

# EPBC Act referral



Australian Government  
Department of Agriculture, Water and the Environment

Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

<b>Title of proposal</b>	<b>2020/8856 - Gas Supply Security Project</b>
<b>Section 1</b>	
<b>Summary of your proposed action</b>	
<b>1.1 Project industry type</b>	Energy Generation and Supply (non-renewable)
<b>1.2 Provide a detailed description of the proposed action, including all proposed activities</b>	
<p>Origin Energy, as the upstream operator for Australia Pacific LNG Pty Ltd, propose to continue to progress the Australia Pacific LNG Project (EPBC 2009/4974) by developing gas field infrastructure in existing petroleum tenures within the Surat and Bowen basins. The Gas Supply Security Project (the Project) seeks approval under the EPBC Act for petroleum tenures held by Australia Pacific LNG that are not subject to an existing EPBC Act approval or decision, covering an approximate area of 476,492 hectares in central and south west Queensland (refer Figure 1, section 1.4 of this form). The Project will produce additional gas for the east coast domestic gas and export markets during a supply shortfall period commencing in 2024 as identified by the Australian Energy Market Operator (AEMO).</p> <p>The Project will involve the construction, operation, decommissioning and rehabilitation of gas field development infrastructure, including:</p> <ul style="list-style-type: none"><li>• wells</li><li>• gas and water pipelines</li><li>• gas processing facilities</li><li>• water management facilities; and</li><li>• supporting infrastructure (including accommodation, access tracks, maintenance facilities, laydown areas and utilities).</li></ul> <p>A 'maximum development scenario' for gas field infrastructure has been used to assess potential impacts to Matters of National Environmental Significance (MNES) associated with the Project. The maximum development scenario is conservative in nature as it assumes:</p> <ul style="list-style-type: none"><li>• there are commercial quantities of recoverable gas over the entire Project Area</li><li>• a maximum intensity of gas field infrastructure is constructed</li><li>• minimal use of existing gas field infrastructure; and</li><li>• minimal avoidance of environmental constraints.</li></ul> <p>The development of gas field infrastructure will occur incrementally over the life of the Project. The final size of the Project will be smaller than the maximum development scenario used for this assessment as it will be influenced by:</p> <ul style="list-style-type: none"><li>• the quality of gas resources identified through ongoing exploration and appraisal activities; and</li><li>• the application of constraints planning incorporating environmental, land access, and cultural heritage values, as detailed in the Environmental Constraints Planning and Field Development Protocol (the Protocol)(Appendix A).<p>Where practicable, the Project will utilise existing or previously approved infrastructure associated with the Australia Pacific LNG Project (EPBC 2009/4974) or other separately approved developments (e.g. roads, accommodation camps, gas processing and water management facilities). The Project may also involve sourcing gas from third-party suppliers, as well as sharing or co-locating gas fields and associated facilities with third parties. To supply gas to market, the Project may be required to make connections via existing third party EPBC Act authorisations or new connections will be developed by third parties, and subject to additional referrals, as required.</p><p>All wells will be drilled, constructed, operated and decommissioned in accordance with relevant legislative requirements including the Code of Practice for the construction and abandonment of coal seam gas and petroleum wells and associated bores in Queensland (the Code) (DNRME, 2019). The Code outlines the mandatory requirements to ensure that wells and water bores are designed, constructed, operated and decommissioned to an acceptable standard. Individual wells may be subject to well stimulation techniques to improve the gas flow rate and extend the operational life of wells. The number of wells requiring stimulation is determined progressively and is subject to extensive stimulation risk assessment processes. Where stimulation is conducted, it will be undertaken in accordance with the Code, EA conditions (Appendix N), and as described in the Chemical Risk Assessment (Appendix I part 1 and 2).</p><p>Water management facilities will be designed to deliver fit-for-purpose water for use in accordance with the water management hierarchy prescribed by the Coal Seam Gas Water Management Policy 2012 under the Environmental Protection Act 1994 (Qld). Water management facilities will typically include infrastructure such as dams and/or tanks, pipelines and water management infrastructure. Priority will be given to deliver beneficial uses of produced water including on-site uses for the Project (e.g. construction, dust suppression, drilling and rehabilitation), irrigation, third party supply, and to meet 'make good' obligations for water bores. After feasible beneficial use options have been considered, produced water will</p></li></ul>	



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

be managed to avoid, minimise or mitigate impacts on environmental values, including injection and surface water release. While the Project will preferentially utilise existing and approved water management infrastructure authorised under the EPBC Act (e.g. EPBC 2009/4974), the Project does not propose any new or additional authorisations for injection and surface water release.

Supporting infrastructure will be required to facilitate construction and production activities for the Project, including access roads, accommodation facilities, sewage treatment facilities, fuel storage, workshops and maintenance areas, laydown, stockpile and/or storage areas, borrow pits, powerlines and communications infrastructure. Where an ongoing beneficial use of Project infrastructure has not been identified, infrastructure will be decommissioned and disturbed areas will be rehabilitated in accordance with EA conditions (Appendix N) and the Rehabilitation Management Plan (Appendix D). Where an ongoing beneficial use has been identified, infrastructure will be handed over and beneficially used by landholders or overlapping tenure holders.

The action will be undertaken in accordance with:

- Project-specific management plans (see Appendices A, C, D, E, G, H, I)
- regulatory controls detailed in Section 6.2 and Project-specific controls described in Section 6.3 of MNES Assessment Report Part 1 of 2 V1 (Attachment 1)
- EA conditions (Appendix N); and
- proposed EPBC Act approval conditions (Appendix M).

Activities excluded from the Action under this referral:

The Project Area is subject to a range of petroleum and other activities carried out by Origin Energy that do not form part of this Project or referral under the EPBC Act, including, but are not limited to:

- all exploration, appraisal and surveying activities, including associated ancillary and incidental activities
- ongoing, authorised Australia Pacific LNG Project activities (which are either authorised or do not require approval under the EPBC Act)
- separate construction, production, operation and decommissioning activities and projects, including associated ancillary and incidental activities, currently authorised under the EPBC Act (including, by way of example, production operations within petroleum lease (PL) 101 and authorised projects undertaken by other third parties)
- any currently anticipated or future necessary changes to each of the activities summarised above, including their approvals and tenements, as required and approved from time to time, which do not form part of Project activities.

The continuation of these activities is essential to maintain gas supply to the Australia Pacific LNG Project and other customers in accordance with existing authorisations.

### **1.3 What is the extent and location of your proposed action?**

See Appendix B

### **1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland)**

The Project is located in central and south west Queensland within the Surat and Bowen basins. The towns that broadly frame the Project extend from near the town of Blackwater in the north, Wandoan in the east, Tara in the south and Springsure in the west. The Project is located across four regional council areas of the Western Downs, Maranoa, Banana Shire and Central Highlands (Refer to Figure 1, section 1.4 of this form)

Further information is provided in Section 1.4, Page 26 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1). The lot and plans relevant to the Project are provided in section 1.4 of this form (document 'GSS Lot on Plans')

### **1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?**

A 'maximum development scenario' for gas fields infrastructure has been used to assess potential impacts to MNES associated with the Project. The maximum development scenario is conservative in nature as it assumes:

- there are commercial quantities of recoverable gas over the entire Project Area
- a maximum intensity of gas field infrastructure is constructed
- minimal use of existing gas field infrastructure; and
- minimal avoidance of environmental constraints.

The potential development footprint associated with the maximum development scenario for the Project is anticipated to be up to approximately 3.6% (17,041 ha) of the total project area.

Avoidance areas are detailed in Section 6.3.1, page 101 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1) and Section 3.2, page 3 of the Protocol (Appendix A).



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

**1.7 Proposed action location**

Lot - 23RG644

**1.8 Primary jurisdiction**

Queensland

**1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?** Yes  No**1.10 Is the proposed action subject to local government planning approval?** Yes  No**1.11 Provide an estimated start and estimated end date for the proposed action**

Start Date	01/01/2024
End Date	01/01/2089

**1.12 Provide details of the context, planning framework and state and/or local Government requirements**

Further information on Regulatory Approvals relating to the Project is provided in Section 5.0, page 76 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1).

In addition to the EPBC Act, the Project will be undertaken in accordance with the requirements of the following Commonwealth and State (Qld) legislation, including:

- Native Title 1993 (Commonwealth)
- Water Act 2007 (Commonwealth)
- Environmental Protection Act 1994 (Qld)
- Water Act 2000 (Qld)
- Environmental Offsets Act 2014 (Qld)
- Nature Conservation Act 1992 (Qld)
- Aboriginal Cultural Heritage Act 2003 (Qld)
- Waste Reduction and Recycling Act 2011 (Qld)
- Regional Planning Interests Act 2014 (Qld).

**1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders**

The Project will leverage existing community and stakeholder engagement activities carried out as part of Australia Pacific LNG Project operations. Further information is provided in Section 9.0, page 240 of the MNES Assessment Report Part 2 of 2 (Attachment 1).

**1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project**

Environmental impact assessments have been or will be carried out under the Commonwealth and Qld regulatory framework as detailed in Section 7, page 109 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1).

