South Australian Government Renewable Hydrogen Power Station, Electrolysers and Storage Facility

Application Number: **02190** Commencement Date: **20/12/2023** Status: **Locked**

1. About the project

1.1 Project details

1.1.1 Project title *

South Australian Government Renewable Hydrogen Power Station, Electrolysers and Storage Facility

1.1.2 Project industry type *

Energy Generation and Supply (renewable)

1.1.3 Project industry sub-type

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1.1.4 Estimated start date *

01/06/2024

1.1.4 Estimated end date *

30/06/2049

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

The South Australian Government has committed $593 million to the Hydrogen Jobs Plan (the proposed action) to build a world leading hydrogen power station, electrolyser and storage facility, near Whyalla for operation early 2026. The Office of Hydrogen Power South Australia (OHPSA) has been established to oversee the design and delivery of the project.

Once built, Hydrogen Power South Australia, a new government business enterprise, will be established to own and operate the hydrogen power station.

The Hydrogen Jobs Plan (HJP) aims to support South Australia's transition toward its target of 100% net renewable energy by 2030.

- The 250MWe electrolysers will utilise South Australia's excess renewable energy generated from large-scale solar and wind resources.
- The 200MW hydrogen power station will deliver dispatchable power generation into the energy grid and provide 'firming services' that will assist in balancing the renewable load, meaning South Australia moves closer to a fully renewable energy system. Firming is a process of using dispatchable power generation to balance the electricity production from an intermittent power source, such as wind or solar, for a guaranteed period of time and has historically been achieved with coal or gas fired power stations.
- The hydrogen produced will be stored to fuel the power station and for hydrogen offtake to be made available for local industry to support the decarbonisation of their operations.

Following a multi-criteria site selection process across the Whyalla region, OHPSA identified land north of Whyalla (Att A, Project Description Figure 1-1, p. 6) as optimal for the HJP.

The Project components can be regrouped within four elements:

- Primary facility, including the electrolysis plant, power generation plant and ancillary infrastructure
- Hydrogen storage
- Southern infrastructure, including the service connections for water and wastewater / sewer pipelines
- Northern infrastructure, including the high voltage transmission line and substation

The main hydrogen components include:

- A hydrogen production plant, consisting of a 250-megawatt electrolyser system, will produce hydrogen from demineralised water using renewable energy from the grid. The electrolyser system will include all equipment required for hydrogen production, such as electrolyser stacks, gas-liquid separation vessels and heat exchangers. The preferred electrolyser technology for the indicative design is alkaline, which requires supplementary equipment including tanks and pumps. The alkaline chemical is not consumed by the process and does not require regular replacement.
- A hydrogen-fuelled power station, consisting of turbine generators with a 200-megawatt power generation capacity. Produced hydrogen will be transferred from the hydrogen storage system into the turbine generators to produce electricity. Exhaust gas from electricity production will be directed to the atmosphere. This will include uncombusted constituents of air (mainly nitrogen, oxygen, and argon) and blended gas combustion products (water vapour, potentially with normal hydrocarbon products if natural gas is used during start-up).
- The onsite hydrogen storage system will have a capacity of up to 100 tonnes of hydrogen to provide fuel for the power station and potentially other industrial uses. The storage system will comprise of ten 10-tonne pressure vessel modules with compressors either side and is contained within the primary facility (refer to Att A, section 3.2, p16).

Other key components of the HJP include:

- Substations and electricity transmission infrastructure: The HJP will require an electrical connection to the grid. It will utilise electricity from the grid for its operational activities and inject hydrogen-produced electricity back into the grid. A transmission line will connect a substation at the HJP to an existing transmission line approximately 600 m north of the Cultana substation (Att A, Figure 3-3, p14). The transmission line will be within a corridor that will run along the west side of the Lincoln Highway within the Whyalla Conservation Park utilising an existing access track along the boundary fence to reduce vegetation clearance. It will then connect to a new substation with a further transmission line linking the substation to the existing line north of the Cultana substation.
- Potable water connection: A water pipeline will connect the SA Water network to the HJP. Water will be used to produce hydrogen and for operational activities. It is expected the bulk of water to the plant will be supplied to a number of process water tanks, with downstream pumps to distribute potable water to the various plant users. The offtake for firefighting water supply, if required, will be upstream of all other plant water users.
- Natural gas supply: This will be required for turbine commissioning, start-up and shut down phases until the turbine manufacturer has certified 100% hydrogen operation during all phases. An onsite storage tank will be filled via trucks.
- Other infrastructure includes the below (refer to Att A section 3 p4 for further details):
    - Water treatment system
    - Hydrogen purification system
    - Hydrogen compression system
    - Hydrogen pressure control and metering skid
    - Hydrogen booster compression system
    - Cooling water system(s)
    - Chilled water system(s)
    - Instrument air supply equipment
    - Nitrogen system
    - Open drain and wastewater systems
    - Vent systems
    - Control system
    - Fire and gas detection
    - Tube trailer filling / hydrogen export.
    - Buildings
    - Firefighting systems.

The main impact to matters protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is expected to occur through habitat loss through vegetation clearance required for construction of the various components of the HJP. The final layout of the site is subject to detailed engineering design. To facilitate assessment of potential impacts an envelope approach has been undertaken. An indicative disturbance footprint has been calculated based on the maximum potential clearance requirements that will occur within the project envelope (project area) of 709 ha. An indicative site layout has been provided in Att A; figure 3-2 and 3-3, p13-14. Based on this layout, construction of the HJP will require clearance of approximately 89.4 ha of native vegetation. Following construction, approximately 15 percent will be revegetated, resulting in an overall loss of approximately 77.2 ha of vegetation for the life of the HJP.

The indicative disturbance footprint is shown in Figure 2-1 of Att D (p. 8), Significant Impact Assessment. Table 2.1 of Att D (p.11) provides vegetation clearance areas by project component.

In addition to native vegetation clearance, other potential impacts from the HJP project include noise generation, changes to surface water flows, dust, stack emissions and light spill. A more detailed description of the HJP is provided in Att A.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

No

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

The South Australian parliament passed a new Hydrogen and Renewable Energy Act on 7 December 2023. The *Hydrogen and Renewable Energy Act 2023* (SA) introduces a 'one window to government' licencing and regulatory system for the lifecycle of large-scale hydrogen and renewable energy projects in South Australia. The new Act will streamline processes for companies wanting to invest in large-scale hydrogen and renewable energy projects into a single regulatory process covering the entire project lifecycle.

Under the Act:

- Government owned land and waters where renewable energy projects can be hosted will be identified by the South Australian government
- Companies will compete for licences to access government owned land and waters to deliver these projects
- New, fit for purpose licensing arrangements will be established for projects across all land types, enabling regulation of the whole project life cycle
- First Nations people's rights and interests will be considered early and throughout the regulatory processes
- A framework will ensure that developments are delivered with net environmental benefit
- Requirements will be put in place to ensure land is rehabilitated and returned to pre-existing conditions; and
- Multiple land use provisions will be sought to deliver fair outcomes for landowners, communities and other pre-existing land rights holders.

The South Australian government is now preparing to draft proposed regulations to support this legislation before it can be enacted.

As the Hydrogen and Renewable Energy Act and associated regulations will not yet be in place for the HJP, the HJP will be assessed by the South Australian government under the Crown development provisions in Part 9 of the *Planning, Development and Infrastructure Act 2016*. This involves the following steps:

- OHPSA must lodge an application for approval with the State Planning Commission
- The Commission will:
  - give notice to the Whyalla City Council
  - refer the application to any relevant State agencies and prescribed bodies
  - invite public comments on the application and give any submitters an opportunity to appear before the Commission
- After responses are received, the Commission will prepare a report for the Minister
- The Minister will decide whether to approve or refuse the application.

A range of other South Australian government approvals will be required, including the following.

- Native vegetation clearance will require approval under the *Native Vegetation Act 1991* and provision of a commensurate environmental offset as a Significant Environmental Benefit.
- Licensing under the South Australian *Environment Protection Act 1993* will be required and relevant Environment Protection Policies will apply, including the Environment Protection (Air Quality) Policy 2016, Environment Protection (Commercial and Industrial Noise) Policy 2023 and the Environment Protection (Water Quality) Policy 2015
- The facility may require licensing as a Major Hazard Facility under the *Work Health and Safety Act 2012*.

The *Climate Change and Greenhouse Emissions Reduction Act 2007* sets out legislated target emissions for South Australia to achieve. The HJP was identified as a priority action to achieve the emissions targets set under this legislation (Government of South Australia, 2023).

The main Commonwealth legislation applying to the HJP is the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This referral is under the EPBC Act to assess potential impacts of the HJP on Matters of National Environmental Significance (MNES). The above Crown development process is not currently accredited under an active bilateral agreement between the South Australian government and the Commonwealth Government.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

Engagement Approach

OHPSA has developed a comprehensive stakeholder engagement strategy that has been subject to an independent assurance review by Infrastructure SA. OHPSA's stakeholder engagement strategy aims to realise four key objectives:

1. Efficient project delivery
2. Measurable social license
3. Environment, social, and governance credentials
4. State and regional benefits.

The realisation of these objectives requires that the community is well informed about the work of OHPSA and its partners, and the processes put in place to ensure delivery of the project in line with community expectations and standards, including processes associated with underpinning environmental protection and biodiversity conservation.

Baseline Community Knowledge of Hydrogen

OHPSA commenced its engagement of regional communities in late 2022 with baseline market research on awareness and understanding of the hydrogen industry. This baseline data revealed that the community across the three major centres of the Upper Spencer Gulf (Whyalla, Port Augusta, and Port Pirie) are supportive of the establishment of a hydrogen industry in the region on the basis of the potential for employment in the hydrogen industry (87% of respondents were strongly to moderately supportive), reduction of carbon emissions (84%), and security of SA's power supply (80%). However, it revealed levels of concern about hydrogen's safety to the community and potential impact on the environment (roughly 25-30% of respondents).

Further market research is planned for late 2024 to assess the impact of current engagement strategies.

Current Engagement Strategies

Since mid-2022, OHPSA has enacted a multi-channel approach to engage stakeholders. Since the announcement of the Early Contract Involvement (ECI) agreement with private partners it has provided the community with a clear description of the location of the project site via media, its dedicated You Tube channel and website.

OHPSA Regional Office

OHPSA has now established a regional office within the City of Whyalla at Shop 73, Westland Shopping Centre, McDouall Stuart Avenue. The office has a customer-facing setting, with access to the public, a reception area, and a meeting room. Site maps and other information related to the HJP are available to the public via the office. The office was opened in February 2024.

Hydrogen.sa.gov.au

OHPSA has a significant website presence with a clear description of the location of the project site that is immediately recognisable to locals and those familiar with the region and its environment. The website contains the following information:

- An animation clearly showing the site location and its proximity to the City of Whyalla and the highly valued coast of the Upper Spencer Gulf, noting that "The world-leading hydrogen power station, electrolyser and storage facility will be located approximately 9 kilometres north of Whyalla City Centre, just beyond the existing industrial estate, on the western side of the Lincoln Highway".
- A description of the infrastructure proposed for the site.
- An overview of the purpose of the development and development timeframes.
- A description of the current status of work (being an Early Contract Involvement agreement with private partners for the design of the infrastructure).

