MAJOR PROJECT ASSESSMENT:
City West Cable Tunnel

Director-General's
Environmental Assessment Report
Section 75I of the
Environmental Planning and Assessment Act 1979

January 2007

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

GLOSSARY AND ABBREVIATIONS

CCT	Cross City Tunnel
CWCT	City West Cable Tunnel
DEC	Department of Environment and Conservation. Also includes the Environment Protection Authority and the National Parks and Wildlife Service.
DEH	Department of Environment and Heritage (Commonwealth)
Department, the	Department of Planning
Director-General	Director-General of the Department of Planning
DoP	Department of Planning
EA	Means the Environmental Assessment prepared by Parsons Brinckerhoff on behalf of EnergyAustralia and dated May 2006
EMR	Environmental Management Representative
EMP	Environmental Management Plan
EPA	The Former Environment Protection Authority which has been superseded by the DEC.
EP&A Act	*The Environmental Planning and Assessment Act 1979.*
Minister	Means the Minister for Planning
N-2 Operating conditions	The ability to supply the peak electricity demand with any two transformers or feeders out of service.
OEMP	Operation Environmental Management Plan
Project	The City West Cable Tunnel
Proponent	EnergyAustralia
Real Time Monitoring	A monitoring system that provides updates on the vibration or settlement levels as fast as possible or as they happen. An operator can ascertain if levels are in acceptable limits immediately and implement mitigation measures on the spot if required.
RTA	Roads and Traffic Authority
SHFA	Sydney Harbour Foreshore Authority
SoC	Statement of Commitments.
STA	State Transit Authority
Submissions Report	Means the Submissions Report Prepared by Parsons Brinckerhoff on behalf of EnergyAustralia dated September 2006
TBM	Tunnel Boring Machine
UTS	University of Technology (Sydney)

1 EXECUTIVE SUMMARY

EnergyAustralia proposes to construct a 132kV cable tunnel linking the Haymarket bulk supply point and the City North substation within the Sydney Central Business District. The proposed tunnel will be approximately 1.7 kilometres long and falls within the City of Sydney Local Government Area (Figure 1).

The proposed project is required to improve the reliability of electricity supply to the CBD by replacing ageing infrastructure, cater for increased demand in electricity within the CBD and meet the "N-2" licence requirement by 2012. The proposed project is subject to Part 3A of the Environmental Planning and Assessment Act 1979 and requires the approval of the Minister for Planning.

Construction methods will involve the use of a Tunnel Boring Machine (TBM) and a Roadheader to form the physical structure which will be self supporting and built using reinforced concrete. Five 132kV feeders will be installed to transfer electricity between the bulk supply terminal located in Haymarket to the new City North substation located at the corner of Erskine and Sussex Streets.

Ancillary works will involve the establishment of a worksite in Ultimo inside the Dairy Farmers building which is owned by UTS, an adit in Mary Ann Street, an additional access shaft within Blackwattle Place and connections to the City North Substation. The cable tunnel will be located within an underground stratum which is 5m wide and 5m deep.

The capital cost of the proposal is approximately $60 million. If approved, construction would begin during the first half of 2007, and take approximately 18 months to complete with the aim of commissioning the line in mid 2009.

Between 24 May 2006 and 7 July 2006, the Department exhibited the City West Cable Tunnel Environmental Assessment. The Department received 12 submissions on the EA, including two from resident groups, three from private companies, six from state agencies and a submission from City of Sydney Council. There were no outright objections.

Key issues raised in submissions included:

- Noise impacts;
- The proposed route and proximity to existing buildings and infrastructure;
- Vibration and settlement;
- Water treatment and disposal; and
- Need for community consultation throughout the construction process.

The Department has assessed all of the issues raised in the submissions.

Following consideration of the EA, public submissions and associated reports, the Department considers that the overall impacts are likely to be minimal (with the imposition of the recommended conditions) and the residual impacts of the project can be adequately managed and mitigated.

Further, the Department accepts EnergyAustralia's justification for the project as a need to replace redundant infrastructure whilst strengthening supply reliability within the CBD through an increase in capacity and ability to meet future power demand as a result of new development.

Undergrounding the feeders through construction of a tunnel is considered to be the most appropriate option considering it is proposed in an area with a high concentration of office, recreational and residential buildings.

Construction of the tunnel will minimise surface works and disruptions which occur with traditional 'cut and cover' methods as a result of excavating sections of footpaths and roadways which would impede vehicle movement within the CBD and access/egress from private properties in addition to pedestrian access restrictions and associated trip hazards.

Additionally, the likelihood of accidental strikes which sever lines and cause outages as a result of construction/maintenance activities will be reduced due to the line being located at a significant distance underground, thus further ensuring the integrity of supply.

Surface works will be concentrated mainly within the Dairy Farmers building construction site between Ultimo Road and Mary Ann Street in Ultimo and at a short term (duration anticipated to be less than eight weeks) site in Blackwattle Place off Harbour Street in the CBD.

Approval of the proposed City West Cable Tunnel is recommended subject to the implementation of the Proponent's Statement of Commitments and the Department's recommended Conditions of Approval.

2 BACKGROUND

2.1 Background

EnergyAustralia is an energy distributor who operates an electrical transmission network approximately 22, 275 square kilometres in size within the Hunter, Central Coast and Sydney regions. The primary purpose of the network is to provide safe and reliable supplies to all residences and businesses within this area.

The current proposal is a result of extensive consultation and study of numerous routes between the Haymarket Bulk supply point owned by TransGrid and the City North Substation which is currently under construction.

Initially proposed in 2004, a number of options have been considered with the route refined no less than 10 times as a result of community involvement or further studies between the TransGrid bulk supply point in Ultimo and the City North Substation located on the corner of Erskine and Sussex Streets in the Northern CBD.

Construction Options

Initial studies identified four options capable of providing a staged delivery of the project utilising new and existing duct lines and some existing tunnel infrastructure. However, these options were discarded as they involved trench excavation along Day Street, Sussex Street, Darling Drive, Kent Street and the Western Distributor in the CBD which would have major traffic disruptions.

An additional three options involved the delivery of the project in a single stage, which was considered appropriate. However, the construction methods involved trenching city streets, and again were considered unacceptable due to traffic disruptions.

The use of a horizontal directional drill within the CBD and under Darling Harbour plus trenching, was also considered as an option but like the above seven options, also had the potential to cause traffic, business and pedestrian disruptions.

Construction of a tunnel was also considered and subsequently selected as the best method to supply electricity to the CBD due to it having greater advantages over the other options particularly in relation to surface impacts.

Tunnel Construction

After considering the likely disruptions that cut and cover methods would cause, it was considered that construction of a tunnel using a roadheader machine for the entire route would be preferable. This equipment had the advantage of being able to turn tight corners and align a route within existing road reserves avoiding any private or public property.

However, further analysis determined that utilising the roadheader for construction of the entire tunnel was inappropriate because:

- It would not meet the required deadline for completion of the tunnel;
- It would have higher construction costs as compared to a TBM;
- It had the potential to affect the groundwater table during construction;

- There were greater long term risks associated with the roadheader when compared to other construction types such as the TBM; and
- Had higher operational and maintenance costs.

This saw the route realigned in consultation with SHFA underneath the Darling Harbour area which was more direct and facilitated the use of a Tunnel Boring Machine which avoided the Sydney Entertainment Centre car park on Darling Drive, which was identified as a site of possible future redevelopment.

2.2 Project Justification

Demand for electricity within the Sydney Central Business District has seen the need to replace infrastructure because the current network of feeders (transmission lines) servicing this area of the CBD was installed between 1950-1970 and does not meet the expected demand for power and thus there is a high possibility of outages (blackouts). The technology has become redundant as replacement cable is no longer available. Additionally, the Minister for Energy and Utilities in August 2005 added a condition to EnergyAustralia's operating licence requiring an "N-2" operating criteria for all zone substation and sub-transmission feeders within the CBD.

2.3 "N-2" Criteria

The existing electricity supply system within the CBD currently operates under the N-1 criteria. This is a reliability criterion for zone substation transformers and feeders within the CBD where maximum load power must be still supplied with one transformer or 'feeder' offline thus reducing the possibility of a blackout. The N-2 criteria refers to the criteria where peak demand must be able to be supplied with two feeders offline. To meet this criteria, the operating arrangements and design of the supply network in the CBD requires significant upgrade.

Therefore, the following works are required to provide this additional capacity:

- Upgrades to the 11kV network to transfer loads from the existing substations (City South, City Central and Dalley Street);
- Major upgrade of the City North Substation (currently underway); and
- Provision of additional capacity to supply the substations.

This additional supply capacity is the City West Cable Tunnel.

2.4 Demand Management

This refers to the use of financial incentives, education or other programmes to shift the peak load of energy to another time of day, cut the peak load or reduce the total load by increasing end user efficiency.

EnergyAustralia carried out a screening test which forecasts the current and projected demand within the CBD alongside network investment requirements to ascertain if there is any cost savings short and long term by deferring the construction of the CWCT. The screening test identified that a fifth transformer at the City North Substation could be deferred only for a year however, the application of the N-2 licence condition means that the CWCT cannot be deferred.

2.5 Electric and Magnetic Fields

All alternating electric currents generate electric and magnetic fields (EMFs). This includes electricity transmission lines such as the CWCT. The electric field strength that emanates from a transmission line depends on the voltage whereas the magnetic field strength depends upon the current (electricity running along the line). Potential health effects resulting from EMFs are a concern in sectors of the community.

The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) has published information on its web site dealing with powerlines and human health. Some of the key conclusions are:

- Electric fields can be easily shielded;
- Shielding of magnetic fields is technically difficult – increasing distance from the source is the easiest way of reducing exposure. Buried transmission lines generate lower magnetic fields, because of their design;
- Human studies have consistently shown that there is no evidence that prolonged exposure to weak electric fields results in adverse health effects;
- The widespread use of electricity means that everyone is exposed to EMFs from a variety of sources;
- On balance the scientific evidence does not indicate that exposure to 50Hz EMFs found near powerlines is a hazard to human health; and
- Whether chronic exposure to magnetic fields is equally harmless remains an open question. However, the studies to date have indicated either no association or a weak association with adverse health effects. Thus, the majority of scientists, and Australian radiation health authorities in particular, do not regard chronic exposure to 50Hz fields at the levels commonly found in the environment as a proven health risk;

To the extent that there are concerns, they now focus on magnetic rather than electric fields. There are currently no Australian standards regulating exposure to these fields.

The National Health and Medical Research Council (NHMRC) had issued Interim guidelines on limits of exposure to 50/60 Hz electric and magnetic fields. These guidelines were aimed at preventing immediate health effects resulting from exposure to these fields. The recommended magnetic field exposure limit for members of the public (24 hour exposure) was 1,000 milligauss (mG). It should be noted that this limit did not apply to cancer risk resulting from chronic exposure to 50 Hz magnetic fields. The equivalent electric field limit was 5kV/m.

In Australia, it is common to apply the Principle of Prudent Avoidance – without 'undue inconvenience' (simple, easily achievable measures) and at modest cost, to reduce EMF exposure. NSW Health has advised the Department of its policy on magnetic fields. It stated that it would be appropriate to use the Prudent Avoidance Principle when considering magnetic fields associated with new or upgraded high voltage power lines, with the objective of minimising the level of magnetic field exposure for residents.

Although no submissions raised EMF as an issue during exhibition, the Department still considers it an issue when assessing projects in accordance with the EP&A Act. The EA set out the predicted EMF levels for the transmission line which were based on the study of the current fields from the existing Southern CBD Cable Tunnel at street level; this was because CWCT would be similar to the Southern CBD Cable with predicted loads and fields anticipated to be similar.

The proposed line was not found to affect magnetic field strength at street level due to the distance of the cable from the surface.

3 PROPOSED DEVELOPMENT

3.1 Project Overview

The proposal itself is a cable tunnel linking the TransGrid Haymarket bulk power supply point (located in Thomas Street) and the City North substation on the corner of Sussex and Erskine Streets at the Northern end of the CBD. The proposed tunnel will be approximately 1.7 kilometres long at a depth ranging from 10 to 40 metres below the ground surface within the City of Sydney Local Government Area.

The cable tunnel alignment follows a north–south direction beneath Darling Drive, Tumbalong Park, Darling Walk at Darling Harbour, and Sussex Street in the Sydney CBD.

The route traverses through predominately Sydney Harbour Foreshore Authority (SHFA) land (including the Darling Park commercial buildings) and within road reserves with minimal impact on private land (Figure 1).

Construction methods will involve the use of a Tunnel Boring Machine (TBM) and a Roadheader to form the physical structure which will be self supporting and built using reinforced concrete. Five 132kV feeders will be installed in the tunnel to transfer electricity between the bulk supply point owned by TransGrid located in Haymarket to the City North substation which is currently under construction, (see note below).

Ancillary works will involve the establishment of a worksite in Ultimo inside the existing Dairy Farmers building which will contain an acoustic enclosure. An additional access shaft and ventilation stack will be constructed in Blackwattle Place with connections to the City North Substation.

Permanent site access will be adjacent to the existing TransGrid adit which is located within the railway embankment at the rear of the Dairy Farmers building and accessed via a right of way from Mary Ann Street.

The cable tunnel will be located within an underground stratum (easement) which is 5m wide and 5m deep which will be acquired by EnergyAustralia.

Construction is expected to take 18 months to complete starting during the first half of 2007, with the aim of commissioning the line in mid 2009 and it will cost approximately $60 million to construct.

