



Planning Secretary's Environmental Assessment Requirements (SEARs)

Application Number	SSI 9458
Proposal	Clarrie Hall Dam Raising
Location	Doon Doon, Tweed Local Government Area
Proponent	Tweed Shire Council
Date of Issue	26 November 2021

General SEARs

Desired Performance Outcome	Requirement	Current Guidelines
<p>1. Environmental Impact Assessment Process</p> <p>The process for assessment of the proposal is transparent, balanced, well focussed and legal.</p>	<ol style="list-style-type: none"> 1. The Environmental Impact Statement (EIS) must be prepared in accordance with Part 3 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i> (the EP&A Regulation). 2. The project requires approval under the Environmental Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act), and is being assessed under the Bilateral agreement made under section 45 of the <i>Environmental Protection and Biodiversity Conservation Act 1999</i> (Cth) relating to environmental assessment between Commonwealth of Australia and The State of New South Wales (Bilateral Agreement) as amended. The EIS must address the requirements of Attachment A. 3. Where the Proposal requires approval under the EPBC Act and is being assessed under the Bilateral Agreement the EIS should address: <ol style="list-style-type: none"> (a) consideration of any Protected Matters that may be impacted by the development where the Commonwealth Minister has determined that the Proposal is a Controlled Action. (b) identification and assessment of those Protected Matters that are likely to be significantly impacted. (c) details of how significant impacts to Protected Matters have been avoided, mitigated and, if necessary, offset. (d) consideration of, and reference to, any relevant conservation advices, recovery plans and threat abatement plans. 4. The onus is on the Proponent to ensure legislative requirements relevant to the proposal are met. 	<p>EPBC Act Environment Assessment Process (SEWPAC, 2010)</p>
<p>2. Environmental Impact Statement</p> <p>The proposal is described in sufficient detail to enable clear understanding that the proposal has been developed through an iterative process of impact</p>	<ol style="list-style-type: none"> 1. The EIS must include, but not necessarily be limited to, the following: <ol style="list-style-type: none"> (a) executive summary. (b) a full description of the proposal, including all components and activities (including ancillary components and activities) required to construct and operate it, including: 	

Desired Performance Outcome		
<p>identification and assessment and proposal refinement to avoid, minimise or offset impacts so that the proposal, on balance, has the least adverse environmental, social and economic impact, including its cumulative impacts.</p>	<ul style="list-style-type: none"> i. the design for the project that is proposed to be constructed and operated. ii. all components, disturbance areas, materials, activities, site preparation and construction infrastructure (e.g. storage compounds, dirty water areas, roads, concrete batch plants). required to construct the project (including any ancillary development that may require separate approvals). iii. the operation of the dam, and associated dam or water delivery infrastructure that is proposed to be constructed. iv. likely staging or sequencing of the project, including construction, operation, maintenance, decommissioning and rehabilitation. v. site plans, maps, drawings and diagrams at an adequate scale with dimensions in an electronic format that enables integration with mapping and other technical software, showing: <ul style="list-style-type: none"> - the location and dimensions of all project components. - existing infrastructure, land use, and environmental features. - the development footprint that has been assessed and consideration of design options. vi. the likely interactions between the project and any other existing, approved, proposed, reasonably foreseeable development in the vicinity of the site, including an assessment of the cumulative impacts on the environment. vii. Identification of the extent of significant impacts from the regulation of previously unregulated river systems, including the end of system point, and justification for the selection of this extent. <p>(c) a statement of the objective(s) of the proposal.</p> <p>(d) a summary of the strategic need for the proposal with regard to its State significance and relevant State</p>	

Desired Performance Outcome	Requirement
	<p>Government policy.</p> <p>(e) an analysis of any feasible alternatives to the proposal.</p> <p>(f) a description of feasible options within the proposal.</p> <p>(g) a description of how alternatives to and options within the proposal were analysed to inform the selection of the preferred option. The description must contain sufficient detail to enable an understanding of why the preferred alternative to and options(s) within the proposal were selected.</p> <p>(h) assessment of the general biophysical and socio-economic environment that is likely to be impacted by the proposal (elements of the environment that are not likely to be affected by the proposal do not need to be described), including offsite impacts, focusing on the specific issues identified below and any other significant issues identified during development of the EIS, including:</p> <ul style="list-style-type: none"> i. a description of the existing environment likely to be affected by the project using relevant and adequate data. ii. an assessment of the potential impacts of the project, including any cumulative impacts, and taking into consideration relevant guidelines, policies, plans and industry codes of practice. iii. a description and details of how the project has been designed to avoid, minimise and offset impacts. iv. a description of how any residual impacts will be managed or offset, including justification of the selection and effectiveness of these measures. v. any assumptions used in the modelling for the assessment of likely impacts. <p>(i) demonstration of how the proposal design has been developed to avoid or minimise likely adverse impacts.</p> <p>(j) the identification and assessment of key issues as provided in the 'Assessment of Key Issues' performance</p>

Desired Performance Outcome	Requirement
	<p>outcome.</p> <p>(k) a statement of the outcome(s) the proponent will achieve for each key issue.</p> <p>(l) measures to avoid, minimise or offset impacts must be linked to the impact(s) they treat, so it is clear which measures will be applied to each impact.</p> <p>(m) consideration of the interactions between measures proposed to avoid or minimise impact(s), between impacts themselves and between measures and impacts.</p> <p>(n) an assessment of the cumulative impacts of the proposal taking into account other projects that have been approved but where construction has not commenced, projects that have commenced construction, and projects that have recently been completed.</p> <p>(o) statutory context of the proposal as a whole, including:</p> <ul style="list-style-type: none"> i. how the proposal meets the provisions of the EP&A Act and EP&A Regulation ii. a list of any approvals that must be obtained under any other Act or law before the proposal may lawfully be carried out. <p>(p) a chapter that synthesises the environmental impact assessment and provides:</p> <ul style="list-style-type: none"> i. a succinct but full description of the proposal for which approval is sought ii. a description of any uncertainties that still exist around design, construction methodologies and/or operational methodologies and how these will be resolved iii. a compilation of the impacts of the proposal that have not been avoided iv. a compilation of the proposed measures associated with each impact to avoid or minimise (through design refinements or ongoing management during construction and operation) or offset these impacts

