

23 July 2024

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Via email: [hannah.stevens@des.qld.gov.au](mailto:hannah.stevens@des.qld.gov.au)

**Subject: PL194 Request for Information Response**

Arrow Energy Pty Ltd (Arrow) submitted the EA amendment application for P-EA100464322 to the Department of Environment, Science and Innovation (DESI) on 18 December 2023. On 08 March 2024, DESI determined further information was required to assess the application. Arrow Energy provide the attached response to DESI's request.

Should you require further information or wish to discuss, please do not hesitate to contact Tyson Croll on 07 3012 4417 or via email to [tyson.croll@arrowenergy.com.au](mailto:tyson.croll@arrowenergy.com.au).

Yours sincerely



Rachael Cronin  
Vice President Safety, Sustainability and People

## 2.0 Information Request

### a) **Ecological report**

#### ***Issue***

In addition to the ecological information provided as part of this application, further contemporary and site-specific information is considered necessary to determine impacts on environmentally sensitive areas (ESAs) and Prescribed Environmental Matters (PEMs).

- i. The ecological report supplied is dated 2017 and is for the Surat Gas Project area (\*noted PL194 forms a small part of the broader Surat Gas Project area).
- ii. Section 6.1 of the Supporting Information Report states that Arrow ecologists surveyed the area in 2013, 2016, 2018 and 2022. This is in addition to the EcoSmart Ecology Report dated 2017. Information on the Arrow ecologists' surveys in 2018 and 2022 have not been supplied. Particularly noting the survey limitations described in section 3.5.2 of the EcoSmart Ecology which includes reduced coverage of floristic surveys, unsuitable conditions for the detection of a variety of species such as nocturnal reptiles and bats due to cold night temperature and the likely influence of no rainfall in the southern region (Dalby) on frog activity.
- iii. The EcoSmart Ecology Report states "In total, 114 Priority 1, 74 Priority 2, 65 Priority 3 and 31 Priority 4 properties were identified. Field surveys aimed to sample vegetation on all priority 1 and priority 2 properties throughout the course of the 'wet' and 'dry' season surveys, though access limitations prevented sampling some properties (i.e. 86 of 114 Priority 1 and 66 of 74 Priority 2 properties were sampled)." There are no details on how this relates to PL194 and the number of Priority 1 and Priority 2 properties not sampled.
- iv. The EcoSmart Ecology Report states "As no pitfall trapping could occur without prior cultural heritage assessment, trap site locations could not be relocated after the pilot study. The pilot study occurred prior to the flora investigations and did not account for any subsequent vegetation mapping changes." There are no details on the vegetation mapping changes in reference to PL194 and the effect of no pitfall trapping. Considering the above, the application, including the supporting ecological information, does not adequately outline the ESA/PEM impacts relevant to the proposed amendment on PL194.

