

SCHEDULE 1

330kV Underground Electricity Cable - Picnic Point to the Haymarket

CONDITIONS OF APPROVAL

The following acronyms and abbreviations are used in this section:

ASS	Acid Sulphate Soils
Addendum	The document forwarded to the Department by TransGrid, dated 12 th November, 2001 relating to route changes at Colwell Street/Parkfields Place and Edgbaston Road/Melvin Street, and contained within Appendix B of the Director-General's Report
CLG	Community Liaison Group
Department, the	Department of Planning
Director-General, the	Director-General of the Department of Planning or delegate
Director-General's Report	The report of the Director-General of the Department of Planning or delegate, prepared under section 115C of the Environmental Planning and Assessment Act 1979
DLWC	Department of Land and Water Conservation
EIS	<i>'Proposed Underground Electricity Cable Picnic Point to Haymarket - Environmental Impact Statement'</i> prepared for TransGrid by EDAW and Perram and Partners and dated January 2001
EMF	Electric and Magnetic Fields
EMP	Environmental Management Plan
EMR	Environmental Management Representative
ENCM	Environmental Noise Control Manual
EP& A Act	Environmental Planning and Assessment Act 1979
EPA	Environment Protection Authority
ESD	Ecologically Sustainable Development
KV	kilovolts
LALC	Local Aboriginal Land Council
L ₁₀	The noise level which is exceeded for 10 percent of the time and is approximately the average of maximum noise levels.
RBL	Rating Background Level
L ₁₀ 15 minutes 5dB(A)	For construction periods greater than twenty-six (26) weeks the EPA noise criteria is that L ₁₀ 15 minutes construction noise should not exceed the RBL by more than 5dB(A).
Minister, the	Minister for Planning
NPWS	National Parks and Wildlife Service
Proponent	TransGrid
Reasonable and feasible	Consideration of best practice taking into account (as applicable): benefits of proposed measures, technological and associated operational application in the NSW/Australian context. In accordance with EPA Policy, 'feasible' relates to engineering considerations and what is practical to build or apply. 'Reasonable' relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefit provided, community views and nature and extent of potential improvements. The principles of prudent avoidance should also be taken into account.
Relevant Councils	Any one or more of the following Councils as applicable: South

Representations Report	Sydney City Council, Council of the City of Sydney, Marrickville Council, Canterbury City Council, Bankstown City Council, Rockdale City Council, Hurstville City Council <i>Proposed Underground Electricity Cable- Picnic Point to Haymarket 'Representations Report'</i> prepared by TransGrid and dated July 2001;
RIC	Rail Infrastructure Corporation
RTA	Roads and Traffic Authority
SHFA	Sydney Harbour Foreshore Authority
SRA	State Rail Authority
SWC	Sydney Water Corporation

General

1. The proposal shall be carried out in accordance with:
 - (a) the proposal contained in the Environmental Impact Statement (EIS) '*Proposed Underground Electricity Cable Picnic Point to Haymarket - Environmental Impact Statement*' prepared for TransGrid by EDAW and Perram and Partners and dated January 2001 and as modified by the Representations Report '*Proposed Underground Electricity Cable Picnic Point to Haymarket*' prepared by TransGrid and dated July 2001 as amended by the Addendum;
 - (b) all identified Sub Plans, safeguards and mitigation measures identified in the EIS and Representations Report as amended by the Addendum; and
 - (c) the conditions of approval granted by the Minister.

Despite the above, in the event of any inconsistency with the proposal as described in the EIS and Representations Report, the conditions of approval granted by the Minister shall prevail.

These conditions do not relieve the Proponent of the obligation to obtain all other approvals and licences from all relevant authorities required under any other Act. Without affecting the generality of the foregoing, the Proponent shall comply with the terms and conditions of such approvals and licences.

It shall be the ultimate responsibility of TransGrid to ensure compliance with all conditions of approval granted by the Minister.

Compliance

General

2. The Proponent shall comply with, or ensure compliance with, all requirements of the Director-General in respect of the implementation of any measures arising from the conditions of this approval. The Proponent shall bring to the attention of the Director-General any matter that may require further investigation and the issuing of instructions from the Director-General. The Proponent shall ensure that these instructions are implemented to the satisfaction of the Director-General within such time that the Director-General may specify.

Pre-Construction Compliance Report

3. At least one month prior to commencement of substantial construction (or within such period as otherwise agreed by the Director-General), the Proponent shall submit for approval of the Director-General a report detailing compliance with all relevant conditions that apply prior to commencement of substantial construction and shall address:

- (a) the dates of submission of the various studies and/or requirements of various relevant conditions, and their approval and terms of approval; and
- (b) action taken or proposed to implement the recommendations made in terms of approvals and/or studies.

Pre-Operation Compliance Report

- 4. At least one month prior to commissioning of the proposal, the Proponent shall submit for approval of the Director-General a report detailing compliance with all relevant conditions that apply prior to commencement of operation and shall address:
 - (a) the dates of submissions of the various studies and/or requirements of various relevant conditions, and their approval and terms of approval; and
 - (b) action taken or proposed to implement the recommendations made in terms of approvals and/or studies.

The period of one month referred to in this condition above may be altered as agreed by the Director-General.

Dispute Resolution

- 5. The Proponent shall endeavour, as far as possible, to resolve any dispute with relevant public authorities arising out of the implementation of the conditions of this approval. Should this not be possible, the matter shall be referred firstly to the Director-General, and if the matter cannot be resolved, then to the Minister for resolution. The Minister's determination of the disagreement shall be final and binding on all parties.

Prior to the commencement of substantial construction the Proponent shall at its own expense establish a dispute resolution panel to be approved by the Director-General. The Proponent shall endeavour at all times to address and resolve community complaints generally consistent with the provisions of the conditions of this approval. Where major complaints can not be resolved they may be referred to the Director-General for consideration and if appropriate referred to the dispute resolution panel for resolution.

Contact Telephone Number

- 6. Prior to the commencement of construction, the Proponent shall institute, publicise and list with a telephone company a 24 hour complaints contact telephone number, which would enable any member of the general public to reach a person who can arrange appropriate response action to the complaint.

Complaints Register

- 7. The Proponent shall record details of all complaints received during construction and ensure that an initial response to the complaint is provided within 24 hours, and a detailed response within 10 days. Information on all complaints received shall be made available on request to the Director-General and all relevant government agencies. The Proponent shall nominate an appropriate person(s) to receive, log, track and respond to complaints within the specified timeframe. The name and contact details of this person(s) shall be provided to the relevant Council(s) and the Director-General upon appointment or upon any changes to that appointment.

Project Commencement

8. The Proponent shall notify the Director-General and all relevant authorities in writing of the project commencement, both in terms of construction and operation.

Advertisement of Activities

9. Prior to the commencement of construction, the Proponent shall undertake consultation with all relevant Councils and the Community Liaison Group, as specified in Condition 14, to develop appropriate notification requirements. As a minimum, the Proponent shall, prior to the commencement of construction, and then at three-monthly intervals, advertise in relevant local newspapers the nature of the works proposed for the forthcoming three months, the areas in which these works are proposed to occur, the hours of operation and a contact telephone number.
10. The Proponent shall ensure that the affected community is kept informed (by way of local newsletters, leaflets, newspaper advertisements, and community noticeboards, etc. as appropriate) of the progress of the project, including any traffic disruptions and controls, construction of temporary detours and work required outside the nominated working hours, prior to such works being undertaken.
11. All non English speaking background communities (NESB) along the route should be identified and arrangements made for persons from NESB to raise concerns or ask questions before and during construction.
12. The Proponent shall establish a project Internet web site prior to the commencement of construction and maintain the Internet web site until 12 months after commencement of operation of the project. This Internet web site shall contain monthly updates of work progress and consultation activities, including but not limited to:
 - (a) a description of relevant approval authorities and their areas of responsibility;
 - (b) a list of environmental management plans and reports that are publicly available and the executive summaries of those reports;
 - (c) minutes of local community liaison group meetings; annual reports and other public reports required by this approval, and results and interpretation of monitoring required by this Approval;
 - (d) links to all newsletters;
 - (e) contact names and phone numbers of the project communications staff; and
 - (f) 24 hour toll-free complaints contact telephone number.

The Internet address is to be made publicly available.

13. Updates of work progress and construction activities shall be provided more frequently where significant construction changes are made. For example where construction changes are expected to result in altered noise impacts.

Community Liaison Groups

14. Community Liaison Groups (CLGs) shall be established to the satisfaction of the Director General for various stages/sections of the project as applicable. The Groups shall be formed prior to the commencement of substantial construction to discuss methods of minimising the impacts of the proposed works on the local community and businesses during the construction stage. The Proponent shall as applicable review the need, relevance, effectiveness and membership of the CLGs at 6 monthly intervals or at other times as agreed by the Director-General.

The Proponent shall:

- (a) establish appropriate representative Community Liaison Groups, having considered the *Guidelines for the Establishment of the Community Liaison Groups* (see Attachment 1);
- (b) ensure that the first meeting is held prior to the Director-General's approval of the Construction Environmental Management Plan required under Condition 20;
- (c) nominate a chair to be approved by the Director-General;
- (d) employ a nominated person to serve as an Independent Community Liaison Representative to be approved by the Director-General;
- (e) allow the Group(s) to make comments and recommendations about the implementation of the development and environmental management plans, review implementation of the conditions of this approval and other matters relevant to the construction of the development;
- (f) ensure that the Group(s) has access to the necessary plans and information for such purposes; and provide appropriate facilities and information to assist the Group(s) in carrying out its functions.
- (g) consider the recommendations and comments of the Group(s) and provide a response to the Group(s) and report to the Director-General as reasonably required;
- (h) ensure that the Group(s) includes the Environmental Management Representative, representatives from TransGrid, the contractor/s, relevant local community and business groups including the Non English Speaking Background community, and relevant Councils unless otherwise agreed by the Director-General.

The Proponent shall bear all costs associated with the establishment and ongoing function of the Group. This includes the cost associated with (d); above: employment of the Independent Community Liaison Representative.

For (d) above the Independent Community Liaison Representative (ICLR) shall resolve community complaints to the greatest extent possible. The ICLR shall be experienced in mediating planning disputes, oversee community consultation, and contact the EMR if an unacceptable noise or other impact is being generated.

The Group(s) may make comments and recommendations about the urban design and construction of the proposal, which shall be considered by the Proponent. Issues for discussion shall include, but not be limited to, property/business impacts; noise control measures; traffic and access arrangements; spoil management; air and water quality; landscaping requirements and any other issues considered relevant by the Group(s).