Stakeholder Interface Meetings

OHPSA prioritises engagement of local communities and their representatives. Its extensive list of stakeholders currently engaged includes:

- Local Governments (primarily the Whyalla City Council, but also the councils of Port Augusta and Port Pirie) who are provided with quarterly updates and were briefed most recently in November 2023.
- Traditional Owners via the Barngarla Determination Aboriginal Corporation (BDAC) who have been engaged via multiple platforms, including community meetings in early and mid-2023.
- Local communities, via events including the Whyalla Show 2022 and 2023, the Yorke Peninsula Field Day and the Port Pirie Smelters Community Picnic
- Regional Development Australia (Eyre Peninsula, Far North, and Yorke and Mid-North)
- Local industry via the Tactic Conference 2022 and 2023, and the regional Industry briefing session held on 12 December 2023
- Local community groups such as the Whyalla Rotary Club and Point Lowly Shack Owners Association, both of whom were engaged in early December 2023.
- Education and training providers at the secondary, vocational and tertiary levels.

Community Events

OHPSA has appeared at a number of community events to promote the HJP and provide information regarding the type and scale of infrastructure and, where possible, the site on which the infrastructure is to be constructed. These events have included the Whyalla Show, Yorke Peninsula Field Days, the 2023 Tactic Conference, and Port Pirie Smelters Community Picnic. Collectively these events attract up to 30,000 attendees from across the Upper Spencer Gulf and surrounding regions.

Attendance at these events will continue throughout 2024.

The Sustainable Development Forum

The Sustainable Development Forum, was established in 2023 for the purpose of providing an interface between industry and conservation stakeholders and key project personnel from OHPSA regarding its key projects. To date the Sustainable Development Forum has met on three occasions and received a full update on the HJP on 2 November 2023, including an overview of the project site and the current approvals process aimed at ensuring minimal disruption to the local environment and community.

Membership of the Sustainable Development Forum includes the Conservation Council of SA, South Australian Chamber of Mines and Energy, Marine Fishers Association, Prawn Fisherman's Association Spencer Gulf, RDA Eyre Peninsula, Adelaide University, and Whyalla City Council. The forum is managed by OHPSA.

A program of meetings has been scheduled for 2024.

Key Findings from Engagements

Engagements have confirmed that the hydrogen industry is viewed positively, and the opportunities for employment and local business development are key positives that OHPSA needs to support to ensure social license and the delivery of material benefits to local stakeholders.

However, regional communities have long experienced social policy challenges, and it is within that context that the HJP is establishing itself. These issues relate to housing, employment, population retention, access to local post-secondary education, water security, and so forth.

It is not feasible that the development of a hydrogen industry will help to address let alone resolve these issues for local communities. In some instances, OHPSA will have to ensure that its project is not perceived as exacerbating existing challenges (housing and water security, for instance). OHPSA will continue to work with stakeholders and communities to understand how the development of a local hydrogen industry can address some of these barriers.

Just as importantly, OHPSA will need to ensure that it is maximising its potential to positively impact communities through support for localised training and development, protection of the natural environment, and promotion of the region as a globally recognised green industry hub.

2024 Engagement Challenges and Opportunities

OHPSA is continuing to evolve its substantial engagement schedule for 2024, aligned to the HJP project schedule and the program of forums and events emerging out of local communities.

The OHPSA regional office is now established and open to the public. It will be officially opened in early February 2024 by the Government, with promotion through local media. Community and industry briefings are planned for the Whyalla area in February and March 2024.

All engagements will be managed out of the regional office and promoted via the media and website.

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

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☑ **Confirm that you have read and understand this Privacy Notice ***

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details

ABN/ACN	62100220479
Organisation name	JBS&G AUSTRALIA PTY LTD
Organisation address	100 Hutt Street, Adelaide SA 5000

Referring party details

Name	Charlotte Baker
Job title	Senior Project Manager
Phone	0432845973
Email	cbaker@jbsg.com.au
Address	100 Hutt Street

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details

ABN/ACN	83768683934
Organisation name	Department for Energy and Mining
Organisation address	Office of Hydrogen Power SA, Department for Energy and Mining, GPO Box 320 Adelaide, South Australia 5001

Person proposing to take the action details

Name	Sam Crafter
Job title	Chief Executive
Phone	0884633000

Email	sam.crafter2@sa.gov.au
Address	Office of Hydrogen Power SA, Department for Energy and Mining, GPO Box 320 Adelaide, South Australia 5001

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

The Department for Energy and Mining is a department of the Government of South Australia and has a sound record of responsible environmental management and performance. The department has a responsibility for regulating matters relating to the environment and climate, including delivering the government's commitment to reduce energy costs, improve energy reliability and reduce emissions form power generation. The department is not, and has not been, subject to proceedings under laws for the protection of the environment or the conservation and sustainable use of natural resources.

The Department for Energy and Mining has not previously submitted an EPBC referral. However, the Government of South Australia has lodged a range of referrals over the years, most recently including the New Women's and Children's Hospital (00-2023-09606), Truro Bypass (2022/09398), and Morgan Whyalla Pipeline No. 1 Renewal (SA Water - 2022/09438).

Administratively, the HJP will be undertaken by the Office of Hydrogen Power SA (OHPSA). OHPSA was established in 2022 as an attached office to the Department for Energy and Mining, reporting to the Minister for Energy and Mining. For the purposes of this referral, it can be considered to be part of the Department for Energy and Mining and is included within its Australian Business Number (ABN).

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

OHPSA and the Department of Energy and Mining are government organisations, not corporations.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN	83768683934
Organisation name	Department for Energy and Mining
Organisation address	Office of Hydrogen Power SA, Department for Energy and Mining, GPO Box 320 Adelaide, South Australia 5001

Proposed designated proponent details

Name	Sam Crafter
Job title	Chief Executive
Phone	0884633000
Email	sam.crafter2@sa.gov.au
Address	Office of Hydrogen Power SA, Department for Energy and Mining, GPO Box 320 Adelaide, South Australia 5001

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	62100220479
Organisation name	JBS&G AUSTRALIA PTY LTD
Organisation address	100 Hutt Street, Adelaide SA 5000
Representative's name	Charlotte Baker
Representative's job title	Senior Project Manager
Phone	0432845973
Email	cbaker@jbsg.com.au
Address	100 Hutt Street

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	83768683934
Organisation name	Department for Energy and Mining
Organisation address	Office of Hydrogen Power SA, Department for Energy and Mining, GPO Box 320 Adelaide, South Australia 5001
Representative's name	Sam Crafter

Representative's job title	Chief Executive
Phone	0884633000
Email	sam.crafter2@sa.gov.au
Address	Office of Hydrogen Power SA, Department for Energy and Mining, GPO Box 320 Adelaide, South Australia 5001

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

Yes

1.4.10 Enter purchase order number *

23065500400

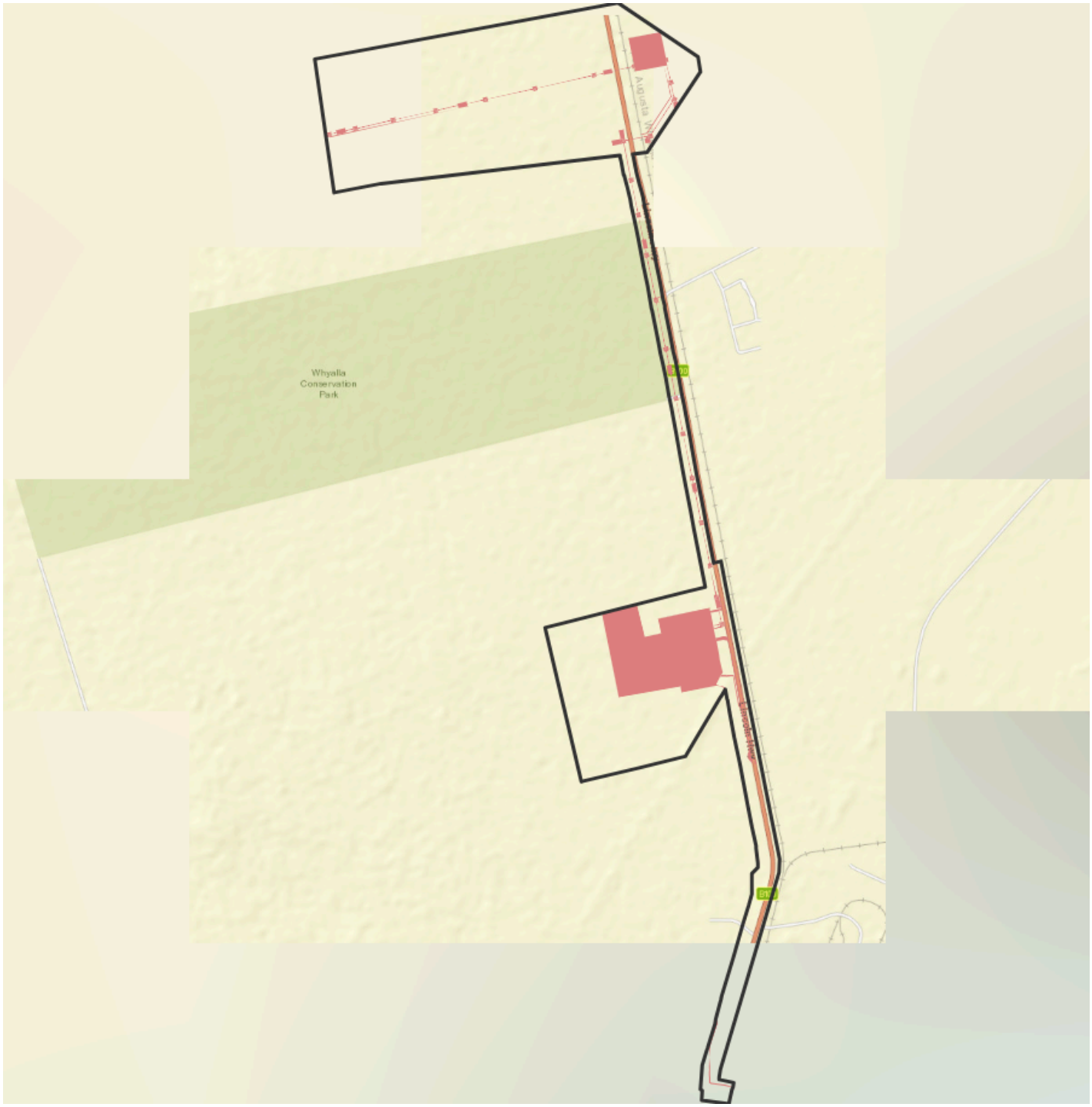
1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Person proposing to take the action

2. Location

2.1 Project footprint


Whyalla
Conservation
Park

2.2 Footprint details

2.2.1 What is the address of the proposed action? *

27022 Lincoln Highway, Whyalla Barson

2.2.2 Where is the primary jurisdiction of the proposed action? *

South Australia

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

The primary facility area (including storage) is on freehold land owned by the Corporation of the City of Whyalla (CT 6144/358), with which OHPSA have an Option Agreement to acquire the land for development of the HJP.

The preferred route for the northern infrastructure corridor includes the transmission line and a new substation. The transmission infrastructure will cross multiple tenures including Crown land held by the Minister for Environment and Water and Commissioner of Highways, and Commonwealth land (as defined in section 27 of the EPBC Act) including Australian Rail Track Corporation land and the Cultana Training Area (comprising various kinds of tenure currently held by the Department of Defence). Note that the land intersected by a section of the preferred route for the northern infrastructure corridor within the Cultana Training Area is currently leased to the Department of Defence and will revert back to Crown land in mid-2024. Non-exclusive native title has been determined to exist in the Cultana Training Area in respect of much of the Crown land proposed to be used for the preferred route for the northern infrastructure corridor.

