18 December 2024

Drew Anderson
NSW Department of Planning, Housing and Infrastructure
4 Parramatta Square, 12 Darcy Street
Parramatta NSW 2150

Billabong Creek Environmental Water Regulators (SSI-50831979) – WaterNSW advice on EIS

Dear Drew,

Thank you for your Major Projects Planning Portal referral dated 31 October 2024 requesting WaterNSW's advice into the Environmental Impact Statement (EIS) for the Billabong Creek Environmental Water Regulators (SSI-50831979). It is understood that the proposal is for the replacement of two existing weirs at Hartwood Weir and Wanganella Weir located along Billabong Creek with new regulators (the proposal). Hartwood Weir is a WaterNSW asset, and it is the intent of the proposal that WaterNSW owns and operates the two replacement regulators once constructed.

WaterNSW provides this response to the EIS, which it does as the proposed intended owner of the regulators, and the system operator.

Our comments on the EIS and its appendices are detailed in Appendix A to this letter.

WaterNSW would appreciate being advised when the proposal is at the response the submissions stage and for the Department to continue consulting with us as the proposal is assessed.

If you have any questions regarding this submission, please contact mina.suh@waternsw.com.au.

Yours sincerely,

Ben Lathwell
Policy and Regulatory Director, Major Projects

Attachments: Appendix A – WaterNSW detailed advice

Appendix A – WaterNSW detailed advice

Environmental Impact Statement Main Report

1. While this report states that WaterNSW is the intended asset owner, some of the appendices state that WaterNSW would own and operate the new regulators once constructed. The appendices should be revised so that 'WaterNSW is the intended asset owner' as per the EIS.
2. *14.3.2*: The proponent is to confirm the result of their legal assessment on Native Title status for the land where the regulators are located. If Native Title is found to apply DCCEEW is to advise on proposed future act pathways available/recommended to validate the proposal.
3. *18.3.2*: The consequence assessments for the two proposed regulators indicate that there is an itinerant population at risk in the event of dam break. Therefore, the regulators meet the criteria for referral to Dams Safety NSW for a Declaration determination. As the intended owner and operator of the two regulators post-construction, WaterNSW will submit the consequence category assessments to Dams Safety NSW for a Declaration determination and advise DCCEEW of the outcome. If Dams Safety NSW determines that the regulators are to be Declared under the *Dam Safety Act 2015*, then conditions will need to be met prior to construction commencement in accordance with Dam Safety NSW requirements.

Environmental Impact Statement Summary

4. WaterNSW has no comments at this time.

Appendix B Detailed maps and plans

5. WaterNSW has provided comments on the design drawings as part of a design review process managed by the proponent. Should the proposal be approved, the proponent is to continue engaging with WaterNSW to ensure that our comments are addressed in the final design.

Appendix C Statutory compliance

6. WaterNSW has no comments at this time.

Appendix D Environmental risk assessment

7. WaterNSW has no comments at this time. This risk assessment may change in the response to submissions, if the proposal is required to be amended based on feedback received from relevant government agencies.

Appendix E Consultation report

8. *Inviting feedback during detailed investigations – table* (page 14): it is proposed that WaterNSW is intended to own, operate and maintain the regulators. There will be a range of assurance checks and activities throughout the project delivery phase that the proponent (DCCEEW) must meet prior to WaterNSW's formal acceptance of ownership.

Appendix F Mitigation measures

9. WaterNSW provides comments on mitigation measures as appropriate in the various appendices to the EIS, which is contained in this submission. The proponent may require an update to Appendix F which would be dependent on the feedback of relevant government agencies and the response to submissions, after which WaterNSW would seek additional review of any changes to the proposed mitigation measures.

