

Project Approval

Section 75J of the *Environmental Planning & Assessment Act 1979*

As delegate of the Minister for Planning and Infrastructure under delegation enforced from 1 October, 2011, I approve the project application referred to in schedule A, subject to the conditions specified in schedules B-F.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Richard Pearson
Deputy Director-General
Development Assessment & Systems Performance
Department of Planning and Infrastructure

Sydney

Year 2012

SCHEDULE A

Application No.:

MP11_0092

Proponent:

Ausgrid

Approval Authority:

Minister for Planning and Infrastructure

Land:

The integrated development site (City East Zone Substation and Commercial Tower) on land with frontages to Bligh and O'Connell Street, Sydney. Cable tunnel to run beneath Bligh Street to the intersection of Bent and Bligh Streets.

Project:

Sydney CityGrid Project - Stage 2A(ii), including:

- Stratum subdivision (between the commercial and substation components);
- Construction and operation of the City East Zone substation and Integrated Commercial Tower including:
 - a 150m tunnel beneath Bligh Street to connect the City East Zone substation to the City East Cable Tunnel;
 - a five level basement with up to 40 basement car/motorcycle spaces;
 - The substation would extend to a height of approximately 52.58m above O'Connell Street and 45.68m above Bligh Street; and
 - The Integrated Commercial Tower would be located above the substation with a height of approximately 161.73m and 28,050m² of floor space.

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DEFINITIONS

Act, the	<i>Environmental Planning and Assessment (EP&A) Act, 1979.</i>
Conditions of Approval (CoA)	The Conditions of approval for the project as provided in this Instrument.
Construction	All pre-operational activities associated with the project other than pre-construction activities including survey, acquisitions, fencing, investigative drilling or excavation, building/road dilapidation surveys or other activities determined by the Environmental Representative to have minimal environmental impact such as minor access roads, minor adjustments to services/utilities, establishing temporary construction sites. Note - activities where heritage items, including archaeology, might be affected is classified as construction.
Council	City of Sydney
CEMP	Construction Environmental Management Plan
OEH	Office of Environment and Heritage.
Department, the	Department of Planning and Infrastructure.
Director-General, the	Director-General of the Department of Planning and Infrastructure, or his /her nominee.
Director-General's Approval	A written approval from the Director-General (or nominee) where the Director-General's Approval is required under a condition.
Director-General's Report	The report provided to the Minister by the Director-General of the Department under section 75I of the EP&A Act.
Dust	Any solid material that may become suspended in air or deposited.
EA	Sydney CityGrid project – <i>Environmental Assessment for Stage 2A(ii) of the Sydney CityGrid Project</i> – City East Zone Substation and Integrated Commercial Tower, prepared by GHD Pty Ltd., for Ausgrid, dated February 2012
EPA	Environment Protection Authority
EPL	Environment Protection Licence issued under the <i>Protection of the Environment Operations Act, 1997</i>
Feasible and Reasonable	Consideration of best practice taking into account the benefit of proposed measures and their technological and associated operational application in the NSW and Australian context. Feasible relates to engineering considerations and what is practical to build. Reasonable relates to the application of judgement in arriving at a decision, taking into account mitigation benefits and cost of mitigation versus benefits provided, community views and nature and extent of potential improvements. Where requested by the Director-General, the Proponent shall provide evidence as to how feasible and reasonable measures were considered and taken into account.
Minister, the	Minister for Planning and Infrastructure
OEMP	Operation Environmental Management Plan
Proponent	Ausgrid
Prudent Avoidance	To do whatever can be done without undue inconvenience and at modest expense to avert the possible risk to health from exposure to

	new high voltage transmission facilities.
Publicly Available	Available for inspection by a member of the general public (for example available on an internet site).
RMS	Roads and Maritime Services
Sensitive Receiver	Residence (including accommodation within hotels), education institution (e.g. school, university, TAFE college), health care facility (e.g. nursing home, hospital), religious facility (e.g. church) and children's day care facility.
Site	Land to which Major Project Application MP 11_0092 applies.
Submissions Response Report	Sydney CityGrid project – <i>Submissions Response Report for Stage 2A(ii) of the Sydney CityGrid Project</i> – City East Zone Substation and Integrated Commercial Tower, prepared by GHD Pty Ltd., for Ausgrid, dated May 2012
Substation	City East Zone Substation
Tunnel	Tunnel beneath Bligh Street connecting the City East Zone Substation to the City East Cable Tunnel

SCHEDULE B

ADMINISTRATIVE CONDITIONS

TERMS OF APPROVAL

B1 The Proponent shall carry out the project generally in accordance with the:

- (a) Major Project Application MP 11_0092;
- (b) Sydney CityGrid project - *Environmental Assessment for Stage 2A(ii) of the Sydney CityGrid Project* – City East Zone Substation and Integrated Commercial Tower, prepared by GHD Pty Ltd., for Ausgrid, dated February 2012;
- (c) Sydney CityGrid project – *Submissions Response Report for Stage 2A(ii) of the Sydney CityGrid Project* – City East Zone Substation and Integrated Commercial Tower, prepared by GHD Pty Ltd., for Ausgrid, dated May 2012;
- (d) the concept plan approval granted for Sydney CityGrid (MP 08 - 0075);
- (e) the *Supplementary Information to Assist in the Assessment of the Project Application*, prepared by Fitzpatrick and Partners, dated 12th October, 2012; and
- (f) the conditions of this approval.

B2 In the event of an inconsistency between:

- (a) the conditions of this approval and any document listed from condition B1 (a) to B1 (e) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency; and
- (b) any document listed from condition B1(a) to B1(e) inclusive, the most recent document shall prevail to the extent of the inconsistency.

