Planning Secretary's Environmental Assessment Requirements

BOC Illawarra Hydrogen Hub

Application Number	SSD-67677709
Project Name	BOC Illawarra Hydrogen Hub
Development	Construction and operation of a hydrogen production facility, comprising electrolyser modules, water treatment and cooling, on-site hydrogen refuelling station (HRS), utility connections, workshop and ancillary structures, internal roads, fencing and landscaping.
Location	Lot 1 DP 1088411, Lot 2 DP 706704; 147 Five Islands Road, Cringila
Applicant	BOC Limited
Date of Issue	14 March 2024
General Requirements	The Environmental Impact Statement (EIS) for the development must: • comply with these assessment requirements • meet the form and content requirements in sections 190 and 192 of the Environmental Planning and Assessment Regulation 2021 (the Regulation) • have regard to the Department's *State Significant Development Guidelines (2021).* In addition, the EIS must include: • a clear comprehensive description of the proposal for the site, including details of all activities and processes proposed to be carried out as part of the development • consideration of issues discussed in the public authority responses to request for key issues (see **Attachment 2**) • a detailed assessment of the key issues specified below, including: – a description of the existing environment, using sufficient baseline data – a description of how the development integrates with existing onsite operations, including details of any augmentation of the existing facility to facilitate the development – an assessment of the potential impacts of all stages and activities that form part of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes – a description of the measures that would be implemented to avoid, minimise, mitigate and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage significant risks to the environment. The EIS must also be accompanied by: • an Estimated Development Cost (EDC) Report prepared in accordance with the relevant planning circular using the Standard Form of EDC Report • an estimate of the retained and new jobs that would be created during the construction and operational phases of the development, including details of the methodology to determine the figures provided • high quality files of maps and figures of the subject site and proposal • certification that the information provided is accurate at the date of preparation • a declaration from a Registered Environmental Assessment Practitioner that your EIS includes the information specified in the Department's *Registered Environmental Assessment Practitioner Guidelines*.
Key issues	The EIS must address the following specific matters: • **Statutory and Strategic Context** – including: – a detailed description of the history of the site, including the relationship between the proposed development and all development consents and approved plans previously and/or currently applicable to the site – demonstration that the proposal is consistent with all relevant planning strategies, environmental planning instruments, adopted precinct plans, draft district plan(s) and adopted management plans and justification for any inconsistencies. This includes, but is not limited to:

- State Environmental Planning Policy (Biodiversity and Conservation) 2021
- State Environmental Planning Policy (Industry and Employment) 2021
- State Environmental Planning Policy (Planning Systems) 2021
- State Environmental Planning Policy (Resilience and Hazards) 2021
- State Environmental Planning Policy (Sustainable Buildings) 2022
- State Environmental Planning Policy (Transport and Infrastructure) 2021
- Future Transport Strategy 2056
- Illawarra Shoalhaven Regional Plan 2041
- Wollongong Local Environmental Plan 2009.