Details of the Group(s), including membership and meeting schedules should be incorporated in the Construction EMP referred to in Condition 20.

Environmental Management Representative

- 15. The Proponent shall employ an Environmental Management Representative (EMR) who demonstrates compliance with AS/NZS ISO 14012:1996 *Guidelines for Environmental Auditing : Qualification criteria for environmental auditors*.
- 16. The EMR shall be approved by the Director-General prior to the commencement of construction. The Proponent must clearly demonstrate to the Director-General that the EMR is independent of the Proponent. In considering the appointment, the Director- General shall take into account:
 - (a) the qualifications and experience of the EMR;
 - (b) the role and responsibility of the EMR; and,

- (c) the authority and independence from the Contractors including details of the Proponent's internal reporting structure.
17. The EMR shall be available during construction activity at the site and be present on-site during any critical construction activities as defined in the Environmental Management Plan (EMP).
18. The EMR shall have responsibility for:
- (a) considering and advising the Proponent on matters specified in the conditions of approval and compliance with such;
 - (b) reviewing and approving the Proponent's induction and training programme for all persons involved in the construction activities and monitoring implementation;
 - (c) periodically auditing the Proponent's environmental activities to evaluate the implementation, effectiveness and level of compliance of on-site construction activities with the EMP and associated plans and procedures, including carrying out site inspections at least fortnightly;
 - (d) reporting monthly to the Proponent;
 - (e) recording and providing a written report to the Proponent of non-conformances with the EMP and requirements of the Proponent to undertake mitigation measures to avoid or minimise any adverse impacts on the environment including reporting required changes to the EMP;
 - (f) directing the Proponent to stop work immediately where considered necessary, if in the view of the EMR an unacceptable impact on the environment is likely to occur, or require other reasonable steps to be taken to avoid or minimise any adverse impacts;
 - (g) reviewing corrective and preventative actions to ensure the implementation of recommendations made from the audits and site inspections;
 - (h) reviewing and approving minor revisions to the EMP;
 - (i) providing information for community consultation, and any direct requests from the Independent Community Liaison Representative (ICLR);
 - (j) liaising with regulators, and responding to customer environmental complaints as required;
 - (k) providing reports to the Department on matters relevant to the carrying out of the EMR role as necessary including notifying the Department of any stop work notices; and
 - (l) certifying the Construction and Operational EMP in accordance with Conditions 20 and 22.

Environmental Management System

19. The Proponent shall ensure the appointment of construction and/or operation head contractors that have an Environmental Management System prepared in accordance with the AS/NZS ISO 14000 series or BS7750-1994 certified by an accredited certifier and/or have a proven environmental management performance record.

Construction Environmental Management Plan

20. Prior to the commencement of construction, a Construction Environmental Management Plan (CEMP) shall be prepared, following consultation with the EPA, DLWC, NPWS, NSW Fisheries, RIC, RTA and relevant Councils. Where construction activities may be undertaken in discrete stages, the Proponent may prepare individual EMPs relating to specific stages or sections of construction. An outline of any proposed staging or sections of EMPs shall require the approval of the Director-General.

The Construction Environmental Management Plan (CEMP) shall be prepared in accordance with the conditions of this approval, all relevant Acts and Regulations and accepted best practice management Sub Plans.

The CEMP shall be certified by the EMR as being in accordance with the conditions of approval prior to seeking approval of the Director-General. The CEMP shall be approved by the Director-General prior to the commencement of substantial construction works.

The Construction Environmental Management Plan (CEMP) shall:

- (a) address construction activities associated with all key construction sites, including staging and timing of the proposed works;
- (b) clearly identify on a map the location of the cable, joint bays and ancillary facilities;
- (c) cover specific environmental management objectives and strategies for the main environmental system elements and include, but not be limited to: noise and vibration; air quality; water quality; erosion and sedimentation; access and traffic; property acquisition and/or adjustments; heritage and archaeology; groundwater; acid sulphate soils; spoil stockpiling and disposal; contaminated land; waste management; fisheries; terrestrial and aquatic flora and fauna; wetlands; weed management; flooding and stormwater control; geotechnical issues and settlement; trench stability; visual screening, landscaping and rehabilitation; contractors facilities; refuelling and fuel storage areas; hazards and risks; energy use, resource use and recycling; and utilities; and
- (d) address, but not be limited to:
 - (i) identification of the statutory and other obligations which the Proponent is required to fulfil during project construction, including all approvals and consultations/agreements required from other authorities and stakeholders, and key legislation and policies which control the Proponent's construction of the project;
 - (ii) definition of the role, responsibility, authority, accountability and reporting of personnel relevant to compliance with the EMP;
 - (iii) measures to avoid and/or control the occurrence of environmental impacts;
 - (iv) measures (where practicable and cost effective) to provide positive environmental offsets to unavoidable environmental impacts;
 - (v) the role of the EMR;
 - (vi) environmental management Sub Plans for all construction processes which are important for the quality of the environment in respect of permanent and/or temporary works;
 - (vii) monitoring, inspection and test plans for all activities and environmental qualities which are important to the environmental management of the project, including performance criteria, specific tests, protocols (eg. frequency and location) and Sub Plans to follow;
 - (viii) environmental management instructions for all complex environmental control processes which do not follow common practice or where the absence of such instructions could be potentially detrimental to the environment;
 - (ix) steps the Proponent intends to take to ensure that all plans and Sub Plans are being complied with;
 - (x) consultation requirements with relevant government agencies; and
 - (xi) community consultation and notification strategy (including local community, relevant government agencies, and relevant Councils), and complaint handling Sub Plans.

Specific requirements for some of the main environmental system elements referred to in (c) shall be as required under the conditions of this approval and/or as required under any licence or approval.

The Construction EMP shall be made publicly available.

Environmental Monitoring – Construction

21. The Proponent shall submit to the Director-General a report(s) in respect of the environmental performance of the construction works and compliance with the Construction EMP and any other

relevant conditions of this approval. The Reports shall be undertaken by an independent person(s) or organisations (s) approved by the Director-General and paid for by the Proponent. The reports shall be prepared within six months of the start of substantial construction and thereafter at six monthly intervals or at other such periods as requested by the Director-General to ensure adequate environmental performance over the duration of the construction works. The report(s) shall include, but not be limited to, information on the:

- (a) applications for consents, licences and approvals, and responses from relevant authorities;
- (b) implementation and effectiveness of environmental controls and conditions relating to the work undertaken;
- (c) identification of construction impact predictions made in the EIS and any supplementary studies and details of the extent to which actual impacts reflected the predictions;
- (d) details and analysis of results of environmental monitoring;
- (e) number and details of any complaints, including summary of main areas of complaint, action taken, response given and intended strategies to reduce complaints of a similar nature; and
- (f) any other matter relating to the compliance by the Proponent with the conditions of this approval or as requested by the Director-General.

The report(s) shall be provided to the EPA, DLWC, NPWS, NSW Fisheries, Community Liaison Group and all relevant Councils, and any other relevant government agency nominated by the Director-General. The report(s) shall also be made publicly available.

Operational Environmental Management Plan

22. An Operational Environmental Management Plan (OEMP) shall be prepared prior to the commencement of operation. The Operational EMP shall be prepared in consultation with the EPA, DLWC, NPWS, NSW Fisheries, RIC, RTA and all relevant Councils and any other relevant government agency nominated by the Director-General. The Operational EMP shall be prepared in accordance with the conditions of this approval, all relevant Acts and Regulations and accepted best practice management procedures.

The OEMP shall be certified by the EMR as being in accordance with the conditions of approval prior to seeking the approval of the Director-General. The OEMP shall be submitted to the Director-General for approval prior to commissioning.

The Operational EMP shall include but not be limited to:

- (a) identification of the statutory and other obligations which the Proponent is required to fulfil, including all licences/approvals and consultations/agreements required from authorities and other stakeholders, and key legislation and policies which control the Proponent's operation of the project;
- (b) identification of environmental performance criteria;
- (c) a detailed description of the sampling strategies and monitoring protocols (eg. specific monitoring requirements, and sampling frequency and location). This description should include the specific requirements of EPA, DLWC, and NPWS and how the sampling strategies and monitoring protocols are to be used to test against the environmental performance criteria;
- (d) steps that the Proponent intends to take to ensure compliance with all plans and procedures;
- (e) description of the consultation requirements/arrangements with relevant government agencies, the local community and relevant Councils, including complaints handling procedures; and,
- (f) the main management strategies for the environmental system elements including, but not limited to:
 - (i) magnetic field monitoring;

- (ii) noise and vibration (Tunnel Ventilation System);
- (iii) tunnel water quality; groundwater, and settlement; and,
- (iv) property impacts, compensation and development rights.

Other management strategies shall include but not be limited to: interference with electrical/electronic equipment and infrastructure (such as railway) and other equipment (such as communication/receival devices and devices required for human health such as pacemakers); erosion and sedimentation; air quality (including methane monitoring at Sydney Park); hydrology and flooding; visual screening, landscaping and rehabilitation; maintenance; hazards and risks; and, waste management (removal/disposal).

Specific requirements for some of the environmental system elements referred to in (f) shall be as detailed under the conditions of this approval and/or as required under any licence or approval.

- 23. All sampling strategies and protocols undertaken as part of the Operational EMP shall include a quality assurance/quality control plan and shall be approved by the relevant regulatory agencies to ensure the effectiveness and quality of the monitoring programme. Only NATA accredited laboratories can be used for laboratory analysis.
- 24. The Operational EMP shall be made publicly available after approval by the Director-General.

Environmental Impact Audit Report

- 25. An Environmental Impact Audit Report shall:

- (a) be prepared by an independent person(s) or organisation approved by the Director-General at the Proponent's expense;
- (b) be submitted to the Director-General, the EPA, relevant Councils, and upon request by the Director-General, to any other relevant government authority;
- (c) be prepared within 2 months after the first 12 months of operation, and at any time as requested by the Director-General;
- (d) assess the key impact predictions made in the EIS, Representations Report and/or any supplementary studies and detail the extent to which actual impacts reflect the EIS/Representation Report predictions and updated information during the first 12 months of operation and any other periods required. Particular reference should be made to the predictions identified within table 6.1 and 6.2 of the Director-General Report;
- (e) assess the suitability of implemented mitigation measures and safeguards; and,
- (f) assess compliance with the Operational EMP.

The Proponent shall ensure that the Environmental Impact Audit Report complies with all requirements of the Director-General, EPA and other relevant authorities with respect to any reasonable measure arising from, or recommendations in, the report.

The Report shall be made publicly available after approval by the Director-General.