## Information Requested

| Item | Information Requested                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Arrow Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Relevant Documents                                                                                                                                                                                                                                                                                                                                                            |
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| 1a   | <p>Please provide a flora and fauna ecological report, prepared by an appropriately qualified ecologist and ground-truthed from survey of:</p> <ul style="list-style-type: none"> <li>- the entire area proposed to be impacted, and</li> <li>- a 200-meter buffer around the area proposed to be impacted.</li> </ul> <p>The survey must be carried in accordance with the latest version of the:</p> <ul style="list-style-type: none"> <li>• <a href="#">Terrestrial Vertebrate Fauna Survey Guidelines for Queensland</a> (particularly in accordance with Table 2);</li> <li>• <a href="#">Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland</a> guideline;</li> <li>• <a href="#">Guide to determining terrestrial habitat quality</a>;</li> <li>• <a href="#">Flora Survey Guidelines - Protected Plants</a>.</li> </ul> <p>The ecological report must provide the below information:</p> <ul style="list-style-type: none"> <li>• A pre-field desktop assessment for the area and a recommended minimum 50 kilometre-radius including, but not limited to, the following:</li> </ul> | <p>Arrow provided a flora and fauna ecological report for the entire Arrow Project Area (including PL194), with the submission of this amendment application. This report (EcoSmart Ecology Report) was prepared by an appropriately qualified ecologist.</p> <p>Arrow ecology survey effort and data has been included in the Significant Residual Impacts to Prescribed Environmental Matters Report P-EA-100464322 (SRI Report) prepared by an appropriately qualified ecologist and submitted in conjunction with the amendment application.</p> <p>To address this RFI, Arrow have undertaken a further ecological field survey of the entire footprint during the months of April and May 2024. This provides a full and contemporary data set for the entire area of disturbance proposed as part of this EA amendment.</p> <p>The SRI report has been updated accordingly to reflect this most recent ecology assessment. An updated version of the SRI report (see item 4a) has been submitted in conjunction with this RFI response (Attachment A).</p> <p>Where possible, desktop and field validation has been undertaken on a 500m buffer around the area proposed to be impacted. Field verification included Ecological Field Survey (EFS) forms being completed (during July &amp; August 2015, February, July &amp; November 2017, May, June &amp; November 2018, October &amp; November 2019,</p> | <p>Original Amendment Application – Appendix 5. EcoSmart Ecology Report (Ecology Report)</p> <p>RFI Attachment A: Significant Residual Impacts to Prescribed Environmental Matters Report P-EA-100464322 (SRI Report, version 2.0)</p> <p>RFI Attachment B: Ecological Survey Assessment Summary and Results</p> <p>RFI Attachment C: Ecological Field Survey (EFS) Forms</p> |

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|    | <ul style="list-style-type: none"> <li>- The Atlas of Living Australia, the Birdlife Atlas, Wildnet, Species Profile and Threats (SPRAT) databases and associated Recovery Plans;</li> <li>- The Vegetation management regional ecosystem map data under the <i>Vegetation Management Act 1999</i>;</li> <li>- The Queensland Wetland Data mapping; and</li> <li>- Watercourse and drainage features mapping in QGlobe.</li> </ul> | <p>April, May, June &amp; November 2021, March &amp; August 2022, August &amp; October 2023) and April and May 2024.</p> <p>Surveys were located in and within 500m of the project footprint to ground-verify vegetation communities, habitat features, conservation significant species and weeds/pests. A summary of these works is provided in Attachment B: Ecological Survey Assessment Summary, and all EFS forms from the 2024 survey are provided in Attachment C. Each EFS form represents field data collected including a minimum 50x10m transect, BioCondition attributes, Secondary vegetation and fauna habitat assessments.</p> <p>The project footprint was traversed in its entirety by suitably qualified ecologists collecting Quaternary level data to support the EFS forms. Koala surveys following the Spot Assessment Technique (Phillips and Callaghan, 2011) were also conducted at suitable locations within and surrounding the project area. This is further described in Section 2.5.2 of Appendix C of the original application and further noted below regarding the limitation of the survey effort due to land access. These ground-truthing surveys followed the relevant ecological methodology where applicable, including;</p> <ul style="list-style-type: none"> <li>• Terrestrial Vertebrate Fauna Survey Guidelines for Queensland;</li> <li>• Methodology for surveying and mapping regional ecosystems and vegetation communities in Queensland guideline;</li> <li>• Guide to determining terrestrial habitat quality;</li> <li>• Flora Survey Guidelines – Protected Plants (where applicable); and</li> <li>• DCCEEW survey guidelines (where applicable).</li> </ul> |  |
| 1b | Written confirmation that the survey was carried out in accordance with the abovementioned guidelines, otherwise confirmation to the extent to which the abovementioned guidelines have been satisfied with justification provided for areas that have not been satisfied                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |

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| 1c | <p>A description of the survey efforts and methodologies undertaken to inform on the ecological report (including timing, conditions and limitations);</p> | <p>The same approach was taken in the field verification surveys undertaken in April and May 2024.</p> <p>The outputs of the survey efforts and relevant methodologies above provide the ground-truthed data validating the desktop assessments, including but not limited to;</p> <ul style="list-style-type: none"> <li>• Arrow's threatened species layer,</li> <li>• The Atlas of Living Australia, Birdlife atlas database, including geo-referenced data for threatened taxa,</li> <li>• WildNet database, including inspecting threatened species profile data to gather geo referenced locations (where possible),</li> <li>• the EPBC Act Protected Matters Search Tool,</li> <li>• Species Profile and Threats (SPRAT) database and relevant Recovery Plans,</li> <li>• Vegetation Management Act 1999 (VM Act) – Vegetation management regional ecosystem mapping,</li> <li>• VM Act watercourse layer mapping,</li> <li>• DAFF watercourse mapping; and</li> <li>• Queensland Wetland Data mapping.</li> </ul> <p>Survey effort, as demonstrated in Attachments B and C, was carried out noting that certain timing limitations would apply due to land access, schedule implications, force majeure (i.e. bushfires and flooding), etc. but were done in consideration of the survey guidelines applicable to the survey effort being carried out at the time. It is noted that the flora survey guidelines – protected plants have a 12-month validity as a limitation of the survey requirements.</p> | <p>RFI Attachment A:<br/>Significant Residual Impacts to Prescribed Environmental Matters Report P-EA-100464322 (SRI Report, version 2.0)</p> <p>RFI Attachment B:<br/>Ecological Survey Assessment Summary and Results</p> <p>RFI Attachment D:<br/>Protected Species Mapping Rules</p> |
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|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p>The original desktop assessments applied a 20 to 50 km radius when looking at the likelihood of occurrence and determining the relevant flora and fauna species respectively. This was then reduced to a 500 m buffer either side of the proposed disturbance for ground verification purposes where possible, subject to land access restrictions.</p> <p>The supporting information to the original application Appendix 6 – Significant Residual Impacts to Prescribed Environmental Matters Report P-EA-100464322 (SRI Report), and the subsequent version provided in this RFI response (Attachment A), includes an assessment and mapping of the habitat for Endangered, Vulnerable and Special Least Concern species where applicable to the proposed disturbance in PL194. This has been further supplemented through Arrow's use of Ecosmart Ecology Threatened Species Mapping Rules 2023 (Attachment D) that applies to all of Arrow's Surat Basin tenures including PL194</p> |                                                                                                                                                                                                    |
| 1d | <p>Assessment and survey results for the area proposed to be impacted and its 200-meter buffer, including:</p> <ul style="list-style-type: none"> <li>• The regional ecosystem ID, its status under the <i>Vegetation Management Act 1999</i>; and whether it consists of a 'threatened ecological community' under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>;</li> <li>• The presence, evidence of presence, or evidence of use (breeding, resting, feeding) in the area, for any animal that is critically endangered wildlife, endangered wildlife, vulnerable wildlife or a special least concern animal (platypus and echidna) under the <i>Nature Conservation Act 1992</i></li> </ul> | <p>Table 3 of the SRI report provided with the original application and the subsequent version provided with this RFI response (Attachment A), provides information on additional species that have been added into the PEMS table based on these updated Threatened Species Mapping Rules, which include known and likely to occur flora and fauna species in accordance with the <i>Nature Conservation Act 1992</i> (NCA) and <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC) Matters of National Environmental Significance (MNES). This includes recent sightings during Arrow-led survey efforts and known records of those species through the use of desktop assessments.</p>                                                                                                                                                                                                                                                                            | <p>RFI Attachment A: Significant Residual Impacts to Prescribed Environmental Matters Report P-EA-100464322 (SRI Report, version 2.0)</p> <p>RFI Attachment D: Protected Species Mapping Rules</p> |