Following a comprehensive environmental assessment for the Australia Pacific LNG Project, Origin received approval from Qld and Commonwealth governments in 2010 and 2011 respectively. While the area subject to this referral was not assessed as part of the Australia Pacific LNG Project (EPBC 2009/4974), the areas were identified as being a source of gas for the Australia Pacific LNG project in the Environmental Impact Statement (APLNG, 2010) (Section 1.5, page 28 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1)).

Australia Pacific LNG holds petroleum tenures (PLs and ATPs) and Environmental Authorities (EAs) over the entire Project Area (Refer to Section 1.7, page 29 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1) and Appendix N).



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

**1.15 Is this action part of a staged development (or a component of a larger project)?**

Yes  No

**1.15.1 Provide information about the larger action and details of any interdependency between the stages/components and the larger action**

Origin Energy, as the upstream operator for Australia Pacific LNG Pty Ltd, propose to continue to progress the Australia Pacific LNG Project (EPBC 2009/4974) by developing gas field infrastructure in existing petroleum tenures within the Surat and Bowen basins, not covered by the previous Australia Pacific LNG EPBC Act approvals (listed in section 1.16 of this form). The Project extends the commercial production area of existing, previously approved Australia Pacific LNG Project gas fields into adjacent development areas.

Following comprehensive environmental assessment for the Australia Pacific LNG Project, Origin Energy received approval from State and Commonwealth governments in 2010 and 2011 respectively. While the area subject to this referral was not assessed as part of the Australia Pacific LNG Project authorised by EPBC 2009/4974, the areas were identified as being a source of gas for the Australia Pacific LNG Project in the Environmental Impact Statement (APLNG, 2010) (Refer to Section 1.5, page 28 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1)).

While the proposed activities are new and separate developments for Australia Pacific LNG, existing infrastructure (e.g. gas processing and water management facilities, pipelines, powerlines and roads) may be utilised for the Project, where possible, to the extent already authorised under the EPBC Act. Under the existing authorisations, Australia Pacific LNG has developed gas field infrastructure in the Surat and Bowen basins, transmission pipelines and the LNG facility on Curtis Island.

**1.16 Is the proposed action related to other actions or proposals in the region?**

Yes  No

**1.16.1 Identify the nature/scope and location of the related action (Including under the relevant legislation)**

Existing Australia Pacific LNG EPBC Act authorisations (illustrated on Figure 3, page 31 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1)) include:

- EPBC 2009/4977
- EPBC 2009/4976
- EPBC 2009/4974
- EPBC 2016/7720
- EPBC 2017/7902
- EPBC 2017/7881
- EPBC 2016/7805
- EPBC 2019/8534

Subject to commercial agreement, the Project will utilise gas processing and ancillary infrastructure from surrounding resource projects. Third-party EPBC Act authorisations within the vicinity of the Project (illustrated on Figure 3, page 31 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1)) include:

- EPBC 2010/5344 – Arrow Energy Pty Limited
- EPBC 2012/6615 – Santos Limited
- EPBC 2012/6459 – Arrow Energy Pty Limited
- EPBC 2013/7047 – QGC Pty Limited
- EPBC 2015/7463 – QGC Pty Limited
- EPBC 2015/7469 – Senex Energy Limited
- EPBC 2018/8276 – QGC Pty Limited
- EPBC 2018/8223 – Arrow Energy Pty Limited.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Section 2

### Matters of national environmental significance

2.1 Is the proposed action likely to have any direct or indirect impact on the values of any World Heritage properties?

Yes  No

2.2 Is the proposed action likely to have any direct or indirect impact on the values of any National Heritage places?

Yes  No

2.3 Is the proposed action likely to have any direct or indirect impact on the ecological character of a Ramsar wetland?

Yes  No

2.4 Is the proposed action likely to have any direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?

Yes  No

### Species or threatened ecological community

Species or threatened ecological community

### Impact

Vegetation clearing associated with construction activities is the primary impact mechanism for threatened species and ecological communities. Impacts associated with clearing cannot be fully avoided; however, there are considerable opportunities to minimise the total area of clearing and proportion of clearing within the most important areas as outlined in the Protocol (Appendix A). Indirect impacts can be appropriately managed via environmental management measures, with methods and outcomes prescribed in relevant operating conditions. Environmental management measures are listed in section 6.2, page 80 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1) and in the Environment Management Plan (Appendix C). The Project is authorised under EAs, which contain conditions protecting environmental values including biodiversity, land, air, surface water, groundwater and wetlands. All disturbances will be rehabilitated in accordance with the Rehabilitation Management Plan (Appendix D) and the relevant EA conditions (Appendix N).

Disturbance to TECs and threatened species are quantified below, maximum development scenario that is conservative in nature as it assumes:

- there are commercial quantities of recoverable gas over the entire Project Area
- a maximum intensity of gas field infrastructure is constructed
- minimal use of existing gas field infrastructure; and
- minimal avoidance of environmental constraints.

Under the maximum development scenario the largest potential impact to an individual MNES value across the Project Area is limited to approximately 0.33% of the bioregional habitat extent. These impacts are unlikely to be realised due to development being limited to areas where gas resources are proven and the application of the Protocol in field development.

Potential Significant Residual Impacts (SRI) associated with the Project that will be required to be offset are quantified below. An offset commensurate with the actual SRI will be provided in line with the EPBC Act offsets policy and Offset Plan (Appendix E). Disturbances will be rehabilitated in accordance with the Rehabilitation Management Plan (Appendix D) and EA conditions.

A full impact assessment is provided in section 7.0, page 109 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1). The full assessment of SRI is provided in Appendix B5 (Significant Impact Assessments) of the MNES Assessment Report.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

### Species or threatened ecological community

Threatened Ecological Communities

#### Impact

- Brigalow TEC
  - Significant Residual Impact 189 ha
  - Total Project disturbance 0.18% of the TEC present in the bioregion (1,065 ha)
- Coolibah-Black Box TEC
  - Significant Residual Impact 133 ha
  - Total Project disturbance 0.05% of the TEC present in the bioregion (95 ha)
- Natural Grasslands TEC
  - Significant Residual Impact 47 ha
  - Total Project disturbance 0.05% of the TEC present in the bioregion (110 ha)
- Poplar Box TEC
  - Significant Residual Impact 1,016 ha
  - Total Project disturbance 0.19% of the TEC present in the bioregion (1,124 ha)
- SEVT TEC
  - Significant Residual Impact 44 ha
  - Total Project disturbance 0.02% of the TEC present in the bioregion (13 ha)
- Weeping Myall Woodlands TEC
  - Significant Residual Impact 10 ha
  - Total Project disturbance 0.23% of the TEC present in the bioregion (48 ha)

### Species or threatened ecological community

Threatened Flora

#### Impact

- Austral Toadflax (*Thesium australe*)
  - Significant Residual Impact 11 ha
  - Total Project disturbance 0.002% of potential habitat present in the bioregion (11 ha)
- Belson's Panic (*Homopholis belsonii*)
  - Significant Residual Impact 161 ha
  - Total Project disturbance 0.10% of potential habitat present in the bioregion (238 ha)
- Bluegrass (*Dicanthium setosum*)
  - Significant Residual Impact 47 ha
  - Total Project disturbance 0.05% of potential habitat present in the bioregion (111 ha)
- King Bluegrass (*Dicanthium queenslandicum*)
  - Significant Residual Impact 47 ha
  - Total Project disturbance 0.05% of potential habitat present in the bioregion (111 ha)
- Kogan Waxflower (*Philothea sporadica*)
  - Significant Residual Impact 239 ha
  - Total Project disturbance 0.23% of potential habitat present in the bioregion (647 ha)
- Ooline (*Cadellia pentastylis*)
  - Significant Residual Impact 920 ha
  - Total Project disturbance 0.14% of potential habitat present in the bioregion (2,664)
- Shiny-leaved Ironbark (*Eucalyptus virens*)
  - Significant Residual Impact 200 ha
  - Total Project disturbance 0.08% of potential habitat present in the bioregion (366 ha)
- Tara Wattle (*Acacia lauta*)
  - Significant Residual Impact 170 ha
  - Total Project disturbance 0.33% of potential habitat present in the bioregion (452 ha)
- *Aristida annua*
  - Significant Residual Impact 47 ha
  - Total Project disturbance 0.05% of potential habitat present in the bioregion (111 ha)
- *Marsdenia brevifolia*
  - Significant Residual Impact 276 ha
  - Total Project disturbance 0.08% of potential habitat present in the bioregion (317 ha)



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Species or threatened ecological community

