NSW GOVERNMENT | Department of Primary Industries

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- 4 OCT 2012

Ms Swati Sharma
Infrastructure Projects
NSW Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Ms Sharma

Orange Aerodrome - Gas Pipeline Deviation (SSI 12_5570)
Comment on proposed Environmental Assessment Requirements

I refer to your email of 18 September 2012 to the Department of Primary Industries (DPI) in respect to the above matter.

Comment by NSW Office of Water
The NSW Office of Water provides both the following specific advices as to matters that need to be addressed in the environmental assessment, and the general list of environmental assessment requirements in Attachment A.

In terms of the specific matters, the environmental assessment needs to demonstrate:

1. Adequate and secure water supply for the proposal. Confirmation that water supplies for construction, testing and operation of the pipeline and associated activities are sourced from an appropriately authorised and reliable supply.
2. Identification of water demands, water sources (surface and groundwater), water disposal methods and water storage in the form of a water balance. This is to also include details of any water reticulation infrastructure/vehicles that supply water to the site and water quality structures proposed to manage runoff from disturbed areas along the pipeline route.
3. Location and operation details of the proposed infrastructure.
4. That existing and proposed water licensing requirements are in accordance with the *Water Act 1912* and/or the *Water Management Act 2000* (whichever is relevant) and relevant Water Sharing Plans where gazetted.
5. An assessment of watercourses to be crossed and selection of appropriate techniques and mitigating measures to minimise impact. Design and construction of works within 40m of watercourses are to be in accordance with NSW Office of Water *Guidelines for Controlled Activities*. Significant watercourses in terms of hydrological and hydraulic characteristics or high sensitivity due to ecological or stability characteristics need to be protected through directional drilling techniques.

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Temporary and permanent vehicle crossings would also need to be assessed in the environmental assessment and constructed in accordance with the Office of Water *Guidelines for Controlled Activities*.

6. Requirements to intercept groundwater and impacts to Groundwater Dependent Ecosystems and groundwater users, predicted dewatering volumes, time periods of dewatering, water quality and disposal/retention methods. This is to meet the requirements of the *NSW State Groundwater Policy Framework* document and the *Aquifer Interference Policy*.
7. Adequate mitigating, monitoring and contingency requirements to address surface and groundwater impacts.

For further information please contact Tim Baker, Senior Planning and Assessment Coordinator (Dubbo office) on 6841 7403 or at: Tim.Baker@water.nsw.gov.au.

Comment by Fisheries NSW

Fisheries NSW advises there are no fisheries related issues raised by the proposed environmental assessment requirements. For further information please contact David Ward, Fisheries Conservation Manager-Greater Darling (Tamworth office) on 6763 1255 or at: david.ward@industry.nsw.gov.au.

Yours sincerely

Phil Anquetil
Executive Director Business Services

Attachment A

Orange Aerodrome - Gas Pipeline Deviation (SSI 12_5570)
NSW Office of Water
Environmental Assessment Requirements

Relevant Legislation

The assessment is required to take into account the requirements of the following legislation (administered by the NSW Office of Water), as applicable:

- *Water Management Act 2000 (WMA)* where a Water Sharing Plan (WSP) has commenced.
- *Water Act 1912,* where a WSP is not yet in place.

In particular, proposals and management plans should be consistent with the Objects (s.3) and Water Management Principles (s.5) of the *WMA*.

Water Sharing Plans

Gazetted Water Sharing Plans (WSPs) prepared under the provisions of the *WMA* establish rules for access to, and the sharing of water between the environmental needs of the surface or groundwater source and water users. If the proposal is within a gazetted WSP area the assessment is required to demonstrate how the proposal is consistent with the relevant access and trading rules of the WSP. Refer to: *http://www.water.nsw.gov.au/Water-Management/Water-sharing/default.aspx.*

Relevant Policies

The assessment is required to take into account the following NSW Government policies, as applicable:

- *NSW Groundwater Policy Framework Document – General (August 1997)*
- *NSW Groundwater Quality Protection Policy (1998)*
- *NSW Aquifer Interference Policy (2012)*
- *NSW State Groundwater Dependent Ecosystem Policy (2002)*
- *NSW State Rivers and Estuaries Policy (1993)*
- *NSW Sand and Gravel Extraction Policy for Non-Tidal Rivers (1992)*
- *NSW Wetlands Management Policy (1996)*
- *Guidelines for the Assessment and Management of Groundwater Contamination (2007)*
- *Guidelines for Groundwater Protection in Australia (1995)*
- *Australian Groundwater Modelling Guidelines (2012)*
- *Water Sharing Plan for the NSW Murray-Darling Basin Fractured Rock Groundwater Sources*

These documents can be found at:

- *http://www.water.nsw.gov.au/Water-Management/Law-and-Policy/Key-policies/default.aspx*
- *http://www.water.nsw.gov.au/Water-Management/Water-availability/Groundwater/default.aspx*

Guidelines

The assessment is required to take into account the following *Guidelines for Controlled Activities*, as applicable:

- Riparian corridors
- Watercourse crossings
- Laying pipes and cables in watercourses
- Outlet structures
- In-stream works

Refer to:
http://www.water.nsw.gov.au/Water-Licensing/Approvals/Controlled-activities/default.aspx.