Note: The City North Substation and its impacts have not been assessed as part of this report as it has been previously considered by City of Sydney Council under Development Application DA 1955/2005 which was approved by Council on 5th June 2006.

The Cable will ultimately emerge from the tunnel within the lowest level of the City North substation for connection into the grid.

Figure 1: Proposed Route- (Source City West Cable Tunnel Environmental Assessment May 2006)

3.2 Physical components of the Tunnel

3.2.1 Tunnel Construction method

Roadheader

The Southern Section of the tunnel (from the Mary Ann Street Adit to the TransGrid bulk supply substation) will be constructed using a roadheader and is approximately 100m. The roadheader bores a shape which can be best described as a 'sugarloaf' which is approximately 3m wide and 3.8m high. (See Figure 2).

The basis for using the roadheader for this section is due to the topography of the area and that it can resist the hydrostatic pressures from surrounding groundwater deposits above the tunnel and minimise the deflection from surrounding rock.

A cast in situ reinforced concrete line which has a water resistant lining is installed after it passes through with a concrete slab cast on the floor of the tunnel and angled so as to deflect groundwater to drains on either side of the slab before disposal via the existing EnergyAustralia Water Treatment Plant (WTP) in Surry Hills following construction or to the on-site treatment plant during construction.

The spoil will be carried by diesel powered dump trucks to the surface, where it will be removed from site.

Tunnel Boring Machine (TBM).

The remainder of the cable tunnel (Northern Section from Mary Ann Street to the City North Substation) will be constructed using a TBM (Mary Ann Street adit to City North substation), which will be launched from the main construction site located at Mary Ann Street, and will be approximately 4m in diameter. (See Figure 3).

The TBM uses a circular rotating head which cuts the profile through the rock and transports the spoil via rail bogies to the surface. The machine advances by propelling itself forward by jacking from the walls of the tunnel.

As it passes along the TBM installs precast reinforced waterproof concrete segments, filling the spaces between the segments with grout to protect the tunnel from damage. In areas which are known to have voids or faults, grout will be pumped into spaces surrounding the tunnel to seal the area from excess groundwater penetration.

A platform will be established in the tunnel to provide a floor and allow for drainage beneath.

Groundwater will be disposed of through the on-site WTP during construction and via the EnergyAustralia Surry Hills WTP post construction.

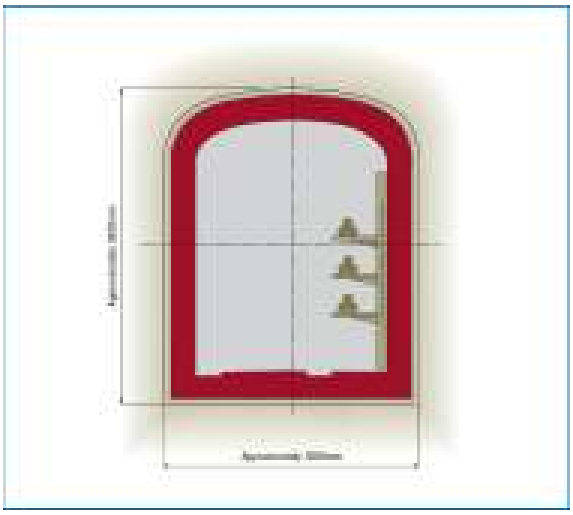

Figure 2: Roadheader Cross Section
(Source CWCT EA, May 2006);

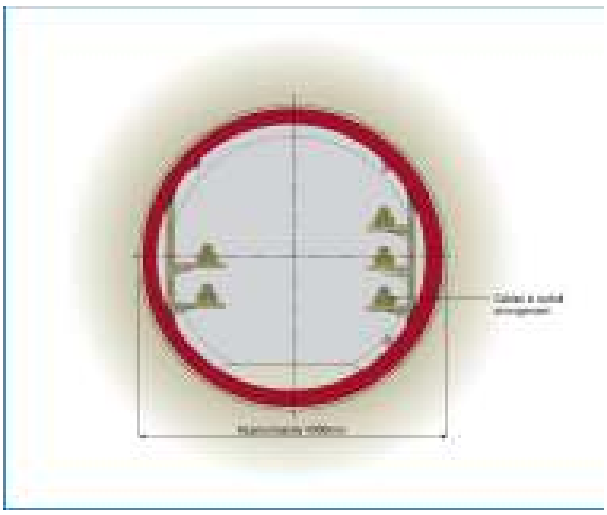

Figure 3: TBM Cross Section
(Source CWCT EA, May 2006).

3.2.2 Mary Ann Street Construction Site

The Mary Ann construction site will be the main worksite for the project which will be the launching site for the tunnel. The shaft is estimated to have a depth of 22m, 5.5m wide and 7m in length. The cavern at the base of the shaft where the machinery will be assembled is estimated to be 30m in length, 6m wide and 4m high. This is to be constructed by piling around the shaft and finished using rock bolts and concrete lining to protect the shaft with materials removed using excavators.

The Proponent identified that this activity would be time consuming and is seeking approval for twenty four hour operation but has recognised the potential of cavern and the tunnel construction and associated activities potentially causing a noise nuisance to the surrounding area.

As a result, EnergyAustralia has entered into a lease with UTS to use an existing building bounded by Mary Ann Street, Omnibus Lane and Ultimo Road known as the Dairy Farmers Building for construction activities. (See Figure 4 for an indicative site plan).

The Dairy Farmers building is an existing single story masonry building which has sufficient building height to contain a mezzanine level. All construction activities will be contained within this building and along an access road to the TransGrid site that is beside the Dairy Farmers building and the raised rail embankment owned by SHFA. Construction activities will be contained within private land for the duration of construction.

The site will contain:

- Site offices and amenities;
- Dust filtration equipment;
- Ventilation fans;
- Support systems for tunnel plant;
- Truck entrance and exit;
- On site vehicular parking;
- Spoil stockpile and loading facilities;
- Concrete segment storage;
- Truck wash facilities to ensure no spoil will be brought onto neighbouring roads; and

- Water treatment plant to treat groundwater which is encountered during construction of the tunnel, discharging to Council's system and ultimately Cockle Bay.

As outlined above, there is potential for noise and other activities to generate a nuisance to neighbouring properties. EnergyAustralia in response to this has committed to construction of an acoustic enclosure which is anticipated to achieve a minimum 20dB(A) reduction in noise and control dust emissions.

The enclosure will extend generally from the existing rail embankment and extend to the existing vehicular egress point and will involve demolition of part of the Eastern and Northern walls of the building. The structure will not exceed the existing roof height of the Dairy Farmers building and therefore will have minimal visual impact. (See indicative footprint in Figure 4).

The final design of the enclosure has yet to be determined, however EnergyAustralia has incorporated the above basic requirements within the Statement of Commitments for the contactor to achieve along with noise attenuation best practice equipment and methods.

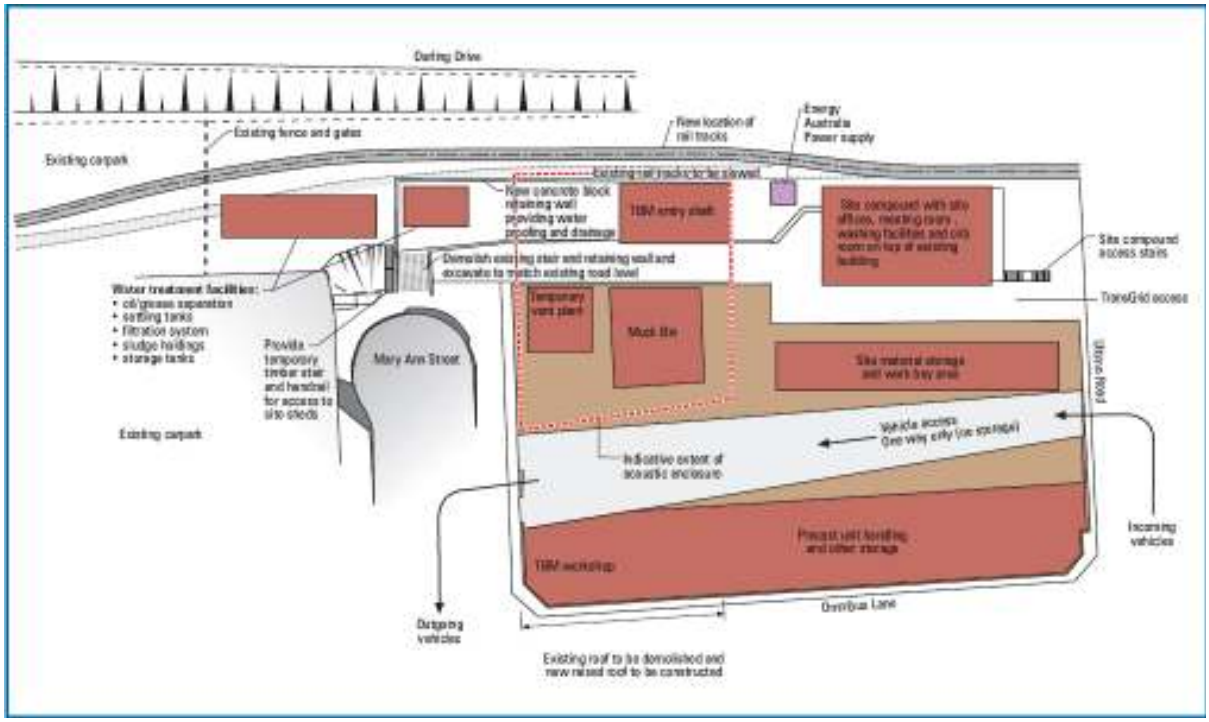

Figure 4: Indicative layout of the Mary Ann Street construction site. Source CWCT EA, May 2006.

3.2.3 Blackwattle Place Shaft

A 37m bore approximately 1.8m wide is required at the end of Blackwattle Place within the road reserve to meet the tunnel where the City Central Substation is situated. This will house feeders connecting City Central to the network.

Blackwattle Place is a public road, but has limited use as it only provides access to the substation and to the loading dock and parking facilities for Darling Park 3, and is a dead end street. Construction works will involve barricading off Blackwattle Place immediately after the access point to Darling Park. (See Figure 5).

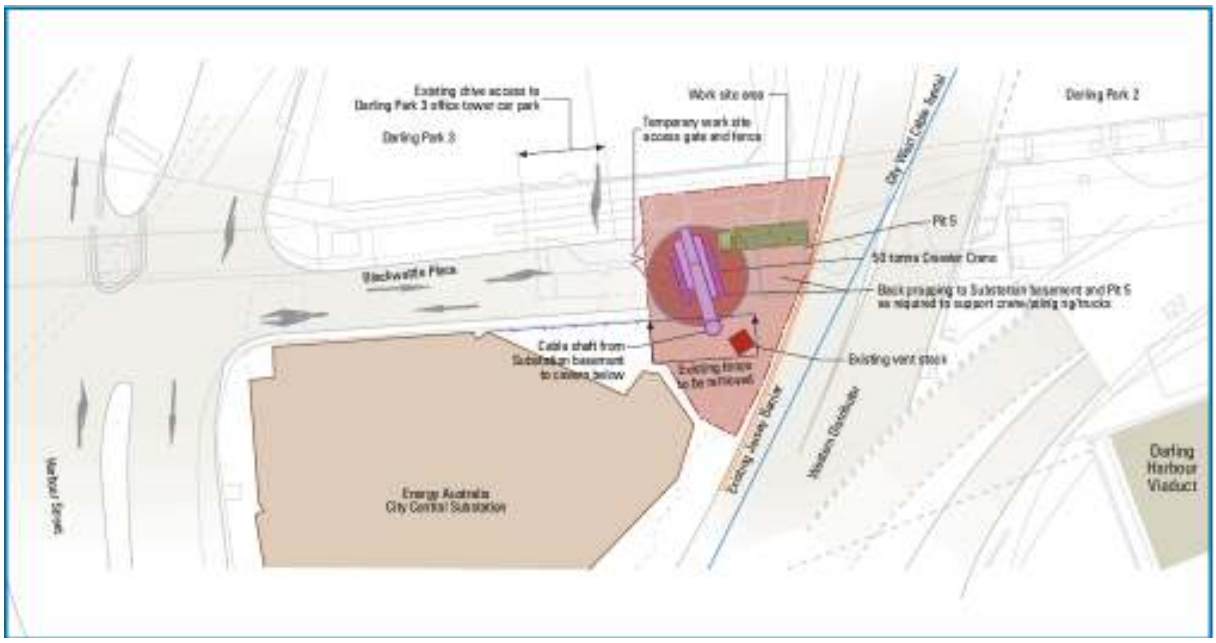

Figure 5: Indicative Blackwattle Place construction site. Source CWCT Submissions Report, September 2006.

3.2.4 Tunnel Fit out and operation

The fit-out would commence immediately after the TBM and roadheader advance forward and involves the construction of a concrete floor slab, drainage system and precast concrete segments for the walls and roof. Following this, cable support structure installation would commence which will include:

- Installation of steel cable support posts and arms either side of the tunnel;
- Installation of access platforms and stairs (Mary Ann Street, City Central and City North substations);
- Electrical, communication and limited lighting services required for operation of the tunnel;
- Installation of the Supervisory Control and Data Acquisition system, to record operations of the tunnel;
- Construction of a control room underground near the Mary Ann Street access point; and
- Installation of the feeders. The feeders will be fabricated in 1km lengths offsite and transported to the site in cable drums, loaded and fixed in place by specifically built cable pulling tractors.