Tunnel Structural Integrity

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

Cable Signage

27. The cable route must be adequately marked in streets and parks to notify potential developers and excavators of the presence of the electricity cable.

Property and Land Use

28. The Proponent shall consult in accordance with the consultation and notification strategy identified in the CEMP with all affected landowners regarding any practical and cost-effective measures to minimise impacts which may be implemented prior to the commencement of construction, or within such time as agreed with the relevant landowner.

TransGrid shall undertake consultation with Hurstville Council during detailed design of the cable with regard to the Beverley Hills shopping centre carpark site, on Edgbaston Road. The objective of this consultation is to achieve a cable installation design that is consistent with Council's plans for redevelopment of the Beverley Hills shopping centre carpark site, on Edgbaston Road. Prior to construction at this site, TransGrid shall report to the Director-General describing the consultation process and detailing how the objective has been achieved.

29. Prior to the placement of permanent rock anchors, the Proponent shall notify the owners of all affected properties of the need for placement of permanent rock anchors. The Proponent must provide sufficient detail to each owner to enable the location of such anchors relative to existing buildings to be determined. The Proponent must ensure, if necessary, adjustments to construction methods, at no cost to the property owner, to ensure that the placement of any rock anchors or other such construction stage measure does not impose any unreasonable restrictions on development of the affected property unless otherwise agreed by the landowner.
30. Prior to the placement of temporary soil or sand anchors the Proponent shall notify all affected property owners of the need for placement of temporary anchors and shall provide sufficient detail to determine the location of such anchors relative to existing buildings. The Proponent shall instigate, if necessary, adjustments to construction methods at no cost to the property owner, to ensure that the placement of any temporary soil anchors or other such construction stage measure does not impose any unreasonable restrictions on development (existing or proposed) unless otherwise agreed to by the landowner.
31. Once construction is complete all temporary anchors shall be disconnected and made obsolete and no restrictions shall be placed on the use of the land.
32. Subject to the concurrence of the property owner, structural surveys must be undertaken prior to commencement of construction works, for all buildings and major structures above the tunnel works and other buildings/structures likely to be affected by tunnel works or other major vibration inducing construction activities in the vicinity of the buildings and structures. Information on how to pursue a claim shall be provided to the owners of all properties within the zone likely to be affected. A copy of the structural survey shall be provided to the owner within 72 hours of making a request. The Proponent shall ensure that any damage occurring as a result of the construction is fully rectified at no cost to the owner(s). The extent of the survey shall be defined in the Construction EMP referred to in Condition 20. A suitably qualified structural engineer must certify that the survey area encompasses the maximum area that could be reasonably expected to be impacted by tunnelling or other major vibration inducing works.
33. Where the cable is located in roads, parkland or other public open space, general notification, to relevant land management agencies must take place not less than 8 weeks prior to commencement of work. In addition notification regarding accurate scheduling of works must take place not less than 4 weeks prior to commencement of works.

34. The acquisition of any land shall be undertaken in a responsive manner in an attempt to reduce impacts through design, and in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*.
35. The Proponent shall notify the owner of any property that is to be adjusted, acquired or for which an easement or stratum is to be obtained. This notice shall contain sufficient details to identify the land of interest being adjusted/acquired 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 shall be given prior to access for construction purposes.
36. The Proponent must consult with any property owner where temporary access is required over the property. This consultation must occur prior to any access occurring. The Proponent must comply with any reasonable requests of the owner.
37. All affected property, which is not acquired by the Proponent, (including any affected buildings, structures, lawns, trees, sheds, gardens etc.) shall be fully restored to at least the condition it was in prior to disturbance at no cost to the owner(s). Restoration shall be completed in a timely manner and, unless otherwise agreed to by the owner, within one month of completion of works. Construction activities undertaken within private property shall be sympathetic to the specific needs of individual property owners particularly in terms of requirements for temporary facilities such as fencing, access to footpaths/ driveways/garages etc.
38. Alternative access arrangements shall be provided in consultation with the relevant Council, to any property or public area that would otherwise be denied access as a result of the construction or operation of the proposal. Such alternative access shall be of an equivalent standard to the existing access arrangements. Any temporary access road(s) shall be removed and any affected areas reinstated to the reasonable satisfaction of the relevant Council when no longer required.
39. The Proponent shall ensure that any access way affected by the proposal is reinstated to an equivalent standard or that adequate compensation is negotiated with the relevant landowner.
40. The Proponent shall ensure that works affecting the Powerhouse Museum railway siding (including any closure, realignment and restoration works, and their timing) are undertaken in a manner acceptable to the Powerhouse Museum and the Sydney Harbour Foreshore Authority.
41. A detailed Signage Plan shall be prepared in consultation with the relevant Councils and potentially affected businesses, with the objective of minimising impact on local businesses during the construction stage.
42. The Proponent shall consult with all relevant Councils to ensure an appropriate notification process is placed on future buildings and development modifications as defined under Section 96 (2) of the EP&A Act in the zone of influence of the trench and tunnel consistent with the provisions of State Environmental Planning Policy (SEPP) No 69 – Major Electricity Supply Projects.

The Proponent shall, in consultation with the relevant Councils, develop criteria for and identify those properties that have a claim for development rights prior to the gazettal of SEPP 69 and which rights may be adversely affected by the project. These criteria may include: lodgement or approval of a development application, preparation of development plans or prospectus' or other evidence of development plans which were evident prior to the gazettal of SEPP 69. Those properties that meet this criteria shall be considered for compensation in accordance with the *Land Acquisition (Just Terms Compensation) Act 1991*.

Traffic and Roadworks

Construction Traffic Management Sub Plan

43. As part of the Construction EMP referred to in Condition 20, 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, relevant Councils and bus operators. It must address, but is not limited to:
 - (a) identifying the scope of each Local Traffic Management Plan;
 - (b) identify the structure and role of traffic management committees; and
 - (c) nominate all roads likely to be used by construction traffic.
44. Local Traffic Management Plans shall include but not be limited to:
 - (a) minimising and monitoring use of local roads by heavy vehicles;
 - (b) identification and designation of heavy vehicle routes, including spoil trucks;
 - (c) adequate access to properties during construction;
 - (d) scheduling of works to minimise traffic disruption;
 - (e) safe pedestrian and cyclist movement;
 - (f) safe traffic movement and access;
 - (g) loss of parking spaces and provision of alternative spaces;
 - (h) minimising worker car use;
 - (i) minimising disruption to business activities;
 - (j) ensuring adequate access for buses, and where bus stops are relocated alternatives are provided in close proximity and adequately sign posted; and
 - (k) ensuring adequate access is available for garbage trucks and other service vehicles.
45. Road dilapidation reports shall be prepared, prior to commencement of construction and after construction is complete, for all roads nominated in the Construction Traffic Management Sub Plan likely to be used by construction traffic. Copies of the report shall be provided to the RTA and all relevant Councils. Any road/footpath damage, aside from that resulting from normal wear and tear, shall be repaired to a standard at least equivalent to that existing prior to the damage, at the cost of the Proponent and should be compliant with, or equivalent in performance to, *Auspec 306U – Road openings and Restorations*.
46. The crossing of RTA controlled roads shall only be undertaken in accordance with RTA requirements. Road surfaces shall be restored at the Proponent's cost to the satisfaction of the RTA. Should the Proponent and the RTA be unable to reach agreement on any of the RTA requirements, any party may refer the matter to the Director-General in accordance with Condition 5.

Railway Lines

47. The Proponent shall submit an independent engineering report to investigate and report on the effect of the proposal (construction and operation) on rail infrastructure and operations in the Railway Corridor prior to commencement of construction. This report shall include geotechnical and electrolysis issues and be to the satisfaction of the RIC and SRA.
48. Any crossing of the Railway Corridor and use of railway easements must be in accordance with the Rail Infrastructure Corporation's and State Rail Authority's requirements. Any disturbed land and facilities shall be restored at the Proponent's cost to the satisfaction of the RIC. Should the Proponent and the RIC be unable to reach agreement on any of the RIC requirements, any party may refer the matter to the Director-General in accordance with Condition 5.

Flora and Fauna

Flora and Fauna Management Sub Plan

49. As part of the Construction EMP referred to in Condition 20 the Proponent shall prepare in consultation with NPWS, NSW Fisheries, and relevant Council/s a detailed Flora and Fauna Management Sub Plan. The Sub Plan shall be prepared prior to construction, unless otherwise agreed by the Director-General, and shall include
- (a) the Flora and Fauna mitigation measures identified in Table 15.1 of the EIS and the conditions attached to the Proposed Underground Electricity Cable, Picnic Point to Haymarket - *NPWS Determination Report for components of the activity proposed to be located in Georges River National Park* (NPWS, 2001);
 - (b) detailed plans and maps of the Route Alignment identifying sensitive areas in terms of threatened species locations, important habitat areas and vegetation corridors;
 - (c) maps identifying all native vegetation clearing associated with all construction works;
 - (d) detailed site specific methods for minimising vegetation clearance and protection of vegetated areas;
 - (e) maps and strategies outlining revegetation plans for cleared areas;
 - (f) requirements for seed collection;
 - (g) detailed measures for controlling impacts due to spillage;
 - (h) management of debris and refuse;
 - (i) movement and storage of materials and equipment, and soil/fill for construction;
 - (j) protocols for the following:
 - (i) threatened flora species;
 - (ii) threatened fauna species;
 - (iii) handling of any native fauna;
 - (iv) tree protection;
 - (v) vegetation clearing;
 - (vi) revegetation and rehabilitation management; and
 - (vii) weed management.

Threatened Species

50. In respect of works in the Georges River National Park and Girrahween Regional Park, the Proponent must initiate and undertake rehabilitation works as soon as practicable. A qualified ecologist (approved by the NPWS) shall:
- (a) be consulted on and be responsible for marking the location of individual rare or threatened plants or communities, to ensure minimal disturbance to native vegetation;
 - (b) provide direction on methods for relocation and/or replacement planting; and
 - (c) be present on-site during all significant tree and vegetation clearing operations identified in the *Flora and Fauna Management Sub Plan* to supervise the relocation of any animals found prior to commencement of, and during clearing works.
51. In respect of proposed works in the Georges River National Park, if during the course of construction, the Proponent becomes aware of the presence of any threatened species that are likely to be significantly affected, the Proponent shall immediately advise the NPWS. No activity, which places any of these species at risk, shall be undertaken until advice has been received from the NPWS. All recommendations by the NPWS shall be complied with prior to any works likely to affect any threatened species.

