

Table of responses to public submissions on draft Public Environment Report for NVIRP

All submissions to the draft Public Environment Report (PER) for NVIRP are available in Appendix 22. Only a small number of (eleven) submissions were received. These submissions included both comments that were relevant to the draft PER and comments that were outside the scope of the *Environment Protection and Biodiversity Conservation (EPBC) Act* and the scope of the PER. NVIRP has reviewed the submissions thoroughly and in detail and provided a response to each relevant comment. These are included in the first table below. Where comments were not relevant to EPBC Act or the PER, these have been summarised in the second table.

Description of issue raised in submissions (submission numbers in which the issue is included)	Comment including any amendments made in finalising the PER
General	
<p>General (2,5,6,8):</p> <ul style="list-style-type: none"> - there is no study on impacts of reducing surface and groundwater - no investigation of triple bottom line environmental, economic and social impacts, in conjunction with effects of drought and over-allocations - project impacts will be localised, inter-state and national if environmental, social and economic impacts are investigated thoroughly - should have undertaken a comprehensive on-ground socio-economic analysis study for the GMID - PER information comprises largely unsupported technicalities - inability to openly rigorously consult - without daily outfall data it is difficult to scrutinise the figures and hydrological effects 	<p>The PER has been designed to meet the guidelines (Appendix 2 of PER), including consultation requirements. The PER is based on the nine technical hydrological and ecological reports listed in Section 10.1 and discussed in Chapters 4, 5, 6 and 7. These technical reports were rigorously assessed by the Expert Review Panel (ERP). The results of these reports form the basis for the conclusion in the PER that, subject to the stated safeguards and mitigations measures identified in Chapter 7, NVIRP will have no significant adverse impacts on MNES. Chapter 11 discusses social and economic matters as required by the guidelines. Chapter 10 discusses the information sources.</p> <p>No amendment made in finalising the PER.</p>
Chapter 1	
<p>PER scope (5,6):</p> <ul style="list-style-type: none"> - Kerang Lakes should be included 	<p>The PER meets the guidelines (Appendix 2 of PER). As noted in Section 1.2.4 of the PER, the localised reconfiguration works within the Kerang Wetlands Ramsar site which</p>

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<ul style="list-style-type: none"> - why has the project not been referred prior to any construction - why are Shepparton Modernisation and Central Goulburn 1-4 only now being referred - impact of removing natural carriers (e.g. Serpentine Creek) was not adequately addressed 	<p>may reorganise how the lakes are physically connected to or supplied by the irrigation system are not included. The project is currently at pre-feasibility stage and no firm proposal has been developed or decision made. Section 1.2.8.1 of the PER notes that modernisation has been undertaken by previous projects other than NVIRP in the Central-Goulburn 1-4 and Shepparton Irrigation Areas. In these areas NVIRP will undertake partial modernisation to complete channel remediation and connections. Construction impacts were assessed as unlikely to have a significant impact on MNES and therefore as not warranting referral. This is generally accepted. The scope of the controlled action was determined in the controlled action determination and the PER has been developed to meet the guidelines required by the Commonwealth Government.</p> <p>No amendment made in finalising the PER.</p>
<p>Legislation (3):</p> <ul style="list-style-type: none"> - the rules and legislation of the plan have changed almost weekly 	<p>It is not clear which plan the submitter is referring to. The policy framework is described in Section 1.2.6.5 of the PER.</p> <p>No amendment made in finalising the PER.</p>
<p>Water entitlements (4,8,9):</p> <ul style="list-style-type: none"> - irrigators will have to make up the short fall to other entitlements with no compensation, especially in the light of climate change - the modelling scenarios fail to consider likely impacts of climate change (including future reductions to inflows) on ability to achieve water savings - LTCE not appropriate to calculate water savings 	<p>As set out in Section 1.2.2, one of the key objectives of the action is to secure a sustainable long-term future for irrigation communities in response to the problems of reduced water availability and climate change. Irrigators will receive up to 175 GL of additional entitlement as a result of the project. Section 3.11.1 of the PER states that one of the principles for all Victorian modernisation projects is that the conversion of water savings to water entitlements must have no long term impacts on existing water rights. One of the guiding principles of the Northern Region Sustainable Water Strategy is that 'all entitlement-holders need to share the risk of reduced water availability caused by climate change'.</p> <p>The water savings estimates have been estimated in terms of long-term average savings (or Long Term Cap Equivalents) and are based on historical data. This approach is consistent with all other water recovery initiatives within the Murray-Darling Basin. No other water recovery projects, including water purchases, have been adjusted for</p>

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	<p>estimates of climate change because of the broad range of future climate change projections.</p> <p>Additional detail about the Northern Region Sustainable Water Strategy has been provided in Section 1.2.6.5.</p>
<p>Connection between NVIRP and Sugarloaf Pipeline (2):</p> <ul style="list-style-type: none"> - NVIRP have failed to describe in any detail their integration with the North-South Pipeline - if water savings are not realised then the North-South Pipeline is also a failure and \$1 billion wasted 	<p>As required by the PER guidelines, Section 1.2.7.2 of the PER identifies other related actions and their broad interlinkages with NVIRP. This includes the Sugarloaf Pipeline.</p> <p>Section 1.2.9 states that, if the action were not to proceed, then the value of the Victorian Government's investment in the Sugarloaf Pipeline would be compromised, requiring alternative water to be sourced from other consumptive users in northern Victoria and New South Wales.</p> <p>No amendment made in finalising the PER.</p>
Chapter 2	
<p>Irrigators benefit the environment (3):</p> <ul style="list-style-type: none"> - 30% of the water that irrigators pay for and use supports environmental values 	<p>The introduction to Chapter 2 of the PER discusses the lack of native vegetation and the poor condition of many wetlands and waterways in the region. It notes that the provision and maintenance of the irrigation system in the GMID has contributed substantially to the current environmental condition of these systems. Section 2.9 identifies the substantial and long-term policies to reduce groundwater recharge from irrigation in the region.</p> <p>No amendment made in finalising the PER.</p>
<p>Need for action (5):</p> <ul style="list-style-type: none"> - lack of action on channels since their construction does need to be rectified 	<p>Noted. Section 2.6 of the PER discusses the current operation of the system.</p> <p>No amendment made in finalising the PER.</p>
<p>Over-allocation of water (5):</p> <ul style="list-style-type: none"> - PER has not addressed over-allocation in the Murray Darling Basin and 	<p>Section 2.6.1.1 of the PER notes that major water recovery initiatives, including the water savings for the environment resulting from NVIRP, are aimed at improving the health of</p>