The feeders will be installed in a 'trefoil' combination (three cables tied together), with pilot cables used to detect any faults or breakages in the line.

3.3 Amendments to the Proposal

EnergyAustralia has made a minor change to the proposal following exhibition and detailed studies of the Blackwattle Place construction site. This involved relocation of the shaft to within the City Central substation property rather than in the road reserve.

This will require the shaft to enter through the basement of the substation and although construction methods are the same, the amendment will reduce the spoil generated and construction times at this location.

4 STATUTORY CONTEXT

4.1 Part 3A of the Environmental Planning and Assessment Act 1979

EnergyAustralia (the Proponent) is a NSW Statutory State owned corporation which meets the definition of a public authority under the Environmental Planning and Assessment Act 1979.

Part 3A of the EP&A Act commenced operation on 1 August 2005 with Part 3A consolidating the assessment and approval regime of all major projects previously considered under Part 4 (Development Assessment) or Part 5 (Environmental Assessment) of the EP&A Act.

Under the provisions of Section 75B of the EP&A Act development may be declared to be a Major Project by virtue of a State Environmental Planning Policy or by order of the Minister published in the Government Gazette.

4.2 State Environmental Planning Policy (Major Projects) 2005

State Environmental Planning Policy (Major Projects) 2005 outlines the types of development declared a major project for the purposes of Part 3A of the EP& A Act. Under the SEPP certain forms of development may be considered a Major Project if the Minister (or his delegate) forms the opinion that the development meets criteria within the SEPP.

The Director-General as delegate of the Minister formed an opinion on 5 January 2006 confirming the City West Cable Tunnel as a project which Part 3A applies, as the project falls within Schedule 2 of the Major Projects SEPP. This is due to the development passing through the Darling Harbour precinct as defined by Clause 10(e) of Schedule 2 and having a capital investment value of more than $5 million.

4.3 Permissibility of the Project

The proposed development is located wholly within the City of Sydney Local Government Area with the majority of the project contained on land administered by the Sydney Harbour Foreshore Authority (SHFA). SHFA owns and administers land within the Darling Harbour precinct (which for the purposes of this assessment commences at Ultimo Road (but does not include the Dairy Farmers building) and runs to Sussex and King Streets.

Under Darling Harbour Development Control Plan No 1, Utility installations are permissible within the boundaries administered by SHFA providing approval is obtained. The remaining land from King Street to Erskine Street is zoned City Centre under the City of Sydney Local Environmental Plan 2005 for which the cable tunnel is permissible with development consent.

Clause 11(1) of State Environmental Planning Policy No 4 - Development without consent and miscellaneous exempt and complying development applies to both SHFA and private land under this proposal. This has the effect of making the proposal an 'activity' under Part 5 of the EP&A Act. i.e. Permissible without consent.

Part 3A of the Act, overrides Part 5 requirements and therefore triggered the need for the Minister's approval.

4.4 Public Exhibition and Environmental Assessment

The Department has exhibited the Environmental Assessment in accordance with section 75H(3) of the EP&A Act 1979 from 24 May 2006 to 7 July 2006 with 12 submissions received.

EnergyAustralia's responses to submissions are contained in the Submissions Report which was submitted to the Department on 15 September 2006.

4.5 Statement of Compliance

A compliance statement required under Section 75I (2) (g) can be found in Appendix B.

5 CONSULTATION AND ISSUES RAISED

5.1 Submissions Received

The Department received 12 submissions on the EA, including two from resident groups, three from private companies, six from state agencies and a submission from City of Sydney Council.

Three of the submissions supported the proposal with the remainder providing feedback for the Proponent and the Department to consider during assessment and construction. No submission objected to the proposal outright.

Issue	Number of Submissions	Department's Consideration
Noise	4	Key issue see section 6.1.
Vibration	5	Key issue see section 6.2.
Settlement and vibration	8	Key issue see section 6.3
Interaction with infrastructure	8	Impacts can be adequately managed through proposed control measures and in the CEMP. Additionally, an underground stratum will be purchased and the Proponent has positioned the tunnel in consultation with affected landowners.
Traffic and Parking	5	Key issue see section 6.4
Groundwater/Drainage	1	See section 6.5
Archaeology/Heritage	3	See section 6.6
Construction/amenity issues (dust, air quality)	5	Impacts can be adequately managed through proposed control measures and in the CEMP. The Proponent is required to prepare an air and dust quality sub plan which outlines measures to ensure that airborne dust and sediments do not cause problems to neighbouring properties.
Operation issues (landscaping)	4	Impacts can be adequately managed through proposed control measures. EnergyAustralia will be working with existing private property owners, SHFA and Council and has committed to replacing any damaged street tree if required and providing urban design treatments to the Mary Ann Street Adit.
Need for Consultation/Community Liaison Group	3	EnergyAustralia has undertaken extensive consultation with the community, government agencies and other project stakeholders. It has complied with statutory requirements for consultation, public exhibition of the EA, and consideration of submissions under the EP&A Act. In addition, the Proponent has committed to forming a Community Liaison Group during construction in line with EnergyAustralia's current practices.
Monitoring of Construction and Operation	2	This can be adequately managed through proposed environmental control measures. Monitoring will be required as part of the CEMP and OEMP. Additionally, auditing of the project and submission of compliance reports will be required.

Table 1: Summary of Submissions

6 ASSESSMENT

6.1 Noise

An assessment of potential construction noise impacts is provided in section 10 of the EA with further information contained in appendix H. Results were assessed in accordance with the Environment Protection Authority's 1994 Environmental Noise Control Manual with road traffic noise impacts assessed in accordance with the Environmental Criteria for Road Traffic Noise (Environment Protection Authority 1999). This has identified that construction works will exceed noise criteria at Mary Ann Street for which mitigation measures will be implemented.

It is envisaged that operational noise will not be an issue as, acoustic treatments incorporated into the Mary Ann Street Adit and within the City Central and City North substations mean that noise levels associated with ventilating the tunnel will comply with DEC/EPA requirements.

Issues

Four submissions raised construction noise as an issue. Two of these were from residents, the remaining from SHFA and Council. DEC did not raise any issues in relation to construction or operational noise. As highlighted above, the Proponent has identified that noise is an issue and has proposed mitigation measures throughout construction. No submissions raised operational noise as an issue.

Consideration

Background Noise levels were determined from measurements taken from three locations adjacent to Mary Ann Street and Blackwattle Place from 25 February 2005 to 7 March 2005 (long term unattended) and attended noise monitoring on 25 February 2005. These were taken at three locations which were selected for their potential to be influenced by construction noise and were representative of ambient noise levels within three distinct locations:

- Powerhouse Apartments (Mary Ann and Harris Streets Pyrmont);
- Crowne Plaza Hotel (Day Street, Sydney); and
- Ernst and Young Building (Sussex Street façade).

Sound Power levels known for construction equipment were added to the background noise levels to determine the noise levels anticipated for the project.

<u>Mary Ann Street</u>

The adopted construction noise criterion derived from the methodology above for Mary Ann Street was 59dBA in the day time (7am-6pm) and 56dBA at night (6pm-7am). Modelling of the worst case scenario revealed that noise levels of approximately 17dBA above the adopted noise level at night would be experienced to 70m from the construction site and, therefore, would not meet the goals set out in the noise control manual and industrial noise policy.

To comply with these goals and facilitate 24 hour operation as proposed in the EA, a number of mitigation measures have been considered by the Proponent. These include use of quieter equipment and construction of an acoustic enclosure at Mary Ann Street.

It is noted that there will be preliminary works prior to construction of the enclosure (such as temporary sheet piling works), however the noisier works will only be permitted within restricted hours to minimise noise impacts to surrounding premises. (See recommended Condition of Approval number 32).

The EA identifies that, based on commonly used equipment for tunnel construction, a 20dBA minimum reduction in noise would be achievable as a result of construction of the enclosure. This will comply with noise guidelines and reduce noise levels to under the adopted background of 56dB(A). Additionally, a noise and vibration sub-plan would be developed for all works (inside and outside the acoustic enclosure) for the City West Cable Tunnel and, include monitoring to validate noise predictions.

The enclosure will extend from the existing rail embankment and to the existing access and involve demolition of part of the Eastern and Northern walls of the building. The structure will not exceed the existing roof height. The Proponent has identified that at this point in time, a final design for the enclosure has not been determined, but has committed to the noise reduction specified within the EA.

The Department accepts that without a firm contractor in place at the time of the EA, it is difficult to identify what exact design will be implemented for the acoustic enclosure. However, the Department also considers that sufficient detail is available to assess the impact that the enclosure will have on ambient noise levels, namely the noticeable reduction of noise to neighbouring sensitive receivers.

It is considered that the minimum 20dBA reduction in ambient noise is achievable based on general acoustic treatments available versus background and proposed construction noise levels, and the Department accepts the Proponent's justification. Additionally the Department considers it appropriate to assess the detail of the acoustic enclosure at the CEMP stage to ensure that the reduction specified in the EA will be met by the contractor, and has integrated this into Condition of Approval 37.

Blackwattle Place

The adopted construction noise criteria for Backwattle Place was 75dBA. This was calculated on the basis that works will be between 4-26 weeks. The area is predominately a commercial-mixed use zone with significant traffic noise influences.

The Proponent has identified that surface works to construct the Blackwattle Place Shaft will occur within standard construction hours (7am-6pm Mon-Fri, 8am-1pm Sat and no works Sun or Public Holidays). The adopted noise criteria are considered appropriate.

Regenerated Noise (Tunnel Construction)

This is noise generated within a building as a result of vibration from tunnelling works and conveyed through either the ground or structural elements of the building based on a number of factors such as geology, groundwater and building foundations. Minimum distances have been calculated and considered with 5 commercial buildings identified which may not comply with regenerated noise criteria at basement level (40dBA) as per AS 2107-2000. This criterion is based on the TBM located 30m away from a building.

The standard requires that 40dBA is a limit for habitable areas (such as residential premises or offices) with a 35dBA requirement for sleeping areas during the night. Attenuation of 2-5dBA is generally accepted between floors of a building- namely regenerated noise should be less of an issue at higher levels. None of the buildings along the route have residential areas at ground level or sleeping areas where the day or night time noise criteria will be exceeded. Basements of the commercial buildings are generally not used for office purposes and noise levels comply with the Australian Standards by the time it reaches offices.

Therefore regenerated noise is unlikely to be an issue. In addition the Proponent has identified 5 properties within the 30m distance of the tunnel which will be subject to monitoring during construction along with other sensitive structures located 30m from the Mary Ann Street construction site. The EA states work practices will be modified should adverse impacts be identified.

Operational Noise

Noise impacts arising from the operation of the ventilation system for the cable tunnel were considered within the EA. Although operation noise was not raised as an issue in any submission, the Proponent identified that it will meet operational criteria of 47dB(A), which will not have any impact on neighbouring properties as this level is consistent with the industrial noise policy guidelines.

Mary Ann Street will be used for the purposes of air intake only generally using passive natural convection. Mechanical ventilation will be used on an occasional basis. Acoustic louvers at the air intake will be installed to reduce source noise levels at the source to ensure operation criteria. The ambient background noise at Mary Ann Street (10pm-7am) has a range between 47 and 53dB(A) and, no impacts are anticipated to occur at sensitive receivers due to the design of the air intake equipment so as to meet 47dB(A).

The exhaust will be integrated within the existing City North substation and extends 20m into the air where it will be masked by vehicular traffic on the Western Distributor. Additionally, the Proponent has committed to undertaking monitoring of both sites after completion of the Tunnel as part of the OEMP to ensure that noise levels will be met.

Conclusion

Submissions received by the Department outlined the need for a noise and vibration sub plan as part of the CEMP and the use of equipment which would emit minimal noise such as the elimination of reversing beepers. The Proponent has committed to implementing the sub plan in the CEMP and adopting a number of measures such as mufflers on equipment within the SoC in Appendix B of the EA.

The Department notes that the SoC includes a range of noise mitigation measures for construction activities including a noise and vibration sub plan. The sub plan will identify necessary control measures, including noise monitoring/reporting and measures for dealing with exceedences and noise complaints.

The Department considers that the proposed acoustic enclosure, monitoring and environmental control measures should ensure that noise from construction or operation will be minimal and not cause any significant adverse impacts on sensitive receivers. Recommended Conditions of Approval 27 to 37 which include the noise and vibration sub plan within the CEMP and commitment to the acoustic enclosure (including verification that it will meet the specified target) should ensure that construction noise will be minimised where possible.

6.2 Vibration

The Proponent identified two main issues that could arise in relation to the cable tunnel. These involve disturbance to residents and potential building/structure damage resulting from tunnelling and ancillary activities. A number of standards were used to assess this potential including:

- *AS 2670 Evaluation of human exposure to whole-body vibration (Australian Standard)*
- *BS 6472 1992 Evaluation of Human exposure to vibration in buildings (British Standard)*

- *BS 7385 1990 Evaluation and Measurement for Vibration in buildings (British Standard)*
- *DIN 4150-3 1999 Structural vibration part 3 Effects of Vibration in structures (German Standard)*

The basis for using the non Australian Standards is because no equivalent Australian Standard exists for the evaluation and measurement of vibration in buildings and structures.
Assessment of impacts by the Proponent found in Chapter 10 of the EA and in Appendix G and H revealed that there is potential for annoyance in areas surrounding Mary Ann Street, rather than along the length of the route. The Proponent has identified that impacts can be mitigated through the Noise and Vibration Sub Plan.