B3 The Proponent shall comply with any reasonable requirement(s) of the Director-General arising from the Department's assessment of:

- (a) any reports, plans or correspondence that are submitted in accordance with this approval; and
- (b) the implementation of any actions or measures contained in these reports, plans or correspondence.

LIMITS OF APPROVAL

B4 This project approval shall lapse five years after the date on which it is granted, unless the Proponent has substantially commenced physical works on site.

B5 The Commercial Floor Space Ratio of the proposal must not exceed 13.75:1 calculated in accordance with the Sydney Local Environmental Plan 2005. For the purpose of the calculation of FSR, the Floor Space Area of the approved development is 28,050 sqm.

B6 Prior to occupation of any Commercial floor space, a Registered Surveyor must provide certification of the total and component Floor Space Areas (by use) in the development, utilising the definition under Sydney Local Environmental Plan 2005, applicable at the time of project approval, to the satisfaction of the Director-General.

B7 The Proponent shall, prior to the commencement of construction unless otherwise agreed by the Director-General, obtain agreement from Council in respect of any parts of the Substation and Commercial Tower that overhang land that is not within the Proponent's ownership.

STATUTORY REQUIREMENTS

- B8 The Proponent shall ensure that all necessary licences, permits and approvals required for the development of the Project are obtained and maintained as required throughout the life of the Project. No condition of this approval removes the obligation for the Proponent to obtain, renew or comply with such necessary licences, permits or approvals. This shall include certification requirements in accordance with sections 109J and 109R of the Act.

COMPLIANCE

- B9 The Proponent shall ensure that employees, contractors and sub-contractors are aware of, and comply with, the conditions of this approval relevant to their respective activities.
- B10 The Proponent shall be responsible for environmental impacts resulting from the actions of all persons that it invites onto the site, including contractors, sub-contractors and visitors.
- B11 In the event of a dispute between the Proponent and a public authority, in relation to an applicable requirement in this approval or relevant matter relating to the project, either party may refer the matter to the Director-General for resolution. The Director-General's determination of any such dispute shall be final and binding on the parties.
- B12 Work may be carried out on site at any time in accordance with conditions E4-E6, but no work, including but not limited to installation of temporary rock anchors and crane overhangs, is to be carried out under, on or above neighbouring land until legal access to that land has been obtained.

STAGING

- B13 The Proponent may elect to construct the Project in discrete work packages or stages. Where that occurs, these conditions of approval need only be complied with to the extent that they are relevant to that discrete work package or stage. However, nothing in this condition enables any substantive deferral of the construction of subsequent stages, without prior approval of the Director-General. For the purpose of this condition any period of greater than 12 months from the completion of an entire stage, shall be considered to be substantive deferral, unless otherwise agreed by the Director-General.

SUBDIVISION

- B14 In undertaking the subdivision approved under this approval, the Proponent must comply with the requirements of the *Environmental Planning and Assessment Act 1979* relating to the issue of a Subdivision Certificate.
- B15 If the Proponent intends to seek a Subdivision Certificate from Council, it shall consult with and address all reasonable requirements of the Council in preparing its application for a Subdivision Certificate for the project.
- B16 If the Subdivision Certificate is not to be obtained from Council, a copy of the endorsed Subdivision Certificate plan is to be forwarded to Council within 14 days of lodgement with NSW Land and Property Information.

SCHEDULE C

ENVIRONMENTAL PERFORMANCE

DESIGN STANDARDS AND CONTRIBUTIONS

- C1 The Proponent shall, after consultation with Council and prior to the commencement of construction, demonstrate to the satisfaction of the Director-General that:
- a) all pavement finishes and landscaping within the public domain will be consistent with Council guidelines; and
 - b) a glass line will be provided at ground level for O'Connell Street, with doors, for after hour security instead of the proposed fencing and a security gate.
- C1 The Proponent shall, prior to the issue of the construction certificate for the Commercial Tower, make a contribution of \$1 million to Council, for the purpose of kerb and gutter installation and restoration, lighting and landscaping work within the Richard Johnson Square area and adjacent to the site in O'Connell Street. The contribution must be adjusted to take account of any increase in the Consumer Price Index over time, commencing at the October, 2012 quarter.
- C2 The Proponent shall, prior to the commencement of construction, provide verification that 6140 square metres of heritage floor space has been allocated (purchased and transferred) to the development, being that floor space in excess of the 8:1 floor space ratio as specified in the Sydney Local Environmental Plan 2005.
- C3 The Proponent shall, prior to the commencement of construction, demonstrate to the satisfaction of Director-General that the design of the building is consistent with the provisions of Council's development control plan in relation to wind criteria. Any wind mitigation structures must be designed in consultation with Council.
- C4 The Proponent shall ensure that the Substation is designed such that all external lighting associated with the Project is mounted, screened, and directed in such a manner so as not to create a nuisance to the surrounding environment, receptors and roadways. The lighting shall be the minimum level of illumination necessary and shall comply with *AS 4282 1997 – Control of Obtrusive Effects of Outdoor Lighting*.
- C5 The Proponent shall include approximately 184 bicycle parking facilities either within the Site or in close proximity to the Site and provide end trip facilities such as showers and changing rooms, to encourage bicycle use for travelling to and from the project.
- C6 The Proponent shall ensure that the design of the Project does not restrict future development on adjoining land through the use of rock anchors or other means of building support.
- Infrastructure Works**
- C7 All works associated with the project that interface with public land and infrastructure shall be designed in consultation with and to meet the design standards and any reasonable requirement of the relevant authority. All public land and infrastructure disturbed or damaged as part of the project shall be reconstructed in consultation with and to meet the design standards and any reasonable requirement of the relevant authority.