- **Suitability of the Site** – including a detailed justification for the proposal and that the site can accommodate the proposed development having regard to:
  - its potential environmental impacts
  - the scope of the operations of the existing facility and its environmental impacts
  - existing site constraints
  - strategic context including consideration of any approved or proposed developments adjoining the site
- **Community and Stakeholder Engagement** – a community and stakeholder engagement strategy consistent with the Department's *Undertaking Engagement Guidelines for State Significant Projects* for all stages of the development, including (but not limited to):
  - details of how issues raised, and feedback provided during engagement activities have been considered and responded to in the development
  - details of the proposed approach to future community and stakeholder engagement based on the results of consultation.
- **Hazards and Risk** – including a comprehensive Quantitative Risk Assessment (QRA), covering all aspects of the project which may impose public risks, to be prepared consistent with *Hazardous Industry Planning Advisory Paper No. 6 – Guidelines of Hazard Analysis* (DPE, 2011). This QRA must:
  - identify all potential hazards or hazards that may arise from augmenting the existing facility to enable the development, and the associated control measures during operational phase of the development, including but not limited to:
    - manufacturing, temporary and permanent storage, and pipeline infrastructure (including valving) for hydrogen
    - HRS and any ancillary infrastructure and equipment that handles hydrogen
    - changes to existing plant equipment, operational conditions, and on-site staff.
  - identify all relevant international or Australian standards and/or the critical safety mitigation measures to safeguards the identified potential hazards. Particularly, identify all mitigation measures where the consequence of hydrogen incidents may extend beyond the site boundary even if such events would satisfy the relevant risk criteria
  - provide an assumption register for both the existing facility and the development
  - provide a quantitative risk assessment to estimate the risks from the activities of the development. The risk assessment must consider the worst-case scenarios from all identified potential hazards that may result in off-site impacts or propagation impacts. It must also consider:
    - the potential risk from hydrogen refuelling activities to hydrogen fuel vehicles and hydrogen tube trailers
    - the propagation risk between the hydrogen electrolysis modules. If a separation distance between individual modules is required, the analysis must also demonstrate the area designated for the hydrogen electrolysis modules is adequate with consideration of the separation distance
    - the potential propagation risks to and from neighbouring onsite and offsite facility/equipment
    - the individual and societal risks for the existing facility
  - a cumulative risk assessment for the existing facility and the development. It must also include a societal risk analysis with consideration of population from the existing and the approved but not yet constructed development in the vicinity of the entire facility
  - report on consultation outcomes with the local emergency management committee, including and not limited to the evacuation feasibility if major incident occurs onsite affecting Five Islands Road

- where the activities from the development or changes to the existing site due to the development may result in onsite impact only, the associated consequence distances are to be reported to demonstrate it would not result in any offsite impacts
- report on consultation outcomes with Safework regarding *Chapter 9 of Work Health Safety Regulation 2017*
- demonstration that the risks from the development comply with the criteria set out in *Hazardous Industry Planning Advisory Paper (HIPAP) No. 4 – Risk Criteria for Land Use Safety Planning* (DoP, 2011).

- **Traffic and Transport** – a quantitative traffic impact assessment prepared in accordance with relevant Roads and Maritime Services and Austroads guidelines, that includes:
  - details of all daily and peak traffic volumes likely to be generated during all key stages of construction and operation, including a description of key access / haul routes, vehicle types (including oversize and overmass vehicles) and potential queuing impacts particularly associated with the HRS
  - an assessment of the predicted impacts of this traffic, in addition to traffic generated by the existing facility, on road safety and the capacity of the road network, including consideration of cumulative traffic impacts on existing performance levels of nearby intersections and a mid-block assessment, using a calibrated SIDRA (or similar) traffic model
  - plans demonstrating how all vehicles likely to be generated during construction and operation and awaiting loading, unloading or servicing can be accommodated on the site to avoid queuing in the street network
  - details and plans of any upgrades to the internal road network and on-site parking in accordance with the relevant Australian Standards
  - details of the largest vehicle anticipated to access and move within the site, including swept path diagrams depicting vehicles entering, exiting and manoeuvring throughout the site and at key intersections
  - details of road upgrades, infrastructure works or upgrades to existing access points required for the development if necessary.
- **Soil and Water** – an integrated water management strategy, including:
  - a surface and groundwater water discharge assessment in accordance with relevant EPA guidelines, including an assessment of potential impacts on watercourses, riparian areas, groundwater, and groundwater-dependent communities nearby
  - a detailed site water balance including a description of the water demands and breakdown of water supplies, and any water licensing requirements
  - details of any upgrades required to the existing stormwater/wastewater drainage design to enable the development including the capacity of onsite detention system(s), onsite sewage management and measures to treat, reuse or dispose of water
  - characterisation of water quality at the point of discharge to surface and/or groundwater against the relevant water quality criteria using a MUSIC water quality model
  - details of any surface or groundwater mitigation, management and monitoring activities and methodologies
  - a description of the proposed erosion and sediment controls during construction.
- **Flooding** – a flood impact risk assessment, that:
  - identifies any flood risk on site having regard to adopted flood studies, the potential effects of climate change and any relevant provisions of the NSW Flood risk management manual (2023)
  - where the development could alter flood behaviour, affect flood risk to the existing community or expose its users to flood risk, provide a flood impact and risk assessment (FIRA) prepared in accordance with the *Flood Impact and Risk Assessment – Flood Risk Management Guide LU01*
  - details design solutions and operational procedures to mitigate flood risk, where required.
- **Noise and Vibration** – a quantitative noise and vibration impact assessment undertaken by a suitably qualified acoustic consultant in accordance with the relevant Environment Protection Authority guidelines and Australian Standards which includes:
  - the identification of impacts associated with construction, site emission and traffic generation at noise affected sensitive receivers, including the provision of operational noise contours, and a detailed sleep disturbance assessment