The preferred route for the southern infrastructure corridor runs through CT 6144/358 and CT 6045/130 adjacent to the Lincoln Highway and crosses Australian Rail Track Corporation land.

Refer to Figure 1-1 in Att A (p6) for more information.

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

The environment of the project area:

- Contains intact native vegetation communities, including those protected under the Whyalla Conservation Park, further described in question 3.2.
- Has fair to good air quality and noise with existing levels influenced by the Whyalla steelworks and other industry in the area.
- The project area is undeveloped land but does show some signs of access by motorbikes and recreational vehicles with evidence of camping and minor illegal dumping. There are no signs of potentially contaminating activities onsite.
- An ephemeral creek line crosses the southern infrastructure; groundwater is 3 – 6 m below ground level and highly saline.

The primary facility area and southern infrastructure corridor are on a 656 ha parcel of undeveloped land. The primary facility area is approximately 6.5 km to the north of Whyalla, South Australia. This area is zoned Strategic Employment and no change is required to this zoning for the HJP. This zone seeks to provide a 'range of industrial, logistical, warehousing, storage, research and training land uses together with compatible business activities generating wealth and employment for the state'.

The Strategic Employment area extends east of the primary facility area and southern infrastructure corridor and has been partly developed in this area for solar farms and other industrial activity (refer Figure 2-1 in Att A for zoning map, p8). Development approval has been granted for solar farms over a significant portion of this area, though construction of the approved projects has not commenced, and the sites are currently vegetated.

The primary facility area and southern infrastructure corridor are vegetated as described below in section 3.2, being largely intact but with some previous disturbance. The lands immediately to the north and further to the west also contain largely intact vegetation and are under Conservation zoning. These correspond to the Whyalla Conservation Park directly north of the primary facility area, and a Native Vegetation Heritage Agreement area west of the project area. The Lincoln Highway is east of the project area. Land to the east of the highway is undeveloped and zoned Remote Area.

The preferred route for the northern infrastructure corridor includes an electricity infrastructure corridor between the primary facility area and a new substation at the northern extent of the project area and then connecting to an existing transmission line near the Cultana substation. The transmission line will mainly run along the west side of the Lincoln Highway within the Whyalla Conservation Park, utilising an existing access track along the Park boundary to reduce clearance of native vegetation. This corridor will cross land with four different zones: Strategic Employment at the primary facility area, Conservation through the Whyalla Conservation Park, Strategic Employment at the proposed substation, Remote Area north of the Whyalla Conservation Park, and Commonwealth Facilities near the Cultana Substation (refer Figure 2-1 in Att A, p8).

The Cultana substation is currently surrounded by the Cultana Training Area used by the Australian Defence Force for training but largely contains vegetation. This is currently leased to the Department of Defence. As part of a land agreement reached between the State and the Department of Defence, Defence will surrender the lease over an area that includes that part of the Cultana Training Area which is proposed to be used for the HJP by mid-2024.

The project area is accessible via the Lincoln Highway, which runs along the east side of the primary facility. The Lincoln Highway is a sealed, over dimensional load route that can be used by potential heavy vehicles required for the HJP construction and operation activities. The railway line from Port Augusta to Whyalla runs alongside the highway.

3.1.2 Describe any existing or proposed uses for the project area.

The proposed use for the project area is for a hydrogen power station, electrolyser and storage facility, and associated facilities, as described in section 1.2.1. This includes a primary facility area and a southern and northern infrastructure corridor. Areas within the project area that are outside the disturbance footprint will be maintained as a buffer and to cater for any future expansion, if required.

The primary facility area is undeveloped with the exception of access tracks and other remnants of historic grazing, and is surrounded by conservation areas including the Whyalla Conservation Park to the north and a Native Vegetation Heritage Agreement area to the west.

The southern infrastructure corridor consists of existing infrastructure including the primary water supply for Whyalla, surrounded by vegetation of varying quality arising from historic activities. The area was noted as being used as an informal recreation area during the on-ground ecological surveys (Att B section 5.1, p52 onwards), with several walking trails and unofficial motorbike trails being present. As noted above, both areas are zoned for Strategic Employment uses.

The preferred route for the northern infrastructure corridor passes through the Whyalla Conservation Park and the Cultana Training Area. A small section, including the proposed new substation, is east of the Lincoln Highway on undeveloped land.

Major industries in the region include the Whyalla steelworks, Port Bonython gas fractionation plant and hydrocarbon import/export facility, and iron ore mining. Renewable energy, particularly solar development, is a current focus for the region.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

The project area is an area of low topographical relief characterised by chenopod shrubland and Acacia and Casuarina open woodland, adjacent the Whyalla Conservation Park.

The park covers 1971 ha, and is approximately 10 km north of the centre of Whyalla (National Parks and Wildlife Service South Australia, 2023). It is covered with undisturbed native vegetation dominated by Western Myall, Saltbush and Bluebush. The park has a high conservation value, and is home to over 80 species of birds, 20 species of reptiles, and several threatened species including the EPBC Vulnerable Western Grasswren and Southern Whiteface. The park is also known for ‘Wild Dog Hill’, a topographical feature in the northwestern corner of the park, approximately 4.5 km from the project area.

The project area is also east of a Native Vegetation Heritage Agreement area that covers approximately 953 ha of vegetation characterised as remnant. A study in 2007 (Bebbington, 2007) identified the key vegetation communities in the area under the agreement as:

- *Acacia papyrocarpa* (Western Myall) Low Open Woodland
- *Casuarina pauper* (Black Oak) Low Open Woodland
- *Eremophila scoparia* (Broom Emu Bush) / *Senna artemisioides* (Desert Senna) Tall Shrubland
- *Maireana sedifolia* (Blue Bush) / *Atriplex vesicaria* (Bladder Salt Bush) Chenopod Low Shrubland
- *Triodia irritans* Hummock Grassland.

There are no outstanding geographical features or values within the project area.

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The project area is gently rising to the west, with an elevation ranging from 20 to 40m above sea level.

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

Jacobs was engaged by OHPSA to undertake a terrestrial ecological assessment for the HJP (Att B). As part of a broader multi-criteria approach to site selection for the project, the intent of the assessment was to understand potential for the project to impact sensitive environments, and inform location and infrastructure alignment options, project planning and other required environmental approvals for the projects. This included identifying potential for the presence of any Matters of National Environmental Significance (MNES) under the EPBC Act, and completing an assessment under the *Native Vegetation Act 1991* and *Native Vegetation Regulations 2017*.

The study area for the assessment undertaken by Jacobs is shown in Figure 2-2 of Att B (p17) and includes the project area and a 5 km buffer. Note that the project area in this referral has been refined since the ecological assessments commenced. Consequently, the project area shown in Figure 2-2, Att B (p17) is slightly larger than the current project area. The studies undertaken fully encompass the current project area.

The assessment included a desktop assessment and field surveys. Information from these surveys focussed on vegetation / habitat mapping and was used to inform the likelihood of occurrence assessment for MNES. Targeted fauna surveys were also undertaken including broad high-level habitat suitability assessment, bird surveys and Song Meter deployment for bird species detection. Targeted fauna included the EPBC Act listed Western Grasswren (Gawler Ranges) (*Amytornis textilis myall*) and Malleefowl (*Leipoa ocellata*). The Southern Whiteface was listed in March 2023 and not targeted in earlier surveys for this reason. Incidental sightings were recorded in later surveys. Survey methodology is detailed in section 3 of the ecological assessment (Att B, p21 onwards).

Seven field assessments were completed by Jacobs in order to build on the ecological body of knowledge for the area:

- Survey 1, Spring 2021 (5-7 October): A vehicular and foot survey was undertaken as part of pre-feasibility planning for the HJP. The survey was undertaken in spring to highlight ecological constraints and provide data for broad mapping of vegetation groups, potential threatened species habitat and potential land management issues.
- Survey 2, Spring 2022 (5-13 October): Vegetation survey and targeted EPBC listed species and communities habitat survey (Western Grasswren, Malleefowl), bird surveys, Song Meter deployment.
- Survey 3, Summer 2022 (5-9 December): Follow up ‘broad gap fill’ vegetation and habitat survey, bird surveys, Song Meter deployment.
- Survey 4, Summer 2023 (21-22 February): Broad ‘gap-fill’ vegetation and habitat survey.
- Survey 5, Spring 2023 (25-26 September): Detailed vegetation and habitat mapping of target areas within the southern project area and broad assessment of the transmission line envelope.
- Survey 6, Spring 2023 (November 5): brief assessment of the proposed sub-station location.
- Survey 7, undertaken by Jacobs during summer 2024 (February): vegetation and habitat gap and infill assessment of infrastructure corridors and alignments, and assessment of potential on-ground offset sites.

A further targeted Western Grasswren survey was undertaken across the project area in October 2023 by EBS Ecology (Att C) using methods consistent with Birdlife Australia Systematic Bird surveys (20 min/2 ha), recommended survey methods (as per the *Guidelines for Detecting Birds Listed as Threatened under the Environment Protection and Biodiversity Conservation Act 1999)* (DEWHA 2010) and Department for Environment and Water biological survey methods.

The EPBC Act Protected Matters Search Tool (PMST) highlighted three threatened flora species as potentially occurring within the project area - *Frankenia plicata* (Sea Heath), *Pterostylis xerophila* (Desert Greenhood) and *Swainsona pyrophila* (Yellow Swainson-pea). It is considered that all three species are unlikely to occur, based on the lack of potential habitat in the project area and noting the lack of records (Att B Table 4-3, p35). The PMST also identified the Subtropical and Temperate Coastal Saltmarsh threatened ecological community as likely to occur in the search area, however, there is no suitable habitat on the project area (Att B Table 4-2, p35).

There are previous records for three State threatened flora species, *Acacia pendula* (Weeping Myall), *Orobanche cernua* var. *australiana* (Australian Broomrape) and *Santalum spictatum* (sandalwood) and 20 State threatened fauna species within 5 km of the project area (but not within the project area). No EPBC Act listed or State-listed flora species were observed in the project area during the field surveys.

The PMST highlighted 19 EPBC Act listed fauna species as potentially occurring in the HJP Study Area (excluding oceanic or marine species), including 16 birds, one mammal and one reptile. The outcomes of a likelihood assessment (Att B Table 4-4, p37) found that two Vulnerable species are known to occur in the area: Western Grasswren (*Amytornis textilis myall*) and Southern Whiteface (*Aphelocephala leucopsis*). Two Vulnerable bird species are considered as possible occurrences within the HJP Project Area: Grey Falcon (*Falco hypoleucos*) and Blue-winged Parrot (*Neophema chrysostoma*). These are all discussed further in section 4.1.4 below.

Other species identified in the PMST are all considered unlikely to occur, including the targeted Malleefowl (*Leipoa ocellata*), Sandhill Dunnart (*Sminthopsis psammophila*) and Flinders Ranges Worm-lizard (*Aprasia pseudopulchella*). This is due to a lack of records, suitable habitat and / or the project area occurs outside of the known range of the species.

In addition, the PMST identified 16 migratory birds (excluding threatened Migratory birds and Marine species) that may potentially use the project area or study area. The outcomes of the likelihood assessment (Att B Table 4-5, p43) suggest that one species is considered as possible to occur as a flyover, Fork-tailed Swift (*Apus pacificus*), while the remainder are considered unlikely to occur. Most of the migratory species highlighted are wetland or coastal birds, for which there is no suitable habitat in the project area.