Certification

- C8 The Proponent shall ensure that the structural integrity of the Tunnel is certified by suitably qualified structural engineer prior to operation of the Project. A copy of the certificate is to be included in the Operation Environmental Management Plan.

WATER QUALITY AND HYDROLOGY

- C9 Except as may be expressly provided by an Environment Protection Licence (EPL) for the Project, the Proponent shall comply with section 120 of the *Protection of the Environment Operations Act 1997* which prohibits the pollution of waters.
- C10 The Project shall be designed, and employ surface water management techniques, such that existing runoff volumes along drainage lines from the Site are maintained at pre-construction levels and there are no adverse effects to adjoining land as a result of flooding and runoff.

TRANSPORT INFRASTRUCTURE CORRIDORS

Transport for NSW (TfNSW)

- C11 Before construction commences within the relevant interface (as defined in condition C15) the Proponent shall consult with Transport for NSW (TfNSW) about impacts on the planned CBD Metro Stage 1 and the Metro Pitt corridors as defined at the date of this approval.
- C12 The Proponent shall design, construct and maintain the project so as to:
- a) not to interfere with the capacity to design, construct and operate future CBD Metro Stage 1 and Metro Pitt projects; and
 - b) allow for impacts, including stray currents and vibration, resulting from the construction, operation and maintenance of the CBD Metro Stage 1 and Metro Pitt rail corridors to the extent those impacts could be reasonably anticipated by a professional consultant, acceptable to TfNSW, respectively, experienced in the assessment of such types of impacts.
- C13 Unless otherwise agreed in writing with the relevant agency, prior to the commencement of any construction within the relevant interface (as defined in condition C15) the Proponent shall enter into Agreements with:
- a) Transport for NSW in relation to CBD Metro Stage 1; and Metro Pitt.

to ensure that the capacity to design, construct and operate the CBD Metro Stage 1 and Metro Pitt projects are not impeded. The Proponent shall comply with the terms of the Agreements.

The Agreements shall address, as relevant, the following matters:

- a) the provision of design documentation and other requested information to Transport for NSW;
- b) the consideration of Transport for NSW responses, including those related to designs, design modifications, technical reports and other documents, where there may be an impact on the capacity to design, construct, and operate the CBD Metro Stage 1 and Metro Pitt projects; and
- c) notification of Transport for NSW of events that may affect the planned CBD Metro Stage 1 and Metro Pitt corridors.

- C14 The Proponent shall advise the Director-General of the Agreements as soon as practicable once they have been reached.
- C15 For the purpose of conditions C11 to C14 the interface is generally an area where the proposed works will pass:
- (a) within 25 metres of the CBD Metro Stage 1 corridor; and
 - (b) within 25 metres of the Metro Pitt corridor.

MAGNETIC FIELDS

- C16 The Proponent shall prepare, prior to the commencement of Construction (other than works for the purpose of bulk excavation and cable tunnel), a **Magnetic Field Management Protocol**, that shall include details of measures to be applied to the Substation to ensure that the levels of magnetic fields surrounding the cables, transformers, switchboards and air-core inductors are minimised during operation, including details on the application of Prudent Avoidance Principles as they relate to AS2067-2008. The protocol shall include, but is not limited to:
- a) identification of the predicted distance between the main sources within the Substation that will emit Magnetic Fields and sensitive receptors adjacent to the Substation;
 - b) consideration of the International Commission on Non-ionising Radiation Protection Guideline (2010): *Guidelines for Limiting Exposure to Time-varying Electric and Magnetic Fields (1Hz to 100kHz)*, as published in Health Physics 99(6);
 - c) prediction of Magnetic Field levels, before and after the application of reduction strategies, technologies and design measures proposed to be used, to minimise the exposure of occupants in the commercial building that is part of the Project, and buildings adjacent to the Substation; and
 - d) details of the methodology to be employed to verify the Magnetic Field levels generated from the Project during the operation phase.

GROUND MOVEMENT/SETTLEMENT

- C17 The Proponent shall undertake an assessment of property and infrastructure at risk from damage, consistent with the provisions of condition E24, to determine appropriate settlement criteria to prevent damage.
- C18 Where exceedances of the criteria established in condition C17 or in Table 1 (which ever is the lower), are likely the Proponent shall identify and implement mitigation measures such as appropriate support and stabilisation structures in consultation with the relevant land and/or infrastructure owners prior to the commencement of the Construction activity that is likely to exceed the criteria to ensure where possible that underground services, infrastructure and adjacent buildings will not experience settlement exceeding the criteria identified in condition C17 or Table 1 (which ever is the lower) .

Table 1 – Settlement Criteria

Beneath Structure/Facility	Maximum Settlement	Maximum Angular Distortion
Buildings-Low or non sensitive properties (i.e. ≤ 2 levels and carparks)	30mm	1 in 350
Buildings- High or sensitive properties (i.e. ≥ 3 levels and heritage items)	20mm	1 in 500
Roads and Parking areas	40mm	1 in 250

The above criteria shall not remove any responsibility from the Proponent for the protection of existing structures or for rectifying any damage resulting from the Project.

VEHICULAR ACCESS

C19 The Proponent shall ensure that:

- a) the layout of vehicle/bicycle parking areas (including approximately 45 car/motorcycle spaces, 3 courier/truck bays and 184 bicycle spaces) associated with the Project (including driveway, grades, turn paths, sight distance requirements, aisle widths and lengths, and parking bay dimensions) are in accordance with *Australian Standard AS 2890.1 -2004*; and
- b) all Feasible and Reasonable measures are applied to reduce the crossover width of the Substation driveway, with the aim of avoiding a connection with the driveway of the adjacent building.