- details of noise monitoring survey, background noise levels, noise source inventory and 'worst case' noise emission scenarios
- consideration of annoying characteristics of noise and prevailing meteorological conditions in the study area
- demonstration of compliance with any noise limits contained within the Environment Protection Licence (EPL-10095) for the site
- a cumulative impact assessment inclusive of impacts associated with the existing facility and any other developments
- details and analysis of the effectiveness of proposed management and mitigation measures to adequately manage identified impacts, including a clear identification of residual noise and vibration following application of mitigation these measures and details of any proposed compliance monitoring programs.

- **Air Quality and Odour** – a quantitative assessment of the potential air quality, dust and odour impacts of the development (construction and operation), including the existing facility, on surrounding landowners, businesses and sensitive receptors, in accordance with relevant Environment Protection Authority guidelines, including details of proposed mitigation, management and monitoring measures.
- **Contamination** – a site contamination assessment in accordance with the *Managing Land Contamination Planning Guidelines: SEPP 55 – Remediation of Land* (DUAP, 1998), including characterisation of the nature and extent of any contamination on the site and surrounding area.
- **Waste** – including:
  - details of the quantities and classification of all waste streams to be generated on site during the development
  - details of waste storage, handling and disposal during the development
  - details of the measures that would be implemented to ensure that the development is consistent with the aims, objectives and guidance in the *NSW Waste and Sustainable Materials Strategy 2041.*
- **Infrastructure Requirements** – an infrastructure delivery, management and staging plan that includes:
  - an assessment of impacts of the development on existing utility infrastructure and service provider assets surrounding the site
  - a detailed written and/or graphical description of infrastructure required on the site, including any electrical substation/s and on-site switch yard/s
  - details of the existing capacity of the site to service the proposed development and any extension or augmentation, property tenure or staging requirements for the provision of utilities, including arrangements for electrical network requirements, drinking water, wastewater and recycled water
  - a description of how any upgrades will be co-ordinated, funded and delivered on time and be maintained to facilitate the development
  - identification of any existing infrastructure or easements on or off the site which may be impacted by construction or operation of the development and details of measures to be implemented to address any impacts.
- **Aboriginal Cultural Heritage** – including an Aboriginal Cultural Heritage Assessment Report (ACHAR), prepared in accordance with relevant policy and guidelines, identifying, describing and assessing any impacts to Aboriginal cultural heritage sites or values associated with the project. The ACHAR must:
  - be prepared in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH, 2011) and the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW* (DECCW, 2010), including results of thorough archaeological survey and test excavations (where required)
  - include evidence of adequate and continuous consultation with Aboriginal stakeholders in determining and assessing impacts, developing and selecting options for avoidance of Aboriginal cultural heritage and mitigation measures (including the final proposed measures), having regard to the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW, 2010).
- **Non-Aboriginal Cultural Heritage** – a non-Aboriginal cultural heritage assessment (including both cultural and archaeological significance) which must detail potential impacts on heritage assets and any proposed management and mitigation measures.