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|  | <p>or are a Matters of National Environmental Significance;</p> <ul style="list-style-type: none"> <li>• A flora survey advising of the presence of plants that are critically endangered wildlife, endangered wildlife or vulnerable wildlife <i>Nature Conservation Act 1992</i> or are a Matters of National Environmental Significance;</li> <li>• For known and likely to occur wildlife in the area: identify the presence of habitat, its quality and quantity and core habitat mapping (Known, Possible, General habitat), for any animal that is critically endangered wildlife, endangered wildlife, vulnerable wildlife or a special least concern animal (platypus and echidna) under the <i>Nature Conservation Act 1992</i> or are a Matters of National Environmental Significance;</li> <li>• A description of criteria used to determine the threatened species habitat mapping rules.</li> </ul> | <p>These additional species had not been previously assessed in the 2017, 2018 and 2019 survey effort (given their later change in status) but have been included in this assessment as an abundance of caution based on likelihood of occurrence assessment and suitability of habitat within the survey area for PL194. A list of all the MSES and MNES present or likely to be present within the impacted area including the area of impact regardless of whether or not it amounts to an SRI is provided in Section 3.2, Table 4 of the SRI Report.</p> <p>The habitat mapping rules are provided with this response (Attachment D).</p> <p>In addition to the survey effort and ecological assessment it should be noted that Arrow conducts desktop ecological assessments, often broader than 500 m, which assist in providing an assessment and determination of likelihood of occurrence of flora and fauna. This informs targeted survey efforts for particular species that are likely or known to occur in the surrounding area.</p> <p>Whilst Arrow acknowledges the Department's preference for ground-verification ecological assessments to include a buffer of 200 m around the proposed area to be impacted, this is often not possible due to the limitations of land access under the <i>Mineral and Energy Resources (Common Provision) Act 2014</i>. These limitations under the entry notice or Conduct and Compensation Agreements (CCAs) that Arrow has with the landholders often only allows preliminary activities such as ecological survey efforts within the entry notice area or construction activities within the compensated area for linear infrastructure.</p> |  |
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|    |                                                                                                                                                                                                                                                                                                                                          | <p>In this instance, all proposed areas of disturbance have been traversed on foot with detailed survey information obtained at representative locations throughout. However, access may not necessarily be granted at all by the adjacent landholder to carry out meandering surveys to meet the requested 200 m buffer survey effort. As such, due to the limitations of land access Arrow is not able to provide ground-verification ecological survey of a 200 m buffer around the entire proposed impact area</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                      |
| 1c | <p>A record of any evidence of fauna and flora species encountered during the surveys, their status under the Nature Conservation Act 1992 and the Environment Protection and Biodiversity Conservation Act 1999. Please be advised that the absence of evidence of a prescribed environmental matter is not evidence of its absence</p> | <p>Details of surveys undertaken have been discussed in response to item 1a and summarised in Attachment B. Ecological Field Survey (EFS) Forms are provided in Attachment C, and further information is available in the SRI Report (Attachment A)</p> <p>A total of 12 conservation significant species are considered as possibly occurring within the project area, these are:</p> <ol style="list-style-type: none"> <li>1. Koala, <i>Phascolarctos cinereus</i> (Endangered under both the NC Act and EPBC Act).</li> <li>2. Greater Glider, <i>Petauroides volans</i> (Endangered under both the NC Act and EPBC Act).</li> <li>3. Yellow-bellied Glider, <i>Petaurus australis</i> (Vulnerable under both the NC Act and EPBC Act).</li> <li>4. South-eastern Long-eared Bat, <i>Nyctophilus corbeni</i> (Vulnerable under both the NC Act and EPBC Act).</li> <li>5. Short-beaked Echidna, <i>Tachyglossus aculeatus</i> (Special Least Concern under the NC Act).</li> <li>6. Diamond Firetail, <i>Stagonopleura guttata</i> (Vulnerable under both the NC Act and EPBC Act).</li> </ol> | <p>RFI Attachment A: Significant Residual Impacts to Prescribed Environmental Matters Report P-EA-100464322 (SRI Report, version 2.0)</p> <p>RFI Attachment B: Ecological Survey Assessment Summary</p> <p>RFI Attachment C: Ecological Field Survey (EFS) Forms</p> |