A FIRE SAFETY ENGINEERING / EVACUATION STRATEGY

C20 Prior to the design, a **Fire Safety Engineering and Evacuation Strategy** for the Commercial office tower, the Substation and carpark shall be developed to meet the Performance Requirements of the Building Code of Australia (BCA). The Proponent shall consult Fire and Rescue NSW (FRNSW), the Building Certifier (if a Construction Certificate is required) and the Council before finalising the design. The fire safety strategy and evacuation strategy design shall be appropriate to the Substation and building, and be fully implemented prior to occupancy.

SCHEDULE D

COMMUNITY INFORMATION, REPORTING AND AUDITING

Community Information plan

- D1 Prior to the commencement of Construction, the Proponent shall update the Community Information Plan (as required by Condition 4.3 of the Concept Plan Approval (MP08_0075)), in relation to Stage 2A (ii) to outline measures for dissemination of information on the development status of the Project and methods for actively engaging with surrounding landowners and affected stakeholders regarding issues that would be of interest/ concern to them during construction of the Project. A copy of the updated Plan shall be provided to the Director-General prior to the commencement of construction.

Operation Performance Audit Report

- D2 Within fifteen months of the completion of Construction, or as otherwise agreed by the Director-General, the Proponent shall commission an independent qualified person or team to undertake an **Operational Performance Audit** of the Substation and Tunnel components of the Project. The independent person or team shall be approved by the Director-General prior to the commencement of the Audit. The Operational Performance Audit Report shall be submitted to the Director-General within one month of the completion of the Audit, unless otherwise agreed by the Director-General. The Audit shall:
- a) assess compliance with the requirements of this approval, and other licences and approvals that apply to the Project;
 - b) assess the operational performance of the Project against the aims and objectives for the Project specified in the documents referred to under condition B1 of this approval;
 - c) assess the environmental performance of the Project against the predictions made and conclusions drawn in the documents referred to under condition B1 of this approval; and
 - d) review the effectiveness of the environmental management of the Project, including any environmental impact mitigation works.

SCHEDULE E

CONSTRUCTION ENVIRONMENTAL MANAGEMENT

NOISE AND VIBRATION

Vibration Impacts

- E1 The Project shall be constructed with the aim of achieving the following construction vibration goals:
- a) for structural damage, the limits set out in the British Standard BS 7385 Part 2- 1993 Evaluation and measurement for vibration in buildings Part 2 to ensure minimal risk of cosmetic damage;
 - b) for structural damage, to heritage buildings (as identified on the State Heritage Register and/ or Sydney Local Environmental Plan 2005), the vibration limits set out in the *German Standard DIN 4150-3: Structural Vibration - effects of vibration on structures*; and
 - c) for human exposure, the acceptable vibration values set out in the *Environmental Noise Management Assessing Vibration: A Technical Guideline* (Department of Environment and Conservation, 2006).

Ground borne/Regenerated noise

- E2 The Proponent shall ensure that all Feasible and Reasonable mitigation measures are implemented to ensure that during evening or night works the following (internal) ground-borne noise goals (Table 2) at the nearest Sensitive Receivers are achieved, where ground-borne noise levels are higher than air-borne levels:

Table 2 – Regenerated noise criteria

Hours	L _{Amax} (slow)
Day/Evening (6 pm – 10 pm)	40 dB(A)
Night (10 pm – 7 am)	35 dB(A)

These limits shall be met unless otherwise approved by the Director-General. If works are predicted to exceed the regenerated noise goals the Proponent shall 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

- E3 The Project shall be constructed with the aim of achieving the construction noise management levels detailed in the *Interim Construction Noise Guideline* (Department of Environment and Climate Change, 2009). All feasible and reasonable noise mitigation measures shall be implemented and any activities that could exceed the construction noise management levels shall be identified and managed in accordance with the Construction Noise and Vibration Management Sub Plan required under condition PART AE31 a.

Construction hours

- E4 The Proponent shall comply with the hours of construction in Table 3, except for below ground tunnelling works.

Table 3: Construction hours

Activity	Day	Hours
Construction	Monday - Friday	7am - 7 pm
	Saturdays	7am - 5 pm
	Sunday & Public holidays	Nil

The Proponent shall only undertake rock breaking, rock hammering, pile driving or any similar noise-intensive construction activities during the hours as per Table 4.

Table 4: Construction hours for noise intensive activities

Activity	Day	Hours
Construction	Monday - Saturday	9 am - 12 pm
	Monday - Friday	2 pm - 5 pm
	Sunday & Public holidays	Nil

- E5 Below ground tunnelling works may be conducted 24 hours per day.
- E6 Construction works outside of the standard construction hours identified in condition E4 may be undertaken in the following circumstances:
- a) for the delivery of materials required outside these hours by the NSW Police Force or other authorities for safety reasons;
 - b) where it is required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm;
 - c) works approved through an EPL, or by the Director-General; and
 - d) works as approved through the out-of-hours work protocol outlined in the Construction Noise and Vibration Management Plan required under condition PART AE31a.

Construction Noise Management

- E7 During construction, the Proponent shall minimise noise emissions from plant and equipment operated on the site, including bulldozers, cranes, graders, excavators and trucks, by installing and maintaining where Feasible and Reasonable, efficient silencers, low-noise mufflers, screening of worksites and replacement of reversing alarms on vehicles with alternative silent measures. Such alternative silent measures for reversing alarms shall be investigated in consultation with EPA.
- E8 The Proponent shall ensure that public address systems used at Construction sites are not used outside the Construction hours detailed in these Conditions of Approval unless otherwise approved through the Construction Noise and Vibration Management Plan. Public address systems shall be designed to minimise noise spillage off-site.
- E9 The Proponent shall ensure that the noisiest activities associated with night time works are scheduled wherever possible to be completed before midnight.