	• **Ecologically Sustainable Development and Energy Efficiency** – including: – identification of how ESD principles (as defined in section 193 of the EP&A Regulation) are incorporated in the design and ongoing operation of the development – demonstration of how the development will meet or exceed the relevant industry recognised building sustainability and environmental performance standards – demonstration of how the development minimises greenhouse gas emissions (reflecting the Government's goal of net zero emissions by 2050) and consumption of energy, water (including water sensitive urban design) and material resources. • **Visual, including:** – an assessment of the potential visual impacts of the project on the amenity of the surrounding area – detailed plans showing suitable landscaping which incorporates endemic species as well as how it maximise opportunities for green infrastructure, consistent with Greener Places (Government Architect NSW, 2020). • **Biodiversity** – an assessment of the proposal's biodiversity impacts in accordance with the *Biodiversity Conservation Act 2016*, including the preparation of a Biodiversity Development Assessment Report (BDAR) where required under the Act, except where a waiver for preparation of a BDAR has been granted. • **Social** – including a social impact assessment in accordance with the Department's *Social Impact Assessment Guideline*. • **Planning Agreement/Development Contributions** – demonstration that satisfactory arrangements have been or would be made to provide, or contribute to the provision of, necessary local infrastructure required to support the development.
Consultation	During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with: • Wollongong City Council • Department of Climate Change, Energy, the Environment and Water, specifically the: o Biodiversity, Conservation and Science Division o Water Group o Environment Protection Authority o Heritage NSW • Transport for NSW • Fire & Rescue NSW • SafeWork NSW • Sydney Water • Illawarra Local Emergency Management Committee • surrounding local landowners, businesses and stakeholders • local and regional community and environmental groups • Illawarra Local Aboriginal Land Council • any other public transport, utilities or community service providers.
SEARs Expiry	SEARs will expire two years after the date of issue (or the date they were last modified).
References	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, **Attachment 1** contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this proposal.

ATTACHMENT 1

Technical and Policy Guidelines

The following guidelines may assist in the preparation of the environmental impact statement. This list is not exhaustive and not all of these guidelines may be relevant to your proposal.

Many of these documents can be found on the following websites:
https://www.planningportal.nsw.gov.au/major-projects/assessment/policies-and-guidelines
http://www.australia.gov.au/publications
http://www.epa.nsw.gov.au/
http://www.environment.nsw.gov.au/
http://www.dpi.nsw.gov.au/

Policies, Guidelines & Plans

Aspect	Policy / Methodology
State Significant Development Guidelines	
	State Significant Assessment Guidelines (DPIE, 2021)
	Undertaking Engagement Guide – Guidance for State Significant Projects (DPIE, 2021)
	Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE, 2021)
	Planning Circular PS24-002: Changes to how development costs are calculated for planning purposes
	Standard Form of Estimated Development Cost (State significant projects) – March 2024
Air Quality	
Air Quality	Protection of the Environment Operations (Clean Air) Regulation 2022
	Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales (EPA, 2022)
	Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2022)
Odour	Assessment and Management of Odour from Stationary Sources in NSW (DEC 2006)
Greenhouse Gas	AGO Factors and Methods Workbook (AGO, 2018)
	Guidelines for Energy Savings Action Plans (DEUS, 2005)
	National Greenhouse and Energy Reporting Scheme Measurement, Technical Guidelines for the estimation of emissions by facilities in Australia (Department of the Environment and Energy (DoEE), 2017)
	National Greenhouse Accounts Factors (DoEE, 2019)
Biodiversity	
	Biodiversity Conservation Act 2016
	Biodiversity Assessment Method (EES, 2021)
	Guidelines for Controlled Activities on Waterfront Land (NRAR, 2018)
	Developments adjacent to National Parks and Wildlife Service lands (DPIE, 2020)
Climate Change	
	EPA Climate Change Policy (EPA, 2023)
	Net Zero Plan Stage 1: 2020-2030 (DPIE, 2020)
Fire Safety	
	Fire Safety Guidelines – Fire Safety in Waste Facilities (FRNSW, 2020)
Flooding	
	Flood Impact and Risk Assessment Flood Risk Management Guide (LU01) (DPE, 2022)