Issues

Five submissions were received by the Department during exhibition, three from Government Agencies, one private submission and a submission from Council which highlighted the need for real time monitoring for vibration and settlement during construction. Additionally Council identified that Community involvement is required when the CEMP is being developed for vibration. DEC did not raise any concerns in relation to vibration.

Consideration

There is potential for vibration impacts from excavation and tunnelling equipment. The EA indicates that tunnel boring machines cause low levels of vibration and regenerated noise when compared to the roadheader. Vibration annoyance and the potential for structural damage to buildings as a result of vibration from tunnel construction have been considered.

The assessment identifies that the impacts are acceptable overall against the relevant criteria however, there is potential for human vibration impacts associated with rock breaking to be experienced within 25m of the only rock breaking worksite (Mary Ann Street). To minimise any discomfort, the Proponent has committed to rock breaking occurring only within daylight hours, for which the Department has recommended a condition specifying hours of operation for rock breaking which includes a respite period of an hour.

Although the tunnel is not expected to cause any problem along the route, eight commercial buildings have been identified in the EA as possibly requiring real-time monitoring to validate that vibration is not annoying to occupants. It is important to note that no residential building has been predicted to be impacted. The commitment to real-time monitoring and modification of work practices if a problem exists is considered satisfactory to address vibration annoyance related concerns. Additionally, it is also considered that any vibration annoyance that may be experienced will be short term (generally one day) as the TBM advances at a rate of typically 60-100m in twenty-four hours.

The EA has identified that rock breaking and tunnelling activities would pose minimal risk of structural damage. Building condition surveys have been proposed for items of heritage significance within 30m of the tunnel and primarily relate to buildings along Sussex Street.

Following submissions from agencies and private organisations the Proponent has expanded the surveys and real time monitoring to include 'sensitive' structures such as the CCT in addition to committing to liaison with agencies and the community in relation to CEMP. This monitoring allows the contractor to ascertain on the spot if works exceed criteria and implement corrective actions. Additionally, it will also allow building managers and property owners to know where current activities are located.

The Department has assessed vibration in accordance with relevant standards for construction. Recommended Conditions of Approval 38-40 require the preparation of a noise and vibration sub plan as part of the CEMP (which must include real time monitoring and corrective actions) to address submissions ensuring any undue impacts on neighbouring sensitive receivers are minimised.

6.3 Settlement (Including Interaction with Infrastructure)

Settlement refers to stress relaxation or movement in the ground within upper soils or rock mass as a result of groundwater being drawn down. This draw down associated with tunnel construction causes movement in the foundations of neighbouring structures.

An assessment was provided in Section 8 of the EA with basement surveys found in appendix G which has found that the project would be unlikely to cause significant hydrological or geological movement in structures above the tunnel. This is because the tunnel will be constructed predominately in rock with a pre cast lining installed following advancement of the TBM or roadheader thus limiting movement in the rock mass limiting opportunity for settlement.

The assessment considered and predicted settlement patterns derived from Sydney based tunnelling projects, excavations of Hawkesbury Sandstone for CBD buildings (such as World Square and Regent Place) and data from recent cable tunnels such as TransGrid's Metrogrid project.

Issues

Eight submissions raised concern about settlement and its interaction with buildings and infrastructure during exhibition. These submissions were from Government agencies and private property and infrastructure owners.

Consideration

The assessment highlighted that settlement issues can arise from tunnel construction through:

- Stress relaxation in the rock mass;
- Groundwater drawdown in soils;
- Vibration-related settlement in soils; and
- Ground movement due to excavation of shafts.

The Proponent carried out borehole studies which outlined the soil profile. This showed a layer of fill with the bedrock originating from 5m above through to 20m below sea level. Additionally three known dykes are identified along the cable route underground, which are anticipated to hold groundwater.

In the CBD area, the existing watertable has been drawn down significantly through the construction of deep underground basements (such as Darling Park) and the Cross City Tunnel. The deepest documented structure is the Cross City Tunnel ventilation stack which is 28m underground.

The tunnel will have minimal impact on the groundwater table (less than 5mm), as the existing table has been drawn down as a result of prior construction, which is an acceptable limit in accordance with Australian Guidelines.

Concrete lining following advancement of tunnelling machinery will be installed to prevent water ingress, and this reduces the likelihood of adverse settlement impacts during construction and operation.

There is expected settlement displacement in the order of less than 1mm above the tunnel which is considered unavoidable. Similar projects within the CBD confirm that there will not be significant issues.

Although settlement is not considered to cause damage to buildings or the surface, the Proponent's work practices at Mary Ann Street will involve construction of retaining walls and the monitoring of the site so as to identify excessive ground movements as a result of above or underground works. If this monitoring reveals settlement exceeds acceptable limits, anchors will be installed to restrict ground movement.

A submission from Darling Park during exhibition raised concerns in relation to the proximity of the tunnel to building foundations and possible associated settlement issues. The Proponent engaged an independent study of the tunnel and settlement predictions to confirm that no negative impacts would occur in the vicinity of Blackwattle Place. The assessment confirmed that the CWCT would not affect the stability of the development. The Proponent has identified in the SoC that it is committed to undertaking real-time monitoring for structures such as Darling Park and the CCT in addition to any other identified by the EMR.

The Department considers that the basement surveys prior and post construction and the commitment to monitoring and environmental control measures should ensure that settlement will be minimal. Recommended Conditions of Approval 53-55 will require dilapidation reports and monitoring of sensitive structures such as Darling Park and the Cross City Tunnel during construction which will be incorporated within the CEMP, in addition to measures outlined in the SoC during construction.

6.4 Traffic and Transport

Traffic and transport issues associated with the CWCT predominately relate to construction and in particular the movement of spoil. It is estimated that 40,000 cubic metres of spoil will be generated by the development and this requires consideration of the most likely disposal routes, key intersections, movement of heavy vehicles and parking within the construction sites and the mitigation measures.

The assessment has considered the traffic conditions following the opening of the CCT.

The Proponent has identified that a SIDRA analysis (Signalised and unsignalised Intersection Design and Research Aid) was used to determine existing traffic conditions and what impact construction traffic activity would have in the vicinity of the Mary Ann Street and Blackwattle Place construction sites.

Issues

Five submissions raised traffic and parking as issues. Two of these were from residents, the remaining from Government and private organisations, including Council. All submissions highlighted the need for a traffic management plan and confirmation that construction works would not exacerbate existing parking issues, intersections and traffic flows (including STA buses).

Consideration

The Proponent identified key intersections associated with both the Mary Ann and Blackwattle Place construction sites:

- Mary Ann Street and Harris Street;
- Bathurst and Harbour Street;
- Blackwattle Place and Harbour Street; and
- Broadway and Harris Street.

Mary Ann and Harris Street had a survey count undertaken in 2005 whilst the remaining sites utilised data compiled for the CCT Environmental Impact Statement. The counts and data obtained revealed that with the exception of the Bathurst and Harbour Street intersection, the existing service levels are all 'A' (good operation) as per the SIDRA analysis and RTA guide to traffic generating developments. Bathurst and Harbour Street are an F (unsatisfactory- excessive queue lengths).

Blackwattle Place Construction Site

Blackwattle Place is a terminating road due to the Western Distributor forming a barrier. It serves as an access to Darling Park Tower 3 and to the City Central Substation from Harbour Street. It is anticipated that there would be a maximum of six traffic movements (three truck loads) during peak hours. Due to the traffic volumes in the surrounding area, these are considered to have a minimal impact.

Blackwattle Place is unlikely to have any traffic impact as access to Darling Park (one of only two users of the road) will remain. The other user is the Proponent. No safety issues exist as the intersection is signalised and contains a right hand turning bay from Harbour Street. (See Figure 5).

On site staff parking will be provided at this location within the confines of the City Central Substation.

Mary Ann Street Construction Site

The Mary Ann Street construction site is bordered by Ultimo Road and Harris Street which are secondary roads as they feed into regional links to the remainder of Sydney. Mary Ann Street (East) is a suburban street which terminates at the Dairy Farmers building as the former Ultimo goods rail line forms a physical barrier. (See Figure 4).

The Mary Ann Street site has the greatest potential to cause an impact on the surrounding area. It will be the primary site for spoil removal for the tunnel during construction with vehicles entering from Ultimo Road, exiting onto Mary Ann Street and onto Harris Street. Therefore, real potential exists for truck queuing on public roads and employee parking in the surrounding areas, to be a problem.

Traffic and transport issues primarily relate to the construction phase of the project. It is estimated over the 7 month period of tunnel construction, 6-7 truck movements per hour in each direction will be generated. A total of 74 vehicles which include spoil, pre cast concrete lining and miscellaneous trucks are anticipated to use the site daily during peak construction.

For the purposes of anticipating the 'worst case scenario' the Proponent carried out an assessment based on 45 vehicle movements moving in peak hour and, in the peak direction. This assessment found that the level of service on the surrounding network would not be affected.

The Proponent has identified that Harris Street presents the best option for heavy vehicle movements to and from the site. Traffic will leave the construction site by entering Harris Street from a signalised intersection at the junction of Mary Ann Street. Vehicles entering the construction site will be from the signalised Harris Street and Ultimo Road junction and, turning left into the Dairy Farmers Building from Ultimo Road. There is no turning bay into the building. Right hand turning into the Dairy Farmers building will be prohibited.

The Mary Ann Street construction site as discussed in Section 3.2.2, is contained within a commercial building which is bordered by Ultimo Road, Ominbus Lane and Mary Ann Street. The site has been designed to minimise traffic interruptions where possible. (See Figure 4).

This involves:

- A single access point into the Dairy Farmers Building from Ultimo Road for vehicles,
- The design of a single egress point for vehicles from the Dairy Farmers building onto Mary Ann Street which then will enter Harris Street via a signalised intersection;
- Stockpiling of spoil in the Mary Ann Street building outside spoil transport periods; and
- On site parking for all contractors and space for heavy vehicle queuing.

The proposed haulage routes are highlighted in Table 2 below (Source CWCT EA, May 2006):

Table 12.1 **Departure routes (Mary Ann Street construction site)**

Mary Ann Street adit (from construction site via Mary Ann Street):	
North	Harris Street ➡ Pier Street ➡ Harbour Street ➡ Harbour Bridge
East	Harris Street ➡ Regent Street ➡ Cleveland Street
South	Harris Street ➡ Regent Street ➡ Cleveland Street ➡ Southern Cross Drive
West	Harris Street ➡ Broadway ➡ Parramatta Road

Table 12.2 **Approach routes (Mary Ann Street construction site)**

Mary Ann Street adit (to construction site via Ultimo Road):	
North	Harbour Bridge ➡ Harbour Street Pier Street ➡ Harris Street ➡ Ultimo Road
East	Cleveland Street ➡ Abercrombie Street ➡ Wattle Street ➡ William Henry Street ➡ Harris Street ➡ Ultimo Road
South	Southern Cross Drive ➡ Anzac Parade ➡ Cleveland Street ➡ Abercrombie Street ➡ Wattle Street ➡ William Henry Street ➡ Harris Street ➡ Ultimo Road
West	Parramatta Road ➡ Broadway ➡ Wattle Street ➡ William Henry Street ➡ Harris Street ➡ Ultimo Road

Table 12.3 **Departure routes (Blackwattle Place construction site)**

Blackwattle Place shaft (from construction site):	
North	Harbour Street ➡ Bathurst Street ➡ Kent Street ➡ Harbour Bridge
East	Harbour Street ➡ Bathurst Street ➡ Elizabeth Street ➡ Liverpool Street ➡ Oxford Street ➡ Flinders Street ➡ Anzac Parade
South	Harbour Street ➡ Bathurst Street ➡ Elizabeth Street ➡ Liverpool Street ➡ Oxford Street ➡ Flinders Street ➡ Eastern Distributor
West	Harbour Street ➡ Pier Street ➡ Harris Street ➡ Broadway ➡ Parramatta Road

Table 12.4 **Approach routes (Blackwattle Place construction site)**

Blackwattle Place Shaft (to construction site):	
North	Harbour Bridge ➡ Harbour Street ➡ Blackwattle Place
East	Anzac Parade ➡ Oxford Street ➡ Liverpool Street ➡ Harbour Street ➡ Blackwattle Place
South	Southern Cross Drive ➡ Anzac Parade ➡ Oxford Street ➡ Liverpool Street ➡ Harbour Street ➡ Blackwattle Place
West	Parramatta Road ➡ Broadway ➡ George Street ➡ Hay Street ➡ Harbour Street ➡ Blackwattle Place

The Proponent has considered all possible haulage directions to Greater Sydney. The successful contractor will ultimately select the spoil disposal locations that will be provided as part of the CEMP.

The Department identifies that vehicular movements on Ultimo Road are likely to cause traffic disruption in the immediate vicinity of the Dairy Farmers Building as a result of vehicles (particularly trucks) turning left into the building when using the identified Harris Street haulage route.

It is acknowledged that this area has high traffic volumes, as it serves as an access point into the Southern CBD and Chinatown however, the Department considers that the design of the construction site and mitigation measures such as advance warning signs, barriers and traffic controls are appropriate.

Use of a separate access and egress point will eliminate the need for truck turning or reversing which is associated with a single access and egress point. This also removes noise associated with reversing trucks which is a source of annoying noise and was highlighted in two submissions.

The construction site design and mitigation measures will minimise disruptions to traffic flows compared to the option of truck manoeuvring at a single point i.e. the ability for multiple trucks to queue within the confines of the building rather than a single vehicle in, single vehicle out approach which would have a cumulative impact on the surrounding environment.