Desired Performance Outcome	Requirement
	<ul style="list-style-type: none"> v. a compilation of the outcome(s) the proponent will achieve vi. the reasons justifying carrying out the proposal as proposed, having regard to the biophysical, economic and social considerations, including ecologically sustainable development and cumulative impacts. vii. a consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EIS. <p>(q) relevant proposal plans, drawings, diagrams in PDF and electronic format that enables integration with mapping and other technical software.</p> <p>2. The EIS must only include data and analysis that is reasonably needed to make a decision on the proposal. Relevant information must be succinctly summarised in the EIS and included in full in appendices. Irrelevant, conflicting or duplicated information must be avoided.</p>
<p>3. Assessment of Key Issues*</p> <p>Key issue impacts are assessed objectively and thoroughly to provide confidence that the proposal will be constructed and operated within acceptable levels of impact.</p> <p>* Key issues are nominated by the Proponent in the SSI application and by the Department in the SEARs. Key issues need to be reviewed throughout the preparation of the EIS to ensure any new key issues that emerge are captured. The key issues identified in this document are not exhaustive but are key issues common to most SSI projects.</p>	<p>1. The level of assessment of likely impacts must be proportionate to the significance of, or degree of impact on, the issue, within the context of the proposal location and the surrounding environment. The level of assessment must be commensurate with the degree of impact and sufficient to ensure that the Department and other government agencies are able to understand and assess impacts.</p> <p>2. For each key issue the Proponent must:</p> <ul style="list-style-type: none"> (a) describe the biophysical and socio-economic environment, as far as it is relevant to that issue (b) describe the legislative and policy context, as far as it is relevant to the issue (c) identify, describe and quantify (if possible) the impacts associated with the issue, including the likelihood and consequence (including worst case scenario) of the impact (comprehensive risk assessment), and the cumulative impacts (d) demonstrate how potential impacts have been avoided (through design, or construction or operation methodologies) (e) detail how likely impacts that have not been avoided through design will be minimised, and the predicted effectiveness of these measures (against performance criteria where relevant) (f) detail how any residual impacts will be managed or offset, and the approach and effectiveness of these measures. <p>3. Where multiple reasonable and feasible options to avoid or minimise impacts are available, they must be identified and considered and the proposed measure justified taking into account the public interest.</p>

Desired Performance Outcome	Requirement	Current Guidelines
<p>4.</p> <p>Consultation</p> <p>The proposal is developed with meaningful and effective engagement during proposal design and delivery.</p>	<ol style="list-style-type: none"> 1. The proposal must be informed by consultation, including with relevant government agencies, infrastructure and service providers, special interest groups, affected landowners, businesses and the community. The consultation process must be undertaken in accordance with the current guidelines. 2. The Proponent must document the consultation process, and demonstrate how the proposal has responded to the inputs received. 3. The Proponent must describe the timing and type of community consultation proposed during the design and delivery of the proposal, the mechanisms for community feedback, the mechanisms for keeping the community informed, and procedures for complaints handling and resolution. 	<p>Community Consultative Committee Guidelines, DPE 2016</p>

Key Issue SEARs

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
<p>5. Biodiversity</p> <p>The proposal design considers all feasible measures to avoid and minimise impacts on terrestrial and aquatic biodiversity.</p> <p>Offsets and/or supplementary measures are assured which are equivalent to any remaining impacts of proposal construction and operation.</p>	<ol style="list-style-type: none"> 1. Biodiversity impacts related to the proposal are to be assessed in accordance with section 7.9 of the <i>Biodiversity Conservation Act 2016</i> (BC Act), the Biodiversity Assessment Method 2020 (BAM 2020) and documented in a Biodiversity Development Assessment Report (BDAR). 2. The BDAR must include information in the form detailed in the BC Act section 6.12, <i>Biodiversity Conservation Regulation 2017</i> (BC Regulation) clause 6.8, and BAM 2020, unless NSW Environment, Energy and Science (EES) and the Department determine that the proposed development is not likely to have any significant impacts on biodiversity values. 3. Assessment of terrestrial, riparian and floodplain biodiversity and ecology that addresses all direct, indirect, and prescribed impacts of the project on flora and fauna, threatened species, populations, and communities for the construction and operation of the asset, including flow dependent and groundwater dependent ecosystems. 4. The BDAR must document the application of the avoid, minimise and offset framework including assessment of all direct, indirect and prescribed impacts in accordance with BAM 2020. 5. The BDAR must include details of the measures proposed to address biodiversity offsetting obligations as follows: <ol style="list-style-type: none"> (a) the total number and classes of biodiversity credits required to be retired for the proposal (b) the number and classes of like-for-like biodiversity credits proposed to be retired (c) the number and classes of biodiversity credits proposed to be retired in accordance with the variation rules (d) any proposal to fund a biodiversity conservation action (e) any proposal to make a payment to the Biodiversity Conservation Fund. (f) If seeking approval to use the variation rules, the BDAR must contain details of the reasonable steps that have been taken to obtain requisite like-for-like biodiversity credits. 6. The BDAR must be submitted with all spatial data associated with the survey and assessment as per 	<p>Biodiversity Assessment Method (EES, 2020)</p> <p>Policy and Guidelines for Fish Habitat Conservation and Management – Update 2013 (DPI, 2013)</p> <p>Threatened Species Survey and Assessment Guidelines</p> <p>Why do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings (NSW Fisheries, 2003)</p> <p>NSW DPI Fisheries Fishway Design Guidelines 2015 – as relevant to any proposed offsetting</p> <p>Aquatic Ecology in Environmental Impact Assessment – EIA Guideline (DoP/Marcus Lincoln Smith 2003)</p>