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|    |                                                                                                                                                                                                                                                                                                                                                                                      | <p>7. South-eastern Glossy Black-cockatoo, <i>Calyptrorhynchus lathamii</i> (Vulnerable under both the NC Act and EPBC Act).</p> <p>8. Common Death Adder, <i>Acanthophis antarcticus</i> (Vulnerable under the NC Act).</p> <p>9. Dunmall's Snake, <i>Glyphodon (Furina) dunmalli</i> (Vulnerable under both the NC Act and EPBC Act).</p> <p>10. Grey Snake, <i>Hemiaspis damelii</i> (Endangered under both the NC Act and EPBC Act).</p> <p>11. Brigalow Woodland Snail, <i>Adclarkia cameroni</i> (Vulnerable under the NC Act and Endangered EPBC Act).</p> <p>12. Kogan waxflower, <i>Philotheca sporadica</i> (Near Threatened under the NC Act).</p> |                                                                                                                                    |
| 1d | A probability of occurrence assessment, based on the survey results, for all critically endangered wildlife, endangered wildlife, vulnerable wildlife or special least concern animals (platypus and echidna) under the Nature Conservation Act 1992 and Matters of National Environmental Significance                                                                              | A probability of occurrence assessment is available in Appendix C of the Ecology Report submitted in conjunction with the original amendment application.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Original Amendment Application – Appendix 5. EcoSmart Ecology Report (Ecology Report)                                              |
| 1e | <p>A conclusive statement including:</p> <ul style="list-style-type: none"> <li>• A list of all MSES and MNES present or likely to be present within the area proposed to be impacted and its 200m buffer;</li> <li>• The calculated areas of impact to MSES or MNES arising from the proposed activity, regardless of likelihood of a significant residual impact (SRI).</li> </ul> | The Ecology Report provided with the application, supplemented by the site survey information has informed the preparation of the SRI Report (Attachment A). A list of all relevant MSES and MNES has been provided in this report (see tables 3 and 4), which include calculated areas of impact.                                                                                                                                                                                                                                                                                                                                                            | RFI Attachment A: Significant Residual Impacts to Prescribed Environmental Matters Report P-EA-100464322 (SRI Report, version 2.0) |
| 1f | Spatial data, in shapefile format, of the survey results, including:                                                                                                                                                                                                                                                                                                                 | Spatial data provided in Attachment E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | RFI Attachment E: Spatial Files                                                                                                    |

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|  | <ul style="list-style-type: none"><li>• Regional ecosystem ID and status at a 1:20,000 scale;</li><li>• Fauna and flora survey results;</li><li>• MSES and MNES (known or likely to be present, if applicable).</li></ul> |  |  |
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b) ***Environmentally Sensitive Areas (ESAs)***

***Issue***

It is not clear in the application what exemptions are required to Schedule D, Table 1 of the EA in order for activities to occur within ESAs and their primary and secondary protection zones.

Additionally, the correct definition of Category C ESA – essential habitat has not been applied in the application material.

- i. Category C ESA includes the following definition for essential habitat:
  - an area validated as 'essential habitat' from ground-truthing surveys in accordance with the *Vegetation Management Act 1999* (VMA) for a species of wildlife listed as endangered or vulnerable under the *Nature Conservation Act 1992*

Essential habitat is defined under section 20AC(2) of the VMA as a category A area, a category B area or category C area shown in the regulated vegetation map:

- (1) that has at least 3 essential habitat factors for the protected wildlife that
  - i. must include any essential habitat factors that are stated as mandatory for the
  - ii. protected wildlife in the essential habitat database; or
- (2) in which the protected wildlife, at any stage of its life cycle, is located.

The department expects Category C Essential habitat to be identified as both the areas mapped by the Queensland Government on the Essential Habitat Map and an area validated from ground-truthing surveys as protected wildlife habitat that is category A, B or C area shown on the regulated vegetation map (RVM) for a species of wildlife listed as critically endangered, endangered, vulnerable under the *Nature Conservation Act 1992*.