Threatened Flora Species

52. As part of the Flora and Fauna Management Sub Plan referred to in Condition 49 the Proponent shall identify all individuals of Magenta Lilly Pilly, *Syzygium paniculatum* in Girrawheen Park and describe methods used to minimise impacts on these trees. Final design plans must be prepared to avoid disturbance of Magenta Lilly Pilly, *Syzygium paniculatum* in Girrawheen Park without relocating impacts onto other areas of native vegetation. The Proponent shall identify the location of any directional bore and provide details as to how this technique will minimise flora impacts in Girrawheen Park.

Threatened Fauna Species

53. At all water crossings, where creek banks will be affected by installation of the cable, the Proponent shall re-instate banks considering habitat attributes for the Green and Golden Bell Frog. Any reinstatement of creek banks is to be completed in accordance with the *Supplementary Report to the Flora and Fauna Survey for the Picnic Point to Haymarket 330 kV Transmission Line: Green and Golden Bell Frog Survey* (prepared by Robert Payne Ecological Surveys and Management, dated March 2001) and the NSW National Parks and Wildlife Service Recovery Plan for the Green and Golden Bell Frog.

Tree Protection

Pre-Construction

54. The Proponent shall prepare a detailed Tree Protection Strategy to manage construction impacts on existing trees. This Strategy shall identify any significant trees which may be affected during construction and detail appropriate management measures.
55. The Proponent shall commission a suitably qualified Arborist to ensure that the planned protective measures, proposed construction methods and site work locations in the vicinity of the Large Fig Tree, *Ficus hillii* at the corner of Wattle Street and Broadway, are such that the works are not likely to adversely affect the health of the tree.

Construction

56. A suitably qualified Arborist shall be present for the duration of excavation works within the vicinity of any significant trees as identified in the Tree Protection Strategy required under Condition 54. The Proponent shall ensure that the condition of any trees affected is monitored throughout the construction period and for 18 months after the operation of the cable commences. Any measures necessary to ensure the survival of the trees (e.g. fencing, watering, fertilising) shall be undertaken in consultation with the relevant landowner.
57. Any trees lost during construction shall be replaced with advanced specimens unless otherwise agreed with the relevant Council(s).

Vegetation Clearing

58. The area of native vegetation clearing associated with the construction of the proposed electricity cable shall not extend beyond the areas identified in the detailed Flora and Fauna Management Sub Plan. The Flora and Fauna Management Sub Plan will identify and include all appropriate environmental approvals to be obtained.

Revegetation and Rehabilitation Management

59. In respect of works in the Georges River National Park and Girrahween Regional Park, seed of locally native species shall be collected prior to the commencement and/or during construction to provide seed stock for revegetation purposes to the satisfaction of a qualified bushland regeneration officer acceptable to the NPWS. Topsoil and leaf mulch shall be stripped and stored for placement back in the vegetation zone from where it was removed, subject to Condition 62.
60. In respect of works in the Georges River National Park and Girrahween Regional Park, cleared vegetation must be reused or recycled to the greatest extent practicable to the satisfaction of NPWS. Reuse options including, mulching and chipping native vegetation waste for on-site reuse. All weed species shall be removed and are not to be reused on site. All reasonable measures to use any surplus vegetation shall be undertaken including donation to community groups, distribution to the local community, etc.

Weed management

61. Prior to construction the Proponent shall prepare a detailed site specific weed management programme to be implemented during construction and for a period of three years commencing from the date of operation.
62. Weed infested topsoil as identified by a qualified ecologist or bushland regeneration officer shall not be used in the rehabilitation works unless it is to be sterilised or treated as specified by a qualified ecologist or the bushland regeneration officer.

Water Crossings

63. As part of the Construction EMP referred to in Condition 20, a detailed Water Crossing Sub Plan must be prepared prior to the commencement of construction works. The Sub Plan shall clearly identify the location and method of crossing, and must be prepared in consultation with NSW Fisheries, DLWC, NPWS and relevant Councils. It must address, but is not limited to:
 - (a) minimising bank disturbance and erosion;
 - (b) bed stability;
 - (c) scour protection;
 - (d) minimising flora and fauna impacts, avoiding clearing of mangroves as far as practicable, and include site specific details for the retention of riparian vegetation and impacts on aquatic ecology within the proposed construction areas;
 - (e) minimising water quality and water flow impacts;
 - (f) flooding;
 - (g) public safety;
 - (h) rehabilitation, including making provision for restoration of concrete lined channels to a more natural form; and
 - (i) monitoring of the above issues.
64. The Proponent shall monitor the rehabilitation measures, in consultation with DLWC, NSW Fisheries, NPWS, and relevant Councils and incorporate the monitoring results into the reports prepared under Conditions 21 and 25.

Noise and Vibration

Pre-Construction Noise Monitoring

65. The Proponent shall undertake site specific ambient noise level monitoring to ascertain background levels at closest noise receivers, adit sites, joint bay locations, material access shaft locations, construction sites, and site compounds.

Pre-Construction Noise Assessment

66. The Proponent shall undertake detailed noise assessments prior to the completion of the Construction Noise and Vibration Management Sub Plan. The noise assessment shall include the noise impacts and proposed mitigation measures associated with changes to the Sydney Park adit, newly proposed night works, the cable route and construction methods, as proposed by the Representations Report (incorporating the Addendum).

Construction Noise and Vibration Management Sub Plan

67. A detailed Construction Noise and Vibration Management Sub Plan shall be prepared as part of the Construction EMP referred to in Condition 20 in consultation with the Director-General, the EPA, and relevant Council(s). The Sub Plan shall provide details of general noise and vibration control and management measures to be undertaken during the construction stage. The Sub Plan shall provide the framework for construction noise and vibration management of the construction stage. Detailed analysis and assessment of potential impacts and mitigation measures shall be undertaken for each specific site through the Specific Construction Noise Impact Statements required in Condition 69.

The Sub Plan shall include, but not be limited to:

- (a) identification of each work area, site compound and construction depot;
- (b) identification of general activities that will be carried out and associated noise sources for each work area, site compound and construction depot;
- (c) identification of the appropriate construction noise objective for the project with regard to the requirements of Condition 70;
- (d) identification of appropriate construction vibration objectives with regard to the requirements of Condition 89;
- (e) establishment of procedures for the assessment of noise and vibration impacts from each work site with regard to the requirements of Condition 69;
- (f) specific physical and managerial measures for controlling noise and vibration demonstrating how activities would be managed so that the conditions of approval are complied with;
- (g) a pro-active and reactive strategy for dealing with complaints including compliance with Condition 7 (complaints register), and Conditions 69, 70 and 89, particularly with regard to verbal and written responses;
- (h) the need for respite periods;
- (i) noise and vibration monitoring, reporting and response procedures;
- (j) internal audits of compliance of all plant and equipment;
- (k) construction timetabling, in particular works outside standard hours, to minimise noise impacts;
- (l) procedures for notifying residents of construction activities likely to affect their noise and vibration amenity;
- (m) contingency plans to be implemented in the event of non-compliances and/or noise complaints; and,
- (n) the urban design issues relating to noise and vibration control measures.

With respect to (b) above, the Proponent shall consider the use of a range of structural and non-structural measures during construction including barriers, acoustic treatment of residences, scheduling of construction activities to minimise impacts and temporary relocation of affected residents.

In relation to regenerated noise, the Construction Noise and Vibration Management Sub Plan shall address the following issues:

- (a) identification of high-risk areas where there is potential for exceedances;
- (b) qualification of the potential level of impact above the criterion at the identified receivers;
- (c) identification of all reasonable and feasible mitigation and management measures that will be applied;
- (d) establishment of appropriate community consultation procedures to ensure that the community is notified of the potential impacts and community views are considered; and
- (e) contingency measures where significant community reaction occurs which could include cessation of work or as negotiated with affected residents.

The Proponent shall submit a copy of the finalised Construction Noise and Vibration Management Sub Plan to the EPA.

Construction Hours

68. All construction activities, including entry and departure of heavy vehicles, and transportation of spoil shall be restricted to the hours of 7.00am to 6.00pm (Monday to Friday); 8.00am to 1.00pm (Saturday) and at no time on Sundays and public holidays.

Works outside these hours that may be permitted include:

- (a) any works which do not cause noise emissions to be audible at any nearby residential property;
- (b) the delivery of materials which is required outside these hours as requested by Police or other authorities for safety reasons;
- (c) emergency work to avoid the loss of lives, property and/or to prevent environmental harm;
- (d) tunnel excavation and other sub-surface activities (excluding the use of rock hammers between 10pm to 7am), providing the criteria in Conditions 70 and 71 can be met; and,
- (e) any other work approved by the Director-General through the Noise and Vibration Management Sub Plan (Construction) Process. Potentially affected noise receivers shall be informed of the timing and duration of any such works, at least 48 hours prior to commencement of work.

Construction Noise Impact Statements

69. Specific Construction Noise Impact Statements shall be prepared in consultation with the Director-General, the EPA, other relevant government agencies, relevant Councils, and the CLG for specific stages of construction. These statements are to be consistent with and form part of the Construction Noise and Vibration Management Sub Plan, and shall specifically address each of the major construction sites and compounds. The statements shall include:

- (a) a description of the proposed processes and activities;
- (b) identification of all potentially affected noise sensitive receivers including residences, schools, commercial premises and noise sensitive equipment;
- (c) determination of appropriate noise and vibration objectives for each identified noise sensitive receiver;
- (d) assessment of potential noise impacts from the proposed construction methods including noise from construction vehicles and noise impacts from required traffic diversions;
- (e) examination of all reasonable and feasible noise mitigation measures including the use of alternative construction methods where potential noise impacts exceeds the relevant objectives;

- (f) description and commitment to work practices which limit noise;
- (g) description of specific noise mitigation treatments and time restrictions including respite periods, duration, and frequency;
- (h) justification for any activities outside the normal hours specified in Condition 68;
- (i) extent of noise monitoring;
- (j) internal noise audit systems including recording of daily hours of construction, progressive impact assessments as the work proceeds, conducting informal checks by the EMR, providing active and continuous communication links to relevant Councils, residents and relevant government agencies;
- (k) community consultation and notification;
- (l) assessment and examination of potential reasonable and feasible offsite mitigation measures for traffic noise; and
- (m) additional noise mitigation measures as successfully negotiated with affected residents and other sensitive receptors.

With respect to (e) above, the Proponent shall consider the use of a range of structural and non-structural measures during construction including barriers, acoustic treatment of residences, scheduling of construction activities to minimise impacts and temporary relocation of affected residents.

The Proponent shall submit a copy of each finalised Construction Noise Impact Statement to the EPA.