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
	<p>Appendix K of the BAM.</p> <p>7. The BDAR must be prepared by a person accredited in accordance with the Accreditation Scheme for the Application of the <i>Biodiversity Assessment Method Order 2020</i> under section 6.10 of the Biodiversity Conservation Act 2016.</p> <p>8. The EIS should map habitat (actual and predicted) for the Giant Barred Frog (<i>Mixophyes iterates</i>) and calculate the area of this habitat to be directly or indirectly impacted. Other threatened frogs known, or with potential to occur, or with potential to be indirectly impacted, should also be discussed and assessed in terms of the spatial extent of actual or potential habitat in the locality and whether these areas will be indirectly impacted. Species that should also be considered for inclusion in this list are Hip-pocket Frog (<i>Assa darlingtonia</i>), Loveridge's Frog (<i>Philoria loveridgei</i>) and Fleay's Barred Frog (<i>Mixophyes fleayi</i>).</p> <p>9. An assessment of the numbers of Red Lilly Pilly (<i>Syzygium hodgkinsoniae</i>) likely to be directly or indirectly impacted by the proposal should also be included in the EIS. The spatial extent of this habitat should be provided as a map and a calculated area.</p> <p>10. The Lowland Rainforest Threatened Ecological Community should be clearly mapped and the extent of likely direct and indirect impacts from the proposal should be assessed.</p> <p>11. The proponent must undertake a test of significance as required by Part 7A of the <i>Fisheries Management Act 1994</i> for relevant threatened fish species, including the Southern Purple Spotted Gudgeon (<i>Mogurnda adspersa</i>), with known or expected distributions within areas impacted by the proposal.</p> <p>12. The proponent must undertake an assessment of suitable opportunities within the Tweed catchment to offset the impact of the proposed dam upgrade on fish passage and the potential impacts to fish associated with water releases and overtopping of the dam.</p> <p>13. The proponent must undertake assessment of the potential for thermal pollution (cold water pollution) on downstream waters with managed releases from the dam, and strategies for mitigation of those impacts.</p>	
<p>6. Climate Change Risk</p> <p>The proposal is designed,</p>	<p>1. The Proponent must assess the risk and vulnerability of the proposal to climate change in accordance with the current guidelines, including any Regional Water Strategy and associated climate change modelling as relevant to the project.</p>	<p>Australian Government's Climate Change Impacts and Risk Management – A Guide for Business</p>

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
<p>constructed and operated to be resilient to the future impacts of climate change.</p>	<ol style="list-style-type: none"> 2. The Proponent must quantify specific climate change risks with reference to the NSW Government’s climate projections, including relevant data and information from NSW and ACT Regional Climate Modelling partnership (NARCLiM) (data, models, simulations, guidance), and incorporate specific adaptation actions in the design and operation where reasonable and feasible. 3. An assessment of potential future climate variability impacts on the operation and management of the dam and associated delivery works (such as water deliver by way of river operations, or pipe infrastructure), having regard to research on groundwater recharge and surface run-off and the NSW Climate Impact Profile. 4. Assessment of the greenhouse gas emissions from the construction and operation of the project for the life of infrastructure, including: <ol style="list-style-type: none"> (a) documentation and justification of an appropriate methodology for estimating greenhouse gas emissions for the project as a water storage, or water reservoirs project where permanent land use change occurs. (b) assessment of carbon dioxide, nitrous oxide and methane gas emissions, including gases emitted by decomposing plants and organic material within the dam inundation area. (c) quantitative assessment of Scope 1, 2 and 3 greenhouse gas emissions. (d) an assessment of reasonable and feasible measures to minimise greenhouse gas emissions and ensure energy efficiency. (e) project emissions as a proportion of NSW and Australia’s greenhouse gas emissions budgets. (f) details of all proposed mitigation, management and monitoring measures. 	<p>and Government (2006)</p> <p>AS/NZS 31000:2009 Risk Management – Principles and Guidelines</p> <p>NSW and ACT Regional Climate Modelling (NARCLiM): NACRLiM 1.0; NARCLiM 1.5 – using data, models, simulations, and guidance appropriate to assessment of the proposal impacts and risks</p>
<p>7. Health and Safety</p> <p>The proposal avoids or minimises any adverse health impacts arising from the proposal.</p> <p>The proposal avoids, to the greatest extent possible, risk to public safety.</p>	<ol style="list-style-type: none"> 1. The Proponent must demonstrate that the proposed works comply with Dam Safety (NSW) Guidance. 2. The Proponent must assess the potential health impacts of the proposal, in accordance with the current guidelines. 3. The Proponent must assess the likely risks of the proposal to public safety, paying particular attention to visitor safety and access, bushfire risks and the handling and use of dangerous goods. 4. The Proponent must identify potential ignition sources during construction, and detail proposed bush fire protection measures for the development, including fire suppression capabilities. 5. The Proponent must address emergency management, evacuation and access, and contingency measures, and whether the proposal incorporates specific measures to manage risk to life from flood. 	<p>Environmental Health Risk Assessment, Guidelines for assessing human health risks from environmental hazards, Commonwealth of Australia (enHealth, 2012)</p> <p>Health Impact Assessment: A practical guide (NSW Health, 2007)</p> <p>Health Impact Assessment Guidelines, Commonwealth Department of Health</p>