**Information requested:**

| Item | Information Requested                                                                                                                                           | Arrow Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Relevant Documents                         |
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| 2a   | Identify the extent of impacts for all ESAs including, where the proposed disturbances are not consistent with the limitations in Schedule D, Table 1 of the EA | <p>At the time of the original amendment application EA P-EA-100646322 included Schedule D, Table 2 which provided upper limits on disturbance within ESAs. Since that time a minor amendment has been granted removing that Table from the EA.</p> <p>As per the original application (Attachment 3 - Proposed conditions to be amended), Arrow is proposing an alternative to providing exemptions to Schedule D, Table 1 in ESAs, and has provided draft conditioning below.</p> <p>The proposed conditioning is consistent with a recent EA granted by DESI on 24 May 2024 (P-EA-0002214) and also aligns with Arrow's proposal in other EAs to move towards providing spatial data to provide an appropriate level of specificity.</p> <p>Since the original application was submitted, and following industry engagement, DESI have proposed new conditions to regulated petroleum activities within areas considered to be Category C environmentally sensitive areas (ESAs). In accordance with those DESI proposed conditions, which have been released to industry on 13 May 2024, it is now proposed to add to the definition of Category C environmentally sensitive areas, by including areas that are 'protected wildlife habitat' to Schedule D, Table 1.</p> | RFI Attachment G: Conditions to be amended |

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|  |  | <p>This would enable essential petroleum activities in ESAs and their protection zones where those areas are also protected wildlife habitat.</p> <p>The definition of a Category C ESA will need to be amended to reflect this inclusion as well. Arrow also proposes to include the wording below which has been updated to clearly identify the extent of impacts to ESAs and reflect that Schedule D, Table 2 has been removed from the EA;</p> <p><i>Despite condition Biodiversity 8A, essential petroleum activities are permitted in ESAs, as well as primary protection zones and secondary protection zones, as defined in the spatial data [FILE NAME] submitted to the administering authority on [DATE OF SUBMISSION]</i></p> <p>Areas of ESA impacted by the project are listed below:</p> <ul style="list-style-type: none"> <li>• Cat C – Essential Habitat (govt mapped) – 17.981ha</li> <li>• Cat C – RE11.3.25 Of Concern (biodiversity status) – 0.417ha</li> <li>• Cat C – State Forest – 56.315ha</li> <li>• Cat C – Protected Wildlife Habitat – 87ha</li> </ul> <p>While Conduct and Compensation Agreements (CCAs) with relevant landholders, and an Occupation Permit under the <i>Forestry Act 1959</i> are still pending, subject to this EA amendment</p> |  |
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|    |                                                                                                                                                                                 | <p>being granted, the proposed infrastructure alignment is not expected to change materially.</p> <p>Arrow considers this alignment can be approved in its entirety, subject the above condition, without referencing individual areas that may not align with the Schedule D, Table 1.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                     |
| 2b | Demonstrate, through spatial information (refer to item d – spatial data) and activity types, where and how impacts to all ESAs will occur and the area extent of these impacts | Spatial data is provided in Attachment E of this RFI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | RFI Attachment E: Spatial Files                                                                                                                                                                                     |
| 2c | Apply the correct interpretation of Category C ESA – Essential habitat, as per the departments' expectations, and provide updated information as required                       | <p>As noted in Arrow's application, Arrow believed it had identified our (and the Queensland CSG industry's) interpretation of Category C ESA - Essential Habitat as defined by the EA within PL194. As per Table 12 of the Supporting Information Report and Section 3.1 of the Significant Residual Impact Report, Arrow confirms there is 17.981 ha of mapped essential habitat (Department of Resources published geospatial data - Vegetation management essential habitat map no. attribute - version 12.02) within the alignment of proposed infrastructure on PL194.</p> <p>This proposed disturbance would be a departure from Schedule D, Table 1 of the EA, as only low impact activities are envisaged in areas of State Forest where there is overlapping essential habitat. The activities proposed for this area are essential petroleum activities and would require a condition providing an exemption from Schedule D, Table 1 and insertion of the proposed DESI conditions which have been released to industry on 13 May 2024. Draft conditions for this are provided in response to item 2a.</p> | <p>RFI Attachment A: Significant Residual Impacts to Prescribed Environmental Matters Report P-EA-100464322 (SRI Report, version 2.0)</p> <p>RFI Attachment F: Essential habitat and protected wildlife habitat</p> |