Seventeen native fauna species were observed or detected during the Jacobs surveys, including 15 birds and two reptiles (Att B section 5.6, p85). Two species are listed as threatened, the EPBC Act listed Western Grasswren (*Amytornis textilis myall*) and Southern Whiteface (*Aphelocephala leucopsis*). The EBS survey in October 2023 recorded 32 bird species, including Western Grasswren (at 11 sites with at least 23 individuals) and Southern Whiteface (at 7 sites with 16 individuals). No other EPBC listed (or state listed) bird species were recorded (Att C section 3, p19).

Two Weeds of National Significance were observed during the survey. African Boxthorn was observed in several locations and could be scattered throughout the HJP area as isolated individuals, whilst Prickly Pear (*Opuntia stricta*) was observed near the Lincoln Highway.

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

Five broad vegetation communities were described across the study area by Jacobs (Att B section 5.1, p52). These were stratified into 21 detailed vegetation associations (Bushland Assessment Methodology (BAM)) sites using the stratification developed for the Northern Water project and assessed in line with the BAM under the Native Vegetation Act and Regulations. All five communities occur within the Myall Plains Interim Biogeographic Regionalisation for Australia (IBRA) Sub-region but dissect two IBRA Associations Red Rock and Tregolana; in addition to bordering the Whyalla IBRA Association directly to the south.

The broad vegetation communities and vegetation associations observed during the field surveys are described in Table 5-1 of Att B (p54), shown in Figure 5-1 of Att B (p58) and described below. The numbering reflects Bushland Condition Monitoring benchmarks developed for the Eyre Peninsula (Milne, Croft and Pedler 2013) as recently revised by Jacobs for the ecological studies for the Northern Water project being developed by Infrastructure SA.

Broad community NWS EP 2.1 Low open woodlands of Western Myall over Chenopod shrub understorey (BAM 22)

This is the most dominant vegetation community in the project area occurring from the northwest corner through the centre and into the southern section of the primary facility area and southern infrastructure corridor.

The community comprises flat to gently undulating plains of *Acacia papyrocarpa* (Western Myall) open woodland over a chenopod shrubland with dominant species including *Maireana pyramidata* (Black Bluebush), *Maireana sedifolia* (Pearl Bluebush), *Atriplex vesicaria* (Bladder saltbush) and less often *Rhagodia ulicina* (Spiny Goosefoot). Other species include *Scaevola spinescens* (Spiny Fan-flower), *Lycium australe* (Australian Boxthorn), *Lawrencia squamata* (Thorny Lawrencia) and emergent tall shrubs *Eremophila* spp. (Emu-bushes), *Geijera linearifolia* (Sheepbush) and *Senna* spp. (Senna's). The community often contains emergent *Myoporum platycarpum* (False Sandalwood).

Condition is variable but overall in moderate to good condition retaining palatable species and with low to moderate grazing pressure. There are sections of BAM 22 that are more disturbed, including in the eastern section of the project area where there are existing tracks/trails (including walking and potentially motorbike) and where an existing water pipeline has been installed.

The community is considered to provide habitat for Western Grasswren in areas of taller chenopod shrubs, particularly *Maireana pyramidata* and areas with spiny shrubs such as *Scaevola spinescens*, *Rhagodia ulicina* and *Lycium australe*. There is also a record (2011) in this community within the project area for the Southern Whiteface (*Aphelocephala leucopsis*) (BDBSA 2022).

Broad community NWS EP 2.2 – Low open woodlands with Western Myall and Black Oak over Chenopod shrub understorey (BAM 7, 32).

Broad community 2.2 is the second most abundant community in the project area occurring mainly in the northern end of the preferred route for the northern infrastructure corridor. It was most abundant east of the Lincoln Highway outside of the project area.

Community 2.2 comprises flat to gently undulating plains with open woodlands of both *Acacia papyrocarpa* (Western Myall) and *Casuarina pauper* (Black Oak) varying in their dominance with or without *Myporum platycarpum*. It was found *C. pauper* increased in frequency of occurrence north of Whyalla including near Whyalla Conservation Park and dominated in smaller patches or as scattered individuals. Roadside areas subject to increased run-off often supported dense regeneration of *A. papyrocarpa* while, where the community extended into pastoral land, young specimens were often scarce and hard grazed. The understorey was predominantly chenopod shrublands

including *Maireana pyramidata* (Black Blue-bush), *Maireana sedifolia* (Pearl Bluebush), *Atriplex vesicaria* (Bladder saltbush) and less often *Rhagodia ulicina*. Tall shrubs were also occasionally present including *Eremophila* spp. (Emu-bushes), *Geijera linearfolia* (Sheepbush) and *Senna* spp. (Sennas), particularly in BAM 32.

The community varies in condition but was generally found to be in moderate to good condition retaining palatable species and with low to moderate grazing pressure.

The community is considered to provide habitat for Western Grasswren (*Amytornis textilis myall*) in areas of taller chenopod shrubs, particularly *Maireana pyramidata* and areas with spiny shrubs such as *Scaevola spinescens*, *Rhagodia ulicina* and *Lycium australe*. While Western Grasswren were not observed in this community during surveys, the species was observed nearby and is expected to occur. The community is also expected to provide habitat for Southern Whiteface.

Broad community NWS EP 2.3 – Low open woodlands of Sugarwood with a Chenopod shrub understorey (BAM 29, 44)

This community has the most restricted extent on the project area and occurs on the southern and western slopes near the Whyalla water tanks with an overstorey comprised of *Myoporum platycarpum* (Sugarwood) without *Acacia papyrocarpa* (or if present very sparse). The understorey was dominated by *Maireana pyramidata*, *Maireana sedifolia*, *Atriplex vesicaria*, *Rhagodia ulicina* and with emergent shrubs (*Eremophila* spp., Senna spp., *Geijera linearfolia*). This community was in good condition generally with reasonable diversity and taller chenopod specimens. Both BAM44 and BAM29 extend into the adjacent Heritage Agreement area west of the project area. Vegetation was in good condition, floristically diverse with abundant chenopods and taller shrubs.

The community represents important habitat for Western Grasswren which were observed and heard multiple times in this area. Although not strictly optimal habitat, it did appear the increased structural diversity was a factor in the frequency of occurrence for the species. In addition, large and ungrazed flora was abundant including *Maireana pyramidata*, *Exocarpos aphylus* and *Alectryon oleifolius* with foliage to the ground and Western Grasswren observed utilising these species as cover. The community is also expected to provide habitat for Southern Whiteface and possibly the Blue-winged Parrott.

Broad community NWS EP 3.3 Chenopod open shrublands +/- emergent trees (BAM 20, 21, 24)

Within the project area, this community is represented by eight BAM. It occurs in patches throughout the project area in small to large patches between open woodlands. Vast areas of *Maireana sedifolia* shrubland occurs in the northern half of the southern portion of the project area. The community represents Chenopod open shrublands on flat and gently undulating loam and calcareous plains occurring in six areas across the project area in the northeast section and also west and southwest edges of the project area. Dominant chenopods are *Maireana sedifolia*, *M. pyramidata* which vary in their dominance and often form a mosaic with *M. pyramidata* dominating in lower lying heavier soils and near water points (given its lower palatability) and *M. sedifolia* dominating on higher slopes particularly on calcareous rises. *Atriplex vesicaria* is often co-dominant. The community supports scattered emergent shrubs and trees including *Myoporum platycarpum, Geijera linearfolia, Eremophila* spp. and Senna spp. in addition to occasional *Acacia papyrocarpa*, A*. tetragonophylla* (Dead Finish) and *A. oswaldii* (Oswald's Wattle).

The community provides some habitat for Western Grasswren but most birds were seen or heard in open woodlands which provided preferred habitat. In fact, all of community 3.3 was defined as unsuitable, low value or atypical Western Grasswren habitat but it is known the birds occur in some areas. The community is also expected to provide habitat for Southern Whiteface and possibly the Blue-winged Parrott.

Broad community NWS EP 5.1 **Melaleuca lanceolata** ***tall shrubland over*** **Triodia spp. +/- Maireana pyramidata / M. sedifolia / Atriplex vesicaria** ***on calcareous loam (BAM 23)***

Within the project area, this community is represented by one BAM 23 around the water tanks.

This broad community was unique in structure, landform and floristic composition. It occurred on a high rocky calcareous rise north of Whyalla near existing water tanks and was highly diverse with an overstorey of *Melaleuca lanceolata* over *Westringia rigida* (Stiff Westringia) and *Triodia scariosa* (Spinifex) with midstorey layer of *Acacia notabilis* (Notable Wattle), *Eremophila alternifolia* (Narrow-leaf Emubush), *E. longifolia* and *Exocarpos aphyllus*. Chenopods are scattered throughout the rise and increase in abundance downslope tending to preferred Western Grasswren habitat including *Myoporum platycarpum* and *Acacia papyrocarpa* Woodlands over Chenopods *Maireana pyramidata* and *Maireana sedifolia* on lower slopes (represented by BAM 29, discussed above).

Broad community 5.1 is partially located within the Heritage Agreement area. The area was also noted as being used for community recreation with runners and dog walkers on site.

The community is considered to provide atypical habitat for Western Grasswren. Although not 'typical', birds were observed utilising the habitat and chenopod shrublands directly downslope from the habitat. The community is also expected to provide habitat for Southern Whiteface and possibly the Blue-winged Parrot.

Soils on the project area consist of broad plains of brown calcareous earths with areas of exposed calcrete and crusty loamy brown soils overlying brown clayey sands to gravelly sands. Soils are saline with the existence of clay pans, swamps and intermittent lakes in the area. The project area is within Mesoproterozoic unmetamorphosed terrain. Surface geology is identified as consisting of alluvial and/or fluvial sediments of the Holocene overlying Pleistocene regolith/colluvial sediments. Deeper basement sediments comprise the Pandurra Formation, a lithic quartz and lithic sandstone.

3.3 Heritage

3.3.1 Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

There are no Commonwealth, state or local heritage places on or near the project area, with the closest heritage place being in the City of Whyalla, 3.5 km south of the southern infrastructure corridor. The Point Lowly Lighthouse, a site registered on the SA Heritage Places database, is approximately 20 km south-east from the project area.

Geological monuments – Mount Laura and Whyalla District (New Water Tank Hill) – are over 2 km west and 3 km south of the closest part of the project area respectively.

3.3.2 Describe any Indigenous heritage values that apply to the project area.

The HJP is on Barngarla Country, within the external boundaries of the Barngarla Native Title Determination Area. Native title has been recognised in much of the State land required for the HJP. The Barngarla Determination Area extends across the majority of the eastern and central Eyre Peninsula.

A desktop search of the Central Archive, including the Register of Aboriginal Sites and Objects, was undertaken in May 2023. An on-ground cultural heritage survey in respect of the proposed site for the primary facility and storage area was undertaken with the Barngarla Determination Aboriginal Corporation (BDAC) in August 2023. The search identified a site in the southern portion of the project area of significance to the Barngarla community. Project water infrastructure (pipelines) have the potential to impact with the site. Given the relative flexibility and small footprint of the water infrastructure required, multiple route options are included in the Project Area to ensure the optimal approach for navigating the heritage clearance with BDAC.