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its impacts on wetland, waterways and aquifers	<p>the rivers and wetlands in northern Victoria and addressing over-allocation more broadly across the Murray-Darling Basin.</p> <p>No amendment made in finalising the PER</p>
<p>Existing policy framework (5,6,7):</p> <ul style="list-style-type: none"> - negative impacts of unbundling and water trade on farmers - water reserve policy affects farmers - buyback threatens economic security of farmers, compounded by the scatter-gun approach being used - impact of MDB cap hasn't been considered 	<p>Section 2.10 describes surrounding sources of change including unbundling, water trade and buyback.</p> <p>Unbundling and water trade are Commonwealth and Victorian Government policy decisions and form part of the policy framework under which NVIRP must operate. Section 11.4.4 identifies that irrigation modernisation is expected to make the GMID more competitive and reduce water trade out of the district</p> <p>The Northern Region SWS, described in Section 1.2.6.5, highlighted the importance of providing all entitlement-holders with the certainty and flexibility they need to help manage the water related risks to their enterprises. Flexibility is supported through mechanisms such as the water market and carryover, and certainty through actions such as the reserve policy and modernisation processes. Modernisation processes underpin certainty by reducing the amount of water required to operate the distribution system. New entitlements are created from the resulting water savings.</p> <p>Section 3.3.1 identifies the integration of the Connections Program with other initiatives, including Commonwealth water purchase. In order to generate significant synergies and support NVIRP's wider objectives, it is proposed that the water purchase and on-farm programs are targeted based on market forces/trends and provision of incentives to reward people for rationalising channels.</p> <p>The water savings are not new extractions from the Murray Darling Basin but a proportion of losses from existing extractions. There is no impact on extraction levels from the Basin.</p> <p>No amendment made in finalising the PER.</p>

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Chapter 3	
Channel lining (6): <ul style="list-style-type: none"> - method adopted for lining is thick black plastic which is not readily biodegradable - clay lining would have been a much better option than plastic 	<p>Section 3.2.2 of the PER states that channel remediation can be in the form of lining, either with plastic or clay, and/or bank remodelling. Where plastic is selected as the preferred material, it is essential that it should not be readily biodegradable in order to extend the serviceable life of the remediation.</p> <p>No amendment made in finalising the PER.</p>
Delivering environmental water (9): <ul style="list-style-type: none"> - some EWPs identified additional capacity requirements for effective environmental water delivery, this should be integrated into NVIRP planning 	<p>As stated in Section 3.8.1 of the PER and the WCMF (Section 9), NVIRP have principles that seek enhancement of environmental infrastructure where possible and practicable. This is also consistent with Victorian Government principles identified in the NRSWS.</p> <p>No amendment made in finalising the PER.</p>
Unrealistic water savings will impact MNES (6): <ul style="list-style-type: none"> - water savings are unrealistic and will have impacts on MNES - the authenticity of water availability is critical to 'environmental effects' - assessment of NVIRP under the controlling provisions rests on verifying whether real water savings are being made 	<p>Section 3.11.1 of the PER outlines the water savings principles for all Victorian irrigation modernisation projects. One of these principles is that "water savings are the total (gross) volumes saved less the volume of water required to ensure no net impacts due to the project on high environmental values."</p> <p>This means that mitigation water is allocated ahead of any water savings, providing assurance that significant impacts on MNES will be avoided, irrespective of the level of water savings achieved. If lower water savings were to be achieved, then the associated environmental effects, whether positive or negative, would be correspondingly less.</p> <p>The potential contribution of up to 175 GL long term annual average water savings to the environment has not been factored into the assessment of the project's effects.</p> <p>The water savings will be audited in accordance with the Water Savings Protocol and entitlements issued will be in line with the verified water savings.</p> <p>Further clarification has been provided in Section 6.13 of the PER, as well as the</p>

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	Executive Summary and the Conclusion.
<p>Ability to determine actual losses to environmental assets (6):</p> <ul style="list-style-type: none"> - that actual losses to environmental assets may not be adequately determined and therefore vulnerable to inadequate mitigation 	<p>The WCMF describes the process by which NVIRP assesses the operational impacts of the modernised system on the environment and how NVIRP will mitigate those impacts. It is an adaptive document and it describes how ecological consequences of hydrological change arising from implementation of NVIRP will be monitored and adjusted. The ERP, in providing advice to the Minister for Water, stated 'the WCMF and associated documents represented an excellent first step in ensuring that NVIRP remains environmentally benign' (August 2009).</p> <p>ERP recommendations regarding assessment of hydrological changes to environmental assets have been adopted in the preparation of this PER.</p> <p>NVIRP is confident the WCMF represents an adequate framework for the assessment and mitigation of environmental impacts associated with hydrological changes. The initial determination and ongoing review of mitigating actions will ensure NVIRP's mitigation adequately protects environmental values.</p> <p>No amendment made in finalising the PER.</p>
Chapter 4	
<p>Desktop study (2,5,6,8,9):</p> <ul style="list-style-type: none"> - a desktop study is inappropriate - field surveys must be conducted and uncertainties qualified 	<p>In order to identify matters of national environmental significance, information from field surveys and databases that have been compiled over many years was used (see Table 4-3 of PER). The reliability of this field survey data is described. All of the data was collected in field by competent professionals, and has associated quality assurance processes.</p> <p>The GMID covers 9,000 km². Therefore a targeted, risk-based approach is appropriate, focusing on areas where MNES have previously been identified. Given that very little native vegetation remains in the GMID, there is a low likelihood of MNES in other areas. This is supported by the pre-construction field surveys conducted to date which have not</p>

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	<p>identified any MNES, nor significant potential for its presence. Pre-construction surveys are undertaken within individual construction footprints prior to the relevant program of works. Therefore a specific field survey to identify MNES exclusively for the purposes of the PER is not warranted. In addition, given the seasonality of flora and fauna, and current drought conditions, a single field survey across the whole GMID would be unlikely to yield data as substantial as that used from prior field surveys and databases that, in some cases, contain decades of observational data.</p> <p>The ERP has reviewed all of the ecological assessment reports and advised that they are fit for purpose.</p> <p>No amendment made in finalising the PER.</p>
<p>Matters of National Environmental Significance (MNES) (6):</p> <ul style="list-style-type: none"> - why include migratory birds when the effect of the NVIRP works on Ramsar sites in the entire MDB has not been considered 	<p>The controlling provisions for the action include both Ramsar sites and migratory species. Both have been identified and assessed in the PER.</p> <p>No amendment made in finalising the PER.</p>
<p>Return of savings to environment (2):</p> <ul style="list-style-type: none"> - the surface water hydrology assessment does not include the return of savings to the environment and impacts caused by delivery of environmental water - does this mean the losses from this water have or have not been calculated 	<p>425 GL of water savings were used as the basis for the assessment. However, the 175 GL of environmental entitlements associated with these savings was not used in the flow analysis. This is identified in Table 4-10 of the Surface Water Hydrology Assessment report (Appendix 18 to the PER)</p> <p>The assessment was therefore highly conservative (i.e. showed worse case impacts) because it did not include the beneficial effects of the 175 GL for the environment. If the use of this water were taken into account, then there would be significant net benefits for MNES.</p> <p>Amendment made to Section 4.3 in finalising the PER.</p>