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|  |  | <p>To aid in the assessment of this application and in accordance with the department's request, the area of the disturbance that would impact both protected wildlife habitat <b>and</b> mapped regulated vegetation that is category A, B or C RVM is 87 ha. It should be noted that all government mapped essential habitat is co-located with protected wildlife habitat.</p> <p>For PL194, the proposed alignment has been matured through a considered and extensive process to determine the preferred locations. This alignment has been provided in Figure 1 of the SRI report (Attachment A). Areas where the proposed infrastructure intersects with the department's interpretation of an ESA have been included as Attachment F.</p> |  |
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c) **Significant Residual Impact report**

| Item | Information Requested                                                                                                                                                                                                                                                                                                                                                                                      | Arrow Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Relevant Documents                                                                                                                 |
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| 3a   | Taking into account the conclusions of the ecological report (as per item a - ecological report), provide an updated Significant Residual Impact (SRI) assessment for each PEMs identified through the likelihood of occurrence assessment to possibly or likely to occur on site. The SRI assessment should refer to the criteria outlined in the <a href="#">Significant Residual Impact Guideline</a> . | <p>A revised SRI report is provided at Attachment A. To provide a complete and contemporary ecological dataset, the whole project batch was re-assessed in April and May 2024. As a result, the total project footprint reduced from 200 to 186 ha, however the reductions were mainly restricted to previously cleared areas. The re-survey updated the previous mapping in some areas with some previously assessed regrowth vegetation having now matured and is now considered remnant. This has meant that the impacts to protected wildlife habitat of some species that rely on remnant vegetation (e.g. Greater Glider) have increased slightly.</p> <p>There is also a small area of RE 11.3.25 within the defined distance of a watercourse which has been classified as remnant, thereby becoming regulated vegetation and offsetable in this PEM category. Similarly, due to the increase in vegetation that meets remnant status (i.e. regulated vegetation under the EO Act), the area (ha) to be offset as essential habitat for Koala has increased slightly. The total impact to Koala habitat has not increased but the split between 'essential habitat' and 'protected wildlife habitat' PEMs has changed.</p> <p>The last notable change is regarding splitting out undifferentiated regrowth from completely cleared land. Undifferentiated regrowth is previously cleared land that has experienced minor regrowth but is too structurally disturbed to be assigned an RE code. It is considered cleared land, not remnant or high value regrowth. Undifferentiated regrowth has been identified to capture grey snake core habitat possible where it occurs</p> | RFI Attachment A: Significant Residual Impacts to Prescribed Environmental Matters Report P-EA-100464322 (SRI Report, version 2.0) |



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|    |                                                                                                                                                                                                                                      | <p>on Land Zone 3 in line with mapping rules (EcoSmart 2023).</p> <p>Section 2.2 of the SRI outlines the documents used to assess whether the Project will have a SRI on PEMs, and includes the Queensland Environmental Offsets Policy Significant Residual Impact Guideline (DEHP, 2014).</p> <p>Section 3.1 of the SRI Report describes all PEMS considered to have potential for a SRI at the time the assessment was undertaken. Section 3.2 of the SRI Report addresses all PEMS considered to have an actual SRI.</p>                                                               |                                                                                                                                           |
| 3b | <p>This SRI assessment must be prepared by a suitably qualified person and must consider the site-specific characteristics of the habitat onsite, and the behaviours of the relevant species identified.</p>                         | <p>The SRI Report provided with the EA amendment application and the subsequent update (Attachment A) were both prepared by a suitably qualified and experienced person, Dr Paul Finn (Arrow Team Lead Ecology)</p> <p>Table 3 of the SRI Report (Attachment A) shows the five PEMs with a potential for SRI. Sections 3.2.1 to 3.2.5 provide a further assessment of these five matters with Table 4 providing a detailed breakdown of each vegetation community that is impacted by the Project and the relevant PEM associated with each.</p>                                           | <p>RFI Attachment A: Significant Residual Impacts to Prescribed Environmental Matters Report P-EA-100464322 (SRI Report, version 2.0)</p> |
| 3c | <p>Evidence that the cumulative assessment considers all impacts to PEMs, including existing disturbances and those proposed. Confirm whether any existing activities have had impact to PEMs and, if so, quantify these impacts</p> | <p>There are up to 242 wells approved on PL194 under the current EA. There are currently 108 existing wells on PL194, of which 27 have been developed since the introduction of the <i>Environmental Offsets Act</i> in 2014. Arrow believes that retrospectivity cannot be applied to previous regulatory regimes where impacts may have occurred under the now repealed Queensland Biodiversity Offset Policy. In this scenario Prescribed Environmental Matters were not applicable and as such, cumulative impacts on PEMS should not be considered where they are not legislated.</p> |                                                                                                                                           |

