7th May 2012

Jemena Asset
Management Pty Ltd
ABN 53 086 013 461

100 Bennelong Rd
Sydney Olympic Park
NSW 2127

PO Box 6507
Silverwater NSW 2128
T +61 2 9397 9000
F +61 2 9397 9999

www.jemena.com.au

Mr Sam Haddad
Director-General
NSW Department of Planning and Infrastructure
23-33 Bridge Street
Sydney NSW 2000

Ref: 120507 T4 Project EA Submission Final

Dear Mr Haddad,

RE: T4 Project Environmental Assessment

Thank you for the opportunity to provide comments on the Environmental Assessment (EA) for the T4 Project (the Project). A high pressure natural gas transmission pipeline, licensed under the NSW *Pipelines Act 1967*, traverses the northern portion of the Project Area and requires relocation to accommodate the expanded coal terminal. Jemena Asset Management Pty Ltd (Jemena) operates and maintains the pipeline on behalf of Jemena Gas Networks Limited (the licensee). The comments in this submission therefore largely relate to the area for the proposed utility corridor and at the northern extremity of the Project Area where the pipeline relocation works are proposed. Jemena's comments on the EA are as follows:

Section 3.9.1 Access

The EA indicates that proposed internal access roads for the Project are shown in Figure 3.1. The figure, however, does not clearly indicate what access roads would be established along the proposed utility corridor.

Jemena advises that a dedicated 24 hour access road is required to all parts of the proposed new pipeline easement. The road must be able to provide all-weather access to facilitate routine pipeline easement surveillance (weekly) and maintenance and emergency vehicular access in the event of a pipeline integrity issue. Furthermore the access track needs to be stable enough to support heavy vehicles. Locations where the access track crosses the pipeline must be avoided and any such crossing constructed to minimise potential loading on the pipeline (in consultation with Jemena).

Section 3.9.2 Water usage

Sub-section (i) describes project water usage requirements during construction of the proposal. Jemena advises the following additional water usage requirements, associated with the pipeline relocation works, which are not described in the EA.

Prior to commissioning the new (relocated) section, the pipeline would need to be flushed and cleaned internally using clean water. Following cleaning, a hydrotest would need to be carried out to test the integrity of the pipeline prior to the

introduction of gas and pressurisation. The hydrotest is performed by completely filling the new pipeline section (3.2 km in length) with water, raising the water pressure to a predetermined test pressure, holding that pressure in the pipeline for a predetermined duration and monitoring.

The hydrotest water would need to be introduced into the pipeline at a high flow rate to ensure that air does not become entrained in the hydrotest water, which would limit the effectiveness of pressure test. The infill rates required often preclude filling the pipeline from tankers.

Volumes of water would also be required to clean the internal surfaces of the existing pipeline section during decommissioning. Hydrocarbons and other substances can be deposited on the internal surfaces during pipeline operation. To avoid reduce potential risks associated with pipeline corrosion and environmental release it is prudent to remove these substances during decommissioning. This is usual achieve by passing and column of clean water containing surfactants etc through the pipeline. Jemena notes that this water usage requirement has also not been identified in the EA.

Potentially 1 ML of water, sourced from potable supplies or a similarly clean source, would be required for pipeline relocation works. Jemena requests clarification as to how the required quality, quantity and flow rate of water would be provided to the hydrotest work location.

Section 3.9.3 Water management

Sub-section (i) describes water management during construction. Jemena notes the following requirements associated with the pipeline relocation works relating to water management. Water usage requirements for pipeline relocations works described above would generate potentially contaminated water that would need to be managed and disposed of. Water used to clean the internal surfaces of the pipeline during both commissioning and decommissioning may become contaminated be sediment, surfactants and hydrocarbons among other substances. The water used for hydrotesting would routinely be dosed with oxygen scavengers to prevent corrosion of internal metals surfaces and biocides and the formation of slimes containing certain microorganisms that can attack steel. The waste water from these processes would generally need to be collected and stored/treated prior to discharge and disposal as appropriate.

Jemena notes that there would be limited room to collect and store such volumes of hydrotest water in the proposed utility corridor areas and also that the adjacent areas to the north and west of the existing railway line into which the utility corridor drains are environmentally sensitive (SEPP14 wetlands). Jemena notes that settling ponds are proposed on the southern side of the railway line and that it might be appropriate to discharge waste water from pipeline relocation works into those ponds. However, as the railway line is likely to remain operational during construction this option may not be possible.

Jemena requests advice from the Proponent as to what provisions have been or would be made during construction for the discharge or disposal of waste water from pipeline relocation works.

The surface drainage from the areas to the north and west of the railway line has not been considered in the EA. While the bulk of coal terminal expansion works would occur to the south of the railway line, Jemena notes that significant surface

disturbance could occur along the utility corridor and that that area likely drains northwards and westwards in sensitive environmental (SEPP14 wetlands). Poor surface water management during work in this area could result in environmental harm of the adjacent sensitive areas.