Processes are in place with BDAC involving the use of cultural heritage monitors during preliminary ground-disturbing activities to avoid impact to cultural heritage, and to appropriately manage any cultural material, if discovered. Ahead of project construction activities occurring, processes for awareness training of employees and development of a Cultural Heritage Management Plan for the project will be finalised with BDAC. The plan can be made available to the Department of Climate Change, Energy, the Environment and Water upon request once completed, subject to the agreement of BDAC.

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

Baseline hydrology modelling of the 1%, 5% and 10% Annual Exceedance Probability (AEP) rainfall event was undertaken during the design development of the project, documented in Att E Hydrological Assessment. This indicated that flooding may occur over part of the project area during the design rainfall events. As would be expected for the higher magnitude design storm, the 1% AEP event resulted in the greatest flood inundation area. However, overland depths remained predominantly shallow (less than 150 mm) with velocities less than 1 m/s (Att E, section 3, p. 4).

The flood modelling indicates that, with appropriate stormwater management design and mitigation in the site development design process, the project area is an appropriate location for the HJP from a flood risk perspective (Att E, section 3, p. 4).

Groundwater is 3 – 6 m below ground level and highly saline. The Project is not expected to intersect groundwater.

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	No	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	Yes	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no World Heritage places in the region of the proposed action.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no National Heritage places near the HJP. The closest National Heritage place is the Cuttlefish Coast Sanctuary Zone. This is over 12 km from the project area at its closest point and well outside the area of potential impact.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

There are no Ramsar wetlands within the catchment of the project area with the nearest Ramsar wetlands several hundred kilometres away in the east of South Australia.

4.1.4 Threatened Species and Ecological Communities

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species
Yes	Yes	Amytornis textilis myall
Yes	Yes	Aphelocephala leucopsis
No	No	Aprasia pseudopulchella
No	No	Calidris acuminata
No	No	Calidris canutus
No	No	Calidris ferruginea
No	No	Charadrius leschenaultii
Yes	Yes	Falco hypoleucos
No	No	Frankenia plicata
No	No	Gallinago hardwickii
No	No	Leipoa ocellata
No	No	Limosa lapponica baueri
Yes	Yes	Neophema chrysostoma
No	No	Numenius madagascariensis
No	No	Pachyptila turtur subantarctica
No	No	Pedionomus torquatus
No	No	Pterostylis xerophila
No	No	Rostratula australis
No	No	Sminthopsis psammophila
No	No	Stagonopleura guttata
No	No	Sternula nereis nereis
No	No	Swainsona pyrophila
No	No	Thinornis cucullatus cucullatus
No	No	Tringa nebularia

Ecological communities

Direct impact	Indirect impact	Ecological community
No	No	Subtropical and Temperate Coastal Saltmarsh

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The HJP will require clearance of 89.4 ha of vegetation, mostly low open woodlands of Western Myall with a Chenopod shrub understorey (28 ha) and Chenopod open shrublands (59 ha). The ecological assessment (Att B Terrestrial Ecological Assessment section 4.2, p35 onwards) identified that the following species may occur in the area and therefore be directly impacted by vegetation clearance and/or indirectly impacted by noise, lighting and changed surface water flows: Western Grasswren (*Amytornis textilis myall*), Southern whiteface (*Aphelocephala leucopsis*), Grey Falcon (*Falco hypoleucos*) and Blue-winged Parrot (*Neophema chrysostoma*). All species are listed as vulnerable. These species are described below. Full details and references are provided in Att B (s 4.2.3, p36).

The remaining species and ecological communities identified by the Protected Matters Search Tool were assessed in the ecological assessment as unlikely to occur on the site. Therefore, direct or indirect impacts are not expected. This includes the following identified by the Protected Matters Search Tool as known to occur in the study area: Malleefowl (*Leipoa ocellata*), Red Knot (*Calidris canutus*), Curlew Sandpiper (*Calidris ferruginea*), Great Knot (*Calidris tenuirostris*), Eastern Curlew (*Numenius madagascariensis*), Australian Fairy Tern (*Sternula nereis nereis*) and Eastern Hooded Plover (*Thinornis cucullatus*). There are no previous records of the Malleefowl within 5 km of the site. There is no suitable habitat on the project area and the presence of the species was not detected during targeted surveys. The other species predominantly use coastal habitats and no suitable habitat exists in the project area.

Since the ecological assessment was completed, further listing events occurred in December 2023 and January 2024. Consequently, a further Protected Matters Search Tool report was completed on 19 February 2024 with a 5 km buffer (Att F). This identified the following additional species: Sooty Shearwater, Ruddy Turnstone, Sharp-tailed Shearwater, Latham's Snipe and Common Greenshank. Except for Sooty Shearwater, all of the other species were previously considered in the ecological assessment as migratory species and assessed as unlikely to occur on the project area (Att B, Section 4.2.4, Table 4-5 p.41).

The Protected Matters Search Tool report (Att F) notes that the Sooty Shearwater (*Ardenna grisea*) (Vulnerable) may occur in the buffer area. This species is found in the southern hemisphere during summer, where it breeds around New Zealand, southern Australia and southern South America (Marchant & Higgins 1990). In Australian territory, it breeds on offshore islands off New South Wales and Tasmania. It often nests in very dense colonies in a diverse range of habitats, from forested coastal islands to open tussock grasslands and fellfield on subantarctic islands (DCCEEW, 2024).

The species forages in pelagic (open ocean) sub-tropical, sub-Antarctic and Antarctic waters (Marchant & Higgins 1990).

As there is no suitable foraging or breeding habitat on the project area, the Sooty Shearwater is considered unlikely to occur and will not be impacted.

There is no suitable habitat in the project area for the threated ecological community identified by the Protected Matters Search Tool: Subtropical and Temperate Coastal Saltmarsh. The closest areas of coastal saltmarsh are over 2.5 km from the project area.

Western Grasswren (Gawler Ranges)

The project will result in the clearance of 89.4 ha of suitable habitat for Western Grasswren (Gawler Ranges) (herein referred to as 'Western Grasswren'). Noise from the project may have an indirect impact on Western Grasswren in immediately adjacent habitat.

Western Grasswren is found in pockets of dense spiny chenopod and acacia shrubland along drainage lines, and may also occur in open chenopod shrublands with a sparse or open canopy of small trees and shrubs (Higgins et al. 2001, Black et al. 2009). Assessment of this species' habitats found that 64% of the sites known to be occupied with Western Grasswren were covered with low shrublands (predominantly Australian boxthorn *Lycium australe* and Blackbush *Maireana pyramidata*) and 28% were covered with low woodlands (predominantly with Western Myall *Acacia papyrocarpa*) (Black et al. 2009). Studies suggest the bird is sedentary, often occurring in pairs with a territory of four to five hectares (Schodde 1982, cited in Black et al. 2009).

Garnett and Crowley (2000) estimated the Western Grasswren's area of occupancy as 5,000 km2. The 2020 Action Plan for Australian Birds (Garnett and Baker 2020) revised this estimate to 760 km2 (range 400 – 1600 km2) with a population estimate of approximately 12,000 (range 8000 – 16000) mature individuals, and an extent of occurrence as 19,000 km2. This estimate is acknowledged by Garnett and Baker to have low reliability (Garnett and Baker 2020). Based on the *Guidelines for assessing the conservation status of native species according to the EPBC Act 1999 and EPBC Regulations 2000* (Threatened Species Scientific Committee 2000), EBS calculate the extent of occurrence as 15,015 km2 and the area of occupancy as 2,525 km2 (Att C, Targeted Western Grasswren Survey, s.4.3.7, p.18 and Appendix 3, p.32). The area of occurrence was based on verified historical database records as well as observations collected by EBS Ecology in 2022 and 2023, and has been used as the basis for the assessment of impacts (Att C, s. 4.3.7, p. 25 and Appendix 3, p. 32)

The Western Grasswren is known to occur within the proposed HJP site (Att B s.4.2.3 p.36, Att C, s.1.3, p.3). Multiple historical records of this species exist in and near the site, in the adjacent Whyalla Conservation Park and the Cultana Training Area. It was heard or observed on several occasions during the on-ground ecological surveys for the HJP (Att B s.5.5, p.78 and Att C Table 5, p.20).

While the quality of the habitat is variable, nearly all vegetation within the project area was mapped as 'Preferred Habitat' (regarded as highly suitable for the Western Grasswren) or 'Atypical Habitat' (Att B Figure 5-6, p.81). Atypical habitat is regarded as suitable habitat but is more likely to be utilised during good seasonal conditions. During drought, grasswren populations are likely to contract into refuge areas of optimal habitat (Black *et al* 2009). The only exceptions were small areas of unsuitable habitat in old quarries and borrow pits in the north east, central east and south of the primary facility and southern infrastructure areas. Atypical habitat was also more degraded in the north-east within the primary facility area.

Southern Whiteface

The project will result in clearance of 28 ha of native vegetation providing suitable habitat for the Southern Whiteface and 59 ha of lower quality habitat. Noise from the project may have an indirect impact on Southern Whiteface in immediately adjacent habitat.

Southern Whiteface has a large distribution that includes most of mainland Australia south of the tropics (Schodde & Mason 1999). Its area of occupancy is estimated at approximatively 70,000 km2, and its current population at approximately 477,000 mature individuals (DCCEEW 2023a, Ehmke et al. 2021).

Critical habitats for the survival of this species include relatively undisturbed open woodlands and shrublands with an understorey of grasses or shrubs, or both; habitat with low tree densities and an herbaceous understory litter cover which provides essential foraging habitat; and living and dead trees with hollows and crevices which are important for roosting and nesting (DCCEEW 2023a).

The Southern Whiteface is known to occur within the project area. The species was detected during one of the on-ground surveys (Att C s.3, p.12), and multiple recent records of this species were made in the last 10 years in the vicinity of the site and particularly in Whyalla Conservation Park (Att B s.4.2.3, p.36). Surveys confirmed suitable habitat on the site including the woodland and tall shrubland areas.

Grey Falcon

The project will result in clearance of 89.4 ha of habitat that may occasionally be utilised by Grey Falcon.

Grey Falcon has a widespread distribution in arid and semi-arid zones on Australia mainland. Its area of occupancy is estimated at 1,690,000 km2, and the total size of the population is estimated to be less than 1,000 mature individuals (Garnett and Baker 2020).

Timbered lowland plains, and particularly Acacia shrublands that are crossed by tree-lined watercourses, are considered the preferred habitat of this species (DCCEEW 2020).

The Grey Falcon has the potential to occur in the site (Att B section 4.2.3, p37). Although there are no existing records of this species on the site, on-ground surveys suggested they may occasionally utilise open areas within the site for hunting.

Blue-winged Parrot

The project will result in clearance of 59 ha of open Chenopod areas that may occasionally be utilised by Blue-winged Parrot during periods of inland migration.

Blue-winged Parrot has an area of occupancy estimated at 11,000 km2 (Garnett and Baker 2020). This species is partially migrant, with individuals breeding in Tasmania, southern Victoria and coastal southeastern South Australia, and over-wintering in northern Victoria, eastern South Australia, southwestern Queensland and western New South Wales.

DCCEEW (2023b) reports that critical habitats for the survival of this species include:

- grasslands, grassy woodlands, semi-arid chenopod shrubland and wetlands both near the coast and semi-arid zones (foraging and staging habitat)
- Eucalyptus forests and woodlands containing trees and stumps with hollows (breeding habitat).