SOIL, WATER QUALITY AND HYDROLOGY

Construction Soil and Water Management

- E10 Soil and water management measures consistent with *Managing Urban Stormwater – Soils and Construction Vols 1 and 2, 4th Edition (Landcom, 2004)* shall be employed during the construction of the project to minimise soil erosion and the discharge of sediment and other pollutants to land and/or waters.
- E11 Where available, and of appropriate chemical and biological quality, stormwater, recycled water or other water sources shall be used in preference to potable water for construction activities, including concrete mixing and dust control.

AIR QUALITY

Dust Generation

- E12 The Proponent shall construct the Project in a manner that minimises dust emissions from the site, including wind-blown and traffic-generated dust. All activities on the site shall be undertaken with the objective of preventing visible emissions of dust from the site. Should such visible dust emissions occur at any time, the Proponent shall identify and implement all Feasible and Reasonable dust mitigation measures, including cessation of relevant works, as appropriate, such that emissions of visible dust cease.

WASTE GENERATION AND MANAGEMENT

- E13 The Proponent shall not cause, permit or allow any waste generated outside the site to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the *Protection of the Environment Operations Act 1997*, if such a licence is required in relation to that waste.
- E14 The Proponent shall maximise the reuse and/or recycling of waste materials generated on site as far as practicable, to minimise the need for treatment or disposal of those materials off site.
- E15 The Proponent shall ensure that all liquid and/or non-liquid waste generated on the site (including hazardous waste such as asbestos or contaminated soils) is assessed and classified in accordance with *Waste Classification Guidelines* (DECC, 2009), or any future guideline that may supersede that document and where removed from the site is only directed to a waste management facility lawfully permitted to accept the materials.
- E16 Prior to an Occupation Certificate being issued, the Certifying Authority must ensure that waste handling works have been completed in accordance with the Waste Management Plan.

HERITAGE & ARCHAEOLOGY

- E17 The Project shall be monitored by an archaeologist, who meets the criteria in the Heritage Council's Criteria for the assessment of Excavation Directors (July, 2011), during excavation of the basement slab and excavation of fill above bedrock for the cable riser on Bligh Street to identify any non-indigenous items present within the area. Any items of non-indigenous heritage significance or interest shall be recorded by the archaeologist and managed in consultation with the Office of Environment and Heritage (OEH).

BUNDING AND SPILL MANAGEMENT

- E18 The Proponent shall store and handle dangerous goods (as defined by the Australian Dangerous Goods Code) and combustible liquids, in accordance with:
- a) all relevant Australian standards;

- b) for liquids, a minimum bund volume required of 110% of the volume of the largest single stored volume within the bund;
- c) *Storing and Handling Liquids: Environmental Protection – Participants Manual (2007); and*
- d) *Environmental Compliance Report: Liquid Chemical Storage, Handling and Spill Management – Part B Review of Best Practice and Regulation (2005).*

In the event of an inconsistency between requirements listed from a) to d) above, the most stringent requirement shall prevail to the extent of the inconsistency.

TRAFFIC AND TRANSPORT IMPACTS

E19 The Proponent shall ensure that a Road Occupancy Licence Application and a Traffic Management Plan is submitted to RMS for review and approval, for the special delivery platform required for the Substation.

FOOD PREMISES

E20 The construction, fit out and finishes or any proposed commercial food premises shall comply with the *Food Act 2003* and *AS 4674-2004* Design, Construction and Fit out of Food Premises. Certification is to be provided from a competent consultant to satisfaction of the Certifying Authority with compliance of these standards prior to issue of the Occupation Certificate.

STANDARDS AND CODES

E21 All building works shall be constructed in accordance with safe work practices and complying with the relevant adopted Australian Standards, Codes of Practice and the current Building Code of Australia.

PROPERTY DAMAGE INCLUDING UTILITIES AND SERVICES

E22 A **Dilapidation Report** shall be conducted prior to the commencement of Construction works to assess the current condition of roads/footpaths. Following completion of construction, a subsequent Dilapidation Report shall be prepared to assess any damage that may have resulted from the Construction. The Dilapidation Report shall include a dilapidation assessment for all roads/footpaths in the immediate vicinity of the site nominated in the Traffic Management Protocol that are likely to be used by construction traffic. Copies of the Dilapidation Reports shall be provided to Council and RMS. 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.

The Proponent shall ensure that any measures to restore roads/footpaths are undertaken in a timely manner, in accordance with the reasonable requirements and to the satisfaction of the relevant authority and at the full expense of the Proponent.

E23 Subject to obtaining landowner agreement, property inspections shall be conducted on the following:

- a) structures located up to and including 50 metres from Construction activities that generate vibration impacts;
- b) the Bennelong Drain;
- c) any other location identified by the Proponent; and
- d) any other locations identified by the Environmental Representative.

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

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

The extent of the dilapidation survey required shall be defined in the CEMP and certified by a qualified structural engineer as encompassing the maximum area that could be reasonably expected to be impacted by tunnelling, bulk excavation or other major works, particularly from vibration or settlement.

A register of all properties inspected shall be maintained by the Proponent indicating whether the owner accepted or refused the property inspection offer. A copy of the register shall be provided to the Director-General upon request. The Proponent shall ensure inspections are carried out at least during the following stages: pre construction, post bulk excavation, post tunnelling and post construction. Property inspections may be staged according to the properties that may be affected by that stage of Construction.

