NSW GOVERNMENT
Department of Planning

Contact: Scott Jeffries
Phone: (02) 9228 6426
Fax: (02) 9228 6366
Email: scott.jeffries@planning.nsw.gov.au

File: S07/00070 & 07_0156

Ms Nicole Holmes
Manager, Water Resources
Hunter Water Corporation
PO Box 5171
HRMC NSW 2310

Dear Ms Holmes

Tillegra Dam Project (Application No. 07_0156) – Director-General's Requirements

I refer to your submission of the project application and request for Director-General's requirements for the abovementioned proposal (Application No. 07_0156).

The Director-General's Environmental Assessment Requirements are attached, pursuant to section 75F(2) of the *Environmental Planning and Assessment Act 1979.* It should be noted that the Director-General's requirements have been prepared based on the information provided to date and following the planning focus meeting held for the proposal on 11 October 2007 and consultation with relevant government agencies. Under section 75F(3) of the Act, the Director-General may alter or supplement these requirements if necessary and in light of any additional information that may be provided prior to the Proponent seeking approval for the project.

The Environmental Assessment should be prepared using valid and accepted technical and scientific tools and methodologies, focussing on key environmental impacts and robust mitigation measures to address potential impacts from the project. You should also ensure that you consult with the Department prior to submission of an Environmental Assessment to determine:

- fees applicable to the application;
- consultation and public exhibition arrangements that will apply; and
- number and format (hard-copy and/or CD-ROM) of the Environmental Assessments that will be required.

Once you have lodged the Environmental Assessment, the Department will consult with relevant authorities to determine the adequacy of the Environmental Assessment. Following this review period the Environmental Assessment will be made publicly available for a minimum period of 30 days.

If your proposal contains any actions that could have a significant impact on matters of National Environmental Significance, it will require an additional approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This approval would be in addition to any approvals required under NSW legislation and it is your responsibility to contact the Commonwealth Department of the Environment and Water Resources to determine if an approval under the EPBC Act is required for your proposal (02 6274 1111 or www.environment.gov.au).

Please note that the Commonwealth Government has accredited the NSW environmental assessment process for assessing impacts on matters of National Environmental Significance. As a result, if it is determined that an approval is required under the EPBC Act, please contact the Department immediately as supplementary Director-General's requirements will need to be issued.

You should keep the contact officer for this project, Scott Jeffries ((02) 9228 6426 or scott.jeffries@planning.nsw.gov.au), up to date with the progress of preparation of the Environmental Assessment, and seek clarification of any issues that may be unclear or may arise during this process.

Yours sincerely

8. 1. 08.

Chris Wilson
Executive Director
Major Project Assessments
As delegate of the Director-General

TILLEGRA DAM PROJECT

DIRECTOR-GENERAL'S REQUIREMENTS UNDER PART 3A OF THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Application number	07_0156
Project	The construction and operation of a 450 gigalitre (GL) water storage on the Upper Williams River in the Hunter Region, comprising: • dam wall and 450 gigalitre (GL) reservoir; • spillway, multiple level water offtake tower, trunk watermain and associated water supply infrastructure; • hydropower generation plant; • reconstruction of services including telecommunication and electrical transmission lines; • relocation of Salisbury Road, Quartpot Creek Road and other public assets; • heritage conservation works; and • other ancillary works (such as potential recreational access areas, lookouts and related facilities).
Site	Upper Williams River at Tillegra, north of the township of Dungog.
Proponent	Hunter Water Corporation
Date of Issue	8 January 2008
Date of Expiration	8 January 2010
General Requirements	The Environmental Assessment should be prepared to a high technical and scientific standard and include: • an executive summary; • a detailed description of the proposal, including construction methods and source of materials, location and alignment of project components, operation details (all end uses), and any staging; • consideration of any relevant statutory provisions including the consistency of the project with the objects of the *Environmental Planning and Assessment Act 1979*; • an assessment of the environmental impacts of the project, with particular focus on the key assessment requirements specified below. A conceptual representation should also be included that shows how issues associated with the project interrelate with each other; • a draft Statement of Commitments detailing measures for environmental mitigation, management and monitoring for the project; and • certification by the author of the Environmental Assessment that the information contained in the Assessment is neither false nor misleading.
Key Assessment Requirements	The Environmental Assessment shall include an assessment of the construction and operation impacts associated with the project for the key issues outlined below. Operational impacts associated with the dam are to be assessed within a range of scenarios that could meet the water delivery objectives of the project. The assessment shall identify the environmental risks for the Williams River associated with these available scenarios, and demonstrate their acceptability. • **Strategic Planning and Project Justification** – the Environmental Assessment shall clearly outline the strategic context of the project having regard to the existing and future development potential of the region and water supply. Specific consideration should be given to the relationship of the project with the draft *Hunter Unregulated and Alluvial Water Sharing Plan*, the *Hunter-Central Rivers Catchment Action Plan*, the National Water Initiative and the *Lower Hunter Regional Strategy*, and draft *Central Coast Regional Strategy*. The Environmental Assessment shall clearly describe the need for and objectives of the project; alternatives considered for both the dam itself and road realignments (including a cost effectiveness analysis of the project relative to alternatives) and provide justification for the preferred project.