Similarly, due to the likely presence of a high water table along the proposed utility corridor, it is likely that ground water wold be encountered during excavations in this area and that trench and excavation dewatering would be required. Jemena requests more information the proposed options for the storage and collections for water from trench dewatering and any excess water from proposed horizontal drilling activities.

Section 3.9.4 Ancillary and shared facilities

The EA makes no mention of a construction compounds for pipeline relocation works. As a minimum, a site office and amenities facility for the pipeline construction personnel and an area for storage and stockpiling of materials and equipment would be required in close proximity to the utility corridor where the pipeline relocation works would occur. Jemena requests that these ancillary facilities be provided for pipeline relocation works in close proximity to the work locations.

Section 3.9.5 Infrastructure and service relocations

Jemena notes that the EA describes a number of services relocations which would involve construction work in the proposed utility corridor. Jemena requests clarification regarding the proposed scheduling of all the service relocations in relation to one another and also to the works associated with the coal terminal expansion.

Also, should the proposal proceed, Jemena advises that the current intention is to leave the decommissioned section of pipeline in-situ. Should the Proponent require that the decommissioned section of pipeline be removed completely, further commercial discussions would be required with Jemena

Section 4.3.2 Protection of the Environment Operations Act 1997

This section notes that the proposal is a scheduled activity and would be subject to an environmental protection licence. As the operational area is to be expanded, Jemena assumes that the licence area would also be expanded via a licence modification process. Jemena requests advice whether the proposed utility corridor in which the realigned pipeline would be located would be included in the modified licence area. If so, would the licence be modified to include this area prior to the commencement of pipeline relocation works or following?

Section 4.3.11 Pipelines Act 1967

Jemena questions the final sentence in this section stating that an approval is required under Part 5 of the NSW *Environmental Planning and Assessment Act 1974* (the EP&A Act) before a pipeline licence is granted or varied. Jemena considers that the approval sought by PWCS for the T4 Project under Part 3A of the EP&A Act would satisfy approval requirements for the pipeline relocation works under the EP&A Act, as the EA contemplates the relocation of the pipeline. Clarification of the statement in the EA and any additional assessment and approval requirements for pipeline relocation works under the EP&A Act is therefore requested.

Section 4.4.2 State Environmental Planning Policy (Infrastructure) 2007

The final sentence of this section should be replaced with the following sentence:

"*All works would be undertaken in accordance with Jemena's Safety and Operating Plan for this Licence and requirements from the Safety Management Study*".

Section 7 Contamination and soils

Extensive soil contamination investigations have been carried out across the Project Area to the south of the existing railway line. The pipeline relocation works, however, would not occur in those areas.

The area to the north and west of the railway line has largely been ignored in the EA from a contamination point of view due to the presence of more natural soils and an absence of past potentially contaminating land uses. The EA (s7.1.2) notes, however, from the acid sulfate soils risk maps that acid sulfate soils (ASS) may be present at depths of 1 metre below the ground surface in the areas to the north and west of the existing railway line where the services relocations works would occur. But even though 3.2km of gas pipeline requires relocation through this area, no soil investigations were carried out to confirm the presence and extent/depths of actual or potential acid sulfate soils (ASS/PASS).

Jemena notes that potentially extensive excavations are proposed all along the proposed utility corridor, unlike the main project area to the south of the railway line, where mostly capping and in fill are proposed. Both open trench excavations methods and the horizontal drilling techniques for the pipeline relocation have the potential to expose soils to the atmosphere. In light of the excavations required along the utility corridor, the sensitive environments present to the north and west of the railway line (SEPP 14 wetlands and breeding habitat for threatened fauna species) and the potential for exposure of ASS/PASS to the atmosphere and acid generation Jemena considers the EA to be inadequate in this regard.

Jemena notes also that there is no information in the EA about potential soil aggressivity along the pipeline alignment. Aggressive soils have the potential to significant impact the integrity of steel structures and need to be considered in the design process.

Furthermore, there is minimal general geotechnical and groundwater information in the EA about the utility corridor in which pipeline relocation works would occur. As a mixture of open trenching and horizontal drilling techniques are proposed to construct the new pipeline section, this information is required to allow Jemena to plan and execute the required relocation works.

As Jemena would not be considering relocation of this pipeline were in not for the proposed coal terminal expansion, Jemena requests a full geotechnical, soil contamination (including ASS/PASS and soil aggressivity) and groundwater investigation along the proposed pipeline alignment to be carried out by the Proponent prior to the commencement of construction activities.

Furthermore, given the limited room to the north and west of the railway line and the amount of services relocation works to be carried out there, Jemena requests more information as to where any ASS/PASS soils excavated during pipeline relocation works would be stored and treated.