If contact can not be made or access agreement can not be reached, then the Proponent is not obliged to prepare a dilapidation survey for that property, unless otherwise required by the Director-General. The Proponent is to report to the Department on steps taken to reach an access arrangement.

- E24 Notwithstanding condition E23 property inspections need not to be undertaken if a risk assessment indicates structures will not be affected. The risk assessment shall be undertaken before Construction commences in the vicinity of the property by geotechnical and construction engineering experts with appropriate registration on the National Professional Engineers Register.
- E25 The Proponent, where liable, shall rectify any property damage caused directly or indirectly (for example from vibration, settlement or ground water change) by the Project at no cost to the property owner(s). Alternatively the Proponent may negotiate compensation for the property damage with the property owner.
- E26 The Proponent shall identify the utilities and services (hereafter “services” including private infrastructure) potentially affected by Construction to determine requirements for diversion, protection and/or support. Alteration to services shall be determined by negotiation between the Proponent and the service providers. The Proponent in consultation with service providers shall ensure that disruption to services resulting from the Project are minimised and advised to customers, prior to any disruption of service.
- E27 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.
- E28 The Proponent shall develop a contingency plan, in consultation with the relevant service providers, to deal with accidental damage and repair of services.

ENVIRONMENTAL REPRESENTATIVE

- E29 Prior to the commencement of construction of the Project, or as otherwise agreed by the Director-General, the Proponent shall nominate for the approval of the Director-General a suitably qualified and experienced Environment Representative(s) that is independent of the design and construction personnel. The Proponent shall employ the Environmental Representative(s) for the duration of construction, or as otherwise agreed by the Director-General. The Environment Representative(s) shall:

- a) be the principal point of advice in relation to the environmental performance of the Project;
- b) monitor the implementation of environmental management plans and monitoring programs required under this approval and advise the Proponent upon the achievement of these plans/ programs;
- c) have responsibility for considering and advising the Proponent on matters specified in the conditions of this approval, and other licences and approvals related to the environmental performance and impacts of the Project;
- d) ensure that environmental auditing is undertaken in accordance with the Proponent's Environmental Management System(s);
- e) be given the authority to approve/ reject minor amendments to the Construction Environmental Management Plan. What constitutes a "minor" amendment shall be clearly explained in the CEMP required under condition E30;
- f) be given the authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur; and
- g) be consulted in responding to the community concerning the environmental performance of the Development where the resolution of points of conflict between the Proponent and the community is required.

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

E30 Prior to the commencement of construction, or as otherwise agreed by the Director-General, the Proponent shall prepare and implement (following approval by the Director-General) a Construction Environmental Management Plan for the Project. The Plan shall outline the environmental management practices and procedures that are to be followed during construction, and shall be prepared in consultation with the relevant government agencies and in accordance with the *Guideline for the Preparation of Environmental Management Plans* (Department of Infrastructure, Planning and Natural Resources, 2004). The Plan shall include, but not necessarily be limited to:

- a) a description of activities to be undertaken during construction of the Project (including staging and scheduling);
- b) statutory and other obligations that the Proponent is required to fulfil during construction, including approvals, consultations and agreements required from authorities and other stakeholders under key legislation and policies;
- c) a description of the roles and responsibilities for relevant employees involved in the construction of the Project, including relevant training and induction provisions for ensuring that employees, including contractors and sub-contractors are aware of their environmental and compliance obligations under these conditions of approval;
- d) an environmental risk analysis to identify the key environmental performance issues associated with the construction phase; and
- e) details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts (including any impacts arising from the staging of the construction of the Project). In particular, the following environmental performance issues shall be addressed in the Plan:
 - i construction noise and vibration management;
 - ii construction air quality management;
 - iii construction traffic management;
 - iv construction groundwater management;

- v construction water management;
- vi construction spoil management;
- vii ground movement management;
- viii construction safety;
- ix heritage management; and
- x management of street trees, including tree protection and replacement of trees to be removed.

The Plan shall be submitted for the approval of the Director-General no later than one month prior to the commencement of Construction, or as otherwise agreed by the Director-General. The Plan may be prepared in stages, however, Construction works shall not commence until written approval has been received from the Director-General.

The approval of a Construction Environmental Management Plan does not relieve the Proponent of any requirement associated with this Project approval. If there is an inconsistency with an approved Construction Environmental Management Plan and the conditions of this approval, the requirements of this project approval prevail.

E31 As part of the Construction Environmental Management Plan for the Project required under condition E30, the Proponent shall prepare and implement:

- a. a **Construction Noise and Vibration Management Plan (CNVMP)** that includes but is not necessarily limited to:
 - i. identification of the specific activities that will be carried out and associated noise sources at the site;
 - ii. demonstration that smaller (or “city”) rockbreakers will be used unless use of large rockbreakers can be justified such as on the basis of substantially reduced construction time or that they are not noticeably noisier;
 - iii. identification of all potentially affected sensitive receiver premises;
 - iv. quantification of the rating background noise level (RBL) for sensitive receivers as undertaken in the EA;
 - v. assessment of potential construction noise, ground-borne noise and vibration levels from the proposed construction methods expected at sensitive receiver premises, against the goals identified in conditions E1, E2 & E3;
 - vi. where the goals are predicted to be exceeded, an analysis of feasible and reasonable noise mitigation measures that can be implemented to further reduce construction noise and vibration impacts;
 - vii. description of management methods and procedures, and specific noise mitigation measures that will be implemented to control noise and vibration during construction;
 - viii. where the goals cannot be met, additional measures including, but not necessarily limited to the following should be considered and implemented where Feasible and Reasonable: reduced hours of construction, the provision of respite from noise / vibration intensive activities, alternative excavation methods or other negotiated outcomes with the affected community;