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Chapter 5	
Outfall data (8): <ul style="list-style-type: none"> - the assumption that outfall water is distributed evenly across the season makes it difficult to scrutinise the figures and their hydrological effects - the 05/06 year was not a reasonable choice of representative conditions 	<p>Further technical advice on the submitter's comments was sought. This advice is included as Appendix 21b and responds to the submitter's comments. This further advice confirmed the appropriateness of the hydrological assessment conducted.</p> <p>No amendment made in finalising the PER.</p>
Impacts at Torrumbarry (5): <ul style="list-style-type: none"> - the 60 GL less at Torrumbarry (identified in Chapter 5) is of major concern 	<p>The submitter highlighted that the reduction in deliveries to Torrumbarry can result in a slight increase in salt load to the River Murray (Section 5.4.4.4). The section referred to identifies that the implications of this for Ramsar sites are further discussed in Section 5.4.4.5. This section concludes that the changes in salinity due to NVIRP at Ramsar sites are immaterial. Ramsar sites are current (and likely to be continuing) recipients of environmental water under the Living Murray Initiative and Basin Plan and exemplify the opportunities for targeted environmental management. Modernisation will allow greater control of water resources and thus provide such opportunities for more targeted environmental management.</p> <p>No amendment made in finalising the PER.</p>
Goulburn River (5,6,8,10): <ul style="list-style-type: none"> - Goulburn River will consistently remain bedded to minimum passing flows due to loss of outfall contributions and this will have impacts on large bodied fish, including Murray Cod that are known to occur in the Lower Goulburn - environmental flows must be delivered in volumes and times that reflect the natural flow regime - there is no EWP yet proposed for Goulburn River despite MNES (fish) being located in the final stretches of the Goulburn River below McCoy's Bridge 	<p>Minimum passing flows are set in Bulk Entitlements and are therefore outside NVIRP's scope and the scope of this PER.</p> <p>The changes in flow regime for the Goulburn River, including downstream of McCoys bridge were considered in SKM 2008 (Appendix 15 to PER) and SKM 2009a (Appendix 18 to PER). The hydrological impacts of providing 75 GL water to Melbourne were addressed in SKM 2009a. The assessment was conservative (i.e. showed worse case impacts) because it did not include the beneficial effects of the 175 GL for the environment or inter-valley transfers.</p> <p>The aquatic fauna assessment (King and Tonkin 2009) concluded that the flow changes proposed from the operation of NVIRP in the Murray and Goulburn Rivers are likely to be</p>

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<ul style="list-style-type: none"> - the effect of the extraction rate on the Goulburn River must be examined - Bulk Entitlement minimum passing flows should be doubled - WCMF refers to unfinished investigations such as 'the Goulburn River was also recommended in the SKM report for further investigation. This will be addressed in NVIRP's response to Condition 4 of the Minister's decision...' 	<p>minimal (SKM 2009a), and within the flow conditions already experienced by these species. Therefore, populations of the three listed fish species occupying these waterways are unlikely to be impacted by the operational changes of NVIRP.</p> <p>These findings support the conclusion that no EWP is required for the Goulburn River.</p> <p>In practical terms, the water savings held in Eildon (plus other sources, e.g. inter-valley transfers) will mean flows in the lower Goulburn River will be in excess of the minimum passing flow and be closer to the scientifically recommended regimes. The delivery of environmental entitlements will be in accordance with Government policy, as described in Section 11.6.</p> <p>The Condition 4 report is relevant to the Victorian Planning Minister's decision (Appendix 3 to the PER), not to the assessment of the controlled action. All the assessment relevant to MNES is contained within the PER and the associated technical appendices. The ERP advised that the technical reports are fit for this purpose.</p> <p>No amendment made in finalising the PER.</p>
<p>Groundwater impacts (9):</p> <ul style="list-style-type: none"> - there is no assessment of the potential impacts on groundwater dependent wetlands - changes in the contribution of groundwater to stream flow have not been investigated 	<p>This is incorrect:</p> <ul style="list-style-type: none"> • Section 5.4.2 of the PER and the groundwater report (SKM 2009b) discuss potential hydrological impacts on wetlands. These hydrological changes were used as the basis for the ecological assessment described in Chapter 6. • The SKM groundwater report (SKM 2009b - Section 7.4.1) and surface water report (SKM 2009a – Section 3.4) discusses potential changes in lateral movement of groundwater and its effects to river flow and salinity for the Goulburn and Murray rivers. The results indicate that the impact will be in the order of 19 ML/day across the two river systems and are not considered material. Furthermore, minimum flow requirements specified in Bulk Entitlements will be maintained (i.e. additional releases from storage will be made, where necessary, in order to maintain the minimum flows).

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<p>Hydrological assessment findings (6):</p> <ul style="list-style-type: none"> - effect on river flows from reduced outfalls and seepage dismissed as relatively minor 	<p>As described in Section 10.1 of the PER, this PER was prepared using information from nine technical reports and the information sources listed within each report. This included five reports assessing the hydrological effects of the action. All documents including surveys referenced in the technical reports are publicly available.</p> <p>The Environmental Referrals report (SKM 2008) was reviewed by the Victorian Minister for Planning as part of the EES determination.</p> <p>The remaining eight reports were all reviewed by the ERP, which is made up of three experts in the fields of aquatic ecology, vegetation ecology and strategic water resource planning. Their advice is attached at Appendix 20 to the PER.</p> <p>NVIRP therefore believes that the conclusions drawn in the PER are fully supported.</p> <p>No amendment made in finalising the PER.</p>
<p>Impacts on South Australian Ramsar sites and River Murray (11):</p> <ul style="list-style-type: none"> - the use of water level as a surrogate measure for flow fails to address whether implementation of NVIRP will result in a net reduction in flow to the River Murray and into South Australia, and whether there will be an impact on downstream Ramsar sites in South Australia - a detailed hydrological study is requested to confirm the impact of NVIRP on the quantity of water available to Ramsar sites in South Australia, to be included in final PER 	<p>The impacts of NVIRP on flows in the River Murray are estimated to be very minor, with the net change to the flow into South Australia expected to be negligible.</p> <p>Moreover, any possible reduction to the River Murray will be more that offset by the use of the 175 GL for the environment. The reasons for this conclusion include:</p> <ul style="list-style-type: none"> • the highly conservative assumption that all outfalls, regardless of their locality, will reach the waterways and 100% will eventually find their way to the River Murray • the operation of River Murray is designed to maximise water resources available to secure water supply for consumptive use including supplies to South Australia. • the use of the 175 GL water savings for the environment is not included in the assessment, which is expected to considerably increase the flow to South Australia and the Lower Lakes <p>In these circumstances there is no justification for a detailed hydrological study of impacts</p>

