14 October 2020

Ms Jane Doolan
Commissioner, National Water Reform inquiry
Productivity Commission
Locked Bag 2
Collins Street East
MELBOURNE, VICTORIA, 8003

Ms Doolan,

Productivity Commission's Inquiry Assessment of the 2004 Intergovernmental Agreement on a National Water Initiative

Thank you for the opportunity to contribute to the Productivity Commission's *Inquiry to assess progress towards achieving the objectives and outcomes of the 2004 Intergovernmental Agreement on a National Water Initiative* (NWI).

Melbourne Water is responsible for the management and protection of our city's major water resources (such as water supply, water supply catchments, waterways, and alternative water). Melbourne Water are committed, through our Strategic Direction, to enhancing the life and liveability of Melbourne, by delivering more community benefit where it's compatible with our current services.

Melbourne Water continues to provide safe, reliable and affordable water, however the challenges with climate change, population growth, and competing demands will place greater pressure on our ability to continue to do this into the future. While good progress has been made with improving water management and the involvement of Traditional Owners in water management, there's still more that needs to be done to facilitate and maintain Victoria's leadership – particularly in the areas of integrated water management (IWM), resilient water systems that focus on delivering water security, keeping pace with changing community expectations, building water literacy, and governance and funding security to delivering liveability outcomes.

Melbourne Water would welcome an increased emphasis on urban water, underpinned by outcomes-based regulation and capitalising on the integrated water management opportunities, in a new National Water Initiative (NWI). Any new NWI should also address Traditional Owners aspirations around water management, resilient water systems, and liveability.

Please find attached Melbourne Water's submission to the Inquiry. Please do not hesitate to contact myself or Gavan O'Neill if you wish to discuss this further

Regards,

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Submission to the Inquiry

Our submission focuses on our urban water services, which are within the scope of the National Water Initiative (NWI). We also consider our work around current and emerging challenges (such as water literacy, resilience and liveability) are within scope of the Inquiry, given the future focus of the terms of reference.

The following advice is provided in two parts. The first outlines what we consider should be included within any new NWI, and the second is how Melbourne Water has contributed towards Victoria delivering on its commitments in the existing NWI.

Future reform directions: Involvement from the Federal Government

Melbourne Water would welcome an increased emphasis on urban water in a new NWI, underpinned by outcomes-based regulation, governance and guidance. It should also focus on not only the current challenges of climate change and population growth but also the emerging and future challenges such as changing community expectations and water literacy, system resilience, and liveability.

While good progress has been made to improving water planning and management, and the opportunities to include Traditional Owners in water use and management there's still more that could be done. The challenges with climate change, population growth, aging assets and competing demands will continue to place greater pressure on the ability to continue to provide safe, reliable and affordable water into the future. Highlighting the continued need for water planning and strategies to be adaptable to a wide range of potential futures and to take account of the broader interactions that will impact and change future water demands (for example potential future urban cooling water demands and the opportunities for alternative water use to ease the reliance on environmental water).

Water security and resilience

Similar to other sectors, the urban water sector is facing the challenges of climate change, rapid population growth, increasing urbanisation and an ageing asset base. To address these challenges, we need an enabling policy and regulatory environment.

In Victoria the key policy document, *Water for Victoria* sets out the State Government's vision for the water sector across the state. This is supported by regional *Sustainable Water Strategies*, developed in collaboration with the water industry and key stakeholders, which consider how water is shared between different uses, including the environment.

As the wholesale supplier for the Melbourne region, Melbourne Water is also required to develop a *System Strategy*, and other urban water corporations are required to develop *Urban Water Strategies* for their service areas. These strategies are reviewed on a five yearly basis and are used in the preparation for our pricing submissions.

To complement these existing policy and regulatory processes there is an opportunity for a new NWI to help create an enabling environment at the national level. The key opportunities are through enhanced and aligned governance, development of key frameworks and funding support.