This species is considered to have the potential to occur within the project area (Att B section 4.2.3, p.38). On-ground surveys did not detect its presence or preferred habitat. However, open chenopod areas may be suitable, during periods of inland migration.

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.4.6 Describe why you do not consider this to be a Significant Impact. *

A detailed assessment against the criteria for vulnerable species in Significant Impact Guidelines 1.1 (DEWHA, 2013) has been carried out (Att D). It concludes that the HJP is not likely to have a significant impact on the listed threatened species that have been recorded at the site or that could potentially occur, as listed above. The assessment is summarised below.

Western Grasswren: Impacts from the HJP on this species are unlikely to be significant as:

- The mitigation hierarchy was used in project planning with habitat value for Western Grasswren a key input into a multi-criteria selection process. The location for the main project facilities targeted the relatively lower value habitat in the north-east of the main project area. As a result, 99 percent of the habitat loss is in atypical or unsuitable habitat.
- All populations of Western Grasswren are considered to have high conservation value (DCCEEW 2014) and therefore represent important populations. The HJP disturbance footprint would require clearance of approximately 89.4 ha of habitat representing 0.04% of the area of occupancy for the species. Following revegetation of areas not required for operation, the permanent disturbance footprint will represent 0.03% of the area of occupancy.
- Based on Garnett and Baker (2020) estimates of population density, habitat loss would only affect 0.06 – 0.17% of the population (7-18 birds). As 99% of the habitat loss is in atypical or unsuitable habitat, the impact is more likely to be in the mid, rather than upper, end of that range. Proposed revegetation would restore around 15% of that habitat over time.
- Substantial areas of adjoining habitat will be minimally impacted by the HJP, ensuring the population is not fragmented.

Approximately 20% of the population of the species lives within the Cultana Training Area (DCCEEW, 2014). The transmission line will require minimal vegetation clearance within this area. Impacts on the Whyalla Conservation Park will be restricted to the eastern boundary adjoining the Lincoln Highway with construction of the transmission line largely using an existing track. There will be no direct impacts on the Heritage Agreement area west of the HJP project area. These areas provide a high level north-south connectivity. More broadly, the HJP sits within the Myall Plains IBRA subregion, 97% of which contains remnant vegetation, albeit of varying habitat condition.

- Indirect impacts on adjoining habitat will be largely restricted to noise and lighting.

- Noise associated with HJP is not expected to cause threshold shift in the hearing of the Western Grasswren but may cause some masking effects. Western Grasswrens appear to be reasonably noise tolerant and birds may habituate to a noisier environment. However, masking impacts could potentially affect breeding-related communication / behaviour in the immediately adjacent habitat (Dooling and Popper 2007). This would only affect the behaviour of few individuals, not the breeding cycle of the whole important population.
- Lighting is unlikely to adversely affect the Western Grasswren as they are active in the daytime and lighting impacts are expected to be restricted to the immediate vicinity of the HJP (Att D section 3.2, p20).

- The project location has been deliberately selected to minimise the clearance of highly suitable habitat for the Western Grasswren, with infrastructure being preferentially sited on lower quality native vegetation providing a moderate habitat for this bird.
- Management measures will be implemented to prevent introduction or spread of invasive species and predators that could be a threat to the species or its habitat.

Southern Whiteface: Impacts from the HJP on this species are unlikely to be significant as the native vegetation clearance area represents 0.001% of the area of occupancy, which is estimated at approximatively 70,000 km2. Approximately 15% of this clearance will be temporary during construction, with the area being revegetated as soon as reasonably practicable. The site location was selected to minimise the clearance of highly suitable habitat for the Southern Whiteface, with infrastructure being preferentially sited on lower quality native vegetation providing a moderate habitat for this bird. The disturbance footprint will be surrounded by intact native vegetation that will not be impacted by the HJP, including the Whyalla Conservation Park, Native Vegetation Heritage Agreement area and Cultana Training Area.

Grey Falcon: Impacts from the HJP on this species are unlikely to be significant as native vegetation clearance will only have a small and localised impact on habitat that may occasionally be used by the Grey Falcon for hunting. Clearance of 89.4 ha represents 0.0001% of the area of occupancy for the species which is estimated at 1,690,000 km2 with intact native vegetation remaining available around the site (in particular in the Whyalla Conservation Park, Cultana Training Area and the Native Vegetation Heritage Agreement area). The species is highly mobile and has been shown to commonly travel over hundreds of kilometres (Marchant and Higgins, 1993). Therefore, individual birds are unlikely to be dependent on the site for foraging. No nesting habitat was identified in the project area.

Blue-winged Parrot: Impacts from the HJP on this species are unlikely to be significant as native vegetation clearance will only have a small and localised impact on habitat that may potentially be used temporarily during migration. Clearance of 59 ha of open chenopod areas represents 0.005% of the area of occupancy for the species which is estimated at 11,000 km2 with intact native vegetation remaining available around the site (in particular in the Whyalla Conservation Park, Cultana Training Area and the Native Vegetation Heritage Agreement area). The Blue-winged Parrot is able to fly on long distances, such as across the Bass Strait during its migration, and therefore is unlikely to be dependent on the site. No nesting habitat was identified within the project area and the species is not known to breed in the area. There are no records for the species within the study area.

4.1.4.7 Do you think your proposed action is a controlled action? *

No

4.1.4.9 Please elaborate why you do not think your proposed action is a controlled action. *

The listed threatened species and ecological communities identified in the Protected Matters Search Tool were assessed with reference to the significant impact guidelines and either considered unlikely to occur at the site or unlikely to be significantly impacted.

The HJP is therefore considered unlikely to have a significant impact on any listed threatened species or ecological communities and should not be considered a controlled action.

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Planning for the HJP has deliberately sought to avoid and minimise impacts to ecological values as far as reasonably practicable, in alignment with environmentally sustainable design principles and the intent of Commonwealth and State environment and native vegetation legislation.

Using the extensive assessments of ecological values within the project area (summarised in Att B), the disturbance footprint has been located wherever possible in areas where the poorest condition vegetation overlaps with vegetation which is considered to represent the lowest quality habitat for EPBC listed Western Grasswren and Southern Whiteface. The transmission line alignment, whilst located within the boundary of the Whyalla Conservation Park, has been selected as a result of the opportunity to utilise an existing cleared access track

at the periphery of the park impacted by edge-effects, avoiding the need for additional clearance of remnant vegetation for a new access track that would be required for other alignments within and external to the Park. Individual old growth trees such as *Acacia papyrocara* (Western Myall) and *Casuarina pauper* (Blackoak) can actively be avoided through micrositing of tower placements along the transmission line alignment.

As well as avoidance, long term impacts from vegetation loss will be minimised through revegetating that part of the disturbance footprint not required for operation. Portions of the southern and the preferred route for the northern infrastructure corridor footprints, representing approximatley 15% of the overall disturbance footprint, will be revegetated (generally through reinstating topsoil and vegetative material and facilitating natural regeneration, or through more active methods if unsuccessful). In the southern infrastructure area, this will be limited to shallow rooted vegetation that will not disrupt the fill material surrounding the buried infrastructure. Shallow rooted species selected from those being cleared such as *Maireana pyramidata* (Blackbush) and *Lycium australe* (Australian Boxthorn) along with other common low chenopod species are known as preferred habitat plant species for the Western Grasswren. Such species would readily recolonise the disturbed areas, particularly in the absence of stock pressure. With active management, if required, successful revegetation would result in a longer-term return of suitable habitat for Western Grasswren.

All vegetation disturbance will be offset under the South Australian *Native Vegetation Act 1991* which includes consideration of the duration to achieve successful site revegetation.

Construction of the HJP will be further optimised in detailed design to minimise disturbance beyond the proposed footprint of the facility. Impacts on vegetation will be minimised by:

- Ensuring access roads for construction and other built form for the project are located to minimise vegetation clearance wherever practicable
- Using existing tracks and disturbance corridors wherever practicable
- Using low impact methods, such as rolling, for temporary clearance areas, where practicable
- Stockpiling topsoil and vegetative material for use in revegetation
- Following completion of construction works, rehabilitating and revegetating any areas not required for operation
- Where practicable, micro-siting transmission lines and access tracks to avoid vegetation clearance
- Clearly delineating no-go areas during construction works
- Including awareness of ecological values in induction training for contractors working on the site
- Managing dust during construction through standard suppression methods such as watering of roads and exposed areas
- Implementing a weed, pest and disease management plan which will include:
    - Implementing weed hygiene practices during construction including vehicle checks and washdowns as required on vehicles or plant entering the construction site
    - Ensuring construction compounds are kept neat and tidy at all times to prevent pest animals from inhabiting the area, and food waste is placed in enclosed / covered bins to prevent access by pest animals
    - Implementing weed surveillance and control programs targeting Weeds of National Significance and Declared Weed species (WoNs) (if weeds identified) in accordance with the Weed Control Handbook for declared plants in South Australia
    - Ensuring all fill materials (e.g. sand, aggregate) imported to site are sourced from weed and pathogen free sites.

The vegetation present at the site is not highly susceptible to bushfire. The risk of construction and operation of the HJP causing bushfires will be minimised through:

- Developing policies and procedures to appropriately manage bushfire risk to visitors, staff and contractors, including site induction, bushfire response, actions on forecast high fire danger days, reported bushfire emergencies, visitor management and site closure
- Ensuring all contractors carry basic firefighting equipment (including fire extinguisher) along with communications devices in all vehicles during construction activities
- Siting buildings and facilities within the project area to achieve suitable clearance from vegetation for fire mitigation purposes
- Installing dedicated static firefighting water supplies at appropriate locations across the project area
- Building fire prevention and protection measures into the facility design.

Noise impacts will be controlled in accordance with the limits of the relevant regulations including SA *Environment Protection Act 1993*, Environment Protection (Noise) Policy 2007 and *Planning, Development Infrastructure Act 2016*. Noise mitigation measures under consideration include:

- Selecting low noise equipment, where practicable
- Constructing enclosures around high noise equipment, where practicable
- Placing noise attenuators on the turbine exhausts stacks.

Lighting is necessary for safety and security during night-time operations. All lighting will be designed to Australian Standards (AS/NZS 1158 & AS/NZS1680) and applicable laws and regulations, consistent with the *National Light Pollution Guidelines for Wildlife*. Lighting will be shielded and directional and designed where possible to minimise the impact to any surrounding sensitive receptors and wildlife. Major operations and maintenance will generally be conducted during daylight hours and so lighting will typically be designed for vehicle and personnel access as well as security.

The stormwater management system will be designed as per AS 3500.3 requirements. The elevation design of the facility will take into consideration of any inundation/flood risks for major storms as per Australian rainfall and runoff (ARR) guidelines.

In addition to the above, impacts on the threatened fauna will be minimised by:

- The presence of, or access to, trained fauna handlers during construction to assist with removal of, and relocation of, any trapped (and/or injured) fauna displaced during habitat clearance

- Preparing a Threatened Species (Western Grasswren and Southern Whiteface) Management Plan as a sub-plan to detailed and project-specific construction and operational environmental management plans
- Providing an on-ground offset as a Significant Environmental Benefit to meet South Australian government requirements.

The facility has a 25 year design life. Assessment of the benefits to the State of continued operation of the facility beyond the original life of the development will be made with consideration of the environmental and social benefits of the facility's operation.

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

No significant residual impacts are expected and therefore it is considered that no offsets for the purposes of the EPBC Act are required.