Threatened Fauna

### Impact

- Australian Painted Snipe (*Rostratula australis*)
  - Significant Residual Impact 0 ha
  - Total Project disturbance 0.05% of potential habitat present in the bioregion (1,374 ha)
- Brigalow Woodland Snail (*Adclarkia cameronii*)
  - Significant Residual Impact 14 ha
  - Total Project disturbance 0.03% of potential habitat present in the bioregion (29 ha)
- Collared Delma (*Delma torquatus*)
  - Significant Residual Impact 42 ha
  - Total Project disturbance 0.13% of potential habitat present in the bioregion (5,633 ha)
- Dulacca Woodland Snail (*Adclarkia dulacca*)
  - Significant Residual Impact 10 ha
  - Total Project disturbance 0.02% of potential habitat present in the bioregion (10 ha)
- Dunmall's Snake (*Furina dunmalli*)
  - Significant Residual Impact 69 ha
  - Total Project disturbance 0.11% of potential habitat present in the bioregion (5,014 ha)
- Fitzroy River Turtle (*Rheodytes leukops*)
  - Significant Residual Impact 0 ha
  - Total Project disturbance 0.05% of potential habitat present in the bioregion (209 ha)
- Greater Glider (*Petauroides volans*)
  - Significant Residual Impact 11 ha
  - Total Project disturbance 0.08% of potential habitat present in the bioregion (4,593 ha)
- Koala (*Phascolarctos cinereus*)
  - Significant Residual Impact 34 ha
  - Total Project disturbance 0.01% of potential habitat present in the bioregion (5,870 ha)
- Large-eared Pied Bat (*Chalinolobus dwyeri*)
  - Significant Residual Impact 10 ha
  - Total Project disturbance 0.33% of potential habitat present in the bioregion (3,283 ha)
- Ornamental Snake (*Denisonia maculata*)
  - Significant Residual Impact 10 ha
  - Total Project disturbance 0.08% of potential habitat present in the bioregion (870 ha)
- Painted Honeyeater (*Grantiella picta*)
  - Significant Residual Impact 61 ha
  - Total Project disturbance 0.31% of potential habitat present in the bioregion (4,314 ha)
- Red Goshawk (*Erythrorhynchus radiatus*)
  - Significant Residual Impact 10 ha
  - Total Project disturbance 0.07% of potential habitat present in the bioregion (6,025 ha)
- South-eastern Long-eared Bat (*Nyctophilus corbeni*)
  - Significant Residual Impact 61 ha
  - Total Project disturbance 0.09% of potential habitat present in the bioregion (6,380 ha)
- Squatter Pigeon (*Geophaps scripta scripta*)
  - Significant Residual Impact 12 ha
  - Total Project disturbance 0.07% of potential habitat present in the bioregion (1,540 ha)
- Yakka Skink (*Egernia rugosa*)
  - Significant Residual Impact 3,187 ha
  - Total Project disturbance 0.07% of potential habitat present in the bioregion (4,830 ha)

#### 2.4.2 Do you consider this impact to be significant?

Yes  No

#### 2.5 Is the proposed action likely to have any direct or indirect impact on the members of any listed migratory species or their habitat?

Yes  No

### Migratory species

Common Greenshank (*Tringa nebularia*)  
Common Sandpiper (*Actitis hypoleucos*)  
Curlew Sandpiper (*Calidris ferruginea*)



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Latham's Snipe (*Gallinago hardwickii*)  
Pectoral Sandpiper (*Calidris melanotos*)  
Sharp-tailed Sandpiper (*Calidris acuminata*)  
Fork-tailed Swift (*Apus pacificus*)  
Oriental Cuckoo (*Cuculus optatus*)  
Osprey (*Pandion haliaetus*)  
Rufous Fantail (*Rhipidura rufifrons*)  
Satin Flycatcher (*Myiagra cyanoleuca*)  
White-throated Needletail (*Hirundapus caudacutus*)  
Yellow Wagtail (*Motacilla flava*)

**Impact**

The proposed action will not have a significant impact on migratory species.  
As detailed in Section 7.0, page 109 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1), migratory species have the potential to occur in the Project Area, however, all species are either common throughout their range and/or opportunistic visitors to wetland environments. As wetland environments will be avoided during detailed design of gas field infrastructure, impacts have been considered based on the likelihood of population level effects.  
Accordingly, it is not expected that significant impacts to migratory species will result from the Project.  
A full impact assessment is provided in section 7.0, page 109 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1).

**2.5.2 Do you consider this impact to be significant?**

Yes  No

**2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?**

Yes  No

**2.7 Is the proposed action likely to be taken on or near Commonwealth land?**

Yes  No

**2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?**

Yes  No

**2.9 Is the proposed action likely to have any direct or indirect impact on a water resource from coal seam gas or large coal mining development?**

Yes  No

**Water resource**

Groundwater Bores

**Impact**

The proposed action will not have a significant impact on groundwater bores.  
As detailed in Section 7.0, page 109 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1), to assess potential impacts from the Project, the Office of Groundwater Impact Assessment (OGIA) simulated groundwater drawdown for the Project using the groundwater flow model from the 2019 Underground Water Impact Report (UWIR) for the Surat Cumulative Management Area (CMA). The cumulative scenario simulated by OGIA includes all current and proposed development simulated for the 2019 Surat CMA UWIR plus proposed development for the Project. Of the approximately 4,850 known groundwater bores located within 50 kms of the Project, 13 bores are predicted to experience drawdown greater than the Queensland Water Act 2000 bore trigger thresholds that were not predicted to exceed the Queensland Water Act 2000 bore trigger thresholds based on the 2019 UWIR for the Surat CMA. One of these bores is attributed to a sandstone aquifer, all other bores are attributed to the typically non-productive Rewan Formation aquitard or coal measures representing gas formations for the Project.  
  
The Queensland Water Act 2000 prescribes a process to 'make good' any water supply reduction to bores from groundwater drawdown associated with resource activities. A Bore Assessment would be conducted for groundwater bores predicted by the UWIR to experience drawdown in exceedence of the trigger threshold prescribed by the Queensland Water Act 2000. This Bore Assessment would determine if the bores would experience potential impaired capacity as a result of potential groundwater drawdown from the Project. Where the potential for impaired capacity has been demonstrated, bores will be subject to additional 'make good' measures if required.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

#### Water resource

EPBC Act listed springs

#### Impact

The proposed action will not have a significant impact on EPBC Act listed springs.

As detailed in Section 7.0, page 109 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1), there are no EPBC Act listed springs in the Project area. Project only modelling results show no impacts to EPBC Act listed springs surrounding the Project Area. Cumulative drawdown modelling results show groundwater level drawdown is predicted to exceed the Queensland Water Act 2000 spring trigger of 0.2m at three EPBC Act listed springs surrounding the Project area: Cockatoo, LuckyLast, and Yebna2 spring complexes. OGIA had predicted cumulative groundwater drawdown at these EPBC Act listed springs in exceedance of the 0.2m trigger threshold in the absence of the Project as documented in the 2019 UWIR for the Surat CMA. OGIA have allocated responsible tenure holder obligations for these EPBC Act listed springs.

The Project's contribution to predicted cumulative drawdown at these EPBC Act listed springs is approximately 4%, 8%, and 3%, respectively.

#### Water resource

Surface expression GDEs

#### Impact

The proposed action will not have a significant impact on surface expression GDEs.

As detailed in Section 7.0, page 109 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1), project only modelling results indicate no impacts to surface expression GDEs. Cumulative drawdown modelling predicted 5 spring complexes and 21 watercourse springs will potentially exceed the Queensland Water Act 2000 spring trigger threshold of 0.2m, however none of these surface expression GDEs represent EPBC Act listed springs. OGIA had predicted cumulative groundwater drawdown at these springs in exceedance of the 0.2m trigger threshold in the absence of the Project as documented in the 2019 UWIR for the Surat CMA. OGIA have allocated responsible tenure holder obligations for these EPBC Act listed springs.

The Project is predicted to have a relatively minor contribution to cumulative groundwater drawdown at these surface expression GDEs of 0% to 9% for spring complexes and 0% to 15% for watercourse springs.

#### Water resource

Terrestrial expression GDEs

#### Impact

The proposed action will not have a significant impact on terrestrial expression GDEs.

As detailed in Section 7.0, page 109 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1), OGIA's terrestrial GDE (TGDE) risk assessment process has been adopted for the Project and enhanced using TGDE remote sensing data, and ecology values applicable to the EPBC Act. In accordance with the OGIA risk assessment process, predicted long-term drawdown of more than 1 m within Layer 1 of the UWIR model (alluvium, Cenozoic sediments, and basalt), or aquifer outcrop areas represent a medium or high risk of significant impacts to potential terrestrial GDEs accessing groundwater from these units.

Using rule-sets from Queensland Government mapping identifying potential groundwater sources for GDEs, and the IESC's process for remote sensing validation of terrestrial GDE vegetation, there are no potential terrestrial GDEs assessed as a medium or high risk of significant impacts from groundwater drawdown predicted for both Project only and cumulative modelling.

#### Water resource

Subterranean GDEs

#### Impact

The proposed action will not have a significant impact on Subterranean GDEs.

As detailed in Section 7.0, page 109 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1), no significant impacts to subterranean GDEs were identified using the IESC's framework for assessing the suitability of subterranean fauna habitat based on water chemistry and aquifer conditions. While highly or moderately favourable conditions for stygofauna habitat are present in the alluvium, cenozoic sediments and basalt within the Mahalo development area, the predicted reduction in the saturated thickness of these groundwater units ranged between 2% and 12%. Based on this minimal reduction in saturated thickness, the Project is not predicted to have a significant impact on subterranean fauna habitat availability.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Water resource

Surface water

## Impact

The proposed action will not have a significant impact on surface water.

As detailed in Section 7.0, page 109 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1), while the Project will utilise existing and approved water management infrastructure authorised under the EPBC Act (e.g. EPBC 2009/4974), the Project does not propose any new or additional authorisations for discharge to, or abstraction from, surface water systems.