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	<p>into South Australia. In finalising the PER additional discussion reflecting the above has been added to the:</p> <ul style="list-style-type: none"> • Executive Summary • Chapter 5 – Indirect and downstream effects • Chapter 6 - Significance of impacts to Ramsar wetlands • Chapter 12 - Conclusion
Chapter 6	
<p>Assessment of impacts on EVCs (6):</p> <ul style="list-style-type: none"> - there has been no study or assessment made of likely impacts on threatened EVCs pending further definition of the required modernisation work 	<p>Ecological Vegetation Classes (EVCs) are established under State legislation. Nationally-listed ecological communities align with state EVCs. The relationship is discussed in Section 6.5.2 of the PER and in the flora report (Ecological Associates 2009, Appendix 10). Therefore an assessment of likely impacts on threatened ecological communities has been made. The assessment concluded that there were no significant impacts from modernisation on ecological communities and a number of potential benefits.</p> <p>No amendment made in finalising the PER.</p>
<p>Ramsar sites (2):</p> <ul style="list-style-type: none"> - the proponent is uncertain whether Fivebough and Tuckerbil Swamps in NSW & Lake Albacutya are connected hydraulically 	<p>The PER guidelines require the output of the Protected Matters Search Tool to be included in the PER. Fivebough and Tuckerbil Swamps in NSW and Lake Albacutya were included because, as stated in Section 4.2.1.2 of the PER, they were identified by the Protected Matters Search Tool. Section 6.3.4 confirms that these sites are not plausibly affected by the action. There is no uncertainty regarding the hydraulic connection of the Ramsar sites mentioned.</p> <p>No amendment made in finalising the PER.</p>
<p>Icon sites and threatened species (6):</p> <ul style="list-style-type: none"> - Icon sites and threatened species are at risk because NVIRP is taking 	<p>Icon sites are those identified under the Living Murray Initiative. While most Icon sites are also Ramsar sites, the controlling provision under the EPBC Act is Ramsar sites.</p>

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<p>water from stressed MDB to Melbourne</p>	<p>Chapter 6 of the PER assesses the relevant impacts on MNES, including Ramsar sites and threatened species. The assessment includes the hydrological effects of providing water to Melbourne. This assessment excludes the allocation of the up to 175 GL of callable, tradeable environmental entitlement water generated as a result of the project. The assessment indicates that the action is not expected to have a significant impact on MNES including Ramsar/Icon sites.</p> <p>No amendment made in finalising the PER.</p>
<p>Algal blooms (5,6):</p> <ul style="list-style-type: none"> - water savings must not be to the detriment of the Murray or Goulburn Rivers(e.g causing algal blooms) - occurrence of algal blooms in the Murray was not addressed in the PER 	<p>As noted in Section 2.9.2 of the PER, the Victorian Government has sought to minimise impacts of the flow, sediments, nutrients, salt and other pollutants in irrigation channels on surface water and groundwater through implementation of efficient irrigation practices and water re-use. In particular it has adopted a number of approaches to minimise irrigation drainage water outfalling into wetlands and waterways. The assessment of NVIRP effects did not identify any heightened risk owing to NVIRP modernisation. By reducing the volume of poor quality drainage water reaching outfalls, and replacing it with the planned delivery of mitigation water and environmental entitlements, it is likely that water quality will improve. NVIRP is aligned with this long-term policy of improving water quality in wetlands and waterways.</p> <p>No amendment made in finalising the PER.</p>
Chapter 7	
<p>Environmental Watering Plans (EWPs) (6,8):</p> <ul style="list-style-type: none"> - interim EWPs should be finalised before approval for project is given - works should be halted until EWPs are completed - EWPs should not be provided on a piecemeal basis, ignoring the consequences of environmental effects on later stages of the works - EWPs should be presented for public comment 	<p>The PER, as required by the guidelines, provides sufficient information to enable the Minister for the Environment, Heritage and the Arts, or his delegate to understand the environmental impacts of the action on the controlling provisions. The proposed Environmental Watering Plans are a safeguard and mitigation measure, not an assessment method. As described in Section 7.5, EWPs are the instrument through which any adverse localised impacts of the operation of the modernised system on wetlands and waterways will be mitigated. They are not full management plans for</p>

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	<p>wetlands and waterways, but fit within the existing management regime for the wetland or waterway. As such, it is appropriate that these be finalised as a condition of approval, not before approval of the action itself. This is what is currently required by the State Minister for Planning's conditions and what NVIRP has proposed in the suggested conditions of approval in Section 12.10 of the PER.</p> <p>EWPs will be developed for each wetland and waterway identified as requiring an EWP before operation commences in their vicinity. EWPs are technical documents specifically addressing mitigation measures. If the documents were to be put out for public comment, itis could casue a degree of public confusion given that the plans do not cover all management aspects of the wetland or waterway.</p> <p>As described in Section 7.5.8, the EWP development process involves review by the Technical Advisory Committee (comprising Parks Victoria, Goulburn Broken Catchment Management Authority, North Central Catchment Management Authority, Goulburn-Murray Water, Department of Sustainability and Environment and the Department of Primary Industries) and review and advice by the Expert Review Panel. The approved EWPs and associated ERP advice are made publicly available on NVIRP's website. NVIRP considers that this technically-oriented consultation is suitable for the development of the EWPs and that additional public consultation is not warranted and would be likely to cause confusion.</p> <p>All of the EWPs required have been identified, with one waterway requiring further investigation. As stated in Section 7.5.3 of the PER, at this stage, EWPs for all of the sites requiring EWPs are scheduled to be approved before the commencement of the 2010/2011 irrigation season. As discussed in Section 7.8, there is a management review process for each EWP and for whether additional or revised EWPs are required. Therefore NVIRP has adopted a holistic approach to EWPs.</p> <p>No amendment made in finalising the PER.</p>
Ability to provide mitigation water (2,5,6):	Because mitigation water is allocated ahead of any water savings, it is impossible for