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
	<p>These matters are to be discussed with the SES.</p>	<p>and Aged Care (enHealth, 2001)</p> <p>Hazardous Industry Planning Advisory Papers (HIPAPs)</p> <p>Relevant Dam Safety Guidance, and archived Dam Safety Committee Guidance Sheets, including but not limited to, DSC2A (Dam Safety Management System) and DSC2B (Documentation and Information Flow Over Dam Life Cycle)</p> <p>Planning for Bush Fire Protection (RFS, 2006)</p>
<p>8. Heritage</p> <p>The design, construction and operation of the proposal facilitates, to the greatest extent possible, the long term protection, conservation and management of the heritage significance of items of environmental heritage and Aboriginal objects and places.</p> <p>The design, construction and operation of the proposal avoids or minimises impacts, to the greatest extent possible, on the heritage significance of environmental heritage and Aboriginal objects and places.</p>	<ol style="list-style-type: none"> 1. The Proponent must identify and assess any direct and/or indirect impacts (including cumulative impacts) to the heritage significance of: <ol style="list-style-type: none"> (a) Aboriginal places and objects, as defined under the <i>National Parks and Wildlife Act 1974</i> and in accordance with the principles and methods of assessment identified in the current guidelines (b) Aboriginal places of heritage significance, as defined in the Standard Instrument – Principal Local Environmental Plan (c) environmental heritage, as defined under the <i>Heritage Act 1977</i> (d) items listed on the National and World Heritage lists. 2. Where impacts to State or locally significant heritage items are identified, the assessment must: <ol style="list-style-type: none"> (a) include a statement of heritage impact for all heritage items (including significance assessment) (b) consider impacts to the item of significance caused by the proposal, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, visual amenity, landscape and vistas, curtilage, subsidence and architectural noise treatment (as relevant) (c) outline measures to avoid and minimise those impacts in accordance with the current guidelines (d) be undertaken by a suitably qualified heritage consultant(s) (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council’s Excavation Director criteria). 	<p>Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (EES, 2011)</p> <p>Aboriginal Cultural Heritage Consultation requirements for proponents (DECCW, 2010)</p> <p>Code of practice for archaeological investigation of Aboriginal objects in NSW (DECCW, 2010)</p> <p>NSW Skeletal Remains: Guidelines for Management of Human Remains (Heritage Office, 1998)</p> <p>Aboriginal site recording form</p> <p>Aboriginal site impact recording form</p> <p>Aboriginal Heritage Information Management System site registration</p>

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
	<ol style="list-style-type: none"> 3. A historical archaeological assessment should be prepared by a suitably qualified historical archaeologist in accordance with the relevant guidelines. This assessment should identify what relics, if any, are likely to be present, assess their significance and consider the impacts from the proposal on this potential resource. Where harm is likely to occur, it is recommended that the significance of the relics be considered in determining an appropriate mitigation strategy. If harm cannot be avoided in whole or part, an appropriate Research Design and Excavation Methodology should also be prepared to guide any proposed excavations. 4. The EIS must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the proposal and document these in an Aboriginal Cultural Heritage Assessment Report (ACHAR). This may include the need for surface survey and test excavation. The investigation, assessment and reporting of Aboriginal cultural heritage values must be conducted in accordance with the current Code of Practice and Guide and in consultation with EES regional branch officers. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the ACHAR. The ACHAR must demonstrate attempts to avoid impact on cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the ACHAR must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to EES. 5. Consultation with Aboriginal people must be undertaken and documented in accordance with the current consultation requirements for proponents. The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the ACHAR. 	<p>form Care agreement application form for the transfer of Aboriginal objects</p> <p>Archaeological Assessment Guidelines (Heritage Council, 1996)</p> <p>Assessing Significance for Historical Archaeological Sites and Relics (Heritage Branch, Department of Planning, 2009)</p> <p>Criteria for the assessment of excavation directors (NSW Heritage Council, 2011)</p> <p>NSW Heritage Manual (Heritage Office and Department of Urban Affairs and Planning, 1994)</p> <p>Assessing Heritage Significance (NSW Heritage Office, 2001)</p> <p>The Australia ICOMOS Burra Charter</p>
<p>9. Hydrology, Flooding and Water Quality</p> <p>Long term impacts on surface water and groundwater hydrology (including drawdown, flow rates and volumes) are minimised.</p> <p>The environmental values of nearby, connected and affected water sources, groundwater and</p>	<ol style="list-style-type: none"> 1. The Proponent must describe (and map) the existing hydrological regime for surface and groundwater resources (including reliance by users and for ecological purposes) likely to be impacted by the proposal and identify any requirements for baseline monitoring of hydrological attributes. Mapping must include upstream and downstream tributaries that may potentially be impacted. 2. The Proponent must assess and model the impact of the operation of the proposal and any ancillary facilities (both built elements and discharges) on hydrology in accordance with the current guidelines, including: <ol style="list-style-type: none"> (a) natural processes within rivers, wetlands and floodplains that affect ecological health, aquatic connectivity and access to habitat for spawning and refuge (b) impacts from any permanent and temporary interruption of groundwater flow, including the extent 	<p>Water Sharing Plan for the Tweed River Area Unregulated and Alluvial Water Sources Order 2010</p> <p>BAM 2020 – Appendix E (EES, 2014)</p> <p>Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004) and Volume 2 (A. Installation of Services; B. Waste Landfills; C. Unsealed Roads; D. Main Roads; E. Mines and Quarries) (DECC, 2008)</p>