Construction Noise Criteria

70. The Proponent shall ensure that noise from construction activities is limited to the L_{10} level measured over a period of not less than 15 minutes not exceeding the background level by more than 5dB(A) at any residence or other sensitive receiver unless specified in the Construction Noise Impact Statement prepared in accordance with Condition 69.

For the purposes of the noise criteria for this condition, 5dB(A) must be added to the measured level if the noise from the activity is substantially tonal or impulsive in nature in accordance with the approach specified in Chapter 4 of the NSW Industrial Noise Policy.

Regenerated Noise Criteria

71. Regenerated noise from construction works shall not exceed the following criteria as measured at the nearest sensitive receptor:
- (a) 40 dBA between the hours of 6:00 pm and 10:00 pm; and
 - (b) 35dBA between the hours of 10:00 pm and 7:00 am.

These goals shall be implemented unless otherwise approved by the Director-General in consultation with the EPA. 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

72. The Proponent shall implement all reasonable best practice noise mitigation and management measures including:
 - (a) maximising the offset distance between noisy plant items and nearby noise sensitive receivers;
 - (b) avoiding the co-incidence of noisy plant working simultaneously close together and adjacent to sensitive receivers;
 - (c) minimising consecutive night time works in the same locality;
 - (d) orienting equipment away from sensitive areas;
 - (e) carrying out loading and unloading away from noise sensitive areas; and
 - (f) selecting site access points and roads as far as possible away from sensitive receivers.
73. Construction noise levels shall be monitored to verify compliance with the Construction Noise and Vibration Management Sub Plan. Should monitoring indicate exceedances of the Construction Noise and Vibration Management Sub Plan, the Proponent shall implement best available additional mitigation measures.
74. The Proponent shall ensure that rock breaking, rock hammering, sheet piling and any other activities at or near ground level which result in impulsive or tonal noise generation are limited to the following hours unless otherwise permitted by the Director-General:
 - (a) At no time on Sunday;
 - (b) 8 am to 12 pm on Saturday; and
 - (c) 8am to 5pm Monday to Friday.

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 shall be scheduled before activities re-commence.
75. The Proponent shall consult with University of Technology Sydney, and any other affected schools or universities to ensure that noise generating construction works in the vicinity of affected school/university buildings are not time tabled during examination periods, unless other arrangements acceptable to the affected schools/universities are made at no cost to the affected schools/universities.
76. Prior to commencement of construction, the Proponent shall identify potential highly sensitive facilities, including scientific equipment, measuring equipment, photographic equipment, printing press and the like where the criteria in Condition 70 may not be adequate. Should such cases arise the Proponent shall consult with the potentially affected owners and develop appropriate mitigation measures to ensure impacts are acceptable. To develop appropriate noise and vibration criteria the Proponent's consultation shall include but not be limited to the Australian Technology Park and the University of Technology Sydney.
77. The Proponent shall ensure that no public address systems are used at any construction sites outside the standard working hours, detailed in Condition 68. Any public address system shall be designed and installed with their pointing axis directed away from residential buildings and sensitive receptors.
78. The Proponent shall use only dampened rock hammers and/or "city" rock hammers to minimise the impacts associated with rock-breaking works.

79. The Proponent shall 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.
80. The Proponent shall ensure that the entry and departure of heavy vehicles are restricted to the standard daytime construction limitations as specified in Condition 68.
81. The Proponent shall ensure that the noisiest activities associated with night time works are scheduled wherever possible to be completed before midnight.

Blasting

Blast Management Strategy

82. The Proponent shall prepare a Site Specific Blast Management Strategy and incorporate this Strategy into the Construction Noise and Vibration Management Sub Plan. The Strategy shall be prepared to demonstrate that all blasting and associated activities will be undertaken in a manner that will not generate unacceptable noise and vibration impacts or pose a significant risk impact to residences and sensitive receptors. Issues to be considered in the Strategy shall include, but are not necessarily limited to:
 - (a) details of blasting to be performed, including location, method and justification of the need to blast;
 - (b) identification of any potentially affected noise and vibration sensitive sites including heritage buildings and utilities;
 - (c) establishment of appropriate criteria for blast overpressure and ground vibration levels at each category of noise sensitive site;
 - (d) details of the storage and handling arrangements for explosive materials and the proposed transport of those materials to the construction site;
 - (e) identification of hazardous situations that may arise from the storage and handling of explosives, the blasting process and recovery of the blast site after detonation of the explosives;
 - (f) determination of potential noise and vibration and risk impacts from blasting and appropriate best management practices; and
 - (g) community consultation procedure including consultation with all affected land holders, business and relevant councils.

The Strategy shall also address the principles outlined in the Department's publications *Hazardous Industry Planning Advisory Paper No.6 - Guidelines for Hazard Analysis and Multi-Level Risk Assessment* for the handling and storage of hazardous materials.

83. The vibration level due to blasting activities, including both above ground and underground work, shall meet the requirements of the Noise and Vibration Management Sub Plan approved by the Director General in consultation with the EPA.
84. The guideline entitled "Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration" prepared by the Australian and New Zealand Environment and Conservation Council (ANZECC) shall be applicable.
85. Blasting shall only be undertaken between the hours of 9:00 am and 3:00 pm (Monday to Friday) and 9:00 am to 1:00 pm on Saturdays and at no time on Sundays or Public Holidays, unless otherwise agreed by the Director-General through the Construction Noise and Vibration Management Sub Plan Process.

86. Blasts shall be limited to one single detonation in any one day, unless otherwise agreed by the Director-General through the Construction Noise and Vibration Management Sub Plan Process.
87. For any section of the tunnel or trench construction where blasting is proposed, a series of initial trials at reduced scale must be conducted prior to production blasting to determine site-specific blast response characteristics and to define allowable blast sizes to meet ANZECC guidelines.
88. Air blast control doors shall be erected at tunnel adits to reduce air blast emissions from blasting in the tunnel, until tunnel construction has advanced to a stage where emission levels without the doors comply with ANZECC limits.

Vibration Criteria

89. The Proponent shall ensure that vibration resulting from construction of the project is limited to:
 - (a) For structural damage vibration - German Standard DIN 4150 and BS 7385: Part 2 – 1993; and,
 - (b) For human exposure to vibration – the evaluation criteria presented in British Standard BS 6472 for low probability of adverse comment unless otherwise agreed by the Director-General in consultation with the EPA through the Construction Noise and Vibration Management Sub Plan.

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

90. Unless otherwise agreed by the Director-General, vibration levels shall not exceed 3 mm/s at the building foundation of heritage buildings and sensitive structures.
91. Prior to commencement of construction activities likely to result in high vibration levels, the Proponent shall identify potential highly sensitive facilities, including scientific equipment, measuring equipment, printing press and the like where the criteria in Condition 89 may not be adequate. Should such cases arise the Proponent shall consult with the potentially affected owners and develop appropriate mitigation measures to ensure impacts are acceptable.

Vibration Management

92. The Proponent shall ensure that wherever practical, piling activities are completed using bored piles. If driven piles are required they shall only be installed with approval of the Director-General.

Operational Noise Management Sub Plan

93. As part of the Operational EMP referred to in Condition 22 the Proponent shall prepare a detailed Operational Noise Management Sub Plan. The Sub Plan shall provide details of noise and vibration control measures to be undertaken during the operation stages in accordance with the EPA's Industrial Noise Policy. The Sub Plan shall include, but not be limited to:
 - (a) predicted noise levels;
 - (b) location, type and timing of erection of permanent noise barriers and/or other noise mitigation measures demonstrating best practice including silencers and building treatments for associated plant rooms and enclosures for exposed plant;
 - (c) specific physical and managerial measures for controlling noise;
 - (d) noise monitoring, reporting and response procedures; and
 - (e) the urban design issues relating to noise control measures.

The Proponent shall submit a copy of the Operational Noise Management Sub Plan to the EPA.

Operational Noise Management

94. Monitoring of operational noise shall be undertaken in accordance with the Operational Noise Management Sub Plan. The Proponent shall assess the adequacy of the ventilation noise mitigation measures within six months of opening the tunnel with regard to the criteria specified in the Operational Noise Management Sub Plan. Should assessment indicate a clear trend in noise levels which exceed the defined noise design goals in the Operational Noise Management Sub Plan, the Proponent shall implement further reasonable and feasible mitigation measures in consultation with affected landowners and/or occupiers, and advise the Director-General of action taken.

The Proponent shall submit a copy of its assessment report to the Director-General and the EPA.

Flooding and Hydrology

95. As part of the Construction EMP referred to in Condition 20, a detailed Flooding Sub Plan must be prepared prior to the commencement of construction works. The Sub Plan must be prepared in consultation with DLWC and relevant Councils. It must address, but not be limited to:
- (a) means of protecting trenches and tunnel from flooding/stormwater during construction and the means of dealing with any flood water/stormwater that enters the trenches and tunnel during construction. This must include identifying any proposed use of existing drainage infrastructure and the means of minimising any adverse impacts, including capacity limitations within the drainage system;
 - (b) means of minimising impacts on existing and proposed drainage systems;
 - (c) means of protecting construction sites from flooding;
 - (d) mitigation measures to ensure site works do not exacerbate flooding elsewhere; and,
 - (e) consistency with the NSW Government Flood Policy and Floodplain Development Manual.
96. The Operational EMP referred to in Condition 22 must identify the means of minimising the entry of flood water/stormwater to the tunnel and the means of disposal of any such water entering the tunnel. This must include identifying any proposed use of existing drainage infrastructure and the means of minimising any adverse impacts, including capacity limitations within the drainage system. The methods must be developed in consultation with DLWC and relevant Councils.
97. The Proponent must ensure that the design of the vent shaft at the Australian Technology Park is undertaken to the SHFA's satisfaction. Design measures shall be used to minimise the impact on flood storage capacity imposed by the vent shaft. Should the Proponent and the SHFA be unable to reach agreement on any of the SHFA requirements, any party may refer the matter to the Director-General in accordance with Condition 5.

Water Quality Erosion and Sediment Control

Soil and Water Quality Management Sub Plan

98. As part of the Construction EMP and Operational EMP referred to in Conditions 20 and 22, a detailed Soil and Water Quality Management Sub Plan shall be prepared in consultation with the EPA, DLWC, and all relevant Councils. The Sub Plan shall be prepared in accordance with the Department of Housing's guideline *Managing Urban Stormwater - Soils and Construction*. The Sub Plan(s) shall be prepared prior to construction or operation as appropriate.