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<ul style="list-style-type: none"> - source of mitigation water considering the diminished potential for real savings - critical that mitigation water can be justified as correct 	<p>water savings to cause a shortfall in mitigation water and because mitigation water has first call it is not possible that there would be insufficient mitigation water to ensure no net effect on MNES as a result of the project.</p> <p>The determination of mitigation water is described in Section 9.1.2 of the Water Change Management Framework (included at Appendix 4 of the PER). As listed in Section 7.2.1 of the PER the Water Change Management Framework includes principles for the provision of mitigation water as required by the EWPs.</p> <p>As described in Section 7.10 of the PER, in reviewing the WCMF and providing advice to the Victorian Minister for Water, the ERP advised that one of the key priorities for development, before the 2010/2011 irrigation season, should be establishment of the methods for defining the attributes (sourcing and allocation) of mitigation water and incorporation into the Water Savings Protocol. It was recognised by the ERP that this responsibility lies with DSE rather than NVIRP. The WCMF will be updated to reflect policy developments in sourcing and allocation of mitigation water.</p> <p>No amendment made in finalising the PER.</p>
<p>Water Change Management Framework and water savings (5):</p> <ul style="list-style-type: none"> - concern that 'accounting for water savings is outside the scope of this WCMF' 	<p>Accounting for water savings is addressed through the Water Savings Protocol, approved by the Minister for Water under the Water Savings Act 1989 . The WCMF references the Water Savings Protocol and the Protocol is described in Section 3.11.2 of the PER and included at Appendix 6.</p> <p>No amendment made in finalising the PER.</p>
<p>Chapter 8</p>	
<p>None.</p>	
<p>Chapter 9</p>	

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<p>Environmental record / planning permits (8):</p> <ul style="list-style-type: none"> - NVIRP has had some non-compliance issues with its planning permits 	<p>It is correct that there was some non-conformance with the Construction Environmental Management Framework during 2009 due to a failure in communication. This resulted in works at regulator sites taking place without DSE oversight of site plans and the implications for native vegetation removal (and in one instance involved construction taking place outside the approved construction footprint.)</p> <p>NVIRP is providing native vegetation offsets for the unauthorised works totalling 1.18 Habitat Hectares. NVIRP and its contractors have since amended procedures and on-ground practices to address the issues giving rise to the non-conformance.</p> <p>The PER guidelines (Appendix 2) require the proponent to provide details of any environmental proceedings under Commonwealth or State law. There are none.</p> <p>No amendment made in finalising the PER.</p>
Chapter 10	
<p>Insufficient time (2):</p> <ul style="list-style-type: none"> - the Expert Review Panel in letters to Mr. Peter Harris, DSE and Water Minister Holding dated August 11th 2009 indicate timelines were too short 	<p>The submitter refers to the advice provide by the Expert Review Panel in August 2009. Since this time, further work has been conducted and the ERP has met on numerous occasions. In its advice of 8 January (Appendices 20d to 20f), the ERP raised no concern about the level of scrutiny and detail in the documentation and acknowledged the quality of the expert reports.</p> <p>No amendment made in finalising the PER.</p>
<p>Ability to achieve savings (6):</p> <ul style="list-style-type: none"> - NVIRP is saying it can't be held to account for deficiencies in the delivery of water savings and mitigation water and that the comments from the ERP absolve them from further responsibility 	<p>This statement is incorrect. The submitter has mistaken the point of the ERP's comment that, in assessing the effects of the action, the effects of NVIRP need to be separated from the surrounding sources of change, while taking into account the influence of these.</p> <p>No amendment made in finalising the PER.</p>

Description of issue raised in submissions (submission numbers in which the issue is included)	Comment including any amendments made in finalising the PER
<p>Relevance of water savings to assessment (2,5,6):</p> <ul style="list-style-type: none"> - question the achievability of water savings figures that add up to exactly 425 GL - NVIRP claims that all connections will be made and claim all savings, but should have undertaken a study to determine likely level of uptake - no explanation as to how evaporation losses, channel remediation have been quantified - cut off point should be determined for losses beyond which water savings can't be made 	<p>The estimates of water savings used in the PER were developed in accordance with the Water Savings Protocol (included at Appendix 6 to the PER). These Phase 1 estimates provide initial long term estimates of water savings for the planned program of works, including backbone and connections. Activities that save water by reducing leakage and seepage losses include automation of backbone channels, backbone channel remediation, rationalisation of spur channels with new connections to the backbone.</p> <p>In the case of the action, the estimates are for 425 GL of water savings, in accordance with the project's objectives. From an environmental perspective this is the conservative assumption. While NVIRP is confident of achieving up to 425 GL of water savings, if lower water savings were to be achieved then the associated environmental effects would be correspondingly less. Irrespective of the water savings achieved, the mitigation water is provided independent of, and before, the volume of water savings achieved. Therefore the estimate of 425 GL of water savings is appropriate.</p> <p>Clarification made in Chapter 10 of PER.</p>
<p>Wetland and waterway short-listing methodology (2,6,8,9):</p> <ul style="list-style-type: none"> - question adequacy of information used and process to shortlist wetlands and waterways - no indication is given of whether there was a review of the short listing process or if ERP concerns have been addressed 	<p>Subsequent to the submitters' comments, the ERP has provided further advice (25 February 2010) that NVIRP, in its hydrological and ecological assessment reports subsequent to 11 August 2009 has addressed the risk identified by the ERP.</p> <p>In finalising the PER:</p> <ul style="list-style-type: none"> • additional discussion has been added to Chapter 10 – Information Sources • the advice from the ERP (25 February 2010) has been added as Appendix 20g
Chapter 11	
<p>Consultation on NVIRP (2,3,5,6,10):</p> <ul style="list-style-type: none"> - Foodbowl Unlimited group was unrepresentative, unelected and no 	<p>There have been, and continue to be, substantial opportunities for consultation, before and during the implementation of NVIRP.</p>