Sufficient contractor parking will be provided within the Mary Ann Street building. This will remove the need for workers taking parking spaces in the surrounding streets.

The Proponent has committed to the development of a Traffic sub plan within the CEMP which will involve consultation with stakeholders as requested in submissions. The CEMP will detail traffic control measures, signage, minimal disruption to public transport and provision of on-site parking.

It is also noted that there will need to be out of hours deliveries at both sites due to the nature of activities (such as the delivery of the TBM) and these are considered unavoidable. Late night delivery of this equipment is considered desirable due to less traffic and pedestrians around and therefore traffic delays and risk of accidents .The Proponent has committed to giving the surrounding residents prior notice, with exact number of deliveries to be detailed in the CEMP.

The Department has considered the studies, mitigation measures, commitments and environmental control measures to minimise adverse traffic impacts as a result of the Project. Recommended Conditions of Approval 13, 19 and 57-58 require a sub plan within the CEMP and the need to consult with residents and agencies to minimise the impacts on the surrounding environment particularly from heavy vehicles.

Other Issues

6.5 Water Treatment and Disposal

The project will have two distinct phases which will influence water treatment and disposal rates and associated methods. This covers construction and operation.

Issues

The Department of Environment and Conservation did not raise any specific concerns with the proposal as activities were unlikely to require an Environmental Protection Licence (EPL). SHFA enquired as to the availability of grey water for reuse. Council requested additional information in this regard.

Consideration

During construction, stormwater runoff from hard surfaces, surface water, groundwater and water used for tunnelling works will be pumped into a temporary Water treatment plant (WTP) that will be located on-site at the Mary Ann Street construction site.

The portable WTP will treat then discharge the collected water into Council's stormwater system in accordance with the Australian and New Zealand Water Quality Guidelines for Fresh and Marine Waters (ANZECC/ARMCANZ 2000). These guidelines set specific levels for contaminants when discharging to a set watercourse so as to be equivalent to or better than existing quality. In this instance, this refers to Cockle Bay. Prior to commencement of construction, EnergyAustralia has committed to preparation of a soil and water quality sub-plan within the CEMP which requires the involvement of Council and SHFA.

With respect to Operation, the tunnel will be lined and tanked with concrete so as to minimise water ingress. It is anticipated that 6000 litres of water would accumulate in the tunnel a day and will be transferred to an existing EnergyAustralia WTP in Campbell Street, Surry Hills. This would be done through a sump and pump out point at Mary Ann Street which will transfer water via a rising main into the existing Southern CBD cable tunnel.

The plant is designed to handle 3.5 litres per second under normal operating conditions. However, it is currently only operating at 2.0 litres per second. With the introduction of the CWCT groundwater, the plant load will increase to 2.02 litres per second.

DEC consider the quality of the water leaving the existing plant as acceptable and meeting the ANZECC guidelines for fresh and marine waters. The quality of the water leaving the plant after the addition of the CWCT water is likely to be similar. DEC is satisfied with this.

SHFA's request to utilise grey water from the WTP following operation has been considered by the Proponent in the Submissions Report. Groundwater sampling by Pells Sullivan Meynk in 2006 and other similar tunnel projects in the CBD have found that groundwater on the Western side of the CBD has a naturally high concentration of iron and manganese. Additionally, chloride has been identified as present which is highly saline in nature as a result of interference from the water table. Due to the low volume of water anticipated, grey water reuse is considered impracticable. Water will be discharged into the existing saline environment of Cockle Bay at the same or better water quality levels.

Council has requested involvement in the preparation of the Water and Groundwater Management sub-plan.

The Department considers the studies, monitoring, and proposed mitigation measures acceptable for the proposed project so as to minimise storm and groundwater impacts as a result of the Proposal.

Recommended Conditions of Approval 44 and 45 require the involvement of Council and SHFA in the preparation of soil and water and groundwater management sub plans to ensure Cockle Bay will not be determinately affected by an increase in water run-off.

6.6 Heritage

Chapter 11 and Appendix I of the EA provided an assessment of the archaeological and cultural heritage values of the route and the potential impact of the Project on European heritage specifically, vibration. The EA concluded that the route does pass through an area of potentially high archaeological significance however, as the majority of tunnelling work would be constructed through bedrock, it would be highly unlikely to uncover archaeological or cultural objects.
Additionally, it would also be unlikely to affect known features.

The NSW Heritage Office has been involved with the Project due to it running through areas identified as having State, Regional and Local Heritage significance. The Heritage Office provided a submission during exhibition indicating that they concur with the Proponent's studies and the Project would be unlikely to have any affect on the 23 items identified in the vicinity of the line.

Following representations from DEC, the Proponent provided an Aboriginal Heritage assessment within the Submissions Report. This report indicated that due to previous European occupation and the fact that the tunnel will be primarily constructed in bedrock 10-40m underground, the likelihood of encountering Aboriginal artefacts is low.

Nevertheless, the Proponent has committed to mitigation measures within the SoC and within the CEMP. This includes the stopping of works and notification of DEC if items are uncovered during construction. It was recommended by the Heritage Office that a sub-plan be developed and implemented to ensure impacts to Aboriginal and European Cultural heritage are mitigated.

The Department considers that the proposed surveys, monitoring and environmental control measures should ensure protection of Aboriginal objects and European heritage relics. Recommended conditions of approval Nos 25 and 26 require the implementation of a Cultural Heritage and Archaeology sub-plan in consultation with the Heritage Office. Conditions relating to vibration are also relevant.

6.7 Summary of Conditions

In accordance with section 75F(6) of the EP&A Act, the Proponent prepared a Statement of Commitments that was included in the Environmental Assessment. These commitments, among other undertakings, contain proposed mitigation measures to reduce the impacts of a range of social and environmental issues identified in the EA.

The SoC did not need to be amended as a result of exhibition.

The Department's recommended Conditions of Approval incorporate the Proponent's Statement of Commitments as referred to throughout this report. A summary of the Department's recommended Conditions is as follows:

- Conditions of Approval Nos 1 to 12. These cover administrative, compliance and auditing requirements;
- Conditions of Approval Nos 13 to 18 These require the preparation of a CEMP and an OEMP and specify the requirements for an Environmental Management Representative;
- Conditions of Approval Nos 19 to 23. These cover broad communication and consultation with the community, including advertising the construction activities and establishing a complaints management system;
- Conditions of Approval Nos 24 to 26 cover heritage management;
- Conditions of Approval Nos 27 to 40 cover noise and vibration management, construction hours and requirements for the Mary Ann Street Acoustic enclosure;
- Conditions of Approval Nos 41 to 48 cover soil and water management;
- Conditions of Approval Nos 49 to 51 cover air quality management;
- Condition of Approval No 52 covers the reduction of Greenhouse gases and adopting energy efficient work practices;
- Conditions of Approval Nos 53 to 56 cover property damage and access;
- Conditions of Approval Nos 57 to 58 cover road dilapidation reports and construction traffic management;
- Condition of Approval No 59 covers Urban design elements surrounding Mary Ann Street and the Ultimo Pedestrian network;
- Condition of Approval No 60 covers waste management and recycling;
- Conditions of Approval Nos 61 to 64 requires identification and management of alterations to utilities and services;

- Condition of Approval No 65 specifies location criteria for ancillary facilities such as construction compounds;
- Condition of Approval No 66 requires independent certification of the Tunnel structural integrity prior to operation of the cable;
- Condition of Approval No 67 specifies standards for lighting associated with the Project;
- Condition of Approval No 68 prohibits the Proponent from undertaking blasting;
- Conditions of Approval No 69-70 covers hazard and risk management;
- Condition of Approval No 71 covers cumulative impact management;
- Condition of Approval No 72 specifies criteria for the acquisition of the land/Stratum; and
- Conditions of Approval Nos 73 to 78 covers requirements for interaction with RailCorp assets.

7 CONCLUSION

The Department is satisfied that there is a need to replace ageing infrastructure and augment electricity supply within Sydney's CBD to ensure adequate reliability and to cater for demand growth whilst meeting the N-2 Network criteria.

The proposed City West Cable Tunnel would achieve this aim.

The construction of a cable tunnel is considered to be the best possible option so as to minimise surface works and thereby disruption to the road and pedestrian network in the West of the CBD. Additionally, the construction of the tunnel further reduces incidences of accidental strikes which could sever lines and cause outages which affect customers, as the tunnel will be located between 10-40m underground which further ensures the integrity of the power supply.

A number of environmental impacts have been assessed by the Department such as noise, settlement, traffic generation and vibration.

The key construction site is at Mary Ann Street.

The Department is satisfied that the use of the Dairy Farmers building in Mary Ann Street will alleviate impacts on the surrounding area typically associated with construction (such as noise and air quality) by containing activities within the confines of this property. Specifically, the proposed development is to include an acoustic enclosure with a minimum 20dB(A) noise reduction and along with proposed mitigation measures will ensure the impacts can be managed to acceptable levels.

A secondary construction site will be located at Blackwattle Place and the Department is satisfied that it will have little impact on the surrounding area in terms of noise and traffic due to the existence of high ambient background noise levels, short term work duration and the street terminating at the Proponent's existing substation.

Traffic generation will be satisfactory with the existing road network having sufficient capacity to cater for truck movements and the ability for heavy and contractor vehicles to be housed within the worksites.

Vibration impacts are considered satisfactory due to the nature of ground conditions (mostly solid rock) and the commitment to real-time monitoring. Settlement will be limited due to construction methods (lining of the tunnel after advancement of the TBM/Roadheader), and geology, which has been reinforced by studies of previous building and infrastructure construction within the CBD.

The quality of water disposed from the tunnel is expected to match criteria specified within ANZECC guidelines for fresh and marine waters for construction and operation. Groundwater collected during operation is expected to be minimal due to the tunnel being lined with pre-cast concrete segments and will be disposed of via the existing WTP in Surry Hills.

Overall the Department is satisfied that the Project's adverse impacts will be minimal and within acceptable limits. Conditions are recommended to ensure that this will be achieved. The conditions require compliance and auditing and preparation and implementation of a CEMP and an OEMP, which are to be developed in conjunction with Government Agencies, private property and infrastructure providers along with Council.

The Department recommends that the Project Application be approved, subject to the conditions of approval set out in Appendix A.

APPENDIX A. CONDITIONS OF APPROVAL

DEFINITIONS

Term	Definition
Ancillary Facility	Temporary facility for Construction that does not form part of the Project. Examples are an office and amenities compound, batch plant (concrete or bitumen), materials storage compound.
Cable Installation	Is part of Construction and means all works associated with the installation and jointing of the 132kV power cables, earth and pilot cables (including the set up of cable drums, rollers, guides and other equipment and works to install, secure and complete the cable installation).
Conditions of Approval	The Minister's conditions of approval for the Project contained in this Schedule 2.
Construction	Includes all work in respect of the Project other than survey, acquisitions, fencing, investigative drilling or excavation, building/road dilapidation surveys, minor clearing (except where threatened species, populations or ecological communities would be affected), establishing site compounds (in locations meeting the criteria of the Conditions of Approval), or other activities determined by the EMR to have minimal environmental impact (e.g. minor access roads, minor adjustments to services/utilities, etc.).
Department, the	Department of Planning (DoP).
Director-General, the	Director-General of the Department (or delegate).
Director-General's Agreement	A written advice from the Director-General (or delegate).
Director-General's Approval	A written approval from the Director-General (or delegate). Where the Director-General's Approval is required under these Conditions of Approval the Director-General will endeavour to provide a response within one month of receiving an approval request. The Director-General may ask for additional information if the approval request is considered incomplete. When further information is requested the time taken for the Proponent to respond in writing will be added to the one month period.
Director-General's Report	The report provided to the Minister by the Director-General of the Department under section 75I of the EP&A Act.
Environmental Assessment (EA)	Means the City West Cable Tunnel Environmental Assessment dated May 2006 prepared by Parsons Brinckerhoff on behalf of EnergyAustralia
Minister, the	Minister for Planning.
Operation	Means operation of the Project, but does not include commissioning trials of equipment or temporary use of parts of the Project during Construction.
Project	Means the Construction and Operation of the City West Cable Tunnel
Proponent	Means EnergyAustralia

Term	Definition
Publicly Available	Available for inspection by a member of the general public (for example available on an internet site or at a display centre).
Reasonable and Feasible	Consideration of best practice taking into account the benefit of proposed measures and their technological and associated operational application in the NSW and Australian context. Feasible relates to engineering considerations and what is practical to build. Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and nature and extent of potential improvements.
Sensitive Receiver	Residence, education institution (e.g. school, TAFE college), health care facility (e.g. nursing home, hospital) and religious facility (e.g. church).
Submissions Report	Means the City West Cable Tunnel Submissions Report dated September 2006 by Parsons Brinckerhoff on behalf of EnergyAustralia
Stages	Stages refers to the: • division of the Project into multiple contract packages; and/or • Construction or Operation of the Project in discrete sections.
Structure	Residence, shed or other building.