Non-linear infrastructure will be excluded from watercourses. Construction of linear infrastructure (e.g. pipelines and access tracks) requiring a watercourse crossing would be undertaken in accordance with the 'accepted development requirements for operational work that is constructing or raising waterway barrier works' under the Queensland Fisheries Act 1994 and the Queensland Planning Act 2016. Erosion and sediment controls will be implemented during construction to minimise potential surface water quality impacts and upstream and downstream water quality will be monitored during construction of linear infrastructure.

### 2.9.2 Do you consider this impact to be significant?

Yes  No

### 2.10 Is the proposed action a nuclear action?

Yes  No

### 2.11 Is the proposed action to be taken by a Commonwealth agency?

Yes  No

### 2.12 Is the proposed action to be undertaken in a Commonwealth Heritage place overseas?

Yes  No

### 2.13 Is the proposed action likely to have any direct or indirect impact on any part of the environment in the Commonwealth marine area?

Yes  No



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Section 3

### Description of the project area

#### 3.1 Describe the flora and fauna relevant to the project area

A comprehensive ecological assessment was undertaken to map MNES values (threatened species and TECs) within the Project area. The assessment incorporated analysis of data from a range of sources and utilises field data, species and vegetation records, published data and recognised modelling techniques. Refer to Section 7.2.2, page 112 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1).

A predictive habitat model for each threatened species and TEC identified in the likelihood of occurrence assessment (provided in Section 7.2.3, page 126 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1) and Appendix B2) was designed to provide a dynamic, robust and predictive spatial mapping layer (GIS). The layer incorporated data from scientific literature, verified government datasets, DAWE guidelines, Species Profiles and Threats (SPRAT) database, specimen backed datasets (i.e. data derived from a known/confirmed location of an observed specimen or TEC) and field identified records into a single GIS data set that could be used to identify areas that are known, or considered to have the potential to support specific threatened species and TECs.

The assessment found that approximately 76% (361,277 ha) of the Project Area has been previously cleared, with 115,646 ha of remnant vegetation remaining within the Project Area. The majority of this remnant vegetation is conserved in National Parks and other protected areas, the most notable being Carnarvon Gorge. Threatened species are commonly associated with areas of remnant vegetation, although regrowth and cleared areas may support local populations particularly where the regrowth is connected or adjacent to viable remnant patches.

#### 3.2 Describe the hydrology relevant to the project area (including water flows)

- Surface water

The Project Area is located within the Condamine-Balonne (Ironbark development area) and Fitzroy Basins (Mahalo, Denison, Spring Gully and Peat development areas). The Condamine-Balonne Basin is predominantly comprised of floodplains, and a complex system of rivers and creeks. The Fitzroy Basin contains several large rivers which discharge into the Coral Sea east of Rockhampton.

The main headwater sub-catchments present within the Project Area are Comet River in the northwest, Upper and Lower Dawson River in the central and northeast, and Upper Balonne tributaries in the south. The location of major drainage basins within the Project Area are shown on Figure 14, page 73 of the MNES Assessment Report Part 1 of 2 (Attachment 1).

Watercourses in headwater catchments are typically within steep, confined to partially confined valleys that at times become gorges (e.g. Dawson River). These stable, single channels are often highly sinuous, laterally confined and bedrock to coarse bedload dominated. Bedrock controlled discontinuous floodplains become increasingly connected downstream.

Watercourses within the area exhibit a wide range of fluvial geomorphologic characteristics and typically show a moderate to high level of impact from the effects of land clearance for grazing and cropping, stock access and removal of riparian vegetation. Rainfall and resultant streamflow in the surface water sub-catchments are characterised by a distinct seasonal and highly variable nature. Watercourses within the Project Area are typically ephemeral in nature, only flowing during or immediately after significant rainfall events and subject to relatively rapid flow recessions. Intermittent flows within these waterways support limited watercourse aquatic ecosystems. The waterways instead provide drainage paths and intermittent habitat for aquatic species. Intermittent flows within these waterways support limited watercourse aquatic ecosystems. The waterways instead provide drainage paths and intermittent habitat for aquatic species.

Peak stream discharges usually occur during the wet season months of December to February when rainfall is highest. Dawson River downstream of its confluence with Hutton Creek maintains a relatively consistent baseflow year-round due to inflow from the Dawson River Springs. The high level of variability in both annual and monthly rainfall indicates a high likelihood of both floods and droughts.

Surface water is further detailed in Section 4.9, page 72 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1) and the Water Assessment Report (Appendix F).

- Groundwater

The Project is located within the Surat Cumulative Management Area (CMA) established under the Water Act 2000 (Qld) to manage potential impacts of cumulative water production from resource projects in the Surat and southern Bowen Basins. Regionally, groundwater recharge to the Surat Basin and Bowen Basin aquifers occurs via localised recharge, preferential pathway flow and diffuse recharge.

Most recharge occurs along the outcrop areas in the north, northwest, northeast and east along the Great Dividing Range.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Within these outcrop areas diffuse aquifer recharge is likely to occur. Diffuse recharge is the process by which rainfall infiltrates directly through outcropping aquifers (Kellett et al., 2003) or indirectly via leakage from streams or overlying aquifers. Recharge rates for aquifers within the Surat CMA are estimated to range between 1.2 mm and 26.9 mm per year depending on the hydrostratigraphic unit (OGIA, 2019b). Natural groundwater discharge occurs through vent springs, baseflow to rivers (watercourse springs) and vertical leakage between aquifers. Recharge water flows primarily along the bedding planes and fractures of aquifers and aquitards from the recharge areas to the south, southwest and west, though there is a minor northward flow component in some aquifers (Hodgkinson et al., 2009) e.g. near Taroom.

Groundwater moves very slowly and flow velocities in the Surat Basin have been estimated to range from 1 to 5 m per year (Habermehl, 2002). Groundwater movement within the Surat Basin is dominated by sub-horizontal flow in the aquifers, with vertical leakage from the aquifers through the low permeability aquitards occurring throughout the basin at a much slower rate.

Around 90% of water bores accessing the Surat Basin within the Surat CMA are for stock and domestic purposes. There are no EPBC Act listed springs in the Project area.

Further information relating to groundwater is provided in Section 7.4, page 203 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1).

### **3.3 Describe the soil and vegetation characteristics relevant to the project area**

Eight major soil groups are identified within the Project Area (Stace, 1968), including:

- Mahalo comprising mainly vertosols, sodosols, kandosols and tenosols
- Denison comprising mainly dermosols, sodosols, tenosols and rudosols
- Spring Gully comprising mainly vertosols, rudosols, kandosols, sodosols and chromosols
- Peat comprising mainly vertosols and kandosols
- Ironbark comprising mainly sodosols, kurosols and vertosols.

There are no known acid-sulphate soils or acid-bearing rock formations within the Project Area.

Further information on the soils within the Project area is provided in Section 4.5, page 52 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1).

Queensland encompasses a wide variety of landscapes across temperate, wet and dry tropics and semi-arid to arid climatic zones. As of January 2019, 1,424 regional ecosystems (REs) are recognised across Queensland (Neldner, Niehus, et al., 2019). The Project is located within the Brigalow Belt Bioregion, predominantly in the southern portion with a small section located within the northern portion. Approximately 76% (361,277 ha) of the Project Area has been previously cleared, with only 115,646 ha of remnant vegetation (24%) within the Project Area. The majority of this remnant vegetation is conserved in National Parks and other protected areas, the most notable being Carnarvon Gorge.

Further information on the vegetation within the Project area is provided in Section 4.6, page 56 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1).

### **3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area**

No outstanding natural features exist within the Project Area.

### **3.5 Describe the status of native vegetation relevant to the project area**

Approximately 24% (115,646 ha) of the Project Area contains remnant vegetation. The majority of this remnant vegetation is conserved in national parks and other protected areas, the most notable being Carnarvon Gorge.

Table 26, page 127 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1) lists the TECs and threatened species with the potential to occur within the Project area, and lists the EPBC Act listing status for each TEC and species.

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

The Project Area has north-south topographical highs of the Expedition and Shotover Ranges and an east-west trending topographical high of the Great Dividing Range. Three major river systems are separated by these topographical highs; the Comet River in the north draining to the northwest, the Dawson River in the east draining to the northeast, and the Balonne River in the south draining to the south.

The landscape is largely composed of alluvial plains (flat, near flat and undulating plains associated within valleys along the main rivers and tributary streams), undulating low hills, broad ridges and wide, flat-bottomed valleys and plateau remnants (flat to strongly undulating plateau surface remnants cut by very steep slopes and escarpments). Across the Project



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

area elevations range from less than 200 metres (m) Australian Height Datum (AHD) in the north (Mahalo) to more than 350 m AHD in the south (Ironbark) and east (Peat), with maximum peak of 650 m AHD (Spring Gully).

Further information is provided in Section 4.4, page 52 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1).

### **3.7 Describe the current condition of the environment relevant to the project area**

Approximately 76% (361,277 ha) of the Project Area has been previously cleared, leaving only 115,646 ha of remnant vegetation remaining within the Project Area. The majority of this remnant vegetation is conserved in national parks and other protected areas, the most notable being Carnarvon Gorge.