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<p>meeting records</p> <ul style="list-style-type: none"> - Views of Northern Victorian Irrigators Inc inappropriately quoted by Government - consultation has been absent to the extent this social and economic dislocation warrants - consultation has been inadequate and superficial - vast majority of submissions to the food bowl modernisation draft report and its sequel were opposed to the plan but they were ignored - speed of the project is causing confusion amongst irrigators and destabilising communities 	<p>Section 11.2.1 of the PER summarises the consultation conducted by the independent Food Bowl Modernisation Steering Committee (FMSC). The 144 written submissions on the FMSC's draft report are available at http://www.ourwater.vic.gov.au/programs/irrigation-renewal/nvirp/submissions. These were taken into account in the development of the FMSC's final report. After considering the submissions, the FMSC agreed that strategic investment in irrigation infrastructure was essential to enhance productivity and maintain the growth of food industries in the region, especially in the context of lower rainfall. The Victorian Government provided a response to the FMSC's report, available at http://www.ourwater.vic.gov.au/programs/irrigation-renewal/nvirp/government-response</p> <p>The consultation process and outcomes are identified in the PER.</p> <p>Modernisation is essential. As discussed in Chapter 11, without it, the regional economy would stagnate or decline as there would be significant impediments to investment. The modernisation of the irrigation system has been discussed for many years. Modernisation is expected to generate greater agricultural production than would be possible in the absence of the project.</p> <p>The Foodbowl Modernisation Steering Committee report was published in 2007. A number of pilot projects were conducted before NVIRP was established in late 2008. NVIRP's initial focus has been on the backbone infrastructure, which has limited impact on irrigators, to enable ongoing and extensive consultation on the Connections Program. NVIRP has a team of modernisation coordinators whose role is to liaise and consult with landholders. The Connections Program will roll out over a number of years.</p> <p>No amendment made in finalising the PER.</p>
<p>Deloitte study (2,6):</p> <ul style="list-style-type: none"> - the 2007 Deloitte study was an economic study not addressing the core of economic and social disruption affecting individual farmers and communities 	<p>As the submitters noted, this report is not relevant to the ongoing social and economic effects of foodbowl modernisation. Therefore it has not been referenced in the PER.</p> <p>No amendment made in finalising the PER.</p>

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<p>Agricultural productivity (4):</p> <ul style="list-style-type: none"> - government claims irrigators can get double the production with half the water, but doubt we could get equivalent production with one quarter the water 	<p>Section 11.4.3.1 of the PER discusses the expected productivity improvements from the action. No specific percentage increase in productivity is claimed. Rather, the section states that productivity benefits on-farm are the largest direct benefit of the project and describes the sources of these productivity gains.</p> <p>No amendment made in finalising the PER.</p>
<p>Social and economic effects (2,3,6,7,10):</p> <ul style="list-style-type: none"> - project will make drought effects worse on farmers and result in physical and financial ruin, impacts economic security - project doesn't care or understand the huge impact of lack of water on farmers and communities. Including the collapse of small town economies and the social dislocation of communities and individuals. - down turn in the dairy economy - closure of the Leitchville milk factory - resulting malaise and distress have led to a significant number of suicides of irrigation farmers - many rural businesses are suffering and struggling to keep their businesses afloat including feed suppliers and machinery and vehicle dealerships 	<p>Chapter 11 acknowledges the current effects of the drought and low commodity prices on the regional economy and the associated social effects. Section 11.5.5 concludes that the major social benefit of NVIRP is that, in the long term, it secures the future of the GMID community by providing enhanced water security, facilitating employment growth and largely equitably distributing benefits through the community. Section 11.4.4.1 notes that wider regional economic impacts will arise as secondary effects from changes in the demand for the provision of goods and services consequential on changes in the level of productivity in the irrigation sector.</p> <p>Section 3.3.1 of the PER describes the target customers for the Connections Program. Participation in the program is voluntary and no irrigator is precluded from participation. As described in Section 11.4.3, all irrigators will share in the benefits associated with enhanced service delivery. While there may be some households and localised areas that could be disadvantaged, mainly through rationalisation of infrastructure, the low number of submissions surely provides additional evidence that the extent of any disadvantage is limited.</p> <p>It is also noted that the action will provide up to 175 GL of additional entitlement to irrigators.</p> <p>Therefore the PER acknowledges the submitters' concerns, but discusses that the action will provide long-term benefits to the region.</p> <p>No amendment made in finalising the PER.</p>

Description of issue raised in submissions (submission numbers in which the issue is included)	Comment including any amendments made in finalising the PER
<p>Irrigators on spur channel (6):</p> <ul style="list-style-type: none"> - many irrigators located on spur channels will exit irrigation districts due to the logistical and financial restraints in accessing an irrigation supply 	<p>Participation in the Connections Program is voluntary. There are a range of options, including forming a syndicate. As noted in Section 11.4.4, where an irrigator is too distant from the backbone to connect directly, they may have to work with their neighbours to form a syndicate, which may be facilitated by NVIRP. Water would be delivered to a single service point on the backbone. The syndicate would then have shared infrastructure and an agreement as to how to manage and maintain that infrastructure. NVIRP has a program to offer landholders, including syndicates, appropriate financial incentives.</p> <p>No amendment made in finalising the PER.</p>
<p>Drainage diverters (1,2,10):</p> <ul style="list-style-type: none"> - no irrigation water or stock and domestic water will be available to farmers - no compensation offered to mitigate impacts on drainage diverters 	<p>Drainage diversion agreements were offered to landowners generally as a supplementary supply to irrigation and were only for opportunistic volumes. Importantly, modelling to determine available volumes for drainage diversion for the nutrient management strategy did not include outfall values. NVIRP targets the losses which are not in any case available to diverters. Drought, continuing low allocations and operational practices by the Goulburn-Murray Water have reduced the volume of water available for drainage diversion since the mid 1990s, prior to modernisation.</p> <p>Drainage diverters have been made aware by Goulburn-Murray Water of the limitations of the Agreement including tariff arrangements. Therefore drainage diverters are not differentially affected by the action.</p> <p>Amendment made to Section 11.3 in finalising the PER.</p>
<p>Water charges and costs (2):</p> <ul style="list-style-type: none"> - the off-loading of irrigation infrastructure from GMW to the landowner with the on-going responsibility for maintenance and syndication with adjoining irrigators for cost-sharing purposes is another economic impost on irrigators - irrigation district fees increase by as much as 22%, whilst also having to 	<p>The incentives established in the Connections Program, as described in Section 3.3, take account of ongoing costs. Syndicates involve situations where a group of irrigators determine that it would be advantageous to establish a shared connection to the Backbone. The approach would involve provision of a major outlet meter at the Backbone as the primary measure of supply. Any losses beyond this point are then the responsibility of the members of the syndicate.</p>