ABBREVIATIONS

Term	Abbreviation
ANZECC	Australian and New Zealand Environment and Conservation Council
ASS	Acid Sulphate Soils
CLG	Community Liaison Group
CEMP	Construction Environmental Management Plan
Council	City of Sydney Council
CWCT	City West Cable Tunnel
dB(A)	Decibel, "A" weighted scale
DEC	Department of Environment and Conservation. Also includes the Environment Protection Authority and the National Parks and Wildlife Service
DoP	Department of Planning
EA	Environmental Assessment
EMR	Environmental Management Representative
EP&A Act	*Environmental Planning and Assessment Act 1979*
L_{A90}	The noise level exceeded for 90% of a monitoring period, also referred to as the background noise level
$L_{Aeq\ (15\ mins)}$	Equivalent sound pressure level over a 15 minute interval
$L_{A10\ (15\ mins)}$	Sound pressure level exceeded for 10 per cent of the time over a 15 minute period
OEMP	Operation Environmental Management Plan
POEO Act	*Protection of the Environment Operations Act 1997*
RTA	Roads and Traffic Authority
SHFA	Sydney Harbour Foreshore Authority
SoC	Statement of Commitments
STA	State Transit Authority
TBM	Tunnel Boring Machine

ADMINISTRATIVE CONDITIONS

The Project

1. The Project must be carried out consistent with:

   a) the procedures, safeguards and mitigation measures identified in the EA, as modified by the Submissions Report;
   b) The SoC contained within Appendix B of the EA, and;
   c) these Conditions of Approval;

2. These Conditions of Approval prevail in the event of any inconsistency with the requirements for the Construction and Operation of the Project arising out of the documents described in condition 1 above.

These Conditions of Approval do not relieve the Proponent of its obligations under any other Act.

Compliance

General

3. The Proponent must notify in writing the Director-General, DEC, Heritage Office, SHFA and Council of the start of the Construction and Operation. Such notification must be provided at least four weeks before the relevant start date unless otherwise agreed to by the Director-General.

4. It is the responsibility of the Proponent to ensure compliance with all of these Conditions of Approval and to implement any measures arising from these Conditions of Approval.

5. The Proponent must bring to the Director-General's attention any matter that may require further assessment by the Director-General.

6. The Proponent must comply with any requirements of the Director-General arising from the Director-General's assessment of:

   (a) any reports, plans or correspondence that are submitted to satisfy these Conditions of Approval; and
   (b) the implementation of any actions or measures contained in such reports, plans or correspondence.

Staging Report

7. The Proponent may elect to construct the Project in Stages provided that these are consistent with these Conditions of Approval. Where Stages are proposed, the Proponent must submit a *Staging Report* to the Director-General at least four weeks before Construction commences (or within any other time agreed to by the Director-General). The *Staging Report* must:

(a) describe the Stages; and
(b) identify how these Conditions of Approval will be addressed in each Stage.

Pre-Construction Compliance Report

8. The Proponent must submit a *Pre-Construction Compliance Report* to the Director-General at least four weeks before Construction commences (or within any other time agreed to by the Director-General).

The *Pre-Construction Compliance Report* must include:

(a) details of how these Conditions of Approval required to be addressed before Construction were complied with;
(b) the time when each relevant Condition of Approval was complied with, including dates of submission of any required reports and/or approval dates; and
(c) details of any approvals or licences required to be issued by Government Departments before Construction commences.

The Proponent may exclude from the *Pre-Construction Compliance Report* all information otherwise required by this condition, in so far as that information relates to Cable Installation ("Excluded Information"). However, the Proponent must submit to the Director-General a further *Pre-Construction Compliance Report* which includes the Excluded Information at least four weeks before Cable Installation commences (or any other time agreed to by the Director-General).

Pre-Operation Compliance Report

9. The Proponent must submit a *Pre-Operation Compliance Report* to the Director-General at least four weeks before Operation commences (or within any other time agreed to by the Director-General).

The *Pre-Operation Compliance Report* must include:

(a) details of how the Conditions of Approval required to be addressed before Operation were complied with;
(b) the time when each relevant Condition of Approval was complied with, including dates of submission of any required reports and/or approval dates; and
(c) Details of any approvals or licences issued by Government Departments for the Project's Operation.

Construction Compliance Reports

10. The Proponent must provide the Director-General, Council and any other Government departments nominated by the Director-General with *Construction Compliance Reports*. The EMR must review the *Construction Compliance Reports* before they are submitted to the Director-General and bring to the Director-General's attention any shortcomings.

The first *Construction Compliance Report* must report on the first six months of Construction and be submitted a maximum six weeks after expiry of that period (or at any other time interval agreed to by the Director General). The second, and subsequent, Construction Compliance Reports must be submitted at intervals of six months from the date of submission of the first *Construction Compliance Report* (or at any other time interval agreed to by the Director General) for the duration of Construction.

The *Construction Compliance Reports* must include information on:

(a) compliance with the CEMP and these Conditions of Approval;
(b) compliance with any approvals or licences issued by Council or Government Departments for Construction;
(c) the implementation and effectiveness of environmental controls. The assessment of effectiveness should be based on a comparison of actual impacts against performance criteria identified in the CEMP;
(d) environmental monitoring results, presented as a results summary and analysis;
(e) the number and details of any complaints, including a summary of main areas of complaint, action taken, response given and intended strategies to reduce recurring complaints;
(f) details of any review and amendments to the CEMP resulting from Construction during the reporting period; and
(g) any other matter relating to compliance with these Conditions of Approval or as requested by the Director-General.

The *Construction Compliance Reports* must be made Publicly Available.

Environmental Impact Audits

Environmental Impact Audit Report - Construction

11. An *Environmental Impact Audit Report - Construction* must be prepared and submitted to the Director-General within three months after Construction is complete (or at any other time interval agreed to by the Director-General). The *Environmental Impact Audit Report – Construction* must also be submitted to Council and other Government Departments, upon the request of the Director-General.

The *Environmental Impact Audit Report – Construction* must:

(a) identify the major environmental controls used during Construction and assess their effectiveness;
(b) summarise the main environmental management plans and processes implemented during Construction and assess their effectiveness;
(c) identify any innovations in Construction methodology used to improve environmental management; and
(d) Discuss the lessons learnt during Construction, including recommendations for future projects.

Environmental Impact Audit Report - Operation

12. An *Environmental Impact Audit Report - Operation* must be submitted to the Director-General within 24 months after Operation and at any additional periods that the Director-General may require. The *Environmental Impact Audit Report - Operation* must also be submitted to Council and other Government Departments upon the request of the Director-General.

The *Environmental Impact Audit Report - Operation* must:

(a) be certified by an independent person at the Proponent's expense. The certifier must be advised to the Director-General before the *Environmental Impact Audit Report – Operation* is prepared;
(b) compare the Operation impact predictions made in the EA, Submissions Report and any supplementary studies with the actual impacts;
(c) assess the effectiveness of implemented mitigation measures and safeguards;
(d) assess compliance with the systems for operation maintenance and monitoring;
(e) discuss the results of consultation with the local community particularly any feedback or complaints; and
(f) be made Publicly Available.

ENVIRONMENTAL MANAGEMENT

Construction Environmental Management Plan

13. A Construction Environmental Management Plan (CEMP) must be prepared and implemented in accordance with these Conditions of Approval and all relevant Acts and Regulations. The Proponent must obtain the Director-General's Approval for the CEMP before Construction commences or within any other time agreed to by the Director-General. The CEMP must be reviewed by the EMR before the Proponent seeks the Director-General's Approval for the CEMP. The EMR must bring to the Director-General's attention any shortcomings.

The Proponent must ensure that the mitigation measures identified in the EA, Submissions Report and in these Conditions of Approval are incorporated into the CEMP.

The CEMP must:

(a) include a Construction program, identifying Construction activities and their location and timing;
(b) cover any relevant environmental elements identified by the Proponent, or its contractor, from their environmental due diligence investigations;
(c) contain the Construction Sub Plans required by the Conditions of Approval;
(d) be prepared in consultation with DEC, SHFA, Heritage Office, RTA, Railcorp and Council
(e) be Publicly Available;
(f) include a community consultation and notification strategy (including local community, Relevant Government Departments, Council), and complaints management system;
(g) include environmental management details such as:
    i identification of statutory obligations which the Proponent is required to fulfil during Construction, including all approvals and licences;
    ii an environmental management structure indicating the responsibility, authority and accountability for personnel relevant to the CEMP;
    iii the role of the EMR and identification of Construction activities requiring EMR attendance;
    iv details of the Construction personnel induction and training program;
    v emergency response procedures;
(h) include implementation details such as:
    i identification of relevant environmental elements;
    ii measures to avoid and/or control environmental impact;
    iii the tools to be used to implement the CEMP such as plans, schedules and work instructions;
(i) include monitoring and review details such as:

i performance criteria;
ii performance monitoring methods;
iii auditing and corrective actions procedures;
iv CEMP review procedures.

The Proponent may exclude from the CEMP all information otherwise required by condition 13 to form part of the CEMP in so far as that information relates to Cable Installation ("Excluded Information"). However, the Proponent must obtain the Director-General's Approval to a further CEMP which includes the Excluded Information before Cable Installation commences or within any other time agreed to by the Director-General. The further CEMP must be reviewed by the EMR before the Proponent seeks the Director-General's Approval. The EMR must bring to the Director-General's attention any shortcomings.

Operation Environmental Management Plan

14. An OEMP must be prepared and implemented in accordance with these Conditions of Approval and all relevant Acts and Regulations. The Proponent must obtain the Director-General's Approval for the OEMP before Operation commences or within any other time agreed to by the Director-General.

The OEMP must:

(a) identify the Operation activities;
(b) cover relevant environmental elements identified by the Proponent either from its environmental due diligence investigations or required to satisfy any other licence or approval;
(c) include the Operation Sub Plans required under these Conditions of Approval;
(d) be prepared in consultation with DEC, SHFA, RTA, Railcorp and Council
(e) be made Publicly Available;
(f) include environmental management details such as:
    i identification of statutory obligations which the Proponent is required to fulfil during Operation, including all approvals and licences;
    ii an environmental management structure indicating the responsibility, authority and accountability for personnel relevant to the OEMP;
    iii details of a personnel induction and training program;
    iv emergency response procedures;
(g) include implementation details such as:
    i identification of relevant environmental elements;
    ii measures to avoid and/or control environmental impacts;
    iii the tools to be used to implement the OEMP such as plans, schedules and work instructions;
(h) include monitoring and review details such as:
    i performance criteria;
    ii performance monitoring methods;
    iii auditing and corrective actions procedures;
    iv OEMP review procedures.

If the Proponent has an OEMP (for example a certified and operating environmental management system) for its other activities which is applicable to this Project then that system may be proposed as the OEMP. Details of the existing system must be provided to the Director-General demonstrating its application to this Project.

Environmental Management Representative

15. The Proponent must request the Director-General's Approval for the appointment of an EMR at least eight weeks before Construction commences (or within any other time agreed to by the Director-General). In its request the Proponent must provide the following information, the:

    (a) qualifications and experience of the EMR including demonstration of general compliance with relevant Australian Standards for environmental auditors;
    (b) authority and independence (from the Proponent or its contractors) of the EMR including details of the Proponent's internal reporting structure; and
    (c) resourcing of the EMR role. The EMR must be available:
        i for sufficient time to undertake the EMR role. This timing must be agreed between the Proponent and the EMR and advised to the Director-General in the request for approval;
        ii at any other time requested by the Director-General;
        iii during any Construction activities identified in the CEMP to require the EMR's attendance; and
        iv for the duration of Construction.

16. The Director-General may at any time immediately revoke the approval of an EMR appointment by providing written notice to the Proponent. Interim arrangements for EMR responsibility following the revocation must be agreed in writing between the Director-General and the Proponent.

17. The Director-General may at any time conduct an audit of any actions undertaken by the EMR. The Proponent must:

    (a) facilitate and assist the Director-General in any such audit; and
    (b) include in the conditions of the EMR's appointment the need to facilitate and assist the Director-General in any such audit.

18. The EMR is authorised to :

    (a) consider and advise the Director-General and the Proponent on matters specified in these Conditions of Approval and compliance with such;
    (b) determine whether work falls within the definition of Construction where clarification is requested by the Proponent;
    (c) review the CEMP;
    (d) periodically monitor the Proponent's activities to evaluate compliance with the CEMP. Periodic monitoring must involve site inspections of active work sites at least fortnightly;
    (e) provide a written report to the Proponent of any non-compliance with the CEMP observed or identified by the EMR. Non compliance must be managed as identified in the CEMP;
    (f) issue a recommendation to the Proponent to stop work immediately if in the view of the EMR an unacceptable impact on the environment is occurring or is likely to occur. The stop work recommendation may be limited to specific activities causing an impact if the EMR can easily identify those activities. The EMR may also recommend that the Proponent initiate reasonable actions to avoid or minimise adverse impacts;
    (g) review corrective and preventative actions to monitor the implementation of recommendations made from audits and site inspections;
    (h) certify that minor revisions to the CEMP are consistent with the approved CEMP; and

(i) provide regular (as agreed with the Director-General) reports to the Director-General on matters relevant to carrying out the EMR role including notifying the Director-General of any stop work recommendations.

The EMR must immediately advise the Proponent and the Director-General of any incidents relevant to these Conditions of Approval resulting from Construction that were not dealt with expediently or adequately by the Proponent.

COMMUNICATION AND CONSULTATION

Advice of Construction Activities

19. Before Construction commences, and then at three monthly intervals, the Proponent must advertise in relevant newspapers the: nature of the works proposed for the next three months; areas in which these works are proposed; Construction hours; and a contact telephone number.

The Proponent must ensure that the local community and businesses are advised of Construction activities that could cause disruption. Methods to disseminate this information must be identified in the CEMP. Information to be provided must include:

(a) details of any traffic disruptions and controls;
(b) construction of temporary detours; and
(c) work approved to be undertaken outside standard Construction hours, in particular noisy works, before such works are undertaken.