Native vegetation in the project area is protected under the South Australian *Native Vegetation Act 1991* and *Native Vegetation Regulations 2017*. This requires the HJP to achieve a Significant Environmental Benefit offset for the clearance of native vegetation associated with the project. OHPSA is currently examining options for an on-ground offset in the Whyalla region.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species
No	No	Actitis hypoleucos
No	No	Apus pacificus
No	No	Calidris acuminata
No	No	Calidris canutus
No	No	Calidris ferruginea
No	No	Calidris melanotos
No	No	Charadrius leschenaultii
No	No	Charadrius veredus
No	No	Gallinago hardwickii
No	No	Limosa lapponica
No	No	Motacilla cinerea
No	No	Motacilla flava
No	No	Numenius madagascariensis
No	No	Tringa nebularia

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.5.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The Protected Matters Search Tool identified 45 migratory species as potentially utilising the project area. Oceanic or marine species accounted for 23 of these (13 albatross, shearwater or petrels; 4 whales; dolphin; 3 turtles and 2 sharks) and were not considered further as the HJP will have no direct or indirect impact on the marine environment. A further six species are discussed under Threatened Fauna above.

The remaining 16 migratory birds were considered further by a likelihood assessment (Att B: Section 4.2.4, Table 4-5, p43). There are previous recent reliable records within 5 km of the project area for 7 of these 16 migratory species. However, these records occur in nearby specific habitat such as beach areas, saltpans or wetlands and relate to coastal / wetland / shorebirds. There is no suitable habitat for these species in, or directly adjacent to the project area and they are therefore considered unlikely to occur.

Based on the outcomes of the likelihood assessment, it is considered that no migratory species are known or likely to occur on or adjoining the HJP site.

One species, Fork-tailed swift (*Apus pacificus*) is considered possible as a flyover so would not be directly or indirectly impacted.

Migratory species can suffer injuries or fatalities through collision with transmission lines. The risk of collision is highest when power lines are within one kilometre or less of wetland habitat (Jacobs 2021). As the proposed transmission line is over 2.5 km from the nearest wetland habitat, the risk of collision is considered negligible.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The HJP will not involve the handling or processing of radioactive material.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The HJP will not be undertaken in or near a Commonwealth Marine Area.

4.1.8 Great Barrier Reef

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The HJP is not in the vicinity of the Great Barrier Reef.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The HJP does not relate to a water resource in relation to a large coal mining development or coal seam gas.

4.1.10 Commonwealth Land

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Commonwealth land area
Yes	Yes	Commonwealth Land - Australian National Railways Commission

Direct impact	Indirect impact	Commonwealth land area
Yes	Yes	Defence - CULTANA TRAINING AREA

4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.10.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The HJP will intersect two identified Commonwealth lands: the Australian Rail Track Corporation (ARTC) land and the Cultana Training Area.

The Australian Rail Track Corporation Land runs along the east of the Lincoln Highway and includes the Whyalla railway that connects Whyalla and Port Augusta. The proposed transmission line will aerially traverse the ARTC land at two locations near the proposed new substation. Tower pads will span the ARTC land at a height that will not interact with operations so no impacts are anticipated.

The wastewater pipeline will need to cross under the railway near its southern terminus. This will be installed through directional drilling. At this stage, the location of the drill pad has not been determined and it is possible this could extend onto railway land, subject to ARTC agreement.

The Cultana Training Area encompasses approximately 2,100 km2 of land including the preferred route for the northern infrastructure corridor and substation. It is used by the Department of Defence for training activities including combined arms manoeuvring, firing of ammunition, air mobile and airborne operations and electronic warfare training activities. Vegetation clearance and earthworks will be required within the subject land to accommodate the discrete tower pads and access track for the electricity transmission infrastructure. Vegetation clearance on this land will be limited to approximately 6 structures (either monopole or lattice tower) sites with a maximum construction footprint for each of approximately 40 X 40 m and an operational footprint of 15 x 15 m, and a 2.5 km access track with a width of 5 m. Total vegetation clearance within the Cultana Training Area will be 5.5 ha with approximately 70% of that revegetated following construction (i.e. a permanent clearance area of 1.5 ha).

In November 2023, the South Australian and Commonwealth governments entered into a land agreement under which the Commonwealth (Department of Defence) will surrender its lease over the land underlying the proposed HJP electrical infrastructure. This process is expected to be finalised in mid 2024.

As a result, the part of the Cultana Training Area that is proposed to be used for the HJP will revert to Crown land prior to the proposed action being taken.

4.1.10.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact? *

No

4.1.10.6 Describe why you do not consider this to be a Significant Impact. *

Crossing of the ARTC land will only involve the aerial part of the transmission line. No structure nor access track will be developed on the ARTC land at these locations. Structure (pole or tower) height will be sufficient to ensure the clearance height to conductors meets ARTC's requirements. Liaison will be carried out with ARTC prior to and during stringing operations to ensure ARTC's operations are not impacted. Consequently, the HJP is not expected to have a significant impact on the ARTC land. The short section of transmission line within ARTC land is unlikely to have any impact on the environment other than a minor visual impact and, as with any transmission line, a slight risk of bird strike. These impacts are highly unlikely to be significant. OHPSA has engaged with ARTC on the project and will continue to do so during design and construction.

As noted above, the wastewater pipeline will be installed through directional drilling. This will minimise interference with ARTC activities and avoid surface disturbance. While it is likely the drill pads on each side of the railway line will be outside ARTC land, it is possible they could extend onto ARTC land. This will be determined once detailed investigations have been completed and will be subject to ARTC agreement. The area that would be disturbed is already degraded with minimal ecological values. Given its location within an industrial precinct, it is unlikely to provide habitat for species of conservation significance. Consequently, installation of the wastewater pipeline is unlikely to have a significant impact on ARTC land or the environment.

In line with criteria in the Significant impact Guidelines 1.2, impacts on the environment from the section of the HJP in the Cultana Training Area are not considered significant because:

- The disturbance footprint within the Cultana Training Area relates only to the transmission line alignment and access track. The disturbance footprint represents a very small percentage (0.0028%) of the Cultana Training Area (refer Att A, Figure 1-1, p6). The potential environmental impact relates to the clearance of native vegetation and minor earthworks.
- The vegetation present in these areas is extensively represented within the broader landscape. The site provides habitat for flora and fauna species which are common across the landscapes.
- Impacts to threatened species that may occur in the vicinity are assessed in section 4.1.4 above, and no significant impacts are anticipated. The clearance area of 5.8 ha within the Cultana Training Area represents a miniscule proportion of the area of

occupancy for the Western Grasswren and other threatened species.
- Construction areas that are not required for ongoing maintenance will be revegetated. This will reduce permanent clearance to 1.5 ha.
- The transmission line will be constructed near the boundary of the Cultana Training Area in an area that has already been disturbed by the existing transmission line and Cultana substation. As such, it is not expected to impact on Defence operations.
- The HJP is not expected to impact on future operations by Defence given that Defence has agreed to surrender the area required for the HJP from its current lease, such that it reverts to Crown land and is jointly owned by the State and BDAC.
- That part of the Cultana Training Area present within the activity footprint does not contain significant landscape features. The action will not substantially alter natural landscape features as the work involves well known methods and standard environmental management measures which will minimise the risk of adverse impacts or substantial erosion.
- There are no known Aboriginal or historic heritage sites impacted by the transmission line. Mitigation measures are in place with the Barngarla Determination Aboriginal Corporation (BDAC) to minimise the risk of encountering cultural heritage sites and to appropriately deal with any cultural material, if discovered. Easements and tenure for infrastructure across non-exclusive native title land will be negotiated with BDAC.
- Any contaminated soils associated with previous Defence activity will be identified during environmental investigations and managed appropriately during construction. However, areas of contamination are not expected.
- The works will not alter drainage patterns or flows in watercourses within Cultana Training Area.
- There are no coastal or marine impacts associated with the HJP.
- The nature and scale of the impacts associated with the transmission infrastructure works within the Cultana Training Area are significant compared to the impacts of the existing ongoing uses within the area.

Transmission line works will be undertaken in a way that will minimise potential impact to people and communities. They will not substantially increase demand on or reduce the availability of community services or infrastructure as activities will be relatively small scale, short term and transient.

4.1.10.7 Do you think your proposed action is a controlled action? *

No

4.1.10.9 Please elaborate why you do not think your proposed action is a controlled action. *

The impact on ARTC land will not be significant as there will be no physical disturbance to ARTC land and no impact on ARTC operations.

The impacts on the (current) Cultana Training Area and the environment from the construction and ongoing presence of the transmission infrastructure are not considered significant as they are small scale, discrete localised impacts, with minor to negligible long-term effects in the context of the broader receiving environment and its current use. Activities associated with transmission line construction have well established methods and mitigation strategies. The relevant land will not be Commonwealth land at the time the proposed action is undertaken.

4.1.10.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

As mentioned in Section 4.1.10.2, there is an agreement to transfer Commonwealth interests in land including the HJP project area to the South Australian government. The transfer of land is expected to occur mid 2024, and it would no longer be considered Commonwealth Land at the time the proposed action is undertaken.

Notwithstanding, potential environmental impacts will be minimised on this land through implementation of the mitigation described in section 4.1.4.10, including the following key strategies:

1. Structures (poles or towers) will be micro-sited as far as reasonably practicable to minimise impacts on native vegetation and threatened species habitat.
2. Construction footprints will be minimised as far as reasonably practicable to reduce the amount of disturbance in vegetated areas.
3. Construction areas will be revegetated once construction is completed.
4. OHPSA will liaise with the Department of Defence during detailed design and (where relevant) prior to and during construction to ensure impacts on the operation of the Cultana Training Area are minimised.
5. Management measures will be implemented to prevent introduction or spread of invasive species and predators that could be a threat to the existing ecology of the area.
6. Awareness of ecological values will be included in induction training for contractors working on the site.

7. Appropriate bushfire prevention measures will be implemented.

4.1.10.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

As the impact is minimal and not significant, no offsets are proposed.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

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4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact. *

The HJP will not be undertaken on Commonwealth heritage places overseas.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

None

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Threatened Species and Ecological Communities (S18)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)
- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

The Whyalla region was selected for the HJP due to its nature as an industrial hub and its proximity to renewable energy zones of national significance. The history of Whyalla is as a master-planned, development-focussed city with favourable land zoning and foundation infrastructure already in place for further development.

The HJP, which will deliver hydrogen production at-scale and act to unlock further investment, is located in a region that also hosts the Port Bonython export facility, which has been identified by both the Commonwealth and State government as a target for the Clean Hydrogen Industrial Hubs Program. In September 2023, a grant was finalised with the Australian Government committing $70 million in matched funding, with $30 million from State Government and the $40 million expected to be contributed by industry to develop common user infrastructure at Port Bonython to prepare it to become South Australia's first large-scale export terminal for hydrogen.

Over the period April to June 2022, the South Australian government investigated potential sites for the electrolyser, power generation and storage components of the project. An Expert Panel consisting of more than 30 government, industry and community organisations was formed to advise on the site selection process. Following investigation of potential land parcels, largely located within a 15 km radius to the north-east of the city, three sites were identified with potential to support the project. OHPSA worked with the Traditional Owners of the region, the Barngarla Determination Aboriginal Corporation, and the Whyalla City Council to secure options over those parcels.

Subsequent to the selection of project partners for the ECI phase of the project, further investigation of those sites was undertaken, and multi-criteria analysis for co-locating key project elements in different areas of a large appropriately-zoned land parcel in the Whyalla industrial estate were undertaken.