Section 9 Surface water

The EA indicates that settling ponds would be created on-site during construction as the primary control measure to deal with sediment laden and potentially contaminated run-off from the site. Jemena notes, however, that the majority of works associated with pipeline relocation would occur to the north and west of the railway line, and area that does not appear to drain towards the proposed basins. The area in which the service relocations would occur seems to have been largely ignored from a soil and water management point of view, however these areas likely drain into the environmental sensitive SEPP 14 wetland areas immediately adjacent to the project Area.

Jemena request more information about how the Proponent intends to manage surface run off from the proposed utility corridor during construction.

Section 10 Ecology

Jemena notes the extensive and comprehensive ecological investigations that have occurred over multiple years and during all seasons and generally supports the commitments to establish new purpose built habitats for Green and Golden Bell Frogs within with the project area and the proposed biodiversity offset strategy.

Jemena also notes the on-site impact avoidance measures that have been adopted in the design of the Proposal. The realignment of the railway line, however and the location of the proposed utility corridor does mean that pipeline relocation works would occur in some of the most environmentally sensitive locations within the Project Area. Jemena is therefore interested in the specifics of how potential ecological impacts would be managed by the proponent in this area and how management works would interface with pipeline relocation works.

Jemena requests more information from the Proponent regarding how the pre-clearing ecological surveys and fauna capture/relocation, vegetation clearing and soil and erosion control installation etc would be scheduled in relation to pipeline relocation works.

As the pipeline relocation works have the potential to directly impact various water bodies that support and provide breeding habitat for populations of threatened fauna species, Jemena requests more detailed information about the proximity of the proposed pipeline alignment and working areas and these water bodies.

The EA mentions hygiene procedures to prevent the spread of diseases that may threaten amphibians present in the Project Area. As the locations in which the pipeline relocation works would be carried out are likely to be the same areas where the hygiene protocols are relevant, Jemena requests more detail about what protocols are suggested so that potential impacts to cost and schedule can be evaluated.

Given the limited access to and the environmentally sensitivity of the area where pipeline relocation works would occur, Jemena requests formal commitment that the Proponent would be responsible for revegetation of the areas disturbed during pipeline relocation works and that the revegetation occur using species of local provenance commensurate with the intended use of the land as a pipeline easement. Furthermore, Jemena seeks a commitment from the Proponent to be responsible for maintenance and upkeep of the easement until such time as the ground surface is

stable and free from erosion and a minimum level of vegetative cover of 70% has been achieved.

Section 11 Noise and Vibration

Jemena anticipates that general construction noise associated with pipeline relocation works would be inaudible at any sensitive receivers in the vicinity of the Project.

Jemena advises, however, that during decommissioning of the existing pipeline section, large amounts of natural gas within the pipeline would need to be released. This may occur either by venting to atmosphere or flaring (subject to safety considerations). Some venting may also occur during filling of the new pipeline section. Such activities can generate significant noise levels which can be heard at great distances away from the venting locations. Depending on technical and scheduling requirements, these events may not be able to be carried out during standard construction hours. Specific community notifications are usually warranted in these situations.

Jemena requests that these requirements and activities be captured and considered in noise and vibration management plans for the Project.

Section 12 Air quality

As mentioned previously, venting and/or flaring of natural gas would be required during commissioning of the new pipeline section and decommissioning of the existing section. These activities would result in releases of carbon dioxide and/or natural gas (mostly methane) into the atmosphere. These would be one-off events. Jemena notes that these requirements have not been described or assessed in the EA. Jemena also notes that notifications to and consultation with the local air traffic controllers would also be prudent prior to any such events.

These requirements should be considered in the development of the environmental management and safety plans for the Project and appropriate management measures included.

Section 13 Greenhouse gases

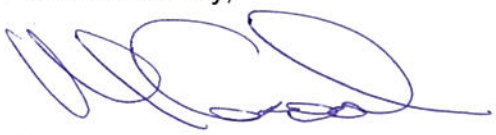
Regarding the requirement for venting/flaring natural gas from the existing and new sections of pipeline during decommissioning and commissioning, Jemena notes that the contributions to greenhouse gas emissions from the construction phase of the Project that these represent have not been considered. As natural gas is a potentially significant contribution to levels of greenhouse gases in the atmosphere, these emissions should be considered in project greenhouse gas reporting.

Section 15 Visual

If flaring is determined to be the most appropriate method for gas release during pipeline commissioning and decommissioning, the flaring apparatus and gas release/flaring rates can result in large flames high above the ground, which can be seen (and heard) from long distances away. The Safety Management Plan for the Project should consider this requirement and appropriate community notification actions are suggested.

Thank you for the opportunity to comment on the Environmental Assessment for the T4 Project. Should you wish to discuss any of the above or require further information, please do not hesitate to contact the undersigned.

Yours sincerely,



MATTHEW GOOD
Project Manager
Jemena Asset Management
(02) 9397 9348
matthew.good@jemena.com.au