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
<p>dependent ecological systems are maintained or improved.</p> <p>Sustainable use of water resources.</p> <p>The proposal minimises adverse impacts on existing flooding characteristics.</p> <p>Construction and operation of the proposal avoids or minimises the risk of, and adverse impacts from, infrastructure flooding, flooding hazards, or dam failure.</p> <p>The proposal is designed, constructed and operated to protect the NSW Water Quality Objectives where they are currently being achieved, and contribute towards achievement of the Water Quality Objectives over time where they are currently not being achieved, including downstream of the proposal to the extent of the proposal impact.</p>	<p>of drawdown, barriers to flows, implications for groundwater dependent surface flows, ecosystems and species and groundwater users</p> <p>(c) changes to environmental water availability and flows, both regulated/licensed and unregulated/rules-based sources</p> <p>(d) direct or indirect increases in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.</p> <p>3. The Proponent must detail a framework for managing stratification within the dam and associated algal blooms and water releases from the dam that ensures impacts to upstream and downstream areas and ecosystems are minimised. The framework must include consideration of the potential rates of rise and fall in the river and timing of water releases and consider antecedent conditions within the river, flooding impacts up to the probably maximum flood and water clarity and temperature.</p> <p>4. The Proponent must assess and model the impacts on flood behaviour during construction and operation for a full range of flood events including:</p> <p>(a) any detrimental increases in the potential flood affectation of other properties, assets and infrastructure including changes to flood hazard categories</p> <p>(b) flood storage capacity of the proposal, including quantifying what flood events can be mitigated by the dam</p> <p>(c) the effect of the proposal on flood behaviour in the broader catchment including any change to flood storage areas</p> <p>(d) consistency (or inconsistency) with applicable Council floodplain risk management plans</p> <p>(e) impacts on flood emergency management - these matters must be discussed in consultation with the NSW State Emergency Services and Council</p> <p>(f) any increase in social and economic costs to the community from changes in flood behaviour.</p> <p>5. The EIS must include a sensitivity analysis for increases in rainfall intensity as a result of climate change, and the risk and vulnerability of the project to changes in flooding behaviour resulting from climate change in accordance with and using appropriate NSW Government guidelines, data and modelling (including justification about the use of those guidelines, data and modelling).</p> <p>6. The Proponent must describe background conditions for current operations and any water resource</p>	<p>NSW Aquifer Interference Policy (DPI, 2012)</p> <p>Risk Assessment Guidelines for Groundwater Dependent Ecosystems (Office of Water, 2012)</p> <p>NSW Government's Floodplain Development Manual (Department of Natural Resources, 2005)</p> <p>Flood Risk Management Guidelines www.environment.nsw.gov.au/topics/water/floodplains/floodplain-guidelines</p> <p>PS 07-003 New guideline and changes to section 117 direction and EP&A Regulation on flood prone land</p> <p>Practical Consideration of Climate Change - Flood risk management guideline (DECC, 2007)</p> <p>NSW Water Quality and River Flow Objectives at http://www.environment.nsw.gov.au/ieo/</p> <p>Using the ANZECC Guidelines and Water Quality Objectives in NSW (DEC, 2006)</p> <p>Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC/ ARMCANZ,</p>

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
	<p>likely to be affected by the proposal, including:</p> <ul style="list-style-type: none"> (a) existing surface and groundwater quality (b) frequency and quality of dam discharges including for environmental flows (c) downstream intake locations (d) Water Quality Objectives (as endorsed by the NSW Government) as appropriate that represent the community's uses and values for the receiving waters. (e) water quality monitoring programs and indicators and trigger values/criteria. <p>7. The EIS must assess the impacts of the proposal on water quality, including the nature and degree of impact on receiving waters for both surface and groundwater.</p>	<p>2000)</p> <p>Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DECC, 2008)</p> <p>Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004) and Volume 2 (A. Installation of Services; B. Waste Landfills; C. Unsealed Roads; D. Main Roads; E. Mines and Quarries) (DECC, 2008)</p> <p>NSW and ACT Regional Climate Modelling (NARCLiM): NACRLiM 1.0; NARCLiM 1.5 – using data, models, simulations, and guidance appropriate to assessment of the proposal impacts and risks</p>
<p>10. Noise and Vibration - Amenity</p> <p>Construction noise and vibration (including airborne noise, ground-borne noise and blasting) are effectively managed to minimise adverse impacts on acoustic amenity, and on the structural integrity of buildings and items including Aboriginal places and environmental heritage</p>	<ol style="list-style-type: none"> 1. The Proponent must assess construction noise and vibration impacts in accordance with current NSW noise and vibration guidelines including consideration of noise characteristics (tonal, intermittent and low frequency noise) and the impact on sensitive receivers. 2. The assessment must include consideration of impacts to the structural integrity and heritage significance of items (including Aboriginal places and items of environmental heritage). 3. The Proponent must demonstrate that blast impacts are capable of complying with the current guidelines, if blasting is required. 	<p>Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration (ANZECC, 1990)</p> <p>Assessing Vibration: a technical guideline (DEC, 2006)</p> <p>German Standard DIN 4150-3: Structural Vibration - effects of vibration on structures</p> <p>Interim Construction Noise Guideline (DECCW, 2009)</p> <p>Construction Noise Strategy (TfNSW,</p>