Groundwater

The Office of Water is responsible for the management of groundwater resources so they can sustain environmental, social and economic uses for the people of New South Wales.

Groundwater Source

The assessment is required to identify groundwater issues and potential degradation to the groundwater source and provide the following:

- Details of the predicted highest groundwater table at the development site.
- Details of any works likely to intercept, connect with or result in pollutants infiltrating into the groundwater sources.
- Details of any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes.
- Describe the flow directions and rates and the physical and chemical characteristics of the groundwater source.
- Details of the predicted impacts of any final landform on the groundwater regime.
- Details of the existing groundwater users within the area (including the environment) and include details of any potential impacts on these users.
- Assessment of the quality of the groundwater for the local groundwater catchment.
- Details of how the proposed development will not potentially diminish the current quality of groundwater, both in the short and long term.
- Details on preventing groundwater pollution so that remediation is not required.
- Quantification of impacts on groundwater dependent ecosystems (GDEs).
- Details on protective measures to minimise any impacts on groundwater dependent ecosystems.
- Details of proposed methods of the disposal of waste water and approval from the relevant authority.
- Assessment of the potential for saline intrusion of the groundwater and measures to prevent such intrusion into the groundwater aquifer.
- Details of the results of any models or predictive tools used to predict groundwater drawdown, inflows to the site and impacts on affected water sources.

Where potential impact/s are identified the assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing groundwater resource and any dependent groundwater environment or water users, including information on:

- Details of any proposed monitoring programs, including water levels and quality data.
- Reporting procedures for any monitoring program including mechanism for transfer of information.
- An assessment of any groundwater source/aquifer that may be sterilised as a consequence of the proposal.
- Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).
- Description of the remedial measures or contingency plans proposed.
- Any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.
- Any other assurances to account for the post-closure impacts such as retiring held water licences or ongoing pumping return proposals to minimise base flow losses.

Licensing

- All proposed groundwater works, including bores for the purpose of investigation, extraction, dewatering, testing or monitoring must be identified in the proposal and an approval obtained from the Office of Water prior to their installation.
- All predicted groundwater take must be accounted for through adequate licensing.

Groundwater Dependent Ecosystems (GDEs)

The assessment is required to identify any impacts on GDEs. GDEs are ecosystems which have their species composition and natural ecological processes wholly or partially determined by groundwater. GDEs represent a vital component of the natural environment. GDEs can vary dramatically in how they depend on groundwater from having occasional or no apparent dependence through to being entirely dependent. GDEs occur across both the surface and subsurface landscapes ranging in area from a few metres to many kilometres. Increasingly, it is being recognised that surface and groundwaters are often interlinked and aquatic ecosystems may have a dependence on both.

Ecosystems that can depend on groundwater and that may support threatened or endangered species, communities and populations, include:

- Terrestrial vegetation that show seasonal or episodic reliance on groundwater.
- River base flow systems which are aquatic and riparian ecosystems in or adjacent to streams/rivers dependent on the input of groundwater to base flows.
- Aquifer and cave ecosystems.
- Wetlands.
- Estuarine and near-shore marine discharge ecosystems.
- Fauna which directly depend on groundwater as a source of drinking water or that live within water which provide a source.

The *NSW Groundwater Dependent Ecosystem Policy* provides guidance on the protection and management of GDEs. It sets out management objectives and principles to:

- Ensure the most vulnerable and valuable ecosystems are protected.
- Manage groundwater extraction within defined limits thereby providing flow sufficient to sustain ecological processes and maintain biodiversity.
- Ensure sufficient groundwater of suitable quality is available to ecosystems when needed.
- Ensure the *precautionary principle* is applied to protect GDEs, particularly the dynamics of flow and availability and the species reliant on these attributes.

A number of gazetted WSPs list and map priority GDEs and set out the management strategies and actions for sharing and protecting groundwater quality, quantity and dependent ecosystems. As indicated above, any GDEs that may be affected significantly need to be clearly identified and the impacts quantified to enable proper assessment.

Surface Water

The Office of Water is responsible for the management of rivers, estuaries, wetlands and adjacent riverine plains so they can sustain environmental, social and economic uses for the people in New South Wales.

Watercourse/Riparian

The assessment is required to consider the impact of the proposal on the watercourses and associated riparian vegetation within the site and provide the following:

- Identify the sources of surface water.
- Details of stream order (using the Strahler System).
- Details of any proposed surface water extraction, including quantity, purpose, location of existing pumps, dams, diversions, cuttings and levees.
- Details of available surface water licences that could be purchased to account for any proposed extractions.
- Detailed description of any proposed development or diversion works including all construction, clearing, draining, excavation and filling.
- An assessment of the impacts of the proposed methods of excavation, construction and material placement on the watercourse and associated vegetation.
- A detailed description of all potential water related environmental impacts of any proposed development in terms of riparian vegetation, sediment movement, water quality and hydrologic regime.