The Project Area is subject to land uses, including agricultural production (cropping land and cattle grazing), resource extraction (petroleum activities) and protected areas with conservation and recreation values. Many areas have been subjected to extensive grazing and agricultural related land use activities such as clearing of woody vegetation.

Watercourses within the area exhibit a wide range of fluvial geomorphologic characteristics and typically show a moderate to high level of impact from the effects of land clearance for grazing and cropping, stock access and removal of riparian vegetation. Further information is provided in Section 4.1, page 45 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1).

Rainfall and resultant streamflow in the surface water sub-catchments are characterised by a distinct seasonal and highly variable nature. Watercourses within the Project Area are typically ephemeral in nature, only flowing during or immediately after significant rainfall events and subject to relatively rapid flow recessions. Intermittent flows within these waterways support limited watercourse aquatic ecosystems. The waterways instead provide drainage paths and intermittent habitat for aquatic species.

### **3.8 Describe any Commonwealth Heritage places or other places recognised as having heritage values relevant to the project**

There are no World Heritage or National Heritage Places within the Project area, and there are no places listed on the National Heritage List within the Project area.

### **3.9 Describe any Indigenous heritage values relevant to the project area**

The Project Area contains a variety of Indigenous heritage places reflective of its Indigenous settlement. There are numerous places recorded on the cultural heritage database and register maintained by the Queensland Department of Aboriginal and Torres Strait Islander and Multicultural Affairs (DATSIMA), which include artefact scatters, paintings and scarred trees.

Origin Energy has existing Cultural Heritage Management Plans (CHMPs) with relevant Traditional Owner groups across a majority of the Project Area (Figure 32, page 245 of the MNES Assessment Report Part 2 of 2 (Attachment 1)). Origin Energy will operate in accordance with the requirements of the Act and any plans developed with Aboriginal Parties under the Aboriginal Cultural Heritage Act 2003.

Further information is provided in section 9.0, page 240 of the MNES Assessment Report Part 2 of 2 (Attachment 1).

### **3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area**

The Project Area is mostly privately-owned freehold land (76.4%) associated with larger agricultural properties. The remainder of the land tenure is a combination of lands lease, road reserves, easements and unallocated state land.

Land tenure is shown on Figure 6, page 46 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1).

### **3.11 Describe any existing or any proposed uses relevant to the project area**

The Project Area is subject to land uses, including agricultural production (cropping land and cattle grazing), resource extraction (petroleum activities) and protected areas with conservation and recreation values. Many areas have been subjected to extensive grazing and agricultural related land use activities such as clearing of woody vegetation.

Urban development comprises regional towns including Injune, Tara, Wandoan and Rolleston and rural residences outside of urban areas (refer to Figure 1 of this form).

Petroleum and gas tenure approvals (ATPs and PLs) and EAs have been granted over the Project Area (shown on Figure 4, page 32 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1)). The Project is also located adjacent to existing gas projects including the Australia Pacific LNG Project, Santos GLNG Project, Queensland Curtis LNG Project, and the Arrow Energy Surat Gas Project (Refer to Figure 3, page 31 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1)).



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Section 4

### Measures to avoid or reduce impacts

#### 4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action

The final number, size and location of infrastructure developed progressively over the life of the Project will be influenced by the location of the gas resources identified through ongoing exploration and appraisal activities. Field development will also account for the constraints associated with environmental, land access and cultural heritage values, as detailed in the Environmental Constraints Planning and Field Development Protocol (the Protocol, Appendix A). As detailed in section 6.3, page 80 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1), a hierarchy of environmental management practices will be adopted to minimise potential impacts to MNES through:

- Avoidance – avoid disturbance to MNES
- Minimisation – minimise disturbance to MNES where disturbance cannot reasonably and practicably be avoided
- Mitigation – implement mitigation and management measures to minimise impacts to MNES
- Rehabilitation – actively rehabilitate disturbance to MNES in accordance with the Rehabilitation Management Plan and relevant EA conditions
- Offset – where required, provide offsets for activities that result in an SRI to MNES.

The proposed EPBC Act approval conditions (Appendix M) are designed to manage potential significant impacts to MNES based on the Australia Government's Outcomes-Based Conditions Policy and Outcomes-Based Conditions Guidance. The proposed EPBC Act approval conditions include conditions which ensure impacts to MNES are the firstly avoided, then mitigated or managed to an acceptable level.

Consistent with Section 134(4) of the EPBC Act, in deciding whether to attach a condition to an EPBC Act approval, the Minister must consider any relevant conditions that have been imposed or are likely to be imposed under a law of a State or another law of the Commonwealth. In addition to the proposed EPBC Act approval conditions, the Project will also be undertaken in accordance with key regulatory controls under Queensland legislation, and the Project-specific controls. Key regulatory controls for the Project are described in section 6.2, page 80 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1) and in the Environment Management Plan (Appendix C), and includes management measures required under Queensland legislation to ensure impacts to environmental values are avoided or reduced. The Project is authorised under EAs, which contain conditions protecting environmental values including biodiversity, land, air, surface water, groundwater and wetlands. All disturbances will be rehabilitated in accordance with the Rehabilitation Management Plan (Appendix D) and the relevant EA conditions (Appendix N).

Project-specific controls for the Project area described in section 6.3, page 99 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1). Potential impacts to MNES will be managed through the implementation of the following management documents for the Project, as further summarised in Table 16, page 101 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1):

- Environmental Constraints Planning and Field Development Protocol (Appendix A)
- Environmental Management Plan (Appendix C)
- Rehabilitation Management Plan (Appendix D)
- Offsets Plan (Appendix E)
- Produced Water Management Plan (Appendix G)
- Groundwater Monitoring and Management Plan (Appendix H)
- Chemical Risk Assessment (Appendix I).

#### 4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved

Based on the impact assessments provided in Section 7.0, page 109 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1), the only MNES that will be significantly impacted by the Project are listed threatened species and ecological communities. Potential impacts to other MNES are not significant.

The Project will deliver a conservation gain by implementing the Offsets Plan (Appendix E) and Rehabilitation Plan (Appendix D). All significant residual impacts to threatened species and ecological communities will be offset by a direct offset, leading to a conservation gain for the species.

Conservation gains will be delivered in a number of ways including via the establishment of an offsets bank, management of offset areas and on ground protection and management, outlined in the Offsets Plan (Appendix E). Within a particular offset area, a conservation gain will be achieved by activities including:

- improving existing habitat for the protected matter
- creating new habitat for the protected matter
- reducing threats to the protected matter
- averting an area of threatened species and/or TEC habitat that is currently under threat.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

Ongoing management of offset areas will be undertaken to achieve the desired conservation gains for each threatened species and TEC. The management measures to be implemented at each area will address both local pressures on the environment and provide specific actions tailored to the threatened species and ecological communities that are being offset. Each offset area will be managed to maintain their MNES values.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Section 5

### Conclusion on the likelihood of significant impacts

#### 5.1 You indicated the below ticked items to be of significant impact and therefore you consider the action to be a controlled action

- World Heritage properties
- National Heritage places
- Wetlands of international importance (declared Ramsar wetlands)
- Listed threatened species or any threatened ecological community
- Listed migratory species
- Marine environment outside Commonwealth marine areas
- Protection of the environment from actions involving Commonwealth land
- Great Barrier Reef Marine Park
- A water resource, in relation to coal seam gas development and large coal mining development
- Protection of the environment from nuclear actions
- Protection of the environment from Commonwealth actions
- Commonwealth Heritage places overseas
- Commonwealth marine areas

#### 5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action

World Heritage properties - None located near the Project Area  
National Heritage places - None located near the Project Area  
Wetlands of international importance (declared Ramsar wetlands) - None located near the Project Area  
Listed threatened species or any threatened ecological community - Refer to Section 2.4 of this form and Section 7, page 109 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1)  
Listed migratory species - Refer to Section 2.5 of this form and Section 7, page 109 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1)  
Marine environment outside Commonwealth marine areas - None located near the Project Area  
Protection of the environment from actions involving Commonwealth land - None located near the Project Area  
Great Barrier Reef Marine Park - None located near the Project Area  
A water resource, in relation to coal seam gas development and large coal mining development - Refer to Section 2.9 of this form and Section 7, page 109 of the MNES Assessment Report Part 1 of 2 V1 (Attachment 1)  
Protection of the environment from nuclear actions - NA to the Project.  
Protection of the environment from Commonwealth actions - None located near the Project Area  
Commonwealth Heritage places overseas - None located near the Project Area  
Commonwealth marine areas - None located near the Project Area



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Section 6

### Environmental record of the person proposing to take the action

#### 6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Explain in further detail

Australia Pacific LNG Pty Ltd, and its upstream operator, Origin Energy, are committed to responsible environmental management and have Health Safety and Environment (HSE) Management Systems which help to govern all activities and ensure continual improvement in managing environmental risks. Origin Energy sets objectives and targets that promote the efficient use of resources, minimisation of wastes and emissions.

Origin Energy is committed to protecting the environment and consequently manages HSE matters as critical business activities. Origin Energy has developed corporate environmental policies that provide a public statement of the corporate commitment to protecting the environment during operations.

#### 6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application

Australia Pacific LNG Pty Ltd and Origin Energy have not been subject to court proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources.