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<p>pay in future on the open market ever increasing water prices and the intention of many irrigators is to leave the industry</p> <ul style="list-style-type: none"> - the loss of irrigator's water entitlements has added to economic hardship and difficulties, 	<p>This is an advantage to irrigators, where the collective payments sourced through the connections incentive program can afford to fund a better shared solution for them than if the solutions were undertaken on an individual basis, which created duplicated infrastructure.</p> <p>As described in Section 3.11.2, there is no change to existing entitlements as a result of NVIRP. As described in Section 11.4.4 of the PER, there are a number of factors driving up the costs of the irrigation supply system in the GMID. Under NVIRP any increase in water charges will be modest because the new system will enable greater productivity. Buyback within the district will be targeted and the new public system will have a smaller footprint, thereby reducing its maintenance costs.</p> <p>No amendment made in finalising the PER.</p>
<p>Economic impact (2):</p> <ul style="list-style-type: none"> - NVIRP needs to justify the statement, "Should there continue to be a net loss of water from the system, it is likely that this will reduce the long term viability of the system and possibly trigger further rationalisation. This, however, would be difficult to plan for and without compensation would likely result in disruption to the GMID community." - NVIRP must address in detail the current and future likely net losses out of the GMID system so that the full environmental, social and economic impacts can be quantified and can get a basic idea of the future viability of the region, and ability to make savings for the North-South Pipeline can be evaluated 	<p>The quotation referred to (Section 11.5.2) by the submitter is in the context of the action not being implemented. Section 11.5.5 goes on to conclude that the major social benefit of NVIRP is that, in the long term, it secures the future of the GMID community by providing enhanced water security, facilitating employment growth and largely equitably distributing benefits through the community.</p> <p>No amendment made in finalising the PER.</p>
<p>Safety of channel lining (2,6):</p> <ul style="list-style-type: none"> - plastic lining is dangerous to animals and children 	<p>Section 6.12 of the PER concludes that plastic lining of channels will not significantly affect any EPBC Act listed species that occur regularly in the GMID as the terrestrial species potentially affected by the project are waterbirds or frogs that move readily between water bodies in search of water and would not be affected by plastic lining of channels.</p>

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	<p>Section 11.5.4 identifies NVIRP's approach to managing the safety aspect of channel remediation. Irrigation channels are hazardous places. Therefore, preventing public access is beneficial. NVIRP has a risk-based approach to fencing channels as part of modernisation, depending on each channel's public access risk profile. NVIRP is also developing methods for safe egress, should a person inadvertently access a lined modernised section of channel.</p> <p>No amendment made in finalising the PER.</p>
<p>Sites valued by community do not offer savings (6):</p> <ul style="list-style-type: none"> - savings from reducing outfalls are not necessarily water savings if they would have some environmental benefit to a site valued by the community 	<p>This comment is not relevant to assessing effects on MNES.</p> <p>The assessment does not include the allocation of the environmental entitlements generated as a result of the project. The principles for the allocation of this water are described in Section 11.7.1 of the PER. In general it is expected that sites which have environmental values also have community values.</p> <p>No amendment made in finalising the PER.</p>
<p>Environmental entitlement (9):</p> <ul style="list-style-type: none"> - PER does not mention of the reliability of the 175 GL entitlement for the environment 	<p>Section 11.7.1 of the PER describes characteristics of the environmental entitlements. They will have the same characteristics as water provided to irrigators and towns (i.e. a callable volume in storage can accrue allocations, temporary trade, carry over provisions and be able to be extracted for use at specific locations). They will also be able to be used at multiple locations as the water travels downstream (provided losses and water quality issues are accounted for). This means that the water can be called out of storage at desired times to meet specific environmental needs at a number of sites.</p> <p>Amendment made to the Executive Summary.</p>
<p>Water savings accounting (5):</p> <ul style="list-style-type: none"> - opportunities to divert water to some wetlands will result in substantial return flows to rivers with additional downstream benefits. This type of release should not be double counted. 	<p>In accordance with the Water Savings Protocol (Appendix 6 to the PER) and Victorian water accounting processes, water savings that are allocated as environmental entitlements will not be double-counted.</p> <p>Section 11.7.1 of the PER discusses the use of the newly-created environmental</p>

Description of issue raised in submissions (submission numbers in which the issue is included)	Comment including any amendments made in finalising the PER
	<p>entitlements. Consistent with the submitter's comment, the PER notes that these entitlements will be able to be used at multiple locations as the water travels downstream (provided losses and water quality issues are accounted for).</p> <p>No amendment made in finalising the PER.</p>
Chapter 12	
<p>Water savings verification (6):</p> <ul style="list-style-type: none"> - there is a need for Minister for verify water savings - DEWHA are obliged to look also to other checks outside that supplied by the proponent to ensure the veracity of savings 	<p>DEWHA needs to be satisfied that any mitigation water required to protect MNES is provided.</p> <p>This process is set out in the WCMF, as required by the State Minister for Planning's conditions. NVIRP has proposed that compliance with these conditions also be required by DEWHA in its approval of the controlled action.</p> <p>Mitigation water is provided ahead of any water savings, meaning that the quantum of water savings is not relevant to the protection of MNES. Therefore there is no need for a condition of approval requiring an audit of the water savings.</p> <p>No amendment made in finalising the PER.</p>

There are no amendments to the PER from the following comments as they are not relevant to the EPBC Act or the scope of the PER. They are included here only to indicate the full range of submitters' comments.

Description of issue	Comment
Project intent (10): - intent of NVIRP is to make the irrigation system become unviable and collapse	The project objectives are as stated in Section 1.2.2 of the PER.
Royal Commission (6): - NVIRP and North-South pipeline should be subject to a Royal Commission	NVIRP has been subject to both State and Commonwealth approval processes, with opportunity for public comment. The submitter's request of a Royal Commission is outside the scope of this PER.
Productivity Commission Report (2): - the Productivity Commission Report (p.117) discusses potential sources of water savings	NVIRP is being implemented in accordance with current Government policy, including the Water Savings Protocol. The submitter is referring to the draft report "Market Mechanisms for Recovering Water in the Murray-Darling Basin". This report is still draft.
State environmental approvals (2,5): - Victorian Minister was wrong in deciding no EES required - the Condition 4 report should be finished and considered before approval for project is given	This is irrelevant to the PER. NVIRP made an EES referral (2009-01). The Minister for Planning reviewed the referral and made a determination, with reasons. This is included in the PER at Appendix 3. The Condition 4 report is relevant to the Victorian Planning Minister's decision (Appendix 3 to the PER), not to the assessment of the controlled action.
Pyramid Boort Committee (6): - Pyramid Boort committee was dismissed who represented an area where major channel/waterway changes are underway due to NVIRP, the replacements are now constrained by a written agreement	This is outside NVIRP's scope. It is a matter for Goulburn-Murray Water.