- **Surface and Groundwater Hydrology** – the Environmental Assessment shall include a comprehensive assessment of the impacts of the project on surface and groundwater hydrology, particularly with respect to surface and groundwater quality, quantity and flow regimes. The assessment shall address the following:
  - consideration of potential alternatives to run-of-river transfers, and justify the selection of this transfer method having regard to the relative environmental impacts of potential transfer options;
  - details of a framework for managing water releases from the dam that is capable of meeting the objectives of the project (in terms of water delivery), ensures impacts to the Williams River ecosystem are minimised and takes account of the draft Water Sharing Plan. The framework shall include consideration of rates of rise and fall within the Williams River, timing of water releases (including consideration of antecedent conditions within the river), flooding impacts and transparent and translucent flows;
  - details of any treatment that is proposed to be applied to the water before being discharged to the Williams River;
  - details of how the project will be designed and operated to meet water quality guidelines detailed in *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000* (ANZECC & ARMCANZ, 2000) for both recreational uses and aquatic ecosystems within the inundation area and downstream of the dam wall;
  - assessment of potential impacts on other groundwater and surface water users, with details of how existing water access rights will be protected, including with respect to availability, quantity and quality of water;
  - details of a general water balance for the project, noting any expected losses through evaporation or infiltration;
  - assessment of cumulative water quality and connective flow impacts on the Hunter estuary and mitigation measures to be provided.
- **Ecology** – the Environmental Assessment shall include a comprehensive ecological impact assessment, including both terrestrial and aquatic ecosystems, in accordance with the DEC's *Guidelines for Threatened Species Assessment* and DPI's *Fish Habitat Protection Plan No. 1: General*. The assessment shall consider impacts on ecological values directly attributable to the project, as well as indirect impacts that may be associated with changes in water quality conditions, fluvial geomorphology and flow characteristics of the river. The assessment of construction and operational impacts on ecology shall specifically address the following:
  - impacts on any critical habitats, threatened species, populations or ecological communities listed under both State and Commonwealth legislation recorded within and around the project area;
  - impacts on aquatic ecology upstream (to Barrington House) and downstream (to the Hunter estuary) of the dam wall, particularly through changes in the quality and quantity of water within the river system and changes to habitat. In assessing impacts on aquatic ecology, consideration shall be given to both aquatic and riparian species that may be directly or indirectly affected by the project and the potential for introduction of pest and exotic species. The Environmental Assessment shall clearly detail measures to be applied to address impacts of barriers to fish migration, breeding cycles and fish passage and sudden or unnatural changes in flow regimes and habitat on aquatic ecology. Specific consideration should also be given to the management of the hydroelectric plant with respect to water releases and subsequent impacts on aquatic flora and fauna;
  - impacts on terrestrial ecology including details on the location, composition, quality and quantity of habitat proposed to be affected;
  - presentation of framework monitoring program(s), management and rehabilitation plan(s) and comprehensive compensatory habitat/ biodiversity offsets package(s) to address impacts on aquatic and terrestrial ecology associated with the project and taking into consideration the amount and type of habitat that will be lost.