The Soil and Water Quality Management Sub Plan shall contain, but not be limited to:

- (a) details of measures to be employed to minimise ingress of water in the tunnel section (both groundwater and surface water);
- (b) details of measures to be employed to minimise the amount of ingress water discharged to the stormwater system;
- (c) management of the cumulative impacts of the development on the quality and quantity of surface and groundwater, including stormwater;
- (d) details of short and long term measures to be employed to minimise soil erosion and the discharge of sediment to land and/or waters;
- (e) management of the impacts of the development on nearby streams and water bodies, in particular, Wolli Creek, Salt Pan Creek, Little Salt Pan Creek, Morgan's Creek and Cooks River;
- (f) management of scouring potential within streams and trenches;
- (g) identification of all potential sources of water pollution (including those resulting from maintenance activities) and a detailed description of the remedial action to be taken or management systems to be implemented to prevent discharge of these pollutants from all sources within the subject sites;
- (h) opportunities for recycling/re-use of stormwater;
- (i) detailed description of water quality monitoring to be undertaken during the pre-construction, construction and, for the tunnel section, operation stages of the proposal including identification of locations where monitoring would be carried out;
- (j) contingency plans to be implemented in the event of major fuel spills or other chemicals;
- (k) contingency plans to be implemented in the event of cable fluid spills;
- (l) detailed description of site rehabilitation requirements; and
- (m) a programme for reporting on the effectiveness of the sediment and erosion control system against performance goals.

Temporary Roads

99. Any temporary roads shall be constructed in accordance with the Department of Housing's *Manging Urban Stormwater – Soils and Construction Manual*. This shall be certified by the EMR prior to its use by construction traffic.

Once these roads are removed, the Proponent shall rehabilitate the disturbed area so as to minimise erosion.

Groundwater

100. As part of the EMPs referred to in Conditions 20 and 22, a detailed Groundwater Management Sub Plan shall be prepared to meet the requirements of DLWC.

The Sub Plan shall:

- (a) provide details of groundwater control measures to be undertaken during both the construction and operation stages;
- (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) monitoring; auditing; measures for dealing with exceedances; and response actions;and
- (c) aim to achieve reuse wherever practical, in preference to the stormwater system.

Approval from DLWC shall be obtained prior to the commencement of any dewatering work.

Acid Sulphate Soils Management

101. As part of the Construction EMP referred to in Condition 20, a detailed Acid Sulphate Soil Management Sub Plan must be prepared prior to the commencement of construction works. It shall be prepared in accordance with the *ASSMAC Acid Sulphate Soil Manual (1998)* or as revised. The Sub Plan shall be prepared in consultation with DLWC, and relevant Councils. The Sub Plan should assess the potential impacts of acid sulphate soils from:

- (a) the disturbance of sulphidic material or extractive material containing sulphidic material (in the fines);
- (b) impacts from the alteration of watertable levels (water use, drainage works, change of the bed of rivers, dewatering as component of extraction operation);
- (c) acid run-off from stockpiles or the acidification of sulphidic fines; and
- (d) the sale or use of material containing sulphidic material.

The Sub Plan shall address how management strategies would be integrated into the construction procedures and how any impacts would be minimised and managed effectively, and include a contingency plan to deal with the unexpected disturbance of potential or actual acid sulphate soils. It should reference the water quality monitoring programme contained in Condition 98.

Directional Drilling

102. Where directional drilling is to be used, geotechnical investigations shall be undertaken at the drilling sites and along the route of the proposed cable to determine the soundness of the strata and the presence or absence of groundwater. Management and contingency measures to minimise any impacts upon groundwater and surface water from drilling works shall be included as part of the Soil and Water Quality Management Sub Plan referred to in Condition 98. A drilling slurry management plan for all sites subject to drilling works shall also be prepared in consultation with DLWC and relevant Councils and included in the Soil and Water Quality Management Sub Plan.

Urban Design and Landscaping

103. The Proponent shall prepare a detailed Urban Design and Landscape Sub-Plan in consultation with the SHFA, relevant Councils, all affected landowners and the Community Liaison Group. Suitably qualified urban designers and landscape specialists shall be utilised to develop the Sub Plan. The Sub Plan shall particularly address: the Australian Technology Park vent shaft, the Ultimo Road air intake, Mary Ann Street adit, the Ultimo Pedestrian Network and the Darling Drive, Haymarket area, the Wattle Street shaft site, and include, but not be limited to the following:

- (a) sections and perspective sketches;
- (b) methodology of landscaping works;
- (c) location and identification of existing and proposed vegetation including use of indigenous species;
- (d) location of mounds, bunds, structures or other proposed treatments, finishes of exposed surfaces (including paved areas), colours and specifications, staging of works;
- (e) landscape strategies incorporating other environmental controls such as erosion and sedimentation controls, drainage, noise mitigation and lighting; and
- (f) monitoring and maintenance.

The Sub Plan shall be prepared to the satisfaction of the Director-General, prior to the commencement of the works subject to this condition.

104. All landscaping works (including the health of all trees) shall be monitored and maintained by a suitably qualified landscape specialist at the Proponent's expense, for a period of not less than three years, from the date of operation of the cable. The Proponent shall implement any required remediative measures to maintain landscaping works to a high standard. All maintenance and landscaping works are to be integrated into any relevant land management plan to the satisfaction of the relevant Council or government agency.

Indigenous Heritage

105. As part of the Construction EMP referred to in Condition 20, the Proponent shall prepare an Indigenous Heritage Management Sub Plan in consultation with NPWS and Metropolitan LALC and Gandangara LALC. The Sub Plan shall include, but not be limited to, the following:
- (a) details of licences/approvals to be obtained in relation to indigenous heritage issues including those required under the National Parks and Wildlife Act 1974;
 - (b) procedures for monitoring of areas of potential archaeological sensitivity identified in the EIS during initial clearing and construction activities with the involvement of the Metropolitan LALC and Gandangara LALC;
 - (c) procedures to be implemented if previously unidentified items/areas of potential indigenous archaeological significance are identified during construction works including the requirement to cease work immediately and contact NPWS and Metropolitan LALC and Gandangara LALC to determine appropriate action; and
 - (d) identification of any indigenous heritage items at adit sites, and measures to mitigate impacts.
106. Prior to disturbance of any identified Aboriginal site(s), the Proponent shall, at its own expense, comply with the requirements of the NPWS and where appropriate the relevant Local Aboriginal Land Council(s).
107. Prior to construction the Proponent shall tag and fence and avoid any impacts to potential Indigenous sites/items.

Non-Indigenous Heritage

108. Prior to construction the Proponent shall identify all local and state listed non-indigenous heritage items within the construction zone of influence which may be potentially affected by vibration impacts or any other impacts during construction. The provisions of Conditions 20 and 90 shall apply to all identified items.
109. As part of the Construction EMP referred to in Condition 20, the Proponent shall prepare a Non-Indigenous Heritage Management Sub Plan in consultation with relevant Councils and the NSW Heritage Office. The Sub Plan shall include, but not be limited to, the following:
- (a) details of licences/approvals to be obtained in relation to non-indigenous heritage issues including those required under the NSW Heritage Act, 1977;
 - (b) procedures for monitoring of areas of potential archaeological sensitivity during initial clearing and construction activities with the involvement of the relevant Councils and NSW Heritage Office;
 - (c) details of measures to protect the Marrickville Heritage precinct (particularly road gutters), the former brickworks at Sydney Park and Girrawheen Park;

- (d) identification of other heritage items in the vicinity of cable works (as outlined in Condition 108), and measures to protect these items from damage; and
- (e) procedures to be implemented if previously unidentified items/areas of potential non-indigenous archaeological significance are identified during construction works including the requirement to cease work immediately and contact the NSW Heritage Office to determine appropriate action.

Greenhouse Gas

110. The Proponent shall promote the reduction of greenhouse gases by adopting energy efficient work practices including, but not limited to:

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

Air Quality

Construction Stage

111. As part of the Construction EMP referred to in Condition 20, a specific Construction Stage Air Quality Sub Plan shall be prepared. The Sub Plan shall provide details of all dust and gas control measures to be implemented during the construction stage, sufficient to address the technical requirements arising from consultation with the EPA. The Sub Plan shall include but not be limited to, the following:

- (a) identification of potential sources of dust deposition;
- (b) include measures to reduce dust from stockpiles and cleared areas and other exposed surfaces;
- (c) establishment of a protocol for handling dust complaints that includes recording, reporting and acting on complaints;
- (d) a reactive management programme detailing how and when operations are to be modified to minimise the potential for dust emissions, should emission levels exceed the criteria; and
- (e) address the monitoring and management and control of methane and other gases in the Tunnel and during trenching;

112. Construction vehicles using public roads shall be maintained and covered to prevent any loss of load, whether in the form of dust, liquid, solids. Construction vehicles shall be maintained in such a manner, that they would not track mud, dirt or other material onto any street, which is opened and accessible to the public. In the event of any spillage, the Proponent is required to remove the spilt material within 24 hours.

113. No burning or incineration of materials shall be permitted on project sites.

Operation Stage

114. As part of the Operational EMP referred to in Condition 22, the Proponent shall address air emissions from the Tunnel vent, including the need for microbial control measures and microclimate monitoring. The EMP shall also address monitoring and management of methane and other gases.

Spoil Disposal and Waste Management

Spoil Management Sub Plan

115. As part of the Construction EMP referred to in Condition 20, the Proponent shall prepare a Spoil Management Sub Plan. This Sub Plan shall identify how spoil would be handled, stockpiled, reused and disposed. The Sub Plan shall be prepared in consultation with DLWC and relevant Councils before the commencement of construction at relevant sites. It must address the principles of the Waste Avoidance and Resource Recovery Act 2001. The Sub Plan should also address:

- (a) minimising run off from stockpiles;
- (b) dust control at stockpile sites;
- (c) truck movements, including timing, route and minimising impacts on local amenity and other traffic. It must be consistent with the Construction Traffic Management Sub Plan referred to in Condition 43;
- (d) feasibility of using rail as an alternative spoil haulage option; and
- (e) final destinations of spoil.

116. All clean and/or treated spoil shall be reused or recycled where possible and cost effective to do so. Wherever possible, the Proponent shall ensure that the use of spoil generated from construction activities is maximised in preference to any import of fill.