Description of issue	Comment
Project inefficiencies: (2): - project speed is causing errors and wasting money	This is not relevant to the PER. In any case, there is no basis for the submitter's comment.
Unscheduled spills (6): - despite PER saying the proponent has no environmental record there have been a number of unscheduled spills emanating from modernised works with environmental consequences	This is not relevant to NVIRP. The incidents referred to relate to the pilot modernisation project carried out in the Central Goulburn 1-4 area by Goulburn-Murray Water and, other than the direct loss of water, had no environmental consequences.
Shepparton Irrigation Area (1): - Pine Lodge Creek has stopped flowing due to modernisation - Flora and fauna that were living in Pine Lodge Creek are dead	The works referred to by the submitter are outside the scope of the PER. The proposed works for NVIRP will not affect outfalls to the Pine Lodge Creek. Downstream of NVIRP's activities, Pine Lodge Creek is a large trapezoidal drain and, as such, is unlikely to support MNES.
Distribution of savings (6): - savings not being equitably distributed	As noted in the PER guidelines, and in Section 1.2.4 of the PER, the action does not include administrative decisions on the allocation of resulting water savings. Section 1.2.2 outlines the intended allocation of the water by the Commonwealth and Victorian governments.
Selection of water savings auditor (6): - CSIRO should have done the audit but were bypassed because they have previously indicated aspects of the governments water savings are likely less than stated	This statement is incorrect and is not relevant to the PER.
Double counting of water savings (2): - NVIRP are double counting water savings by including outfall savings from modernisation projects outside of NVIRP	The outfall savings targeted by NVIRP do not include any outfall savings that are part of the water savings commitment of previous modernisation projects: Central Goulburn1-4, Shepparton Modernisation, Reconfiguration and the Strategic Measurement Projects.
Central Goulburn 1-4 and Shepparton Irrigation District Water Savings	The audit report referred to by the submitter was conducted in relation to Central

Description of issue	Comment
<p>Audit Report (2):</p> <ul style="list-style-type: none"> - The submitter highlighted a number of issues raised in the audit report - there is much contention as to the real savings achieved on other modernisation projects - water savings achieved for the North-South Pipeline differed from projections - the submitters raised a number of specific technical issues in the implementation of modernisation in the pilot water savings projects and noted that these prove that TCC(Total Channel Control) does not work consistently 	<p>Goulburn 1-4 Project and the Shepparton Modernisation Project and not NVIRP and is outside the scope of the PER.</p>
<p>Basis of water savings methodology (2,5,6):</p> <ul style="list-style-type: none"> - unless the Water Balance issue is remedied, all future water savings are at best “guesstimates” and inaccurate - quantum of losses attributed to specific components are highly questionable - some meters have been installed by Future Flow that are still sitting unused - 8% inaccuracy of Dethridge meters claimed by NVIRP is wrong - Dethridge wheel tests were rigged to show they were highly inaccurate - NVIRP water savings are based on Total Channel Control in Central Goulburn 2 which initially did not produce any savings - NVIRP must explain their method of evaporation assessment and how can evaporation losses be considered the same every year if water in the system declines - NVIRP must explain how they can count outfalls as a saving each and every year for now non-existent outfalls (ie no double counting) - CG1-4 and Shepparton Modernisation Projects were used as the basis for estimating water savings for NVIRP but there were many errors in these projects, NVIRP has not addressed these problems - LTCE not appropriate 	<p>The water savings methodology contained in the Water Savings Protocol Technical Manual is based on the data and experience built up over the last ten years in the Goulburn-Murray Irrigation District. The Technical Manual was developed in conjunction with Goulburn-Murray Water, NVIRP and consultants who have detailed understanding of the functioning of the GMID. The Technical Manual has been independently reviewed.</p> <p>NVIRP estimates water savings in accordance with the Water Savings Protocol. The Water Savings Protocol requires that water savings are only estimated for ‘live’ meters, that is, those through which deliveries are being made and measured.</p> <p>Tests undertaken on Dethridge meters were undertaken by reputable testing organisations overseen by Goulburn-Murray Water. There is no basis for this claim of rigging of the results.</p>

Description of issue	Comment
<p>Charges to irrigators and the environment (2, 4):</p> <ul style="list-style-type: none"> - irrigators have put money towards paying headworks infrastructure so should get money back from the government - irrigators pay delivery share fees which affects land values but environmental water does not accrue storage fees or delivery share fees - why doesn't environmental water pay fees? 	<p>Determination of water charging fees is outside the scope of NVIRP.</p>
<p>Payment for water taken (4):</p> <ul style="list-style-type: none"> - water saved and taken by government should be paid for 	<p>Both the Commonwealth and Victorian governments are investing in irrigation modernisation. This investment also achieves other benefits, including water recovered for environmental and other uses such as improved irrigation service standards and economic stimulus for the local community.</p>
<p>Independent Water savings audit report (5,6):</p> <ul style="list-style-type: none"> - the audit is a reflection of inefficiency, hidden accounting - Not released on time - submitters to the PER had only 5 days to read the audit report - The submitters repeat the audit findings, as outlined in the audit's executive summary 	<p>The first independent audit of the NVIRP water savings was completed in October 2009 and made publicly available by the Minister for Water in early 2010. As required, the audit was completed before any water savings from the associated works been allocated.</p> <p>The auditor signed off on water savings estimates for the 2008/09 irrigation season that are within one per cent of NVIRP's water savings estimates.</p> <p>The water savings estimation methodology is new but the process of estimation and audit allows for continual refinement to ensure the estimates are as accurate as possible and incorporate new information, technology and science as it becomes available to ensure the methodology remains best practice. The auditor is also required to recommend improvements to the methodology as appropriate and these recommendations are acted on. The auditor's report highlighted several areas for improvement to the practice of calculating water savings which are being adopted as part of an ongoing continuous improvement programme. It has always been recognised that this is a new field and that adjustments would be necessary.</p>
<p>Sugarloaf Pipeline (2,5,6):</p>	<p>Issues related to the construction and operation of the Sugarloaf Pipeline are not relevant</p>

Description of issue	Comment
<ul style="list-style-type: none"> - extraction rate serving Melbourne from the North-South Pipeline is not transparent with no stream flow gauge installed in Goulburn River take-off - water saved from Central Goulburn1-4 and Shepparton Irrigation modernisation projects should not be sent to Melbourne - non-compliance issues on the North-South Pipeline mean the Victorian Government has the ability to ignore DEWHAs conditions set under the EPBC Act - the daily ML/day extraction rate of water pumped to Melbourne should be recorded on the MW website. - use of savings from Central Goulburn 1-4 and Shepparton to supply the pipeline breach the Sugarloaf approval conditions - pipeline agreed to before irrigators consulted - taking any water from north to south is unacceptable - the Eildon water quality reserve should not be sent to Melbourne 	<p>to this PER and are a matter for Melbourne Water.</p>
<p>Water savings to Melbourne (3,4,5,6,10):</p> <ul style="list-style-type: none"> - south has more rainfall than north so water for Melbourne should be sourced from damming the Thomson, Latrobe, Tambo or Mitchell - government should explore alternatives such as stormwater harvesting - any water diverted to Melbourne is water lost to the system - Government is likely to take water from Eildon and close down irrigation in the Goulburn Valley in the future 	<p>Government water policy is outside the scope of NVIRP.</p>