Appendix G Hydrology assessment

10. The Billabong River system has complex decision pathways and operational rules for river operations. There are specific operational rules for both Hartwood and Wanganella regulators based on downstream localised catchment contributions and river conditions. Given the releases have impact on lower flows, WaterNSW would like the proponent to confirm/demonstrate if these processes are modelled appropriately in the Murrumbidgee Source model. WaterNSW seeks to understand how the floodplain impacts are explicitly modelled in Source to provide confidence in flood estimates and concurrent flood impacts on stakeholders in the area for EIS considerations. There is also a need to document how uncertainty in flow estimations/flow distribution/local runoff contributions from long-term climate variability and change has been considered in this study.
11. While the report includes historical climate and flow data, there is an opportunity for greater integration of climate risk projections (e.g. CMIP6 and NARCliM2.0). Given the increasing frequency, severity, variability, and intensity of climate impacts (e.g., droughts, floods), it is crucial to understand how these proposed regulators would perform under future climate scenarios, which could offer deeper insights into long-term sustainability and operational resilience. Some efforts can be made to build particular scenario-based simulations considering the inclusion of climate projections to investigate how projected changes, for example, temperature and rainfall patterns, might affect water availability and flow regimes in the future.
12. The report mentions that flow variability is expected to remain relatively stable across scenarios, but it would be useful to further explore particularly event-specific flow variability (e.g. stratified low, medium, and high flow events across different years). Specifically, how will the new regulators affect high-flow events, which are crucial for floodplain health? WaterNSW requests a more detailed analysis of flow variability during critical periods (e.g., flood seasons) which could provide insights into how these might affect both human and ecological water users.
13. The new automated regulators are expected to enhance operational flexibility. WaterNSW requests supporting information to substantiate this narrative.

Appendix H Flood impact assessment

14. The proponent is to confirm that the maximum additional inundation impacts are within channel and do not impact adjoining private landholders.
15. The commentary at section 4.1.1 states that there is about 89% chance a flow rate of 2,900 ML/day at the Jerilderie Gauge 410016 will be equalled or exceeded, however note 1 in Table 4.1 indicates this probability should be 63%. This is to be clarified.
16. There needs to be a consideration of sensitivity to tailwater conditions downstream of the regulators.
17. Cumulative impacts are only considered for regulator-built scenarios for the 0.5% and 0.2% AEP. While individual regulator impacts are presented, WaterNSW seeks to understand the combined cumulative impacts for both regulators.

Appendix I Groundwater assessment report

18. The proponent is to register the two proposed groundwater monitoring points for the intended asset owner (WaterNSW) prior to construction.
19. The proposed groundwater monitoring points are to be provided to the intended asset owner (WaterNSW) with proper and reasonable access for use during operations. This is to be resolved prior to construction.
20. WaterNSW recommends that the report is referred to the DCCEEW hydrogeology team for review.
21. *Table 1-1:* The Hartwood Regulator pool target level for 1 May to 31 October is different to what is stated in the draft Yanco Creek System Operations Plan. This should be the same for consistency.

Appendix J Geomorphology assessment report

22. *Table 5-1:* The proponent is to ensure the risk of erosion and sediment impacts during operations is mitigated as far as practicable as part of the detailed design process, in consultation with WaterNSW.
23. Section 4.4 is to be reviewed and updated once WaterNSW comments on the flood impact and hydrology assessments are addressed.

Appendix K Surface water quality and aquatic ecology assessment report

24. *Table 6-1 MM12*: The responsibility for reviewing and making updates to the draft Yanco Creek System Operations Plan, i.e. 'Plan Reviews' is yet to be determined. This table states that this responsibility is for WaterNSW however that is not yet confirmed.
25. *Table 6*-1 *MM15*: Should the proposal be approved, there would be a commissioning period during which fish passage management and monitoring would be the responsibility of the proponent.
26. There are references made to the Yanco Creek System Operations Plan with different dates (2020, 2022, etc). This should be reviewed and checked for consistency throughout this document, and other EIS reports.
27. The Yanco Creek System Operations Plan 2022 referenced in section 1.5.3 is not finalised and is in draft form.
28. Wanganella Regulator minimum operating flow mentioned in section 5.2.2.2.1 states that normal operating limit is 80.95, however this does not appear to match the draft Yanco Creek System Operations Plan level which states this as 80.99. The flow and operating levels that form the basis of the assessment in this report should be checked and confirmed against the latest version of the draft Yanco Creek System Operations Plan.