Waste Management and Reuse Sub Plan

117. As part of the EMP(s) (Construction Stage) and (Operation Stage) as relevant, a detailed Waste Management and Reuse Sub Plan shall be prepared. The Sub Plan shall be framed using the waste minimisation hierarchy principles of avoid-reduce-reuse-recycle-dispose. This shall also include the demand for water. The Sub Plan shall address the management of wastes during the construction and operation stages respectively. It shall be prepared prior to construction and be consistent with the *Waste Avoidance and Resource Recovery Act 2001*, EPA's Environmental Guidelines: *Assessment, Classification of Liquid and Non-Liquid Wastes*, and shall identify requirements for:

- (a) waste avoidance;
- (b) reduction;
- (c) reuse; and
- (d) recycling,

and provide details of requirements for:

- (e) handling;
- (f) stockpiling;
- (g) disposal of wastes: specifically contaminated soil or water, concrete, demolition material, cleared vegetation, oils, grease, lubricants, sanitary wastes, timber, glass, metal, etc.; and
- (h) identifying any site for final disposal of any material and any remedial works required at the disposal site before accepting the material.

118. Any waste material that is unable to be recycled shall be disposed at a landfill licensed by the EPA to receive that type of waste.

119. As part of the Sub Plan, an Action Plan shall be prepared to promote the use of recycled materials, including construction and landscape materials. The Plan shall detail how the proposal

gives consideration and support to the Government's *Waste Reduction and Purchasing Policy*. The Plan shall also include details on measures to implement energy conservation best practice.

Contaminated Land

120. The Proponent must conduct a site investigation based on trial holes at landfill locations along the route of the cable to determine the nature and extent of contamination. A Framework Investigation Report must be submitted to the Director-General, as part of the Construction EMP referred to in Condition 20. The Framework Investigation Report shall clearly outline the methods to be undertaken for site specific investigations and provide a schedule for investigation works and reporting to the Director-General. Detailed results of the investigations and an assessment of the potential risk posed by contaminants to health and the environment shall be reported to the Director-General 1 month prior to the commencement of any trenching or tunnelling in the areas concerned. The Framework Investigation Report and site specific reports must be prepared in accordance with the EPA's Guidelines on Significant Risk of Harm from Contaminated Land and the Duty to Report.
121. As part of the Framework Investigation Report referred to in Condition 120. The Proponent must include a Contingency Plan for dealing with unexpected occurrences of contaminated material, during the course of work.
122. If the results of the site investigations indicate that remediation is necessary to reduce or remove risks posed by contaminants, then the Proponent must remediate the land in accordance with a Remedial Action Plan approved by the Director-General. The Plan must be prepared in consultation with the EPA and relevant Councils.
123. If contaminated material is disposed of off-site it can only be to a landfill approved by the EPA.
124. If remediation is carried out, the Proponent must submit a Validation Report to the Director-General within 1 month of the completion of remediation works. The Report must confirm whether the pre-determined clean up objective has been attained and whether any further remediation works or restrictions on land use are required. The Director-General may require further remediation works if the pre-determined clean up objective have not been attained. The Director-General may also require an independent site audit of the remediation, at the Proponent's expense, if the Validation Report is inconclusive. A copy of the Report must be submitted to the EPA and relevant Councils at the same time the Report is forwarded to the Director-General.
125. All work associated with contaminated spoil, including the preparation of reports, must be carried out in accordance with EPA guidelines and guidelines prepared by the Australian and New Zealand Environment and Conservation Council (ANZECC) and the National Health and Medical Research Council (NHMRC).

Utilities and Services

126. The Proponent shall identify the services potentially affected by construction activities to determine requirements for diversion, protection and/or support. This shall be undertaken in consultation with the relevant service provider(s). Any alterations to utilities and services shall be carried out to the satisfaction of the relevant service provider(s), and unless otherwise agreed to, at no cost to the service/utility provider(s).
127. The Proponent shall ensure that existing cathodic protection systems are not adversely affected and that appropriate measures are put in place to minimise stray currents.

128. The Proponent shall develop a contingency plan, in consultation with the relevant service provider(s), to deal with accidental damage and repair of services.
129. The Proponent shall ensure that disruption to services resulting from the proposal are minimised and shall be responsible for advising local residents and businesses affected prior to any disruption of service.
130. The Proponent shall consult with relevant Councils, Sydney Water and other relevant service providers prior to detailed design of the cable regarding future infrastructure proposals. The Proponent shall consider any identified proposal in finalising the cable design.

Hazards and Risk

Dangerous Goods and Hazardous Materials

131. The Proponent shall not store diesel fuel greater than 50 litres in volume at any location associated with the electricity cable without the prior written approval of the Director-General. The Proponent may seek the approval of the Director-General for the temporary storage of diesel fuel to permit continuous operation of equipment during the construction of the Cable. In seeking the Director-General's approval, the Proponent shall provide:

- (a) details of the location(s), stored volume(s) and storage method(s) for the diesel fuel;
- (b) the maximum length of time diesel storage will be required;
- (c) assessment of the potential environmental and risk impacts associated with the storage of diesel at the locations required; and
- (d) details of the mitigation measures proposed to address potential environmental and risk impacts from diesel storage including bunding of storage area(s).

The Proponent shall implement all measures required by the Director-General to mitigate environmental and risk impacts identified through the information listed from (a) to (d) above, within such period as the Director-General may agree. This condition does not apply to diesel fuel contained within refuelling vehicles to which Condition 132 applies.

132. The Proponent shall prepare and implement an On-Site Refuelling Protocol to manage on-site refuelling of vehicles during the construction of the electricity cable and associated infrastructure. The Protocol shall include, but not necessarily be limited to:
- (a) a decision-making algorithm to determine whether on-site or off-site refuelling is appropriate in a given situation;
 - (b) arrangements for the transport of diesel to the refuelling site, including vehicle types, volumes, movement times and routes where relevant;
 - (c) procedures for refuelling to address the potential for spills, collisions with refuelling vehicles or other hazardous incidents; and
 - (d) procedures to be followed in the event of a diesel spill, including containment and clean-up measures.

The On-Site Refuelling Protocol shall be submitted for the approval of the Director-General prior to the commencement of any refuelling activity, or within such period otherwise agreed by the Director-General.

Should the Proponent decide not to undertake any on-site refuelling activity during the construction of the electricity cable and associated infrastructure, the Proponent may satisfy this condition by certifying in writing, to the Director-General, that such refuelling activities will not be conducted.

133. The Proponent shall prepare and implement a Cable Insulating Fluid Management Sub Plan to manage the transport, storage, handling and long-term maintenance of the insulating fluid material for the electricity cable. The Plan shall include, but not necessarily be limited to:

- (a) identification of the insulating material, including flammability, toxicity, reactivity and corrosivity data where relevant;
- (b) details of how the insulating fluid will be transported and introduced to the electricity cable, including procedures to be followed in the event of spills and other potential incidents;
- (c) procedures for the on-going maintenance of all components of the electricity cable and associated infrastructure that may contain or contact the insulating fluid;
- (d) details of consultation with the Fire Brigade including a complete contact list for agency and public use; and
- (e) procedures to be followed in the event of a leak or a spill of insulating fluid, whether from transport, construction activities or during the operation of the electricity cable.

The Cable Insulating Fluid Management Sub Plan shall be submitted for the approval of the Director-General prior to the first transport of insulating fluid to the electricity cable, or within such period otherwise agreed by the Director-General.

Construction Risk Management

134. The Proponent shall prepare and implement a Construction Safety Sub Plan to manage hazardous incidents and public safety during the construction of the electricity cable and associated infrastructure. The Plan shall 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) identification of pipelines, cables and other utilities that may be affected by construction of the electricity cable and associated infrastructure, either directly or indirectly, and methods to minimise those impacts;
- (f) procedures to be followed in the event that contaminated material is discovered during any excavation works;
- (g) measures to be implemented to ensure safe transport of construction materials, including transport routes, transport times, vehicle speeds and driver behavioural requirements; and, measures to be implemented to address security and crime management during the construction of the cable, including management of other subterranean utilities that may be exposed during construction activities

The Construction Safety Sub Plan shall be submitted for the approval of the Director-General prior to the commencement of any construction activity, or within such period otherwise agreed by the Director-General.

135. Prior to the commencement of construction of the electricity cable in the vicinity of the East Hills railway line, the Proponent shall demonstrate to the satisfaction of the Director-General that all matters detailed in the document *Assessment of Risks Associated with the Co-Location of the Proposed Picnic Point - CBD 330kV Underground Cable and the Existing 200mm Diameter Ethane Gas Pipeline Owned and Operated by Gorodok Pty Limited* (dated

21 October 2001) have been adequately and appropriately addressed. This demonstration shall include design details and implementation procedures, where relevant.

Operation Risk Management

136. The Proponent shall prepare and implement an Emergency Sub Plan to manage emergency events that may arise in relation to the electricity cable and associated infrastructure. The Plan shall include, but not necessarily be limited to:

- (a) identification of emergencies that may arise in relation to the 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;
- (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.

The Emergency Sub Plan shall be submitted for the approval of the Director-General prior to the commencement of operation of the electricity cable, or within such period otherwise agreed by the Director-General.

137. Prior to the commencement of construction of the electricity cable, the Proponent shall provide the Director-General with details of design and operational measures to minimise the likelihood of a breach of cable integrity (for example, through excavation or collisions). Prior to the operation of the electricity cable, the Proponent shall certify in writing to the Director-General that all design and operational measures have been fully implemented.

138. The Proponent shall prepare and implement a Security and Crime Management Strategy to prevent unauthorised public ingress or access to relevant components of the electricity cable and associated infrastructure, and to minimise the potential for crime in the vicinity of cable infrastructure (eg vandalism, loitering, illegal dumping etc). The Strategy shall be generally in accordance with the principles outlined in the joint Department and Police Service publication *Crime Prevention and the Assessment of Development Applications*, and be developed in consultation with the NSW Police Service and relevant Councils. The Strategy shall include, but not necessarily be limited to:

- (a) details of security arrangements to prevent unauthorised access to all relevant components of the electricity cable and associated infrastructure, including physical exclusion measures, detection devices and management mechanisms;
- (b) procedures for addressing security issues, should they arise;
- (c) specific design features intended to discourage the incidence of crime at and in the immediate vicinity of relevant components of the electricity cable and associated infrastructure;
- (d) lighting considerations, including light intensity, direction and hours of operation at and in the immediate vicinity of relevant components of the electricity cable and associated infrastructure, with the aim of minimising areas that may encourage crime;
- (e) policies and procedures for the management and removal of graffiti, amelioration of vandalism, should it occur at or on any relevant components of the electricity cable and associated infrastructure; and
- (f) policies and procedures for the management and removal of illegal or inappropriate bill-posting and illegally dumped materials, should it occur at or on any relevant components of the electricity cable and associated infrastructure.