- ix. as required by condition E6d) a protocol for assessing works outside of standard construction hours under condition E4 including: justification for such works and alternatives considered, risk assessment procedure for identifying likely impacts at nearby receivers and circumstances under which an increasing range of Feasible and Reasonable mitigation measures would be considered;
 - x. measures for informing surrounding receivers of approved construction hours, upcoming high noise generating and vibration intensive works and works outside of standard hours, in particular measures for undertaking consultation with adjacent land owners identifying specific sensitive activities and any requirement for the scheduling of respite periods in addition to any period nominated in condition E4;
 - xi. measures for responding to complaints including notification of the Director-General; and
 - xii. development of an appropriate strategy in the case that Project related vibration results in damage to surrounding buildings or structures (including pre-and post construction property inspections required by E23, where necessary). The strategy for controlling vibration should be based on – *Assessing Vibration: a technical guideline* (DEC, February 2006).
- b. a **Construction Air Quality Management Plan** that includes but is not necessarily limited to the following measures to manage potential impacts on air quality:
- i. the management of exposed surface areas and earthworks;
 - ii. the maintenance and regular servicing of construction plants and vehicles;
 - iii. the monitoring, management and control of air pollutants including gaseous substances generated during construction;
 - iv. a protocol to handle dust complaints that includes recording, reporting and appropriate actions for expected types of complaints; and
 - v. a reactive management program detailing how and when operations are to be modified to minimise the potential for dust emissions, should emissions exceed the relevant criteria.
- c. a **Construction Traffic Management Plan**, prepared in consultation with the RMS and Council, to manage potential traffic impacts, which shall include but is not necessarily limited to:
- i. details of all roads in the immediate vicinity of the site nominated for use during construction including traffic routes for heavy vehicles, and any necessary route or timing restriction for oversized loads, including number of trucks, hours of operation, access arrangement and traffic control;
 - ii. measures to ensure excavation and construction vehicles are contained wholly within the site, to the greatest extent practicable;
 - iii. measures to ensure all vehicles shall enter and exit the site in a forward direction where practicable;
 - iv. details of measures to minimise interactions between the project and other users of the roads such as the use of fencing, lights, barriers, traffic diversions etc;
 - v. details of measures to schedule works to minimise traffic disruption;
 - vi. procedures for informing the public where road access will be restricted as a result of the Project;
 - vii. details of measures to ensure safe pedestrian, cyclist, and traffic movement and access;
 - viii. details of the expected behavioural requirements for vehicle drivers travelling to and from the site; and

- ix. details of any other approval and statutory responsibilities with regard to road traffic impacts and the management of traffic.
- d. a **Construction Groundwater Management Plan**, prepared in consultation with NSW Office of Water (NOW), which shall include but is not necessarily limited to:
- i. details of groundwater control measures to be taken during the construction stage;
 - ii. impacts on nearby structures from potential settlement;
 - iii. groundwater inflow control;
 - iv. handling, treatment and disposal of groundwater and contaminated groundwater;
 - v. monitoring, auditing and measures for dealing with exceedances and response actions; and
 - vi. identifying a suitable point to discharge treated groundwater to the stormwater network, in consultation with Sydney Water and Council as relevant.
- e. a **Construction Water Management Plan**, prepared in consultation with NOW which shall include handling, treatment and disposal of surface water; but is not necessarily limited to:
- i. identification of potential sources of water pollution and a detailed description of the remedial action to be taken or management systems to be implemented to prevent discharge of these pollutants from the site;
 - ii. management of the cumulative impacts of the Project on the quality and quantity of surface water;
 - iii. details of short and long term measures to be employed to minimise soil erosion and the discharge of sediment to land and/or waters;
 - iv. a contingency plan for events that have the potential to pollute or contaminate surface water. The plan shall include threshold levels, remediation actions and communication strategies for the effective management of such an event.
 - v. a programme for reporting on the effectiveness of the sediment and erosion control system against performance goals.
- f. a **Construction Spoil Management Plan**, which shall include:
- i. the locations of major (defined as a volume greater than 500 cubic metres) spoil stockpiles;
 - ii. methods to re-use or dispose excess or unsuitable spoil material including estimated volumes and disposal sites; and
 - iii. measures for appropriate testing and classification of waste.
- g. a **Ground Movement Management Plan**, which shall include:
- i identification of the properties and infrastructure surrounding the construction activities which may be affected by ground movement;
 - ii monitoring for exceedances of the acceptable criteria identified in conditions C17 & C18 ; and
 - iii appropriate response measures in the event of exceedances.
- h. a **Heritage Management Plan**, that shall be prepared in consultation with the Heritage Council of NSW and Council and include but is not necessarily be limited to:

- i. in relation to Aboriginal Heritage:
 - procedures for dealing with previously unidentified Aboriginal objects, including human remains, including cessation of works in the vicinity, notification and assessment of the significance of the object(s), consultation with the Aboriginal community, determination of appropriate mitigation measures and assessment of the consistency against the approved impacts of the Project by a suitably qualified archaeologist. As a minimum notification should include the Department, OEH and the Metropolitan Local Aboriginal Land Council and, in the case of human remains, NSW Police Force;
 - heritage training and induction processes for construction personnel (including procedures for keeping records of inductions) and obligations under the conditions of this approval and *National Parks and Wildlife Act 1974* (including notification) including site identification, protection and conservation of Aboriginal cultural heritage; and
- ii. in relation to Historic Heritage:
 - identification of heritage items directly and indirectly affected by the Project;
 - details of management measures to be implemented to prevent and minimise impacts on heritage items (including measures to protect unaffected sites during construction works in the vicinity, further heritage investigations if required, and archival recordings), with particular reference to:
 - potential wells;
 - former NSW club Building (Lowy Institute);
 - AFT House;
 - Bennelong Drain; and
 - Richard Johnson Square (including consideration of the site of Sydney's first church, especially during construction of the cable riser shaft).
 - details of monitoring and reporting requirements for impacts on heritage items;
 - procedures for dealing with previously unidentified heritage items, including human remains, including cessation of works in the vicinity), notification and assessment of the significance of the item(s), determination of appropriate mitigation measures and assessment of the consistency against the approved impacts of the Project by a suitably qualified and experienced archaeologist. As a minimum notification should include the Department and the Heritage Council of NSW.; and
 - heritage training and induction processes for construction personnel (including procedures for keeping records of inductions and obligations under the conditions of this approval and the *Heritage Act 1977*) including site identification, protection and conservation of non-Aboriginal cultural heritage; and
- iii. provisions to ensure that a final archaeological report is prepared within one year of the completion of any field based archaeological activity in accordance with the relevant Heritage Council Guidelines and standards for Final Reports.
- iv. mechanisms for the monitoring, review and amendment of this plan.

SCHEDULE F

OPERATION ENVIRONMENTAL MANAGEMENT

NOISE AND VIBRATION IMPACTS

Vibration Impacts

- F1 The Proponent shall ensure that the vibration resulting from the operation of the Substation does not exceed the preferred values presented in *Assessing Vibration: A Technical Guideline* (DECC, February 2006), at any nearest sensitive receivers and shall not exceed the levels identified in Table 5.

Table 5 – Vibration limits for residences & offices (Frequency range 1-80 Hertz)

Location	Maximum z-axis weighted rms vibration acceleration (m/s ²)				Vibration Dose Value (m/s ^{1.75})	
	Continuous		Impulse		Intermittent	
	Day	Night	Day	Night	Day	Night
Office & retail areas	0.20	0.20	0.64	0.64	0.40	0.40
Residences	0.010	0.007	0.30	0.10	0.20	0.13

Operational Noise Criteria

- F2 The Proponent shall ensure that noise contributions from the operation of the Substation does not lead to an exceedence of the noise limits specified in Table 6, or the criteria derived in accordance with the *New South Wales Industrial Noise Policy* (EPA, 2000) at any sensitive receivers, unless subject to a negotiated noise agreement established consistent with Section 8.3 of the *New South Wales Industrial Noise Policy* (EPA, 2000). The noise limits apply:
- during the operation of the Substation at full design capacity (under normal operating conditions); and
 - under wind speeds up to 3 ms⁻¹ (measured at 10 metres above ground level), or under temperature inversion conditions of up to 3 °C/ 100 metres and wind speeds greater than 2m/s at 10 metres above the ground.

Table 6 - Operational Noise Criteria dB(A)

Location	Day (7am-6pm)	Evening (6pm - 10pm)	Night (10pm- 7am)
	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)	L _{Aeq} (15 minute)
Radisson Plaza hotel	53	53	53
Sofitel Wentworth hotel	35	35	35
Lowy Institute	53	53	53

Note: Noise generated by the Substation is to be measured in accordance with the relevant procedures and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.

MAGNETIC FIELD MANAGEMENT

- F3 If magnetic field measurement, undertaken in accordance with Operation Environmental Management Documentation, shows that field levels are materially greater than the levels predicted in the document required by condition C16 c, the Proponent shall, unless otherwise agreed by the Director-General, implement Feasible and Reasonable means to further reduce field levels.

OPERATION ENVIRONMENTAL MANAGEMENT DOCUMENTATION

F4 The Proponent shall operate the Substation and Tunnel in accordance with plans, procedures and policies that apply to its electricity network. These plans, procedures and policies shall be amended, prior to the commencement of operation, to include, but are not necessarily limited to:

- a) a description of key operational and maintenance activities associated with the Project;
- b) identification of all statutory and other obligations that the Proponent is required to fulfil prior to and during operation of the Project, including relevant approvals, licences and consultations;
- c) overall environmental policies, guidelines and principles to be applied to the operation of the project;
- d) safety and operation procedures consistent with the *Department of Planning's Hazardous Industry Planning Advisory Paper No. 9 'Safety Management'*, clearly specifying all safety-related procedures, responsibilities and policies covering the Substation and Tunnel operations;
- e) a description of the roles and responsibilities for all relevant employees involved in the operation of the Project, including relevant training and induction provisions for ensuring that employees are aware of their environmental and compliance obligations under these conditions of approval;
- f) an environmental risk analysis to identify the key environmental performance issues associated with the operation phase; and
- g) details of how environmental performance would be managed and monitored to meet acceptable outcomes, including what actions will be taken to address identified potential adverse environmental impacts. In particular, the following environmental performance issues shall be addressed:
 - i. magnetic fields - measurement and mitigation measures;
 - ii. substation noise - measurement and mitigation measures; and
 - iii. ground water management – influx minimisation, collection, treatment, disposal measurement and mitigation measures.

The documentation shall be submitted for the approval of the Director-General no later than one month prior to the commencement of operation, or as otherwise agreed by the Director-General. Operation shall not commence until written approval has been received from the Director-General.

The approval of this documentation does not relieve the Proponent of any requirement associated with this approval. If there is an inconsistency with the plans, procedures and policies that apply to the Proponent's electricity network including the documentation approved under this condition and the conditions of this approval, the requirements of this approval prevail.