Climate change and population growth are increasingly impacting water supply for the metropolitan region and it is critical to continue planning for long term water security. As the Victorian water grid expands to serve more communities we need to consider how water security is balanced against affordability, given that not all communities have the same capacity to pay. As a result funding arrangements for investments in urban water infrastructure will become increasingly important.

The risk of extreme events is providing an increasing test of the resilience of our urban water supply systems. In Victoria, the 2019 bushfires in the major catchment for Melbourne water supply (Thomson) has provided several lessons for the water sector. At the national level there is an

opportunity to share experiences from other jurisdictions, and to jointly consider how to be better prepared in the future.

Balancing water demand between different uses is an ongoing challenge. The social licence to recover more water for the environment needs to be enhanced. Anecdotally it has been observed that during the COVID-19 that the community has been flocking to their local waterways for daily exercise. There is a role for the Federal Government to play in supporting and funding water recovery for urban waterways which has both social and environmental outcomes.

Liveability

There are a number of challenges with delivering liveability outcomes, as there are multiple parties and beneficiaries – it is not something that fits within water services regulated system, making it difficult to invest. There is a need to understand who should pay for liveability. This may benefit from a national approach around the governance and funding principles that would enable a funding security to deliver liveability outcomes.

Delivering liveability outcomes is also dependent on urban (land use) planning, in particular integrated water management (i.e. the integration of alternative water sources). Fundamental to achieving these outcomes is the incorporation of integrated water management into the urban water cycle. Delivery of these projects to date have typically been at the pilot scale rather than a precinct or city-wide scale. A new NWI could consider how governments move to allocate appropriate funding, outline appropriate governance and resources to deliver liveability outcomes – similar to other social infrastructure.

Changing community expectations and water literacy

Community and customer expectations are changing. The community are not only seeking reliable water services, protection of the environment, transparency in customer service, and to keep bills low - but they also want to be empowered to support the design and delivery of service outcomes. This highlights the importance of water literacy, which would better inform and enable the community to define their wants and needs. Building their understanding of the need to balance water quantity, water quality, and affordability (trade-offs) – to deliver water services to customers at the lowest practicable cost. The better informed the community are on water management, water values, and trade-offs, the more empowered they will be to participate in decision making – which will also contribute to resilience (system and community).

Melbourne Water is continually working with the community to improve their understanding and involvement in water management and the challenges the sector faces. Our research supports this approach, which found that once participants, and or the community, have a greater understanding of the water system, they have an increased desire to do their bit and value being asked to participate in conversations about current and emerging challenges. However, more needs to be done at a local, state and national level to bring about systemic change, including increasing the communities knowledge around water management to enable them to participate in decision making. This could include a national approach to water literacy (for example development of a national curriculum) which should be accompanied by funding to support implementation. This would enable a consistent approach and assist to drive outcomes.

Sustainable Development Goals (SDGs)

The SDGs have received increased recognition as the pre-eminent model to realise sustainable development, in which water plays a critical role. The integration of SDGs has gained increasing momentum and integration into existing strategy and monitoring and reporting across the water sector. A new NWI offers opportunity to utilise this as a roadmap that could assist with the integration of land use planning and infrastructure funding, streamlining monitoring and reporting, and improved consistency in delivering outcomes and national and international commitments. A roadmap could also include funding principles for infrastructure that help deliver outcomes that will help secure the water needs for the future.

National oversight

The delegation of some of the National Water Initiative functions affects the timeliness and usefulness of the information collected. The establishment of a national body would better support the effectiveness of these functions, which could be further strengthened through the establishment of national benchmarks to be met. It could further extend to include monitoring and compliance with benchmarks to be achieved. This would assist with driving improvements against clear objectives.

While jurisdictional differences in the markets and trading are acknowledged, it would be timely to review the workability of the existing market that has the same high level rules (including accounting systems) across all jurisdictions to address existing barriers and inefficiency in the current system. In reviewing this there needs to be a focus on the objective/outcome to ensure an appropriate fit for purpose solution (for example centralised through to decentralised) for all market sectors.

Further details and examples to support the above are provided at Attachment 1.