#### 6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?

Yes  No

#### 6.3.1 If the person taking the action is a corporation, provide details of the corporation's environmental policy and planning framework

The HSE Management System ensures that environmental risks associated with Origin Energy's operations are either avoided or kept to as low as reasonably practicable. In addition, the HSE Management System drives continuous improvement in the company's environmental performance and assists to demonstrate to regulators, commercial partners and stakeholders that Origin Energy is managing its operations in an environmentally responsible way. Origin Energy aims to comply with all environmental regulations and conditions attached to approvals to operate, and promptly reports any non-compliance to relevant authorities. Employees and contractors to Origin Energy are encouraged to report on environmental performance associated with activities. To increase an understanding and improve company-wide performance, a register of all environmental incidents, observations and good practices is maintained.

#### 6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?

Yes  No

#### 6.4.1 EPBC Act No and/or Name of Proposal

- EPBC 2009/4977 – Australia Pacific LNG Pty Limited
- EPBC 2009/4976 – Australia Pacific LNG Pty Limited
- EPBC 2009/4974 – Australia Pacific LNG Pty Limited
- EPBC 2016/7720 – Australia Pacific LNG Pty Limited
- EPBC 2017/7902 – Australia Pacific LNG Pty Limited
- EPBC 2017/7881 – Australia Pacific LNG Pty Limited
- EPBC 2016/7805 – Australia Pacific LNG Pty Limited
- EPBC 2019/8534 – Australia Pacific LNG Pty Limited.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Section 7

### Information sources

#### Reference source

Refer to Section 13, page 258 of the MNES Assessment Report Part 2 of 2 (Attachment 1)

#### Reliability

High reliability for all reference sources. Developed by technical specialists/committees.

#### Uncertainties

Limited uncertainty (if any) for all reference sources. Developed by technical specialists/committees.



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

## Section 8

### Proposed alternatives

Do you have any feasible alternatives to taking the proposed action?

Yes



No



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

**Section 9**

**Person proposing the action**

9.1.1 Is the person proposing the action a member of an organisation?  
 Yes     No

**Organisation**

Organisation name AUSTRALIA PACIFIC LNG PTY LIMITED  
 Business name  
 ABN 68001646331  
 ACN  
 Business address GPO Box 148, Brisbane, 4001, QLD, Australia  
 Postal address  
 Main Phone number 1800526369  
 Fax  
 Primary email address envapprovals@originenergy.com.au  
 Secondary email address

9.1.2 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:  
 Small business  
 Not applicable

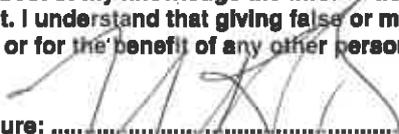
9.1.2.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations \*  
 Yes     No

**9.1.3 Contact**

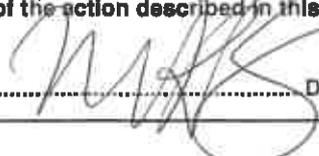
First name Nicole  
 Last name Buchanski  
 Job title Strategic Approvals Manager  
 Phone  
 Mobile  
 Fax  
 Email envapprovals@originenergy.com.au  
 Primary address GPO Box 148, Brisbane, 4001, QLD, Australia  
 Address

**Declaration: Person proposing the action**

I, NICOLE BUCHANSKI, 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.

Signature:  Date: 4/12/20

I, NICOLE BUCHANSKI, the person proposing the action, consent to the designation of AUSTRALIA PACIFIC LNG Pty Ltd as the proponent for the purposes of the action described in this EPBC Act Referral.

Signature:  Date: 4/12/20



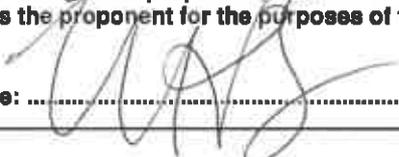
Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

**Proposed designated proponent**

**9.2.1 Is the proposed designated proponent a member of an organisation?**  
 Yes  No

**Organisation**  
**Organisation name** AUSTRALIA PACIFIC LNG PTY LIMITED  
**Business name**  
**ABN** 68001646331  
**ACN**  
**Business address** GPO Box 148, Brisbane, 4001, QLD, Australia  
**Postal address**  
**Main Phone number** 1800 526 369  
**Fax**  
**Primary email address** EnvApprovals@upstream.originenergy.com.au  
**Secondary email address**

**9.2.2 Contact**  
**First name** Nicole  
**Last name** Buchanski  
**Job title** Strategic Approvals Manager  
**Phone** 1800 526 369  
**Mobile**  
**Fax**  
**Email** EnvApprovals@upstream.originenergy.com.au  
**Primary address** GPO Box 149, Brisbane, 4001, QLD, Australia  
**Address**

**Declaration: Proposed Designated Proponent**  
I, NICOLE BUCHANSKI the  
proposed designated proponent, consent to the designation of  
myself as the proponent for the purposes of the action described in this EPBC Act Referral.  
**Signature:**  **Date:** 14/12/20



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

**Referring party (person preparing the information)**

9.3.1 Is the referring party (person preparing the information) a member of an organisation?

Yes  No

**Organisation**

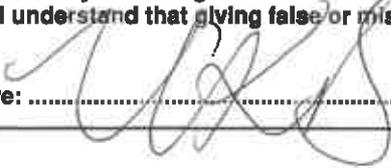
**Organisation name** AUSTRALIA PACIFIC LNG PTY LIMITED  
**Business name**  
**ABN** 68001646331  
**ACN**  
**Business address** GPO Box 148, Brisbane, 4001, QLD, Australia  
**Postal address**  
**Main Phone number** 1800526369  
**Fax**  
**Primary email address** envapprovals@upstream.originenergy.com.au  
**Secondary email address**

**9.3.2 Contact**

**First name** Nicole  
**Last name** Buchanski  
**Job title** Strategic Approvals Manager  
**Phone** 1800526369  
**Mobile**  
**Fax**  
**Email** envapprovals@upstream.originenergy.com.au  
**Primary address** GPO, Brisbane, 4001, QLD, Australia  
**Address**

**Declaration: Referring party (person preparing the information)**

I, NICOLE BUCHANSKI, 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.

**Signature:**  **Date:** 14/12/20



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

<b>Appendix A</b>		
<b>Attachment</b>		
<b>Document Type</b>		<b>File Name</b>
action_area_images		Figure 1 - GSS Project Referral.pdf
action_area_images	<b>SUPERSEDED by Attachment 1 - MNES Assessment Report Part 1 of 2 V1</b>	Referral - Attachment 1 - MNES Assessment Report Part 1 of 2.pdf
action_area_images		Referral - Attachment 1 - MNES Assessment Report Part 2 of 2.pdf
action_area_images		Referral - Attachment 1 - MNES Assessment Report Part 1 of 2 V1.pdf
action_area_images		GSS Lot on Plans.pdf
govt_approval_conditions		Referral - Appendix B4 - Part 7 of 10.pdf
govt_approval_conditions		Referral - Appendix B4 - Part 8 of 10.pdf
govt_approval_conditions		Referral - Appendix B4 - Part 9 of 10.pdf
govt_approval_conditions		Referral - Appendix B4 - Part 10 of 10.pdf
govt_approval_conditions		Referral - Appendix B5.pdf
govt_approval_conditions		Referral - Appendix C.pdf
govt_approval_conditions		Referral - Appendix D.pdf
govt_approval_conditions		Referral - Appendix E.pdf
govt_approval_conditions		Referral - Appendix E - Attachment 3a - Part 1 of 3.pdf
govt_approval_conditions		Referral - Appendix E - Attachment 3a - Part 2 of 3.pdf
public_consultation_reports		Referral - Appendix A.pdf
public_consultation_reports		Referral - Appendix B1.pdf
public_consultation_reports		Referral - Appendix B2.pdf
public_consultation_reports		Referral - Appendix B3.pdf
public_consultation_reports		Referral - Appendix B4 - Part 1 of 10.pdf
public_consultation_reports		Referral - Appendix B4 - Part 2 of 10.pdf
public_consultation_reports		Referral - Appendix B4 - Part 3 of 10.pdf
public_consultation_reports		Referral - Appendix B4 - Part 4 of 10.pdf
public_consultation_reports		Referral - Appendix B4 - Part 5 of 10.pdf
public_consultation_reports		Referral - Appendix B4 - Part 6 of 10.pdf
supporting_tech_reports		Referral - Appendix E - Attachment 3a - Part 3 of 3.pdf
supporting_tech_reports		Referral - Appendix E - Attachment 3b.pdf
supporting_tech_reports		Referral - Appendix F - Part 1 of 9.pdf
supporting_tech_reports		Referral - Appendix F - Part 2 of 9.pdf
supporting_tech_reports		Referral - Appendix F - Part 3 of 9.pdf
supporting_tech_reports		Referral - Appendix F - Part 4 of 9.pdf
supporting_tech_reports		Referral - Appendix F - Part 5 of 9.pdf
supporting_tech_reports		Referral - Appendix F - Part 6 of 9.pdf
supporting_tech_reports		Referral - Appendix F - Part 7 of 9.pdf
supporting_tech_reports		Referral - Appendix F - Part 8 of 9.pdf
supporting_tech_reports		Referral - Appendix F - Part 9 of 9.pdf
flora_fauna_investigation		Referral - Appendix G.pdf
flora_fauna_investigation		Referral - Appendix H - Part 1 of 2.pdf
flora_fauna_investigation		Referral - Appendix H - Part 2 of 2.pdf
flora_fauna_investigation		Referral - Appendix I - Part 1 of 2.pdf
flora_fauna_investigation		Referral - Appendix I - Part 2 of 2.pdf
flora_fauna_investigation		Referral - Appendix J.pdf
flora_fauna_investigation		Referral - Appendix K.pdf
flora_fauna_investigation		Referral - Appendix L.pdf
flora_fauna_investigation		Referral - Appendix M.pdf
hydro_investigation_files		Referral - Appendix N.pdf