- **Fluvial Geomorphology** – the Environmental Assessment shall include an assessment of the impact of the project on fluvial geomorphology. In particular, the assessment shall address pre and post-construction impacts upstream and downstream of the dam wall, including with respect to erosion risks, bank stability and sedimentation/ deposition.
- **Geology** – the Environmental Assessment shall include a geotechnical investigation of the project area, including the dam and inundation area and relocated roads.
- **Socio-Economic Impacts** – the Environmental Assessment shall undertake an assessment of the socio-economic impacts, whether direct or indirect, associated with the project. Specific consideration should be given to:
  - existing and future land uses and natural resources (both surrounding and within the inundation area), including agriculture (and details on the class of agricultural land within the inundation area), mineral resources and forestry and measures to mitigate and manage any impacts;
  - potential changes to the local and regional economy and measures to mitigate and manage any impacts;
  - potential impacts upon social infrastructure (housing, medical etc.) both in terms of availability and capability to accommodate construction personnel;
  - proposed recreational uses of the dam;
  - potential public utilisation rates of the dam and its associated flow-on effects on the surrounding area, including nearby towns, parks and reserves, and its infrastructure (roads, electricity etc.); and
  - relocation of services, particularly the Fire Station, to ensure it meets the needs of the Rural Fire Service.
- **Traffic** – the Environmental Assessment shall include a traffic impact assessment addressing construction traffic and operational traffic (for all end uses). The assessment should include details on the nature/ mode of traffic generated, traffic routes and traffic volumes and impacts to the local and regional road network and intersections, including public safety, access to other destinations within the area (such as Barrington Tops) and any access restrictions to property.
- **Visual Amenity** – the Environmental Assessment shall fully describe all project components and their locations. A photographic assessment clearly demonstrating the potential visual amenity impacts of the proposal must be provided along with clear description of visual impact amenity mitigation and management measures that the Proponent intends to apply to the project.
- **Noise and Vibration** – the Environmental Assessment shall include an assessment of noise and vibration impacts associated with the construction (including the winning of extractive material) and operation (all end uses) of the project. Construction traffic noise should also be addressed. The assessment must take into account the following guidelines, as relevant: *Noise Control Guideline Construction Site Noise* (DECC), *Environmental Criteria for Road Traffic Noise* (EPA, 1999), *Industrial Noise Policy* (EPA, 2000) and *Assessing Vibration: A Technical Guideline* (DECC, 2006).
- **Indigenous and Non-Indigenous Heritage** – the Environmental Assessment shall include an assessment that considers natural areas and places of Aboriginal, historic or archaeological significance. The assessment should include:
  - statements of significance and an assessment of the impact of the proposal on the heritage significance of non-indigenous heritage items (including buildings, works, relics, gardens, landscapes, views, trees or places) in accordance with relevant guidelines published by the Heritage Council of NSW. Specific consideration should be given to Quart Pot/ Munni Cemetery, Munni House, Mann's Hut and their management;
  - an assessment of the Indigenous cultural heritage values that may be impacted by the project with details on subsurface archaeological investigations undertaken for potential archaeological deposits as well as addressing the information and consultation requirements of the draft *Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation*;
  - consideration of wider heritage impacts in areas surrounding the project.
- **Air Quality** – the Environmental Assessment shall include an assessment of air quality impacts associated with the project, particularly the winning of extractive material, and potential impacts on nearby sensitive receptors, prepared in accordance with the *Approved Methods for the Modelling and Assessment of Air*

	Pollutants in NSW (Dec, 2005). • **Greenhouse Gas Emissions** – the Environmental Assessment shall include a greenhouse gas assessment for the project. Carbon offset strategies, as appropriate, should be identified. • **Resource Management** – the Environmental Assessment shall include an assessment of the likely waste quantities and qualities generated during the construction and operation of the project, including potentially contaminated soils. Details of appropriate waste management and disposal options for those materials must be provided with particular emphasis on opportunities to maximise the reclamation and reuse of resources from the inundation area, such as cleared vegetation and building materials. The assessment must take into consideration the principles of reduce, reuse, recycle and the DECC's *Assessment, Classification and Management of Liquid and Non-liquid Wastes.* • **Cumulative Impacts** – the Environmental Assessment shall consider the proposed relationship of the project to other existing regional water storages; their associated infrastructure within the area (Chichester Dam, Seaham Weir) and the operational rules governing this infrastructure. • **General Environmental Risk Analysis** – notwithstanding the above key assessment requirements, the Environmental Assessment should include an environmental risk analysis to identify potential environmental impacts associated with the project (construction and operation), proposed mitigation measures and potentially significant residual environmental impacts after the application of proposed mitigation measures. Where additional key environmental impacts are identified through this environmental risk analysis, an appropriately detailed impact assessment of the additional key environmental impact(s) should be included in the Environmental Assessment.
Consultation Requirements	You should undertake an appropriate and justified level of consultation with relevant parties during the preparation of the Environmental Assessment, including: • local, State or Commonwealth government authorities and service providers such as the Department of Environment and Climate Change, Department of Water and Energy, Department of Primary Industries, Hunter-Central Rivers Catchment Management Authority, Dungog Shire Council, Dams Safety Committee, Department of Lands and the Rural Fire Service; • special interest groups, including local Aboriginal land councils; and • the local community, including the Tillegra Dam Community Reference Group and affected landowners. The Environmental Assessment must describe the consultation process and clearly indicate issues raised by stakeholders during consultation and how those matters have been addressed in the Environmental Assessment.