Actions that contribute towards the states delivery of the existing NWI

Melbourne Water continues to contribute towards the State's commitments through the National Water Initiative, by:

- Continuing to provide safe, reliable and affordable water (461 billion litres) to Melbourne's customers (Refer to our annual report, pages 11 – 15: https://www.melbournewater.com.au/about/strategies-and-reports/annual-report).
- Working with Traditional Owners and Aboriginal Victorians to ensure our management of land and waterways is aligned with Aboriginal values (see example in section 1.2.3 of attachment 1).
- Providing expertise and support to assess options for additional future connections to our water supply system, and potential future grid augmentations to support the long-term future operation of our water supply system (for example, *Drought Preparedness Plan* (https://www.citywestwater.com.au/sites/default/files/attachments/drought_preparedness_plan_0.doc), *Victorian Desalination Plant water order advice* (https://www.melbournewater.com.au/media/11671/download) and *Melbourne's Water Outlook 2020* (https://www.melbournewater.com.au/media/10276/download).
- Planning and implementing the movement of water around our region to ensure it can be supplied and optimised for both environmental and consumptive purposes (The *Melbourne Water System Strategy* includes climate change and population growth scenarios - page 43: https://www.melbournewater.com.au/media/1801/download).
- Participating in regional IWM Forums and working collaboratively with government on projects such as the Melbourne Urban Stormwater Institutional Arrangements project (Refer to pages 9-10 of our Annual Report: https://www.melbournewater.com.au/about/strategies-and-reports/annual-report).
- Delivering about 34 GL of recycled water (Class A and Class C) from the Eastern and Western Treatment Plants to customers (Refer to page 17 of our Annual report: https://www.melbournewater.com.au/about/strategies-and-reports/annual-report).
- Delivering environmental water in accordance with the Seasonal Watering Plan (A list of environmental flows available here: https://www.melbournewater.com.au/what-we-are-doing/works-and-projects-near-me/all-projects?title=&suburb=&category%5B466%5D=466).
- Delivering our 2021-25 Price Submission, ensuring transparency for our customers that we are providing quality and affordability services (further information is available here: https://yoursay.melbournewater.com.au/price-submission?_ga=2.206501011.141435495.1595380912-1974947861.1594871606).
- Working towards delivering up to 80GL/year from diverse sources of water instead of the water supply system by 2065 - but we can't do this alone, success requires strong partnerships.

Lessons learnt

The Inquiry specifically requested advice on lessons learnt from the recent bushfires and COVID-19. The following advice is provided to assist with these findings.

Bushfires

The majority of Melbourne's drinking water supply comes from fully protected forested catchments and as a result water is supplied to customers disinfected but not filtered. In early 2019 a bushfire started in the Thomson Reservoir catchment (Melbourne's largest reservoir with a capacity of over 1,000GL). The fire burnt a total of 13% of the 48,700 ha catchment. This event significantly increased the risk of erosion within the catchment and changed the likely runoff characteristics, which could have a considerable impact on water quality in the reservoir.

The use of models and modelling expertise was critical in making short-term operational decisions and determining potential long-term impacts and mitigation measures to preserve the high quality of Melbourne's drinking water. The three-dimensional hydrodynamic reservoir models coupled with debris flow risk mapping provided invaluable decision support to ensure the quality of Melbourne's drinking water was maintained throughout a bushfire that impacted one of the city's major drinking water catchments. By understanding the hydrodynamics of the reservoirs and the impact of debris flow inputs and quantifying the risks to water quality, short-term operational decisions could be made and water quality thresholds for different long-term transfer scenarios could be put in place. Informed decisions around event mitigation and recovery planning ensured that throughout the bushfire event Melbourne was continually supplied with safe drinking water.

For further information refer to the two case studies prepared by Melbourne Water available on the WSAA web site:

- https://www.wsaa.asn.au/publication/bushfire-recovery-case-study-5-hydrodynamic-modelling-bushfire-management-and-recovery
- https://www.wsaa.asn.au/publication/bushfire-recovery-case-study-6-managing-debris-flow-risk-catchments-after-bushfires

COVID-19

Resilience is a term that has long been a part of Melbourne Water's organisational culture- we are always prepared for risks and contingencies that can impact our operations.