<b>Appendix B</b>
<b>Coordinates</b>
Area 1
-27.081760554306,150.4586817068
-27.22120127302,150.58442777332
-27.231758900153,150.58442790013
-27.248425299988,150.58442799995



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

-27.248425200163,150.56776169994
-27.248425299988,150.55109559958
-27.248425700186,150.53442959995
-27.248425700186,150.51776329994
-27.248425700186,150.5010969001
-27.248425600361,150.48443060009
-27.248425600361,150.46776420026
-27.248425600361,150.45109790025
-27.248425600361,150.43443150041
-27.248425499637,150.41776509968
-27.248425499637,150.40109879967
-27.248425499637,150.38443239984
-27.248425499637,150.367766
-27.248425499637,150.35109950034
-27.248425800011,150.33443299978
-27.231759400176,150.33443230011
-27.215092899618,150.33443209956
-27.198426399958,150.33443199974
-27.181759900299,150.33443189991
-27.165093399741,150.33443180009
-27.165093799939,150.31776469968
-27.165093799939,150.30109820002
-27.165093799939,150.28443180019
-27.165093700114,150.26776529963
-27.165093700114,150.25109899962
-27.181760299598,150.25109879997
-27.198426700332,150.25109879997
-27.198426599608,150.23443240014
-27.198426700332,150.2177660003
-27.198426700332,150.20109970029
-27.198426599608,150.18443259988
-27.198426499783,150.16776570003
-27.181760000124,150.1677656002
-27.165093600289,150.16776589968
-27.14842730028,150.16776620005
-27.131760799721,150.16776610023
-27.115094300062,150.1677660004
-27.098427699679,150.1677660004
-27.081761200019,150.16776589968
-27.081761200019,150.18443250006
-27.081761100195,150.20109910044
-27.081761100195,150.2177656001
-27.08176100037,150.23443219959
-27.08176100037,150.25109879997
-27.08176100037,150.25109899962
-27.08176100037,150.26776500015
-27.08176100037,150.2677651998
-27.081761100195,150.28443139999
-27.081761200019,150.3010977
-27.081761200019,150.31776419966
-27.08176100037,150.32887553308
-27.08176100037,150.33443099969



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

-27.081760899646,150.3344510222
-27.081760600171,150.35109819992
-27.081760600171,150.36776480031
-27.081760600171,150.38443129996
-27.081760600171,150.4010976998
-27.081760699996,150.41776409963
-27.081760699996,150.43443050037
-27.081760600171,150.45109680038
-27.081760554306,150.4586817068
Area 2
-26.081764999855,150.13442299972
-26.081764499832,150.16775599994
-26.165097699599,150.16775728957
-26.165097999973,150.1510907998
-26.181764600356,150.15109100035
-26.198431299665,150.15109129982
-26.215097900048,150.15109150037
-26.231764600256,150.15109179985
-26.24843119974,150.1510920004
-26.248431400289,150.13442549984
-26.248431533388,150.12704579443
-26.085016999635,150.10347699986
-26.084734534271,150.05109033595
-26.081766099726,150.05109029998
-26.065099500242,150.0510899996
-26.048432899858,150.05108979995
-26.048433100407,150.03442319957
-26.031766400199,150.03442299992
-26.015099799816,150.03442270045
-25.998433200332,150.0344224999
-25.998432999783,150.05108899956
-25.998432700309,150.06775559994
-25.99843249976,150.0844220996
-25.998432200286,150.10108860016
-25.998431999737,150.11775517806
-26.048431899812,150.11775590021
-26.048431700163,150.1344224997
-26.081764999855,150.13442299972
Area 3
-25.881771499655,148.86777530019
-25.915104999896,148.86777559966
-25.915105599744,148.8844407998
-25.94843900016,148.88444110018
-25.948440500229,148.93443700007
-25.965106999888,148.93443719972
-25.965107400086,148.95110249968
-25.998440400304,148.95110310043
-25.998440799603,148.96776850022
-26.031773699996,148.96776910006
-26.031774200019,148.98443449985
-26.065106999688,148.9844350997
-26.065107399887,149.00110060021



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

-26.081773900445,149.00110100041
-26.081773100049,148.96776989956
-26.065106700214,148.96776960009
-26.065106300016,148.95110409957
-26.031773299798,148.95110359955
-26.0317728996,148.93443819976
-26.031773000324,148.93443800011
-26.015106499765,148.93443790029
-26.015105999742,148.91777299962
-26.015105999742,148.9177724996
-25.99843900006,148.91777199958
-25.981773000424,148.91777199958
-25.981773000424,148.90110699999
-25.965106099667,148.90110649997
-25.965104599598,148.85111060007
-25.915104999896,148.85111000023
-25.915104300223,148.83444399969
-25.915104300223,148.83444370022
-25.91510399985,148.83444370022
-25.831769999686,148.83444299964
-25.831770499709,148.83444320019
-25.831771099557,148.85110969985
-25.881770899807,148.85111010005
-25.881771499655,148.86777530019
Area 4
-25.581770900407,148.66777760016
-25.598437700439,148.66777729978
-25.615104499573,148.66777710013
-25.631771299606,148.66777679976
-25.648438099639,148.66777660011
-25.665104700022,148.66777669993
-25.715104299724,148.66777689958
-25.715104199899,148.68444340014
-25.748437299941,148.68444349997
-25.748437399766,148.66777710013
-25.765103900325,148.66777719996
-25.781770499809,148.66777729978
-25.781770700357,148.58444510006
-25.765104299624,148.58444490041
-25.748437799964,148.58444479969
-25.748437899789,148.56777830003
-25.748437999614,148.55111190019
-25.748437899789,148.53444529981
-25.748437899789,148.51777870033
-25.748437799964,148.50111209994
-25.731771300305,148.50111200012
-25.715104899571,148.50111200012
-25.698438399912,148.50111190029
-25.681772000078,148.50111179957
-25.665105500418,148.50111179957
-25.665105399694,148.48444529991
-25.665105200045,148.46777890008



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

-25.665105000395,148.45111250024
-25.665104899671,148.43444610041
-25.665104700022,148.41777969967
-25.665104500372,148.40111329984
-25.665104199999,148.38444620033
-25.665103899625,148.3677790001
-25.665103500326,148.35111189969
-25.648436999768,148.35111200042
-25.64843639992,148.33444480019
-25.63177009991,148.33444509966
-25.6151037999,148.33444540004
-25.598437499891,148.33444580023
-25.598438900135,148.46777949992
-25.581772299752,148.46777969957
-25.581772399577,148.48444620013
-25.581772399577,148.50111259997
-25.581772399577,148.5177789998
-25.581772399577,148.53444550036
-25.581772399577,148.55111190019
-25.581772199927,148.56777839985
-25.581772000278,148.58444500024
-25.581771799729,148.6011114999
-25.581771500254,148.61777799956
-25.581771299706,148.63444450011
-25.581771100056,148.6511110996
-25.581770900407,148.66777760016
Area 5
-25.498440699878,149.25109489981
-25.665102899579,149.25109899982
-25.665102799754,149.41776230029
-26.081769000039,149.41776579955
-26.081769000039,149.41776500005
-26.133050439426,149.41776623123
-26.165101010903,149.41776650012
-26.165101500134,149.41774382642
-26.165102573925,149.28085781094
-26.08177003336,149.23722333929
-26.081769300413,149.26776689972
-26.031769599987,149.26776610023
-26.031769199789,149.28443280043
-25.84843769994,149.2844294001
-25.848438299788,149.26776260006
-25.831771800128,149.26776229969
-25.831772399976,149.25109549966
-25.815105900317,149.25109510036
-25.815106500165,149.23442830033
-25.781772900099,149.2344285998
-25.781773400122,149.21776179977
-25.765106199891,149.21776250034
-25.765107100113,149.18442909992
-25.781774400168,149.18442830043
-25.781774900191,149.16776160022