The Security and Crime Management Strategy shall be submitted for the approval of the Director-General prior to the commencement of construction of the electricity cable, or within such period otherwise agreed by the Director-General.

This condition only applies to "relevant" components of the electricity cable and associated infrastructure. That is, this condition only applies to those components that may be subject to security or crime issues (not underground components or any areas that may be reasonably considered inaccessible).

Cumulative Impact Management

139. As part of the Construction EMP referred to in Condition 20, the Proponent shall identify all other significant developments occurring in the vicinity of the cable construction area. The Proponent shall also identify sensitive community groups. The Proponent shall identify environmental impacts to be monitored during construction which have the potential for cumulative effects to occur. The Proponent shall define time periods within which the identified environmental impacts would be monitored and describe measures taken to reduce cumulative effects. The Proponent shall liaise with the identified communities to ensure that the community is well informed in regards to all construction and operational works.
140. As part of the Construction EMP referred to in Condition 20, the Proponent shall review environmental impacts identified in Condition 139 every six months during the construction of the proposal. Any new impacts identified during construction shall be addressed appropriately to reduce the cumulative effects. The Proponent shall identify how this was achieved as part of the Compliance Report referred to in Condition 21.
141. The Proponent shall coordinate all works with EnergyAustralia (relating to its Sydney CBD 132kV cable project) in the vicinity of the Mary Ann Street Adit and the Haymarket Substation, and spoil movement generally, in an attempt to reduce cumulative impacts in the CBD.

Location of Ancillary Facilities

142. As part of the Construction EMP referred to in Condition 20 the Proponent shall submit detailed plans with clear site specific details of each construction compound outlined on maps.
143. Ancillary facilities should be located in areas that will minimise disturbance to the existing environment and amenity, in consultation with relevant Councils.

Demand Management

144. The Proponent is to contribute to a special purpose fund, in partnership with EnergyAustralia, to underwrite a programme of activities to offset the environmental and social impacts of providing additional electricity supplies to the inner Sydney Region, by investigating the potential for reducing the demand for electricity by all classes of consumers.
145. The fund will receive a total injection of \$10m over a period of five years, split equally between the two contributors.
146. The fund will be established and supported by the Director-General. It will be managed by a Committee comprising a nominee of the Director-General and a representative from both TransGrid and EnergyAustralia. The region covered by the fund will be the distribution sector of the Sydney region generally supplied from the interconnected network between TransGrid's Sydney North, Sydney South, Beaconsfield and Haymarket substations.

147. The Management Committee will produce guidelines describing how the fund will operate and be administered and submit these for approval by the Director-General, who may also approve variations to it on the advice of the Committee. The guidelines will include provisions for independent auditing to ensure transparency and the prudent disposition of the funds in achieving the required outcomes.

148. A report on the activities supported by the fund and its administration will be prepared and made publicly available at the end of each financial year.

149. The activities to be supported by the fund are to include, but not be limited to:

Preparing an inventory of the existing standby generation facilities in public and private sector premises in the CBD and inner Sydney region that may be suitable for supplementing the supply of electricity in the network. The inventory (which can be modelled on the detailed California database) should include:

- (a) the type, age, capacity, location, owner and service contractor for each on-site generator with a nameplate capacity exceeding 300kW;
- (b) a quantitative and qualitative rating of the generator for its efficiency and environmental performance. The aim would be to identify cleaner systems that may be more appropriate for more extended use and ones with higher emissions and/or lower efficiencies that are suitable for emergency back-up purposes only; and,
- (c) an assessment of the average and peak electricity demand for the sites being supplied and a determination of the likely capacity available for network demand reduction.

150. Subsequent to the preparation of a comprehensive inventory, an implementation strategy is to be prepared, with due consideration to environmental impact, demonstrating how each standby generator could best be called upon at times of stress on the supply network to:

- (a) take load off the system by meeting the load requirements of the sites they serve; and,
- (b) if practicable, reduce network demand further by supplying any surplus electricity into the network.

151. The implementation strategy is to recommend technical, commercial and operational approaches to maximising the opportunities to rely on this distributed energy source, and provide a model business case for the owners of standby generators that demonstrates how they could be compensated to make their involvement commercially viable. Following implementation, the model is to be documented and made available for use in other constrained regions in NSW seeking to implement distributed generation.

152. The strategy is to evaluate the major facilities in the region that offer opportunities for power factor correction. Each site evaluation should include:

- (a) measurement of the current power factor;
- (b) assessment of opportunities for power factor correction; and
- (c) preparation of a summary business case for each site where opportunities exist.

The evaluation approach and summary information is to be documented and made available for use in other constrained regions in NSW seeking to implement a power factor correction initiative.

153. The strategy should evaluate the major facilities for interruptible load opportunities. Each site evaluation should include:

- (a) identification of any loads that could potentially be interrupted without causing major disruption or inconvenience;
- (b) a technical and commercial assessment of the feasibility of interrupting identified loads; and
- (c) preparation of a summary business case for each site where opportunities exist.

A summary of the database that results from this project is to be documented and made available for use in other constrained regions in NSW seeking to implement load interruptibility initiatives.

154. The strategy should evaluate the major facilities for their energy demand reduction opportunities, including improvements in equipment efficiency, cogeneration and energy management controls. Each site evaluation should include:

- (a) an energy audit, including evaluation of energy usage characteristics and characterisation of thermal loads;
- (b) technical and commercial assessment of the feasibility of any energy demand reduction opportunities identified;
- (c) preparation of an energy demand reduction programme; and
- (d) preparation of a summary business case for each site where opportunities exist.

155. Where relevant to the objectives of providing practical and accurate information on the opportunities for demand reduction, the strategy should support the implementation and promotion of demonstration projects. The range of projects considered should encompass a wide range of target sites and include documentation of the technical and commercial aspects to assist in the dissemination of information to building owners, developers, design professionals, energy service providers, other network service providers and the general public.

Magnetic Fields

156. The Proponent is to undertake pre-operation magnetic field monitoring to establish existing magnetic field levels at representative locations along the preferred route. Results from these studies are to form a baseline monitoring report that is to be included in the Magnetic Field Management Sub Plan referred to in Condition 158. The monitoring details are to be approved by the Director-General at least six (6) months prior to the commencement of operation.

157. Dependent on the location of existing services and traffic management considerations, the Proponent shall maximise distance of the cable from dwellings, schools and other sensitive receivers to the satisfaction of the Director-General by locating the cable in the centre of the roadway. This measure only applies in cases where dwellings are located on both sides of the road.

158. The Proponent shall prepare a detailed Magnetic Field Management Sub Plan as part of the Construction EMP referred to in Condition 20. The Sub Plan is to identify how TransGrid will ensure that the levels of magnetic fields surrounding the cable are minimised during its operation.

The Sub Plan shall include but not be limited to:

- (a) identification of dwellings, schools and other sensitive receivers within 20m of the cable route;
- (b) identification of all available magnetic field reduction strategies, technologies and design measures together with their estimated costs and impacts; already used, and proposed to be used, to minimise the exposure of residents in dwellings, schools and other sensitive receivers along the route of the cable. If any techniques are found to be reasonable and feasible, they are to be employed in the installation of the cable;
- (c) report on the predicted distance between cable and dwelling houses, and any other magnetic field reduction measures undertaken;

- (d) site specific details of any field reduction measures such as shielding or any other field reduction measures to be used;
- (e) impacts associated with any field reduction measures, such as shielding; and,
- (f) details of existing and predicted magnetic field levels along the cable route, joint bay locations, adit sites, and the tunnel section following the application of the measures identified in (b).

The Magnetic Field Management Sub Plan shall be approved by the Director-General prior to commencement of substantial construction of each section of the cable route, as agreed by the Director-General.

159. The Proponent shall prepare a detailed Magnetic Field Monitoring Programme as part of the Operational EMP referred to in Condition 22. The programme shall be applicable to sensitive receivers likely to be exposed to the effects of the cable. The Programme is to identify how TransGrid will ensure that the levels of magnetic fields surrounding the cable are minimised during its operation.

The Programme shall include but not be limited to:

- (a) report on the final, as constructed, distances between cable and dwellings, schools and other sensitive receivers;
- (b) report on all field reduction measures undertaken (including site specific details);
- (c) results of pre-operation magnetic field monitoring of existing magnetic fields undertaken in accordance with Condition 156 as a baseline monitoring report;
- (d) site specific details of existing and predicted magnetic field levels along the cable trench, joint bay locations, adit sites, and the tunnel section following the application of the measures identified in (b); and,
- (e) annual monitoring for 5 years at representative locations identified in the baseline monitoring report as specified in Condition 156, and as otherwise required by or agreed to by the Director-General.

The Magnetic Field Monitoring Programme shall be approved by the Director-General prior to commissioning, and monitoring results shall be made publicly available upon request

160. The Proponent shall comply with the Director-General's reasonable and feasible requirements to mitigate impacts in light of the monitoring undertaken in accordance with condition 159, where results show exceedances of predicted levels specified in the Magnetic Field Management Sub Plan (prepared in accordance with condition 158).

Note:

Any modification to the proposal that would be inconsistent with the conditions of approval shall only be carried out with the prior written approval of the Minister, in accordance with the relevant provisions of the EP&A Act.

Attachment 1

Guidelines for the Establishment of the Community Liaison Group

The Proponent shall consider the following when establishing a Community Liaison Group:

1. The Group shall comprise at least two (2) representatives of the Proponent (the Environmental Management Representative and the Independent Community Liaison Representative), at least one (1) representative of the relevant Councils, at least two (2) community representatives and one (1) business representative.
2. At its first meeting, the Group shall consider its interrelationship with any existing community liaison/ consultative groups of adjoining or interrelated developments.
3. Representatives from relevant government agencies or other individuals may be invited to attend meetings as required by the Chair.
4. Where determined necessary by the Chair, an independent note taker would be provided by the Chair at the expense of the Proponent.

The Proponent shall, at its own expense:

- (a) nominate two (2) representatives to attend all meetings of the Committee;
- (b) provide to the Group regular information on the progress of work and monitoring results;
- (c) promptly provide to the Group such other information as the Chair of the Group may reasonably request concerning the environmental performance of the development;
- (d) provide access for site inspections by the Group;
- (e) provide meeting facilities for the Group, and take minutes of Group meetings. These minutes, once approved by the Group, shall be available for public inspection at TransGrid's Community Liaison Centre at Kingsgrove within 14 days of the Group's approval;
- (f) post minutes of Group meetings on the project Internet web site as specified in Condition 12; and
- (g) Where reasonably required engage consultants to interpret technical information provided under this approval and for licensing purposes, and tasks of a similar nature.