Policies, Guidelines & Plans

Aspect	Policy / Methodology
	Department of Planning and Environment Flood Risk Management Toolkit – https://www.environment.nsw.gov.au/topics/water/floodplains/floodplain-guidelines
Hazards and Risk	
	State Environmental Planning Policy (Resilience and Hazards) 2021
	Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines (DoP, 2011)
	Assessment Guideline: Multi-level Risk Assessment (Planning and Infrastructure, 2011)
Heritage	
Non-Aboriginal Heritage	*Heritage Act 1977*
	NSW Heritage Manual (HO and DUAP, 1996)
	The Burra Charter (ICOMOS Australia, 2013)
	Statements of Heritage Impact (HO and DUAP, 2002)
Aboriginal Heritage	Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)
	Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011)
	Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW, 2010)
Noise and Vibration	
	Approved methods for measurement and analysis of environmental noise in NSW (EPA, 2022)
	Acoustics – Description and measurement of environmental noise (AS1055:2018)
	Noise Policy for Industry (EPA, 2017)
	NSW Road Noise Policy (DECCW, 2011)
	Noise Criteria Guideline (RMS, 2015)
	Noise Mitigation Guideline (RMS, 2015)
	Interim Construction Noise Guideline (DECC, 2009)
	Assessing Vibration: A Technical Guide (DEC, 2006)
	Noise Guide for Local Government (EPA, 2013)
Social	
	Social Impact Assessment Guideline for State Significant Projects (DPIE, 2021)
Soils and Water	
Erosion and Sediment	Managing Urban Stormwater: Soils & Construction (Landcom, 2004)
	Soil and Landscape Issues in Environmental Impact Assessment (DLWC, 2000)
	Wind Erosion – 2nd Edition (DIPNR, 2003)
Groundwater	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC, 2000)
	NSW State Groundwater Policy Framework Document (DLWC, 1997)
	NSW Aquifer Interference Policy (NOW, 2012)
	Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources (NOW, 2011)
	Storing and Handling Liquids: Environmental Protection (DECC, 2007)
Stormwater	Managing Urban Stormwater: Strategic Framework. Draft (EPA, 1996)
	Managing Urban Stormwater: Council Handbook. Draft (EPA, 1997)
	Managing Urban Stormwater: Treatment Techniques (DEC, 2006)
	Managing Urban Stormwater: Source Control. Draft (EPA, 1998)

Policies, Guidelines & Plans

Aspect	Policy / Methodology
	Managing Urban Stormwater: Harvesting and Reuse (DEC, 2006)
Wastewater	National Water Quality Management Strategy: Guidelines for Sewerage Systems – Effluent Management (ARMCANZ/ANZECC, 1997)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems – Use of Reclaimed Water (ARMCANZ/ANZECC, 2000)
	National Water Quality Management Strategy – Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) (EPHC, NRMMC & AHMC, 2006)
	National Water Quality Management Strategy – Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 2) (EPHC, NRMMC & AHMC, 2009)
Contamination	State Environmental Planning Policy (Resilience and Hazards) 2021
	Managing Land Contamination Planning Guidelines, SEPP 55 – Remediation of Land (DUAP & EPA, 1998)
	Consultants reporting on contaminated land: Contaminated Land Guidelines (EPA, 2020)
Traffic, Transport and Access	
	Roads Act 1993
	State Environmental Planning Policy (Transport and Infrastructure) 2021
	Guide to Traffic Generating Development (RTA, 2002 as updated)
	Road Design Guide (RMS, 2015-2017)
	Guide to Traffic Management – Pt 12: Traffic Impacts of Development (Austroads, 2016)
	Guidelines for Planning and Assessment of Road Freight Access in Industrial Areas (Austroads, 2014)
	Bicycle Parking Facilities: Guidelines for Design and Installation (AS 2890.3:2015)
	Integrated Public Transport Service Planning Guidelines: Sydney Metropolitan Area (TfNSW, 2013)
	Future Transport Strategy 2056 (TfNSW, 2018)
	Greater Sydney Services and Infrastructure Plan (TfNSW, 2018)
	NSW Freight & Ports Plan 2018-2023 (TfNSW, 2018)
Visual	
	Control of Obtrusive Effects of Outdoor Lighting (AS 2482)
Waste	
	NSW Waste and Sustainable Material Strategy 2041 (EPA, 2021)
	NSW Plastics Action Plan (EPA, 2021)
	NSW Energy from Waste Policy Statement (EPA, 2021)
	NSW Energy from Waste Infrastructure Plan (2021)
	The National Waste Policy: Less Waste More Resources 2018
	Waste Classification Guidelines (EPA, 2014)
	Environmental guidelines: Composting and Related Organics Processing Facilities (DEC, 2004)
	Environmental guidelines: Use and Disposal of Biosolid Products (EPA, 1997)
	Composts, soil conditioners and mulches (Standards Australia, AS 4454)
	Standards for Managing Construction Waste in NSW (EPA, 2018)

ATTACHMENT 2

Government Authority Advice