Site selection and project siting within this parcel was weighted to environmental, cultural and social considerations, and aligned with the objectives of State and Commonwealth environment and development legislation. Various studies were undertaken to inform the design and location of the facility to avoid or minimise environmental impacts. These included: flora and fauna studies to identify ecologically significant areas within the site; hydrology studies to identify water flows and movement through the site; receptor mapping; a baseline noise study to understand background noise and manage potential noise impacts from the development; and cultural heritage studies. These studies have been used to inform and optimise the design, layout and location of the facility to minimise environmental impacts, including minimising the facility footprint and disturbance to areas of higher quality habitat, and minimising disturbance to hydrology.

Project infrastructure (and therefore the disturbance footprint) has been located in areas where the poorest condition vegetation overlaps with vegetation that is considered to represent the lowest quality habitat for Western Grasswren. The power transmission line alignment, whilst located within boundary of the Whyalla Conservation Park, has been deliberately sited to utilise an existing cleared access track, avoiding the need for additional clearance of remnant vegetation for a new access track associated with other alignment options.

Facility layout and location also considered pipeline safety and easement requirements, and location of power and water to minimise disturbance and utilise existing corridors and easements where practical.

The detailed design process currently underway will result in refinement of the project. The base case presented in this referral has deliberately utilised a conservative basis for the project footprint and vegetation clearance required. Consistent with the approach taken to the site selection process, the avoidance principle – relevant to both State and Commonwealth legislative intent - will continue to be applied through the detailed design, construction and operation phases of the project.

5. Lodgement

5.1 Attachments

1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Project Description Final.pdf Hydrogen Jobs Plan - Project Description	20/12/2023		High
#2.	Document	Att A - Project Description Final.pdf Hydrogen Jobs Plan - Project Description	20/12/2023		High
#3.	Document	Att A - Project Description Final.pdf Hydrogen Jobs Plan - Project Description	20/12/2023		High
#4.	Document	Att A - Project Description Final.pdf Hydrogen Jobs Plan - Project Description	20/12/2023		High
#5.	Document	Att A - Project Description Final.pdf Hydrogen Jobs Plan - Project Description	20/12/2023		High
#6.	Document	Att A - Project Description.pdf Hydrogen Jobs Plan - Project Description	20/12/2023	No	High
#7.	Document	Att D - Significant Impact Assessment.pdf Significant Impact Assessment	20/12/2023		High
#8.	Document	Att D - Significant Impact Assessment.pdf Significant Impact Assessment	20/12/2023		High

1.2.6 Commonwealth or state legislation, planning frameworks or policy documents that are relevant to the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	Climate Change Actions https://cdn.environment.sa.gov.au/environment/do..			High
#2.	Link	Responding to Climate Change Information Sheet https://cdn.environment.sa.gov.au/environment/do..			High

2.2.5 Tenure of the action area relevant to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Project Description Final.pdf Hydrogen Jobs Plan - Project Description	20/12/2023		High

3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Project Description Final.pdf Hydrogen Jobs Plan - Project Description	20/12/2023		High
#2.	Document	Att A - Project Description Final.pdf Hydrogen Jobs Plan - Project Description	20/12/2023		High

3.1.2 Existing or proposed uses for the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023	No	High

3.1.3 Natural features, important or unique values that applies to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	Mount Laura Conservation Reserve Native Vegetation Management Plan https://www.whyalla.sa.gov.au/__data/assets/pdf_..	30/11/2007		High
#2.	Link	Whyalla Conservation Park https://www.parks.sa.gov.au/parks/whyalla-conser..			High

3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#2.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#3.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#4.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#5.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#6.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#7.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#8.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#9.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#10.	Document	Att C - Hydrogen Jobs Plan - Targeted Western Grasswren Survey.pdf Targeted Western Grasswren Survey	13/12/2023	No	High
#11.	Document	Att C - Hydrogen Jobs Plan - Targeted Western Grasswren Survey.pdf Targeted Western Grasswren Survey	13/12/2023		High

3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#2.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#3.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High

3.4.1 Hydrology characteristics that apply to the project area

	Type	Name	Date	Sensitivity	Confidence

#1.	Document	Att E - Hydrological Assessment.pdf Hydrology Assessment	27/08/2023	No	High
#2.	Document	Att E - Hydrological Assessment.pdf Hydrology Assessment	27/08/2023		High
#3.	Document	Att E - Hydrological Assessment.pdf Hydrology Assessment	27/08/2023		High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#2.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#3.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#4.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#5.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#6.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#7.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#8.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#9.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#10.	Document	Att C - Hydrogen Jobs Plan - Targeted Western Grasswren Survey.pdf Targeted Western Grasswren Survey	13/12/2023		High
#11.	Document	Att C - Hydrogen Jobs Plan - Targeted Western Grasswren Survey.pdf Targeted Western Grasswren Survey	13/12/2023		High
#12.	Document	Att C - Hydrogen Jobs Plan - Targeted Western Grasswren Survey.pdf Targeted Western Grasswren Survey	13/12/2023		High
#13.	Document	Att C - Hydrogen Jobs Plan - Targeted Western Grasswren Survey.pdf Targeted Western Grasswren Survey	13/12/2023		High
#14.	Document	Att C - Hydrogen Jobs Plan - Targeted Western Grasswren Survey.pdf Targeted Western Grasswren Survey	13/12/2023		High
#15.	Document	Att F - PMST - February 26th 2024.pdf Protected Matters Search of Project Area with 5 km buffer	25/02/2024	No	High
#16.	Document	Att F - PMST - February 26th 2024.pdf Protected Matters Search of Project Area with 5 km buffer	25/02/2024		High
#17.	Link	Conservation Advice Falco hypoleucos Grey Falcon https://www.environment.gov.au/biodiversity/thre..			High
#18.	Link	Conservation Advice for Aphelocephala leucopsis (southern whiteface) https://www.environment.gov.au/biodiversity/thre..			High
#19.	Link	Conservation Advice for Aphelocephala leucopsis (southern whiteface) https://www.environment.gov.au/biodiversity/thre..			High
#20.	Link				

		Conservation Advice for Neophema chrysostoma (blue-winged parrot) https://www.environment.gov.au/biodiversity/thre..		High
#21.	Link	Distribution and Habitats of the Thick-Billed Grasswren Amytornis textilis, subspecies myall https://birdssa.asn.au/images/saopdfs/Volume35/2..		High
#22.	Link	Distribution and Habitats of the Thick-Billed Grasswren Amytornis textilis, subspecies myall https://birdssa.asn.au/images/saopdfs/Volume35/2..		High
#23.	Link	Distribution and Habitats of the Thick-Billed Grasswren Amytornis textilis, subspecies myall https://birdssa.asn.au/images/saopdfs/Volume35/2..		High
#24.	Link	Guidelines for assessing the conservation status of native species according to the EPBC Act and Reg https://www.dcceew.gov.au/sites/default/files/en..		High
#25.	Link	Handbook for Australian, New Zealand & Antarctic birds. Volume 1, Ratites to Ducks https://www.vgls.vic.gov.au/client/en_AU/vgls/se..	01/06/1990	High
#26.	Link	Handbook for Australian, New Zealand & Antarctic birds. Volume 1, Ratites to Ducks https://www.vgls.vic.gov.au/client/en_AU/vgls/se..	01/06/1990	High
#27.	Link	Handbook of Australian, New Zealand and Antarctic Birds. https://www.environment.gov.au/biodiversity/thre..		High
#28.	Link	Species Profile and Threats Database - Ardenna grisea - Sooty Shearwater https://www.environment.gov.au/cgi-bin/sprat/pub..		High
#29.	Link	SW Southern Whiteface A. leucopsis castaneiventris and SE Southern White A. l. leucopsis https://www.environment.gov.au/biodiversity/thre..		High
#30.	Link	The action plan for Australian Birds 2000 https://catalogue.nla.gov.au/catalog/1773782		High
#31.	Link	The Action Plan for Australian Birds 2020 https://www.publish.csiro.au/book/7905/		High
#32.	Link	The Action Plan for Australian Birds 2020 https://www.publish.csiro.au/book/7905/		High
#33.	Link	The Action Plan for Australian Birds 2020 https://www.publish.csiro.au/book/7905/		High
#34.	Link	The Directory of Australian Birds: Passerines https://www.environment.gov.au/biodiversity/thre..		High
#35.	Link	The Fairy-wrens https://birdssa.asn.au/images/saopdfs/Volume35/2..		High

4.1.4.6 (Threatened Species and Ecological Communities) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att D - Significant Impact Assessment.pdf Significant Impact Assessment	20/12/2023	No	High
#2.	Link	Conservation Advice Amytornis textilis myall western grasswren (Gawler Ranges) https://www.environment.gov.au/biodiversity/thre..			High
#3.	Link	Handbook of Australian, New Zealand & Antarctic Birds https://www.environment.gov.au/biodiversity/thre..			High
#4.	Link	Significant Impact Guidelines 1.1 - Matters of National Environmental Significance https://www.dcceew.gov.au/environment/epbc/publi..			High
#5.	Link	THE ACTION PLAN FOR AUSTRALIAN BIRDS 2020 https://www.publish.csiro.au/book/7905/			High
#6.	Link	The Effects of Highway Noise on Birds https://www.researchgate.net/publication/2283812..			High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#2.	Link	Australian Rainfall and Runoff Guidelines https://arr.ga.gov.au/arr-guideline			High
#3.	Link	Australian Standards https://infostore.saiglobal.com/en-au/standards/..			High
#4.	Link	Australian Standards https://infostore.saiglobal.com/en-au/			High
#5.	Link	National Light Pollution Guidelines for Wildlife https://www.dcceew.gov.au/environment/biodiversi..			High

4.1.5.3 (Migratory Species) Why your action is unlikely to have a direct and/or indirect impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att B - Hydrogen Jobs Plan - Site 1 Terrestrial Ecological Assessment.pdf Baseline Terrestrial Ecology	13/12/2023		High
#2.	Link	Project Energy Connect, Ecology Assessments 2021 https://media.caapp.com.au/pdf/1z9mgq/8f120e99-5..			High

4.1.10.6 (Commonwealth Land) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att A - Project Description Final.pdf Hydrogen Jobs Plan - Project Description	20/12/2023		High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	62100220479
Organisation name	JBS&G AUSTRALIA PTY LTD
Organisation address	100 Hutt Street, Adelaide SA 5000
Representative's name	Charlotte Baker
Representative's job title	Senior Project Manager
Phone	0432845973
Email	cbaker@jbsg.com.au
Address	100 Hutt Street

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ By checking this box, I, **Charlotte Baker of JBS&G AUSTRALIA PTY LTD**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	83768683934
Organisation name	Department for Energy and Mining
Organisation address	Office of Hydrogen Power SA, Department for Energy and Mining, GPO Box 320 Adelaide, South Australia 5001
Representative's name	Sam Crafter
Representative's job title	Chief Executive
Phone	0884633000
Email	sam.crafter2@sa.gov.au
Address	Office of Hydrogen Power SA, Department for Energy and Mining, GPO Box 320 Adelaide, South Australia 5001

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Sam Crafter of Department for Energy and Mining**, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

✓ Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

☑ Check this box to indicate you have read the referral form. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *

☑ I, **Sam Crafter of Department for Energy and Mining**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

☑ I would like to receive notifications and track the referral progress through the EPBC portal. *