As news of the COVID-19 pandemic unfolded, Melbourne Water was quick to adjust to the new way of working, ensuring the health and welfare of our employees as well as delivering uninterrupted essential services to the community.

Melbourne Water is involved in the innovative national COVID-19 sewage sampling project to help inform policy makers and health authorities about potential clusters of people infected with the virus and timelines of potential outbreaks.

There is no evidence that drinking water will be affected by the COVID-19 virus or that it is transmitted by drinking water. There is also no evidence that has been transmitted by wastewater systems (https://www.wsaa.asn.au/publication/covid-19-fact-sheet).

Attachment 1:
Future Reform directions

1.1 Current challenges

1.1.1 Changing population

Pre-2020, Australia was experiencing a level of population growth of approximately 1.8% per annum, a level of growth unprecedented since the 3% growth observed post World War 2. This high rate of growth comprised of approximately 0.8% within country reproduction, with the additional 1% from immigration.

As of the 19 March 2020, with the effect of COVID-19, Australia officially closed its borders to all foreign entrants. While there are a number of scenarios as to how this will impact the water sector, there will be a period where there are fewer people which may impact the growth in demand for water and the customers to pay for investments associated with the expansion of urban water supply system. While the sector takes account of these and other challenges in planning for infrastructure, the challenge with maintain customer affordability needs to be recognised and considered at a broader scale to understand how to adapt and strengthen the water sector.

1.1.2 Urban greening - example of changing demands on our water supply systems

The demands on our water supply system continue to increase under climate change and with changing community expectations around greening our urban areas and amenity – therefore understanding and preparing for changes to water demand is a critical input to adaptation.

Two areas that we are exploring are the demands for water to maintain or expand urban vegetation, and the potential changing demands for water as peri-urban and rural food producers adapt to the impacts of climate change.

The modelling being undertaken by Melbourne Water of the potential changes in demand under various climate and vegetation scenarios for our region, using different water sources suggest that:

- Irrigation for greening in public areas (excludes private gardens) under a high demand scenario could triple by 2050, increasing from approximately 10 GL per year at 2020 to 35 GL per year at 2050.
- Irrigation for greening in public areas, including private gardens, under a high demand scenario could double by 2050, increasing from approximately 60 GL per year at 2020 to 120 GL per year at 2050.

Under the upper estimate for alternative water source supply, over 70 GL of potable water per year would be required to meet the demand.

1.2 Emerging challenges

1.2.1 Changing community expectations and water literacy

In recent years Melbourne Water has observed a shift in customer expectations, for example, there has been a rise in ethical, minimalist consumers buying for purpose, sustainability and local products. COVID-19 has pushed the local, community focus even further. This was evidenced through our 2021-25 Price Submission which identified that they are not only seeking reliable water services, protection of the environment, transparency in customer service, and to keep bills low - but they also want to be empowered to support the design and delivery of service outcomes.

For the water sector, this means the potential rise of a strong driver for value-based consumption. As quickly as community expectations and movements change, in considering a renewed NWI a different approach that doesn't compromise the ability to meet the continual evolving expectations of the community is required. This may involve taking an adaptive management and or outcomes focus to implementation.

Melbourne Water is continually working with the community to improve their understanding and involvement in water management and the challenges the sector faces. Our research supports this approach, which found that once participants, and or the community, have a greater understanding of the water system, they have an increased desire to do their bit and value being asked to participate in conversations about current and emerging challenges. However, more could be done. A national approach to water literacy (for example development of a national curriculum) which should be accompanied by funding to support implementation. This would enable a consistent approach and assist to drive outcomes.

If required, we can provide examples of the engagement undertaken as part of the *Price Submission 2021-25* and water literacy challenges.