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
		2012)
<p>11. Protected and Sensitive Lands</p> <p>The proposal is designed, constructed and operated to avoid or minimise impacts on protected and sensitive lands.</p>	<ol style="list-style-type: none"> The Proponent must assess the impacts of the proposal on environmentally sensitive land including, but not limited to: <ol style="list-style-type: none"> protected areas (including land and water) managed by EES and/or DPI Fisheries under the <i>National Parks and Wildlife Act 1974</i> Key Fish Habitat as mapped and defined in accordance with the <i>Fisheries Management Act 1994</i> (FM Act) waterfront land as defined in the <i>Water Management Act 2000</i> land or waters identified as Critical Habitat under the FM Act or EPBC Act or areas of outstanding biodiversity value under the BC Act biodiversity stewardship sites, private conservation lands and other lands identified as offsets. Maps should be included that clearly indicate the project's proposed full supply level (FSL) and any flood mitigation zone (FMZ), and the FSL and FMZ for the existing dam, as well as protected area boundaries. 	<p>Guidelines for developments adjoining land managed by the Office of Environment and Heritage (EES, 2013)</p> <p>Revocation, Re-categorisation and Road Adjustment Policy (EES, 2017)</p> <p>Guidelines for controlled activities on waterfront land (DPI 2012 and NRAR, 2018)</p>
<p>12. Socio-economic, Land Use and Property</p> <p>The proposal minimises adverse social and economic impacts and capitalises on opportunities potentially available to affected communities.</p> <p>The proposal minimises impacts to property and business and achieves appropriate integration with adjoining land uses, including maintenance of appropriate access to properties and community facilities, and minimisation of displacement of</p>	<ol style="list-style-type: none"> The Proponent must undertake a comprehensive social impact assessment, supported and informed by a comprehensive, inclusive, and participatory program of community engagement, actively seeking input from the affected community and other stakeholders. The Proponent must assess impacts from construction and operation on potentially affected properties, businesses, recreational users and land and water users (for example, agricultural land uses), including property acquisitions/adjustments, access, amenity and relevant statutory rights. 	<p>Environmental Planning and Impact Assessment Practice Note: Socio-economic Assessment (RMS, 2013)</p>

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
existing land use activities, dwellings and infrastructure.		
<p>13. Soils</p> <p>The environmental values of land, including soils, subsoils and landforms, are protected.</p> <p>Risks arising from the disturbance and excavation of land and disposal of soil are minimised.</p>	<ol style="list-style-type: none"> 1. The Proponent must assess the impacts of sourcing, importation and emplacement of fill/ quarried material for the proposal. 2. The Proponent must assess potential impacts on landforms (topography), paying particular attention to the long term geotechnical stability of any new landforms (such as embankments etc). 3. The Proponent must assess whether the land is likely to be contaminated and identify if remediation of the land is required, having regard to the ecological and human health risks posed by the contamination in the context of past, existing and future land uses. Where assessment and/or remediation is required, the Proponent must document how the assessment and/or remediation would be undertaken in accordance with current guidelines. 4. The Proponent must assess whether salinity is likely to be an issue and if so, assess the impacts of the proposal on soil salinity. 5. The Proponent must assess the impacts on soil and land resources (including erosion risk or hazard). Particular attention must be given to soil erosion and sediment transport consistent with the practices and principles in the current guidelines. 6. Consideration should also be given to areas inundated by the probable maximum flood and, in the case of this events, how soil and other impacts due to changed hydrological regimes as a result of the proposal would be managed and/or remediated. 7. The Proponent must detail the capacity of the site to support the increased size of the structure. 	<p>Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land, (DUAP & EPA, 1998)</p> <p>Consultants Reporting on Contaminated Land: Contaminated Land Guidelines (EPA, reprinted 2020)</p> <p>Guidelines for the NSW Site Auditor Scheme (EPA, 2017)</p> <p>Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (EPA, 2015)</p> <p>Urban and regional salinity – guidance given in the Local Government Salinity Initiative booklets (http://www.environment.nsw.gov.au/salinity/solutions/urban.htm) which includes <i>Site Investigations for Urban Salinity</i> (DLWC, 2002)</p> <p>Landslide risk management guidelines presented in Australian Geomechanics Society (2007)</p> <p>Soil and Landscape Issues in Environmental Impact Assessment (DLWC 2000)</p>

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
		<p>Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004) and Volume 2 (DECC, 2008)</p> <p>Other guidelines made or approved under section 105 of the <i>Contaminated Land Management Act 1997</i></p>
<p>14. Sustainability</p> <p>The proposal reduces the NSW Government's operating costs and ensures the effective and efficient use of resources.</p> <p>Conservation of natural resources is maximised.</p>	<ol style="list-style-type: none"> 1. The Proponent must assess the proposal against the current guidelines including targets and strategies to improve Government efficiency in use of water, energy and transport. 2. The Proponent must detail the power generation of any hydro power component of the proposal. 3. An assessment against an accredited ESD rating system or an equivalent program of ESD performance. This should include a minimum rating scheme target level. 	<p>Government Resource Efficiency Policy (GREP) (State of NSW and EES, 2014)</p> <p>Infrastructure Sustainability Rating Tool Scorecard relating to energy and carbon for large infrastructure projects, ISCA – where relevant</p>
<p>15. Transport and Traffic</p> <p>Network connectivity, safety and efficiency of the transport system in the vicinity of the proposal are managed to minimise impacts.</p> <p>Impacts on network capacity and the level of service are effectively managed.</p>	<ol style="list-style-type: none"> 1. The Proponent must prepare a Traffic Impact Assessment, prepared by a suitably qualified person in accordance with the current guidelines. The Traffic Impact Assessment is to address, but not be limited to the following: <ol style="list-style-type: none"> (a) intersection sight distances at key intersections along the primary haul route (b) turning paths for the largest vehicle at key intersections (c) details of any proposed improvements to affected intersections (d) existing and proposed site access standards (e) details of servicing and parking arrangements (f) impact on public transport (public and school bus routes) (g) impacts of road traffic noise and dust generated along the primary haul route/s. 	<p>Guide to Traffic Management – Part 3 Traffic Studies and Analysis (Austroads, 2007)</p> <p>Guide to Traffic Management Part 12 (Austroads) and the complementary Roads and Maritime Supplement</p>
<p>16. Waste</p> <p>All wastes generated during the</p>	<ol style="list-style-type: none"> 1. The Proponent must assess predicted waste generated from the proposal during construction, including: <ol style="list-style-type: none"> (a) classification of the waste in accordance with the current guidelines (b) estimates / details of the quantity of each classification of waste to be generated during the 	<p>EPA's Waste Classification Guidelines (as in force from time to time)</p>