20. The existing internet site must be updated before Construction commences and maintained until Construction ends and contain:

(a) periodic updates of work progress, consultation activities and planned work schedules. The site must indicate the date of the last update and the frequency of the internet site updates;
(b) a description of relevant approval authorities and their areas of responsibility;
(c) a list of reports and plans that are publicly available under this Approval and details of how these can be accessed;
(d) contact names and phone numbers of relevant communications staff; and
(e) the 24 hour toll-free complaints contact telephone number.

Updates of work progress, Construction activities and planned work schedules must be provided where significant changes in noise or traffic impacts are expected.

Community Liaison Group

21. A CLG must be formed and hold its first meeting before Construction commences. The CLG must include the EMR and representatives from the Proponent and its head contractor. Community representatives should be identified and selected from relevant community and business groups, individual members of the community adjoining the Project and representatives from Council.

The Proponent must, at its own expense:

(a) maintain the CLG for the duration of Construction unless otherwise approved by the Director-General;
(b) provide a chairperson for the CLG. The chairperson must be independent of the Proponent and may be elected from the CLG membership;
(c) nominate two representatives to attend all CLG meetings;
(d) provide to the CLG regular information on the progress of Construction and related environmental performance;
(e) promptly provide to the CLG information that the CLG Chair may reasonably request concerning the Project's environmental performance;
(f) provide access for site inspections by the CLG;
(g) provide meeting facilities for the CLG, and take notes of CLG meetings. These meeting notes must be available to CLG members within 14 days of the meeting and should be endorsed by the Chair;
(h) where reasonably required by the Chair, arrange consultant(s) to explain technical information to the CLG; and
(i) where reasonably required by the Chair, invite representatives from Government Departments or other individuals to attend CLG meetings.

Issues for discussion by the CLG include the dissemination of information to the community, design issues related to these Conditions of Approval or mitigation measures, the CEMP and Construction activities. The CLG may make comments about these issues which must be considered by the Proponent. The Proponent must report back to the CLG on its considerations of the comments.

The Proponent may review a CLG's membership and/or the need for the CLG at any time during Construction. The Proponent must seek the Director-General's approval to dissolve a CLG. Any request for dissolution must demonstrate why the CLG is no longer required.

In the event of any dispute between the CLG and the Proponent, the Proponent's decision is final provided it is consistent with these Conditions of Approval.

22. The Proponent must consult property owners about implementing mitigation measures that affect their property. Mitigation measures should be implemented according to a program derived from that consultation if consistent with these Conditions of Approval.

Construction Complaints Management System

23. The Proponent must prepare and implement a *Construction Complaints Management System* before Construction commences and maintain the System for the duration of Construction. The *Construction Complaints Management System* must be consistent with AS 4269 "Complaints Handling" and include:

(a) a 24 hour, toll free telephone number listed with a telephone company and advertised;
(b) a system to receive, record, track and respond to complaints within a specified timeframe. When a complaint cannot be responded to immediately, a follow-up verbal response on what action is proposed must be provided to the complainant within two hours during night-time works and 24 hours at other times;
(c) a process for the provision of a written response to the complainant within 10 days, if the complaint cannot be resolved by the initial or follow-up verbal response; and
(d) a mediation system for complaints unable to be resolved.

Information on all complaints received, including the means by which they were addressed and whether resolution was reached with or without mediation, must be included in the *Construction Compliance Reports* and must be made available to the Director-General on request.

HERITAGE

Aboriginal Objects

24. If during the course of Construction the Proponent becomes aware of any unexpected Aboriginal object(s), all work likely to affect the object(s) must cease immediately and the DEC informed in accordance with the *National Parks and Wildlife Act 1974*.

Historical Relics

25. An Historical Relic Management Sub Plan must be prepared as part of the CEMP. The Sub Plan must be prepared in consultation with the Heritage Office and Council and include:

    (a) details of any investigations to be undertaken and any approvals required;
    (b) procedures to be implemented if previously unidentified historical relics are discovered during Construction. If such relics are discovered all work likely to affect the relic(s) must cease immediately and the Heritage Office notified in accordance with the *Heritage Act 1977*; and
    (c) an education program for Construction personnel on their obligations for historic relics.

26. If during the course of Construction the Proponent becomes aware of any unexpected historical relic(s), all work likely to affect the relic(s) must cease immediately and the Heritage Office notified in accordance with the *Heritage Act 1977*.

NOISE AND VIBRATION

Construction Noise and Vibration Management Sub Plan

27. A Construction Noise and Vibration Management Sub Plan must be prepared as part of the CEMP. The Sub Plan must be prepared in consultation with Council, DEC, SHFA, private infrastructure providers (for vibration) and the CLG and include:

    (a) an education program for Construction personnel about noise minimisation.
    (b) identification of each Construction activity, including Ancillary Facilities, and their associated noise sources;
    (c) identification of all potentially affected Sensitive Receivers;
    (d) the Construction noise objective specified in these Conditions of Approval;
    (e) the Construction vibration criteria specified in these Conditions of Approval;
    (f) determination of appropriate noise and vibration objectives for each identified Sensitive Receiver;
    (g) noise and vibration monitoring, reporting and response procedures;
    (h) assessment of potential noise and vibration from each Construction activity including noise from Construction vehicles and any traffic diversions;
    (i) a description of management methods and procedures and specific noise mitigation treatments that will be implemented to control noise and vibration during Construction;

(j) justification for any activities outside the Construction hours specified in these Conditions of Approval. This includes identifying areas where Construction noise would not be audible at any Sensitive Receiver;
(k) procedures for notifying residents of Construction activities that are likely to affect their noise and vibration amenity; and
(l) Contingency plans to be implemented in the event of non-compliances and/or noise complaints.

Construction Hours

28. All construction activities, including transportation of spoil, must be restricted to the hours of 7:00 am to 6:00 pm (Monday to Friday); 8:00 am to 1:00 pm (Saturday) and at no time on Sundays and public holidays.

Works outside these hours are not permitted except as explicitly specified below or in other conditions and include:

(a) the delivery of materials which is required outside these hours as requested by Police or other authorities for safety reasons;
(b) emergency work to avoid the loss of lives, damage to property and/or to prevent environmental harm;
(c) tunnel excavation, other sub-surface activities and works within the acoustic enclosure providing the criteria in Conditions of Approval 30 and 37 can be met; and
(d) any other work identified in, the Construction Noise or Vibration Management Sub Plan, and approved as part of the CEMP, provided local residents are informed of the timing and duration at least 48 hours prior to commencement of the work.

Construction Noise Objective

29. The Construction noise objective for the project is to manage noise from Construction activities (as measured by a $L_{A10\ (15minute)}$ descriptor) so it does not exceed the background L_{A90} noise level by:

a) more than 20 dB(A) for a Construction period of four weeks and under
b) more than 10 dB(A) for a Construction period of greater than four weeks and not exceeding 26 weeks; and
c) more than 5 dB(A) for a Construction period greater than 26 weeks.

Background noise levels are those identified in the EA or otherwise identified in the Construction Noise and Vibration Management Sub Plan.

Any activities that have the potential for noise emissions that exceed the objective must be identified and managed in accordance with the Construction Noise and Vibration Management Sub Plan. The Proponent must implement all Reasonable and Feasible noise mitigation and management measures with the aim of achieving the Construction noise objective.

If the noise from a Construction activity is substantially tonal or impulsive in nature (as described in Chapter 4 of the *NSW Industrial Noise Policy*), 5dB (A) must be added to the measured Construction noise level when comparing the measured noise with the Construction noise objective.

Regenerated Noise Criteria

30. Regenerated noise from construction works must not exceed the following criteria as measured at the nearest sensitive receptor:

(a) 40 dB(A) between the hours of 6:00 pm and 10:00 pm; and
(b) 35 dB(A) between the hours of 10:00 pm and 7:00 am.

These limits must be implemented unless otherwise approved by the Director-General. The Proponent must provide the following details to the Director-General for consideration:

(a) identification of potentially affected residences;
(b) predicted regenerated noise impacts;
(c) time periods when these impacts will occur;
(d) duration of the impacts;
(e) justification as to why the work needs to be undertaken during night time hours;
(f) an analysis of alternative methods;
(g) management measures that will be implemented including community consultation and provision of a 24-hour complaints line; and
(h) contingency measures to be implemented in the event of noise complaints.

Construction Noise Management

31. The Proponent must ensure that public address systems used at any Construction site are not used outside the Construction hours detailed in these Conditions of Approval unless otherwise approved through the Construction Noise and Vibration Management Sub Plan. Public address systems must be designed to minimise noise spillage off-site.

32. The Proponent must schedule rock breaking, rock hammering, sheet piling, pile driving and any similar activity only between the following hours unless otherwise approved in the Construction Noise and Vibration Management Sub Plan:

(a) 9 am to 12 pm and 2 pm to 5 pm, Monday to Friday; and
(b) 9 am to 12 pm, Saturday.

Where these activities are undertaken for a continuous three hour period and are audible to noise sensitive receptors, a minimum respite period of at least one hour must be scheduled before activities re-commence.

33. The Proponent must use only dampened rock hammers and/or "city" rock hammers to minimise the impacts associated with rock-breaking works.

34. The Proponent must take reasonable steps to control noise from all plant and equipment including bulldozers, cranes, graders, excavators and trucks. Examples of appropriate noise control could include efficient silencers, low noise mufflers and alternatives to reversing alarms.

35. The Proponent must ensure that the noisiest activities associated with night time works are scheduled wherever possible to be completed before midnight.

36. The Proponent must consult with UTS, TAFE NSW (Ultimo College) and minimise the impact of noise generating Construction works in their vicinity. The Proponent must ensure that Construction works audible at an institution are not timetabled during important events, such as

examination periods, unless arrangements acceptable to the affected institutions are made at no cost to the affected institutions.

Acoustic Enclosure

37. As part of the Construction Noise and Vibration Management Sub Plan the Proponent must include works as executed plans and relevant supporting documentation for the proposed acoustic enclosure at the Mary-Ann Street construction site so as to meet the minimum 20 dB (A) noise reduction specified in the EA.

The information supplied must include:

a) A site plan which identifies the extent of the enclosure;
b) Elevations and its relationship to the existing Dairy Farmers building;
c) Urban Design treatments (if required); and
d) Detail highlighting the materials used for construction and acoustic properties including seals.

Vibration Criteria

38. Vibration caused by Construction and received at any Structure outside the proposal must:

(a) for structural damage vibration be limited to German Standard DIN 4150 Part 3 *Structural Vibration in Buildings. Effects on Structures*; and
(b) for human exposure to vibration be limited to the evaluation criteria presented in British Standard BS 6472 - *Guide to Evaluate Human Exposure to Vibration in Buildings* (1Hz to 80 Hz) for low probability of adverse comment.

Where there is an inconsistency between these standards, the more stringent criteria must apply.

39. Prior to commencement of construction activities likely to result in high vibration levels, the Proponent must identify potential highly sensitive facilities, including scientific equipment, measuring equipment, printing press and the like, where the criteria in Condition of Approval 38 may not be adequate. Should such cases arise, the Proponent must consult with the potentially affected owners and develop appropriate mitigation measures to ensure impacts are acceptable.

40. Unless otherwise agreed by the Director General vibration levels must not exceed 3 mm/s at the building foundation of heritage buildings and sensitive structures

PHYSICAL ISSUES

Soil and Water Management

41. The Water Treatment Plant proposed for the Mary Ann Street construction site is to be constructed and operated so as to comply with the *POEO Act* and the ANZECC guidelines for Fresh and Marine Waters.

42. The WTP is to be decommissioned as soon as practicable following the completion of Construction. The WTP may be used to treat surface and ground water during Construction, but at no time is the WTP to be utilised to treat groundwater as a result of Operation.

Soil and Water Quality Management Sub Plan

43. A Soil and Water Management Sub Plan must be prepared as part of the CEMP. The Sub Plan must be prepared in consultation with DEC and Council. The Sub Plan must:

(a) where relevant, be consistent with the Department of Housing's guideline "Managing Urban Stormwater - Soils and Construction", the RTA's "Guidelines for the Control of Erosion and Sedimentation in Roadwork's" and the DIPNR "Constructed Wetlands Manual";
(b) identify the Construction activities that could cause soil erosion or discharge sediment or water pollutants from the site;
(c) describe management methods to minimise soil erosion or discharge of sediment or water pollutants from the site;
(d) describe the location and capacity of erosion and sediment control measures;
(e) identify the timing and conditions under which Construction stage controls will be decommissioned;
(f) include contingency plans to be implemented for events such as fuel spills; and
(g) Identify how the effectiveness of the sediment and erosion control system will be monitored, reviewed and updated.

Groundwater Quality Management Sub Plan

44. A Groundwater Quality Management Sub Plan must be prepared as part of the CEMP. The Sub Plan must be prepared in consultation with DEC and Council. The Sub Plan must:

(a) provide details of groundwater control measures to be undertaken during both the construction stage via the temporary water treatment plant (WTP) and the operation stage including discharge to the Campbell Street, Surry Hills WTP;
(b) include but not be limited to:
  (i) impacts on nearby structures from potential settlement;
  (ii) groundwater inflow control;
  (iii) handling, treatment and disposal of groundwater and contaminated groundwater;
  (iv) the role of the Campbell Street, Surry Hills WTP in the operational phase including discharges into the stormwater/sewer system;
  (v) monitoring; auditing; measures for dealing with exceedances; and response actions; and

Acid Sulphate Soils Management

45. Any ASS encountered during construction must be treated and disposed of in accordance with the "Acid Sulphate Soils Manual" (Acid Sulphate Soil Management Advisory Committee, 1998) or update.