1.2.2 Liveability

The importance of liveability was recently highlighted in a *Blue + green = liveability: the value of water to liveable communities* 2019 report by WSAA, which noted "*Connecting people through green parks and open spaces and through urban habitat creates opportunities to improve the physical and mental health of our communities. This land is likely to become even more valuable for the community moving forward, as urban green space becomes limited as a result of urban densification and the trend towards smaller backyards*. (https://www.wsaa.asn.au/sites/default/files/publication/download/WSAA%20Liveability%20booklet%20FA2%20WEB.pdf)

The water industry has a strong reputation for delivering clean, safe, secure drinking water and sewerage services. Water will be vital to transforming our cities and regions into cooler, greener and more liveable places. The water industry has an opportunity to build on this reputation to also deliver liveability outcomes and contribute to blue-green infrastructure, maximising the value from water and sewerage assets.

As Melbourne Water is the second biggest public landowner in Victoria - 9% of open space within the urban boundary is on Melbourne Water land, used for delivering core water supply, sewerage and drainage services - Melbourne Water also manages 25,000 km of waterway corridor land - there is an opportunity to play a part in ensuring that future communities have places to meet, recharge, play and connect with nature.

While Melbourne Water have delivered a number of projects with liveability benefits, these have been at the pilot, rather than a precinct or city-wide scale. Some examples are provided in the attached brochure "Our Space Your Place" (Refer to **Attachment 2**).

While there is research that demonstrates the economic benefits of the water industry's role in liveability (refer to WSAA's *Blue + green = liveability: the value of water to liveable communities* 2019 report which identifies health benefits of up to $94/person/year). There are a number of constraints in delivering liveability (enhanced urban amenity) outcomes such as:

- **Unclear objectives, roles and responsibilities** – in Victoria there are unclear obligations on water corporations to deliver liveability outcomes, as a result there's an unclear authorising and regulatory environment. The setting of national and state governance principles to clarify obligations and the roles associated with the multiple benefits would better enable water planning that embraces and reflects the important role of water to liveability outcomes, and the role the urban water industry plays in delivering that with others.
- **Funding** – shared and multiple benefits raise questions about the role that broader (state and or national) funding plays in liveability outcomes – similar to other core state services (health, education, transport). An understanding of the costs and benefits (and beneficiaries) is required to determine who should pay. A new NWI could consider how governments move to allocate appropriate funding.

1.2.3 Traditional owners and water management

Melbourne Water has been working with Traditional Owners and Aboriginal Victorians for a number of years, the *Water System Strategy* and *Healthy Waterways Strategy* builds on this by explicitly including actions to begin working in partnership with Traditional Owners to include Aboriginal values in our strategic planning processes.

An example of Melbourne Water's activities includes the development of the seasonal watering proposal, which considers how both social/recreation values and cultural values can be achieved whist realising environmental outcomes. Melbourne Water is working closely with our traditional owners to build capacity and involvement in the environmental water program (such as the billabong program). Narrap team (Wurundjeri) have been undertaking water quality and frog monitoring in the lower Yarra wetlands and the Bolin billabong (an important cultural place for the Wurundjeri) has been watered with direct participation of the Traditional Owners. However, to continue delivering these types of outcomes requires support for Traditional Owners (resources and capacity building) to be engage more fully in decision making and planning of environmental water.

1.2.4 Linking the NWI to the Sustainable Development Goals

Melbourne Water is a signatory to the United Nations (UN) Global Compact and the UN Sustainable Development Goal's (SDGs). The UN SDGs represent global best practice and are a measure for what water corporations can do in striving to efficiently deliver sustainable water cycle services. The Australian Government is committed to implementing the SDGs, and it is therefore appropriate to use the goals in guiding water reform in Australia.

The SDGs have received increased recognition as the pre-eminent model to realise sustainable development, in which water plays a critical role. The integration of SDGs has gained increasing momentum and integration into existing strategy and monitoring and reporting across the water sector. A new NWI offers opportunity to utilise this as a roadmap that could assist with the integration of land use planning and infrastructure funding, streamlining monitoring and reporting, and improved consistency in delivering outcomes and national and international commitments. A roadmap could also include funding principles for infrastructure that help deliver outcomes that will help secure the water needs for the future.