Key Issue and Desired Performance Outcome	Requirement (specific assessment requirements in addition to the general requirement above)	Current Guidelines
<p>construction and operation of the proposal are effectively stored, handled, treated, reused, recycled and/or disposed of lawfully and in a manner that protects environmental values.</p>	<p>construction of the proposal</p> <ul style="list-style-type: none"> (c) handling of waste including measures to facilitate segregation and prevent cross contamination (d) management of waste including estimated location and volume of stockpiles (e) waste minimisation and reuse (f) lawful disposal or recycling locations for each type of waste (g) contingencies for the above, including managing unexpected waste volumes. <p>2. The Proponent must assess potential environmental impacts from the excavation, handling, storage on site and transport of the waste particularly in relation to sediment control and dust.</p>	<p>Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom 2004) and Volume 2 (A. Installation of Services; B. Waste Landfills; C. Unsealed Roads; D. Main Roads; E. Mines and Quarries) (DECC, 2008)</p>

Attachment A

Guidelines for preparing assessment documentation relevant to the EPBC Act for proposals being assessed under the NSW Assessment Bilateral. Clarrie Hall Dam Rising Project (2018/8339)

On 27 February 2019, the delegate of the Commonwealth Minister for Environment determined that the Clarrie Hall Dam Rising Project is a controlled action requiring approval under the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* (EPBC Act). This Guideline outlines the requirements in accordance with the EPBC Act. This Guideline should be read in conjunction with the Secretary's Environmental Assessment Requirements for SSI 9458, issued in accordance with s5.16 of the *Environmental Planning and Assessment Act 1979* (NSW).

Introduction

1. These guidelines provide information on assessment requirements in relation to matters of national environmental significance (MNES) in accordance with the *New South Wales Bilateral Agreement relating to environmental assessment (February 2015)*. To meet requirements, the project must be assessed in the manner specified in Schedule 1 to that agreement including that the assessment documentation contains:
 - i. An assessment of all impacts that the action is likely to have on each matter protected by a provision of Part 3 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).
 - ii. Enough information about the proposal and its relevant impacts to allow the Commonwealth Minister to make an informed decision on whether or not to approve.
 - iii. Information addressing the matters outlined in Schedule 4 of the *Environment Protection and Biodiversity Conservation Regulations (2000)*.
2. In the circumstance that a proposal has been determined to be a 'controlled action' requiring full assessment, the decision will identify which MNES protected under the EPBC Act have triggered for assessment. These are called the controlling provisions. Proponents are only required to provide an assessment of protected matters under the controlling provisions that have been triggered. Following is the controlling provision:

listed threatened species and communities (sections 18 and 18A)
3. The proponent must consider each of the protected matters under the triggered controlling provisions that may be significantly impacted by the development. The Department of the Environment has provided a list of threatened species and communities that are considered to be at risk of impact from the proposal at **Attachment 1**. Note that this may not be a complete list and it is the responsibility of the proponent to undertake an analysis of the relevant impacts and ensure all protected matters that are likely to be impacted are assessed for the Commonwealth Minister's consideration.

Relevant Regulations

4. Assessment documentation prepared for the purposes of approval under the EPBC Act must, in addition to providing sufficient information for a decision, address the matters outlined in Schedule 4 of the *Environment Protection and Biodiversity Conservation Regulations 2000* (Cth). The following includes requirements that have been identified as additional to the requirements prescribed in Schedule 2 of the NSW *Environmental Planning and Assessment Regulations 2000*. Proponents are advised to check that requirements in Schedule 4 of the EPBC Regulations have been appropriately addressed. http://www.austlii.edu.au/au/legis/cth/consol_reg/epabcr2000697/

General Requirements

Project Description

5. The title of the action, background to the action of the action and current status.
6. The precise location and description of all works to be undertaken (including associated offsite works and infrastructure), structures to be built or elements of the action that may have impacts on MNES.
7. How the action relates to any other actions that have been, or are being taken in the region affected by the action.
8. How the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts on MNES.

Impacts

9. The EIS must include an assessment of the relevant impacts of the action on the matters protected by the controlling provisions, including:
 - i. a description and detailed assessment of the nature and extent of the likely direct, indirect and consequential impacts, including short term and long term relevant impacts;
 - ii. a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;
 - iii. analysis of the significance of the relevant impacts; and
 - iv. any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

Avoidance, mitigation and offsetting

10. For each of the relevant matters protected that are likely to be significantly impacted by the action, the EIS must provide information on proposed avoidance and mitigation measures to manage the relevant impacts of the action including:
 - i. a description, and an assessment of the expected or predicted effectiveness of the mitigation measures,
 - ii. any statutory policy basis for the mitigation measures;

- iii. the cost of the mitigation measures;
 - iv. an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing;
 - v. the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program.
11. Where a significant residual adverse impact to a relevant protected matter is considered likely, the EIS must provide information on the proposed offset strategy, including discussion of the conservation benefit associated with the proposed offset strategy.
12. For each of the relevant matters likely to be impacted by the action the EIS must provide reference to, and consideration of, relevant Commonwealth guidelines and policy statements including any:
- i. conservation advice or recovery plan for the species or community,
 - ii. relevant threat abatement plan for a process that threatens the species or community
 - iii. wildlife conservation plan for the species
 - iv. management plan for Ramsar wetland
 - v. management plan for a World Heritage property or National Heritage place;
 - vi. Marine Bioregional Plan;
 - vii. any strategic assessment.

