Manual section 3.3.2 of the Water NSW (SCA) Reporting Manual with some updates that would allow these sections to apply to other declared catchments if they were created in the future and water supplied from Non-Declared Catchment areas.</p> <p>Section 3.3.2 of the Water NSW (SCA) Reporting Manual requires Water NSW to retain an independent expert to review the model and procedure for calculating the System Yield and report publicly on this review.</p>	Include in the proposed Reporting Manual section 3.3.2 of the Water NSW (SCA) Reporting Manual (with some updates).
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 the same reporting requirements in the proposed licence.	Include a new clause in the proposed Reporting Manual requiring annual reporting consistent with licence obligations for system performance standards reporting.

Topic considered	Description of issues	Preferred option
Metering and monitoring	<p>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.</p> <p>The proposed clause is:</p> <p style="padding-left: 40px;"><i>Clause 6.3.1</i> 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.</p> <p>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:</p> <ul style="list-style-type: none"> ▼ 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. 	Include a new clause in the proposed licence requiring metering, monitoring, account management and billing activities.
Reporting Manual - performance monitoring - audit	<p>We considered an option to include sections 8.1 and 8.2 of the Water NSW (SCA) reporting manual, but not section 7 of the Water NSW (State Water) Reporting Manual in the proposed Reporting Manual.</p> <p>Section 8.1 and section 8.2 of the Water NSW (SCA) reporting manual includes requirements for Water NSW to report on:</p> <ul style="list-style-type: none"> ▼ the results of operational audits, and ▼ opportunities for, and implementation of, improvements arising from audits. <p>Section 7 of the Water NSW (State Water) Reporting Manual requires compliance and performance monitoring using the performance indicators in the Appendix to the manual. Under Option B the performance indicators in the Appendix would become performance standards.</p>	Include in the proposed Reporting Manual sections 8.1 and 8.2 of the Water NSW (SCA) reporting manual, but not section 7 of the Water NSW (State Water) Reporting Manual.
Reporting Manual - performance monitoring – public reporting	<p>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.</p> <p>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.</p>	Include section 7.2 of the Water NSW (State Water) Reporting Manual (with editing and some minor updates) in the proposed Reporting Manual.

Topic considered	Description of issues	Preferred option
Reporting Manual - performance monitoring - significant changes	<p>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.</p> <p>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.</p>	Include section 8.3 of the Water NSW (State Water and SCA) reporting manuals (with updates) in the proposed Reporting Manual.
Reporting Manual – statement of compliance	<p>We considered an option to include in the proposed Reporting Manual section 8.4 of the Water NSW (State Water) Reporting Manual with some minor updates for consistency with other utility reporting manuals.</p> <p>Section 8.4 of the Water NSW (State Water) Reporting Manual requires Water NSW to provide a statement of compliance, which identifies any noncompliance of which it is aware, in accordance with IPART's Public Water Utility audit guidelines.</p>	Include in the proposed Reporting Manual section 8.4 of the Water NSW (State Water) Reporting Manual with some minor updates for consistency with other utility reporting manuals.