Contaminated Land

46. Any contaminated spoil encountered during excavation must be assessed, managed and disposed of in accordance with the DEC Guideline "Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes".

Spoil and Fill Management

47. A Spoil and Fill Management Sub Plan must be prepared as part of the CEMP. The Sub Plan must include:

(a) the locations of major (defined as a volume greater than 500 cubic metres) spoil stockpiles;
(b) methods to re-use or dispose excess or unsuitable spoil material including estimated volumes and disposal sites.

48. All material excavated from Construction must be re-used or recycled unless otherwise approved in the Spoil and Fill Management Sub Plan. The Proponent must ensure that the re-use of material generated from Construction is maximised.

Air Quality

Dust Management Sub Plan

49. A Dust Management Sub Plan must be prepared as part of the CEMP. The Sub Plan must identify:

(a) potential sources of dust;
(b) dust management objectives consistent with relevant DEC guidelines;
(c) a monitoring program to assess compliance with the identified objectives; and
(d) mitigation measures to be implemented, including measures during weather conditions where high level dust episodes are probable (such as strong winds in dry weather).

Construction

50. Construction vehicles using public roads must be maintained to prevent any loss of load, whether dust, liquid or soils. Facilities must be provided at exit points of all Construction sites/compounds to minimise tracking mud, dirt or other material onto a public road or footpath. In the event of any spillage, the Proponent must remove the spilled material as soon as practicable within the working day of the spillage.

51. The Proponent must ensure that all plant and equipment used in connection with the project are:

(a) maintained in a proper and efficient condition; and
(b) operated in a proper and efficient manner.

Greenhouse Gases and Sustainable Energy

52. The Proponent must promote the reduction of greenhouse gases by adopting energy efficient work practices including:

(a) developing and implementing procedures to minimise energy use;
(b) conducting awareness programs for all site personnel regarding energy conservation methods; and
(c) conducting energy audits during the project to identify and address energy waste.

SOCIAL AND ECONOMIC ISSUES

Property Damage and Access

53. Subject to obtaining landowner agreement, property inspections must be conducted on the following:

(a) Structures located up to and including 50 metres from Construction activities that generate vibration impacts;
(b) The Cross City Tunnel, Darling Park and Darling Walk;
(c) any other locations identified by the Proponent; and
(d) any other locations identified by the EMR.

The property inspections must be undertaken consistent with AS 4349.1 "Inspection of Buildings" and dilapidation surveys must be prepared for each of the properties inspected.

The owners of all properties on which property inspections are to be conducted must be advised at least two weeks before the inspection of its scope and methodology and of the process for making a property damage claim. A copy of the dilapidation survey must be given to the owner of each property inspected at least three weeks before Construction that could affect the property commences.

The extent of the dilapidation survey required under condition 53(a) must be defined in the CEMP and certified by a suitably qualified structural engineer as encompassing the maximum area that could be reasonably expected to be impacted by tunnelling or other major vibration inducing works.

A register of all properties inspected must be maintained by the Proponent indicating whether the owner accepted or refused the property inspection offer. A copy of the register must be provided to the Director-General upon request.

54. Property inspections need not be undertaken if a risk assessment indicates Structures will not be affected. The risk assessment must be undertaken before Construction commences by geotechnical and construction engineering experts with appropriate registration on the National Professional Engineers Register.

55. The Proponent, where liable, must rectify any property damage caused directly or indirectly (for example from vibration or from groundwater change) by the Project's Construction or Operation at no cost to the property owner(s). Alternatively the Proponent may negotiate compensation for the property damage with the property owner.

56. The Proponent must ensure that access to properties is maintained during Construction. The Proponent must ensure that any lawful property access affected by the Project is reinstated to an equivalent standard or that alternative arrangements are negotiated with the relevant property owner.

Traffic

57. Road dilapidation reports must be prepared for all roads likely to be used by traffic associated with Construction. These reports must be prepared before Construction commences and after Construction is complete. Copies of the reports must be provided to the relevant roads authority. Any damage resulting from Construction, except that resulting from normal wear and tear, must be repaired at the Proponent's cost. Alternatively the Proponent may negotiate an alternative arrangement for road damage with the relevant roads authority.

58. As part of the CEMP referred to in condition 13, a detailed Construction Traffic Management Sub Plan must be prepared prior to the commencement of construction works. The Sub Plan

must be prepared in consultation with the RTA, Council, State Transit Authority and other bus operators. It must address, but is not limited to:

(a) identification of all public roads to be used by traffic associated with Construction, in particular roads proposed to transport large quantities of Construction materials. The expected timing and duration of road usage must be stated;
(b) management methods to ensure traffic associated with Construction uses identified roads;
(c) impacts on existing traffic (including pedestrians, vehicles, cyclists and disabled persons)
(d) adequate access to properties during Construction;
(e) scheduling of works to minimise traffic disruption such as during peak periods and/or holiday periods
(f) minimising worker car use including mechanisms prohibiting workers from parking vehicles in Mary Ann Street, Omnibus Lane, and Ultimo Road, Harris Street or any other location in the surrounding road network.
(g) minimising disruption to business activities;
(h) ensuring adequate access for buses, and where bus stops are relocated alternatives are provided in close proximity and adequately sign posted; and
(i) ensuring adequate access is available for garbage trucks and other service vehicles.
(j) access to Construction sites including entry and exit locations and measures to prevent traffic associated with Construction queuing on public roads;
(k) a response plan for any traffic incident associated with Construction; and
(l) monitoring, review and amendment mechanisms.

Urban Design and Landscaping

59. Urban Design treatments proposed surrounding the Mary Ann Street adit and Ultimo pedestrian network following construction are to be consistent with the existing landscape and undertaken in consultation with SHFA and Council

Waste Management and Recycling

60. As part of the CEMP and OEMP, the Proponent must prepare Waste Management and Re-use Sub Plans. The Sub Plans must address the management of wastes during Construction and Operation respectively in accordance with the NSW Government's Waste Reduction and Purchasing Policy. The Sub Plans must identify requirements for:

    (a) the application of the waste minimisation hierarchy principles of avoid/reduce/re-use/recycle/dispose;
    (b) waste handling and storage;
    (c) disposal of wastes. Specific details must be provided for cleared vegetation, contaminated materials, glass, metals and plastics, hydrocarbons (lubricants and fuels) and sanitary wastes; and
    (d) any waste material that is unable to be re-used, re-processed or recycled must be disposed at a facility approved to receive that type of waste.

Utilities and Services

61. The Proponent must identify the utilities and services (hereafter "services" including private infrastructure) potentially affected by Construction to determine requirements for diversion, protection and/or support. Alterations to services must be determined by negotiation between the Proponent and the service providers. The Proponent in consultation with service providers

must ensure that disruption to services resulting from the project are minimised and advised to customers.

62. The Proponent must ensure that existing cathodic protection systems are not adversely affected and that appropriate measures are put in place to minimise stray currents.

63. The Proponent must develop a contingency plan, in consultation with the relevant service provider(s), to deal with accidental damage and repair of services.

64. The Proponent must ensure that disruption to services resulting from the proposal are minimised and must be responsible for advising local residents and businesses affected prior to any disruption of service.

Location of Ancillary Facilities

65. Ancillary facilities are only permitted at the Mary Ann Street and Blackwattle Place construction sites and must be located so as not to affect access to neighbouring properties.

Tunnel Structural Integrity

66. The Proponent must ensure that the structural integrity of the Tunnel is certified by a suitably qualified structural engineer prior to operation of the cable. A copy of the certificate is to be included in the OEMP.

Lighting

67. All lighting for the Project must be designed, installed and operated in accordance with the requirements of AS 4282 "Control of the Obtrusive Effects of Outdoor Lighting".

Blasting

68. The Proponent must not undertake any blasting

Hazards and Risk

Hazardous Incidents and Public Safety Sub Plan

Construction Risk Management

69. The Proponent must prepare and implement a Sub Plan as part of the CEMP to manage hazardous incidents and public safety during the construction of the electricity cable and associated infrastructure. The Sub Plan must include, but not necessarily be limited to:

(a) physical measures to be implemented to minimise the potential for public harm at and in the vicinity of construction areas;
(b) a programme to ensure that safety measures implemented to minimise the potential for harm to the public remain in place and are adequately maintained while hazardous situations exist;
(c) procedures for the notification of residents in the vicinity of construction sites whose safety may be affected by construction activities;
(d) procedures to manage risk to construction workers;
(e) measures to be implemented to ensure safe transport of construction materials, including transport routes, transport times, vehicle speeds and driver behavioural requirements;

(f) measures to be implemented to ensure the safe handling of hazardous materials and to minimise the potential for spills of those materials;
(g) a protocol to manage the on-site refuelling of TBM or roadheader during construction; and
(h) contingency measures to contain, minimise and rehabilitate a spill of hazardous materials, should it occur.

Construction and Operation Risk Management

70. The Proponent must prepare and implement an Emergency Sub Plan as part of the CEMP to manage emergency events that may arise during the operation of the electricity cable and associated infrastructure. The Sub Plan must include, but not necessarily be limited to:

(a) identification of emergencies that may arise in relation to the physical tunnel, electricity cable and associated infrastructure;
(b) procedures to be followed to address potential emergencies and minimise the impacts of emergencies on surrounding land uses;
(c) monitoring and communication systems installed to indicate an emergency;
(d) details of fire safety measures where relevant. This may include the need for use of sprinkler systems and lighting. The measures must be developed in consultation with the NSW Fire Brigade;
(e) procedures for the notification of relevant emergency services, authorities and affected receptors of an emergency situation; and
(f) a system to investigate and address the cause(s) of any emergency to prevent recurrence.

Cumulative Impact Management

71. As part of the CEMP, the Proponent must identify all other significant developments occurring in the vicinity of the cable construction area. The Proponent must identify environmental impacts to be monitored during construction, which have the potential for cumulative effects to occur. The Proponent must define time periods within which the identified environmental impacts would be monitored and describe measures taken to reduce cumulative effects.

Acquisition of Land/Stratum

72. The Proponent must notify the owner of any property interest that is to be used or acquired or for which an easement or other tenure is to be obtained. The notice must contain sufficient details to identify the land of interest required and is to include dimensions, location with respect to boundaries and any other information necessary to enable the identification of the land in relation to the development. This notification must be given prior to use or access for Construction.

Rail Infrastructure

73. Before construction commences, the Proponent must consult with RailCorp about impacts on existing rail infrastructure and the planned Redfern to Chatswood Rail Link (RCRL), also known as the MetroWest Rail Link.

74. The Proponent must design, construct and maintain the CWCT so as:

a) not to interfere with either existing rail infrastructure or the capacity to design, construct and operate the RCRL; and

b) to provide for impacts including stray currents and vibration from existing and future rail operations.

75. Prior to commencement of any construction, the Proponent must obtain from RailCorp, and comply with a Rail Party 'Access Authority Instrument' (AAI) as provided under the Master Access Deed between EnergyAustralia and Railcorp for works which may have an impact on any Rail Corridor.

76. The Proponent must advise the Director General as soon as practicable after an authority has been issued by RailCorp.

77. Prior to the commencement of any construction, the Proponent must enter an agreement with RailCorp to ensure that the capacity to design, construct and operate the RCRL is not impeded.

The agreement is to at least address:

a) The provision of design documentation and other information to RailCorp.
b) The consideration of RailCorp responses including those related to design documentation, including the modification of designs where there may be an impact on the capacity to design, construct and operate the RCRL; and
c) Notification of RailCorp of events that affect existing rail infrastructure and the planned RCRL.

78. The Proponent must advise the Director General of the Department of the agreement as soon as practicable once it has been reached

APPENDIX B. STATEMENT OF COMPLIANCE

- **Section 75B:** An opinion that the CWCT met the Major Projects SEPP (Schedule 2) criteria was made on 5 January 2006;

- **Section 75E:** A Project Application was lodged with the Director-General on 20 December 2005;

- **Section 75F(3):** The Director-General notified the Proponent of the Environmental Assessment requirements on 28 January 2006;

- **Section 75F(4):** The Director-General consulted with Public Authorities in the preparation of the Environmental Assessment requirements. The request was made on 17 January 2006;

- **Section 75G:** No Panel was convened;

- **Section 75H:** The Environmental Assessment was deemed adequate for exhibition on 23 May 2006. The EA was exhibited between 24 May 2006 and 7 July 2006;

- **Section 75H(6):** Following exhibition, a summary of private submissions and copies of Government Agency and Private Corporations submissions were sent to the Proponent. A Submissions Report was lodged with the Director-General in September 2006. There was no significant change to the Project subsequent to the exhibition of the EA and a Preferred Project Report was not required;

- **Section 75I:** This is the Director-General's Report for the Minister's consideration. As required by 75I(2), the following have also been provided to the Minister- The EA (CD provided to Minister), advice by Public Authorities (addressed in Sections 5 and 6 of this report) and reference to planning instruments (addressed in section 4 of this report);

- **Section 75I (2):** In accordance with the *Environmental Planning and Assessment Act 1979*, this is the statement of compliance.

- **Section 75X(2) and Clause 8G of the EP&A Regulation:** The following documents have been made public: The Project Application, Director-General's Requirements, EA and Submissions Report.