Appendix L Biodiversity development assessment report

29. Meeting all terrestrial biodiversity offset requirements are to be the responsibility of the proponent.

Appendix M Aboriginal cultural heritage assessment

30. *Table 10.2*: The proposed activity for Hardwood Weir includes mention of a pedestrian walkway at Wanganella Regulator which is not applicable. A reference to Hartwood Weir trafficable deck is mentioned in the row relevant to Wanganella Regulator. These should be updated.
31. WaterNSW is to be notified of any unexpected finds at the Hartwood Regulator site during construction.

32. WaterNSW encourages the proponent to explore further opportunities to avoid, protect and minimise harm to objects during detailed design and construction phases.

Appendix N Non-Aboriginal heritage assessment report

33. The archival recording for Wanganella Weir during pre-construction is to be provided to the Council, not WaterNSW.

Appendix O Land use assessment report

34. *1.4.4:* The Yanco Creek System Operations Plan is in development and not finalised.
35. The proponent is to provide WaterNSW with information on the existing lease and licence agreements in the proposal site(s). (i.e. Lot 28 DP756330 has a Crown Licence).
36. *3.3.4:* The proponent is to confirm the result of their legal assessment on Native Title status for the land where the regulators are located. If Native Title is found to apply, the proponent is to advise on proposed future act pathways available/recommended to validate the development.
37. *Table 4.5*: The proponent is to provide appropriate property mitigation for private property that may or will experience additional flooding, such as through an inundation easement. This property mitigation is to be in place prior to handover of the proposed assets to WaterNSW.

Appendix P Traffic and access impacts assessment

38. WaterNSW has no comments at this time.

Appendix Q Noise and vibration impact assessment

39. WaterNSW has no comments at this time.

Appendix R Social impact assessment

40. *1.3.4:* The Yanco Creek System Operations Plan is in development and not finalised.
41. *5.1.1.1 and 5.1.1.2:* Land acquisition for proposed WaterNSW assets must involve ongoing consultation with WaterNSW.
42. *Table 6.1*: WaterNSW supports positive outcomes for First Nations communities. While this mentions the potential to deliver cultural flows to Billabong Creek through the proposal, this is not specified in the draft Yanco Creek System Operations Plan. DCCEEW is to work with First Nations communities to include this in the operations plan if this outcome is to be realised.

Appendix S ESD report and Climate risk assessment report

43. *CRA Executive Summary*: The summary notes that RRC8.5 has been used for the assessment but under Section 3.6.5 SSP5-8.5 in Table 3.6 SSP5-8.5 is used. The proponent is to clarify this discrepancy.
44. *CRA Executive Summary*: From the text: three timeframes (baseline, 2050, 2050, and 2090) – the proponent is to clarify if the second timeframe should be 2070.
45. *CRA 1.5*: From the text, *Additionally, once NARCLiM 2.0 becomes available, consideration should be given to incorporating that data into future assessments* - NARCLiM 2.0 was released in the second half of 2024. Per the above suggestion from the EIS, the proponent is to review if new data would change the assessment.
46. *CRA 3.6.5*: From the text, *The Australian Department of Climate Change, Energy, the Environment and Water (Cwth DCCEEW) have released a draft update to the Climate Change Considerations*

chapter in Australian Rainfall and Runoff guidelines (ARR Guidelines), which advises using temperature projections to improve accuracy of projected rainfall intensity (Ball et al., 2019)- AR&R Book 1 Chapter 6 Climate Change Considerations was released in August 2024. The proponent is to confirm that the interim data used is still valid.