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

-25.498441500275,149.16776279991
-25.498440699878,149.25109489981
Area 6
-25.38177399987,148.83444070008
-25.398441399751,148.83443950038
-25.415108900355,148.83443839961
-25.431776400061,148.83443719992
-25.448443799941,148.83443600022
-25.465111299647,148.83443479963
-25.481778700427,148.83443359993
-25.498446200132,148.83443250006
-25.498445000436,148.81776739975
-25.481777700381,148.81776839979
-25.48177659961,148.80110319965
-25.465109500103,148.80110400005
-25.448442399697,148.80110490027
-25.448441700024,148.78443929993
-25.448441000352,148.76777380032
-25.431774200319,148.76777430034
-25.431773700296,148.75110860018
-25.415107099913,148.75110900038
-25.415106800438,148.73444309967
-25.41510640024,148.71777719986
-25.398440200055,148.71777719986
-25.398440000406,148.70111120022
-25.398440200055,148.68444469966
-25.398440398805,148.66783918573
-25.392416755029,148.66777816403
-25.381774300244,148.66777810018
-25.365108299708,148.66777800035
-25.348442200247,148.66777779981
-25.331775400214,148.66777769998
-25.331775199666,148.68444419964
-25.331775000016,148.7011107002
-25.331774599818,148.71777719986
-25.331774300344,148.73444370042
-25.33177399997,148.7511102999
-25.331773599772,148.76777679956
-25.331773300298,148.78444330012
-25.331772999924,148.8011098996
-25.33177269955,148.81777640016
-25.331772300251,148.83444289982
-25.348439100284,148.83444310037
-25.365106500165,148.83444189977
-25.38177399987,148.83444070008
Area 7
-24.831774099895,148.56777350035
-24.848440999752,148.56777400037
-24.848440499729,148.58444019966
-24.865107199937,148.5844404002
-24.881773900145,148.58444069968
-24.898440600353,148.58444090023



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

-24.915107299662,148.5844411997
-24.915107100013,148.60110760044
-24.915106799639,148.61777410009
-24.915106500165,148.63444049993
-24.915106299616,148.65110699959
-24.998440000306,148.65110799963
-24.998439899582,148.66777429964
-25.015106699614,148.66777450019
-25.031773399822,148.66777469984
-25.048440199855,148.66777490039
-25.065106900063,148.66777510004
-25.065106999888,148.65110899968
-25.08177399957,148.65110899968
-25.08177399957,148.63444300004
-25.098440699778,148.63444300004
-25.098440500129,148.6511091004
-25.165106999688,148.65110999973
-25.165106999688,148.66777600026
-25.148440000006,148.66777600026
-25.148440000006,148.6844419999
-25.081773500447,148.6844415997
-25.081772000377,148.75110800033
-24.998438500237,148.75110689956
-24.998437018154,148.83344145796
-24.998437000167,148.83443989968
-25.015103700375,148.83444010023
-25.01510399985,148.81777349985
-25.031770700058,148.8177737004
-25.048437400266,148.81777390005
-25.065104200299,148.81777399987
-25.065103899925,148.83444060025
-25.081770699958,148.83444070008
-25.098437499991,148.8344407999
-25.115104300023,148.83444089973
-25.131771100056,148.83444110028
-25.148437900089,148.8344412001
-25.165104700122,148.83444129993
-25.181771500155,148.83444139975
-25.198438400012,148.83444149958
-25.21510510022,148.83444170012
-25.231771800428,148.83444179995
-25.248438599562,148.8344419996
-25.248438899935,148.81777549994
-25.248439200309,148.80110900028
-25.248439499783,148.7844423999
-25.248439800157,148.76777590024
-25.248439999806,148.75110939968
-25.24844030018,148.73444290002
-25.248440599654,148.71777629964
-25.248440900027,148.70110979998
-25.248441099677,148.68444340014
-25.248441200401,148.66777700031



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

-25.248441400051,148.65111059957
-25.248441499875,148.63444429956
-25.248441700424,148.61777789973
-25.248441800249,148.6011114999
-25.248441999898,148.58444510006
-25.231775100041,148.58444510006
-25.215108200183,148.58444500024
-25.198441300326,148.58444500024
-25.181774600118,148.58444479969
-25.16510789991,148.58444450021
-25.165108099559,148.5677782002
-25.165108200283,148.55111190019
-25.165108499757,148.53444529981
-25.165108800131,148.51777880015
-25.165109099605,148.50111229959
-25.148442400297,148.50111200012
-25.131775799913,148.50111169975
-25.115109099705,148.50111140027
-25.098442500221,148.5011110999
-25.081775899838,148.50111080042
-25.08177549964,148.51777739991
-24.931774999916,148.51777599966
-24.931775099741,148.50110899998
-24.915108400432,148.50110880033
-24.8984416004,148.50110859978
-24.881774900191,148.50110840013
-24.865108299808,148.50110809976
-24.8484415996,148.50110780028
-24.831775000116,148.50110759974
-24.831774099895,148.56777350035
Area 8
-24.565104200398,148.75110140021
-24.581770899707,148.75110159986
-24.581770600233,148.76776820024
-24.581770299859,148.7844346999
-24.58177010021,148.80110130028
-24.581769799836,148.81776779994
-24.581769600187,148.83443440033
-24.598436199671,148.83443459998
-24.615102899879,148.83443479963
-24.631769600087,148.83443500018
-24.648436300295,148.83443519982
-24.665102999604,148.83443540037
-24.665103299977,148.81776889981
-24.665103499627,148.80110230033
-24.6651038,148.78443579977
-24.665104100374,148.76776920029
-24.665104300023,148.75110269973
-24.665104600397,148.73443620007
-24.665104800046,148.71776959969
-24.66510510042,148.70110310003
-24.665105399894,148.68443649964



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

-24.665105600443,148.66776999999
-24.648438900235,148.66776980034
-24.631772200027,148.66776959979
-24.615105499819,148.66776930031
-24.598438799611,148.66776909976
-24.598438599961,148.68443570015
-24.581771899753,148.68443539977
-24.565105300269,148.68443520012
-24.548438699886,148.68443499958
-24.531771999678,148.6844347001
-24.515105400194,148.68443449955
-24.498438699986,148.6844342999
-24.498438399612,148.70110079956
-24.498438100138,148.71776730012
-24.498437799765,148.7344338996
-24.498437600115,148.75110040016
-24.515104199599,148.75110069964
-24.531770899807,148.75110090019
-24.54843750019,148.75110109984
-24.565104200398,148.75110140021
Area 9
-24.331777799806,148.43443440023
-24.33177789963,148.41776789967
-24.248445000237,148.41776689962
-24.248444503811,148.46776650742
-24.248444299665,148.48443299988
-24.24844419984,148.50109960027
-24.265110900048,148.50109970009
-24.281777600256,148.50109989974
-24.298444299565,148.50110010029
-24.315110700299,148.50110029994
-24.331777199958,148.50110049959
-24.331777399607,148.48443399993
-24.331777500331,148.46776750027
-24.331777600156,148.45110089989
-24.331777799806,148.43443440023
Area 10
-24.081773700296,148.9177606996
-24.09844010013,148.91776090015
-24.11510659979,148.91776099997
-24.131772999624,148.91776119962
-24.148439400358,148.91776140017
-24.165105700368,148.91776159982
-24.181772000377,148.91776180037
-24.198438300387,148.91776200002
-24.215104600397,148.91776219967
-24.231770900407,148.91776230039
-24.248437200416,148.91776250004
-24.248437499891,148.90109600038
-24.248437900089,148.88442949982
-24.248438199563,148.86776290034
-24.248438499937,148.85109639978



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

-24.248438699586,148.83442990012
-24.265104999596,148.83443009977
-24.281771299606,148.83443030032
-24.298437499791,148.83443049997
-24.315104100174,148.83443069962
-24.331770599833,148.83443090017
-24.348437100392,148.83443109982
-24.365103600051,148.83443140019
-24.38177009971,148.83443159984
-24.398436600269,148.83443180039
-24.415103099928,148.83443209986
-24.415103400302,148.81776550038
-24.415103699776,148.80109899982
-24.415103900325,148.78443240034
-24.415104199799,148.76776589978
-24.415104500173,148.75109930029
-24.398437899789,148.75109909974
-24.38177140013,148.75109890009
-24.365104799747,148.75109870044
-24.348438300087,148.7510984999
-24.331771699704,148.75109830025
-24.331771900253,148.73443179969
-24.331772099902,148.7177652002
-24.331772400276,148.70109869965
-24.331772900299,148.68443219999
-24.331773400322,148.66776570033
-24.331773900345,148.65109919977
-24.331774299644,148.63443260028
-24.331774799667,148.61776609973
-24.33177529969,148.60109960007
-24.331775799713,148.58443310041
-24.315109300054,148.58443289986
-24.298442800395,148.58443270021
-24.281776200012,148.58443249966
-24.265109499804,148.58443230001
-24.24844290032,148.58443220019
-24.231776299936,148.58443199964
-24.215109599728,148.58443189981
-24.198443000244,148.58443170016
-24.181776300036,148.58443149961
-24.165109699653,148.58443139979
-24.165109900202,148.56776490013
-24.165110000026,148.55109829975
-24.165110199676,148.53443180009
-24.148443500367,148.53443160044
-24.131777099633,148.53443149971
-24.131777400007,148.51776500005
-24.115111000172,148.51776480041
-24.115110799624,148.53443130006
-24.098444399789,148.53443120024
-24.081778003552,148.53443100689
-24.081775978279,148.75109556721



Note: PDF may contain fields not relevant to your application. These fields will appear blank or unticked. Please disregard these fields.

-24.081775999862,148.75109559958
-24.081775800213,148.76776210014
-24.081775599664,148.7844285998
-24.081775400015,148.80109510036
-24.08177530019,148.81776160002
-24.081775099641,148.83442799985
-24.081775095145,148.83479260839
-24.081773700296,148.9177606996