[Note: the relevant guidelines and policy statements for each species and community are available from the Department of the Environment Species Profiles and Threats Database.

<http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>]

13. In addition to the general requirements described above, specific information is required with respect to each of the determined controlling provisions. These requirements are outlined in paragraphs 14-16.

Key Issues

Biodiversity (threatened species and communities)

14. The EIS must identify each EPBC Act listed threatened species and community likely to be impacted by the development. For any species and communities that are likely to be impacted, the proponent must provide a description of the nature, quantum and consequences of the impacts. For species and communities potentially located in the project area or in the vicinity that are not likely to be impacted, provide evidence why they are not likely to be impacted.
15. For each of the EPBC Act listed threatened species and communities likely to be impacted by the action the EIS must provide a separate:
- a. description of the habitat (including identification and mapping of suitable breeding habitat, suitable foraging habitat, important populations and habitat critical for survival), with

consideration of, and reference to, any relevant Commonwealth guidelines and policy statements including listing advice, conservation advice and recovery plans;

- b. details of the scope, timing and methodology for studies or surveys used and how they are consistent with (or justification for divergence from) published Australian Government guidelines and policy statements;
- c. description of the relevant impacts of the action having regard to the full national extent of the species or community's range; and
- d. description of the specific proposed avoidance and mitigation measures to deal with relevant impacts of the development;
- e. identification of significant residual adverse impacts likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account;
- f. a description of any offsets proposed to address residual adverse significant impacts and how these offsets will be established.
- g. details of how the current published NSW Biodiversity Assessment Method (BAM) has been applied in accordance with the objects of the EPBC Act to offset significant residual adverse impacts; and
- h. details of the offset package to compensate for significant residual impacts including details of the credit profiles required to offset the development in accordance with the BAM and/or mapping and descriptions of the extent and condition of the relevant habitat and/or threatened communities occurring on proposed offset sites;

[Note: For the purposes of approval under the EPBC Act, it is a requirement that offsets directly contribute to the ongoing viability of the specific protected matter impacted by a proposed action and deliver an overall conservation outcome that improves or maintains the viability of the MNES i.e. 'like for like'. In applying the BAM, residual impacts on EPBC Act listed threatened ecological communities must be offset with Plant Community Type(s) (PCT) that are ascribed to the specific EPBC listed ecological community. PCTs from a different vegetation class will not generally be acceptable as offsets for EPBC listed communities.]

16. Any significant residual impacts not addressed by the BAM may need to be addressed in accordance with the Environment Protection and Biodiversity Conservation Act 1999 Environmental Offset Policy.

<http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy>.

Other approvals and conditions

17. Information in relation to any other approvals or conditions required must include the information prescribed in Schedule 4 Clause 5 (a) (b) (c) and (d) of the EPBC Regulations 2000.

Environmental Record of person proposing to take the action

18. Information in relation to the environmental record of a person proposing to take the action must include details as prescribed in Schedule 4 Clause 6 of the EPBC Regulations 2000.

Information Sources

19. For information given in an EIS, the EIS must state the source of the information, how recent the information is, how the reliability of the information was tested; and what uncertainties (if any) are in the information.

REFERENCES

- *Environment Protection and Biodiversity Conservation Act 1999* - section 51-55, section 96A(3)(a)(b), 101A(3)(a)(b), section 136, section 527E
- *Environment Protection and Biodiversity Conservation Regulations 2000 Schedule 4*
- NSW Assessment Bilateral Agreement (2015) - Item 18.1, Item 18.5, Schedule 1
- *Matters of National Environmental Significance - Significant impact guidelines 1.1* (2013) EPBC Act
- *Environment Protect and Biodiversity Conservation Act 1999 Environmental Offsets Policy* October 2012

Attachment A

Guidelines for preparing assessment documentation relevant to the EPBC Act for proposals being assessed under the NSW Assessment Bilateral. - Clarrie Hall Dam Rising Project (2018/8339)

**Attachment 1 – Protected matters relevant to Clarrie Hall Dam Rising Project
(EPBC Reference Number: 2018/8339)**

The Department of Environment and Energy considers the following protected matters are likely to be significantly impacted:

- Lowland Rainforest of Subtropical Australia Ecological Community – Critically Endangered
- Giant Barred Frog (*Mixophyes iteratus*) – Endangered
- Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) (*Phascolarctos cinereus*) – Vulnerable
- Red Lilly Pilly (*Syzygium hodgkinsoniae*) – Vulnerable

The Department of Environment and Energy considers the following protected matters may be significantly impacted:

- Coxen's Fig-Parrot (*Cyclopsitta diophthalma coxeni*) – Endangered
- Grey-headed Flying-fox (*Pteropus poliocephalus*) – Vulnerable
- Spot-tailed Quoll (*Dasyurus maculatus maculatus* (SE mainland population)) – Endangered

Pink Underwing Moth (*Phyllodes imperialis smithersi*) – Endangered