47. *CRA 3.6.5 and Table 3.6*: Table 3.6 notes increases in rainfall based on SSP5-8.5 to 2050 and 2090 which aligns with current guidance in AR&R 2024, however Table 4.3 of the Flood Impact Assessment (Appendix H) does not provide results for increases in flow rates for 0.5% and 0.2% floods that are noted as proxies for climate change scenarios in the SEARs, Increase in flow rates for the 1% flood are provided and indicate a large increase from 15,552 MLD to 23,653 MLD. WaterNSW seeks the results for the 0.5% and 0.2% flood events and to understand if these would increase the flows impacts to the proposal. The same applies for Hartwood at Table 4.2.
48. *CRA Appendix B Risk Register*: From the table *Regulator designed to cater for possible extended precipitation events in the catchment (Probable Maximum Precipitation - PMP). Allowance for flood surcharge to be incorporated into the proposed operation of the dam* - the proponent is to clarify how the design of the regulators has allowed for flood surcharge associated with increasing PMF due to climate change.

Appendix T Contamination assessment

49. A Phase 2 Environmental Site Assessment is to be conducted by the proponent to update and confirm any contamination risks, particularly around the Wanganella construction activities. The investigation primarily is to determine the inherent risk of potential contaminated soils from historical uncontrolled fill being used on the site and the inherent risk of contaminated groundwater entering the proposed infrastructure locations. This investigation should be conducted prior to construction commencing, to inform the CEMP and suitable mitigation measures which are to be carried out by the proponent and/or its contractor.

Appendix U Draft Yanco Creek System Operations Plan

50. *Page 16 to 18 Annual reporting requirements*: Annual Compliance Report/s focus solely on work approval conditions. For any additional requirements to be addressed in the Annual Compliance Reports, it is recommended that these new conditions be incorporated into the work approvals.
51. *Page 17*: Publishing of Annual Compliance Report on the WaterNSW website would represent a new precedent, as this practice has not been implemented in other valleys, including in the Murrumbidgee Valley.
52. *Page 33 Unregulated flow operations*: It is recommended to include an additional note to clarify that during smaller supplementary events, the proposed flow splits of 9% and 91% may not always apply. Variations can occur due to differing system demands and the equitable distribution of supplementary flows. For instance, higher water demands downstream of the Yanco offtake compared to those within the Yanco system could lead to a deviation from the suggested flow splits. The actual allocation of flows is guided by forecasted demands and the necessity to equitably share water between systems.
53. *Page 43, 46 and 47*: The reference to general security requiring above 15% AWD is inconsistent with other rules which specify AWD and carryover water. To ensure alignment, this plan should be revised to include carryover water in addition to AWD.

54. *Page 43 to 44 Environmental baseflow provisions:* Meeting base flow rules is challenging due to limitations with system wide control across the Yanco Creek system. Performance measures used to assess compliance with the rules need to consider these issues including take by customers that does not comply with orders.
55. *Page 46 Native fish environmental flow provisions*: The rates of rise and fall specified at both Yanco Offtake and Darlot are difficult to achieve due to infrastructure limitations. Without the appropriate tools or control systems, meeting these obligations are not feasible. It is recommended to remove or revise this rule to align with current operational capabilities.
56. *Page 47 Additional environmental provisions*: These provisions necessitate setting aside additional water in the resource assessment. Further consultation with the Department's Allocations team is required to address this matter adequately.
57. *Page 55 Unregulated flow operations*: The feasibility of achieving flow splits may be limited. Performance measures used to assess compliance with the rules need to consider these issues.
58. *Page 62 and 67*: These rules should ensure consistency with existing rules. References to water levels should be changed to refer to flows. Requirements for rates of rise and fall need to consider the practicalities involved with achieving them. Performance measures used to assess compliance with the rules need to consider these issues.
59. *Page 75*: Clarification is required regarding the wording '*the officer responsible for environmental water management'*. Recommend specifying whether this refers to a state, federal, or departmental role to eliminate ambiguity.