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|    |                                                                                                                                                                                                                                                                                                                                                                      | <p>Of these 27 wells developed post the introduction of the Offsets Act, 18 were established on previously disturbed areas of old decommissioned wells. This efficient use of prior disturbance has prevented the need for clearing of vegetation or potential habitat for the purposes of preparing new well pads. The remainder were constructed in areas that avoided the need for clearing of remnant vegetation. Arrow therefore considers the existing SRI Report appropriately addresses the potential for an SRI on PL194.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| 3d | <p>Explain how the 'avoid, mitigate, offset' mitigation hierarchy has been applied, so the department can be satisfied that all reasonable on-site avoidance and mitigation measures for the prescribed activity have been undertaken to address impacts on PEMs. Provide sufficient information that justifies why it is necessary for impacts to occur to PEMS</p> | <p>Section 6.4 of the original amendment application describes the management process followed when determining the siting of infrastructure. This follows the 'avoid, mitigate, offset' hierarchy.</p> <p>To enable PL194 to be developed effectively, adequate well spacing must be maintained and topographical variations are required to be addressed to enable the gathering network to maintain operating pressures. There are landowner considerations to be incorporated, and Arrow prioritise the use of pre-existing disturbed areas where practicable. Disturbance in the forested areas of PL194 have been limited to essential petroleum activities (e.g. wells, gathering and supporting infrastructure) that are required to bring the resource to surface and has been done in consultation with QPWS as custodians of State Forests. As such the placement of infrastructure in the State Forests has been sited to be collocated with existing infrastructure but also to provide a beneficial use for QPWS. Other key infrastructure, such as gas compression and water treatment infrastructure, require larger disturbance areas and have been located outside of vegetated areas.</p> <p>It is not possible to develop PL194 without impacting some PEMs. Where infrastructure needs to be located in areas where there may be significant residual impacts to PEMs or</p> |  |

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|  |  | MNES, Arrow will pursue offsets as a means of providing for net gain of biodiversity values. |  |
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d) **Spatial Data**

**Information requested:**

| Item | Information Requested                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Arrow Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Relevant Documents              |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| 4a   | <p>Provide spatial data, in shapefile format, for:</p> <ul style="list-style-type: none"> <li>the proposed infrastructure footprint;</li> <li>all existing disturbance already carried out.</li> </ul> <p>To accompany this requirement, provide written clarification on the extent of existing disturbance. It is noted that the northern proposed disturbance on Lot 114 DY95 shown in Figure 1 of the Significant Residual Impact Report can be seen on Queensland Globe as having been already disturbed;</p> <ul style="list-style-type: none"> <li>all relevant environmentally sensitive area mapping layers; and</li> <li>all MSES and MNES that would be impacted by the proposal, notwithstanding whether this impact triggers an SRI.</li> </ul> | <p>Spatial data for PL194 is provided in Attachment E. A map showing the proposed disturbance is shown in Figure 1 of the SRI report (Attachment A). This includes the disturbance subject to this EA amendment application.</p> <p>There are currently seven existing well pads on Lot 114 DY95. These wells were drilled between 2020 and 2022. Disturbance was restricted to previously cleared land, no remnant or regrowth vegetation was cleared so it has not been considered to have triggered a SRI or impact on PEMS. Data containing this disturbance has been provided to DESI as part of 2023 Annual Return and has been provided in the spatial data.</p> <p>The inclusion of a portion of this disturbance as “proposed” was a geospatial error. The SRI Report (Attachment A) has been updated to reflect the correct proposed disturbance. Spatial data files provided (Attachment E) include the correct proposed disturbance.</p> <p>Table 3 of the SRI report (Attachment A) sets out an analysis of all PEMs and whether they have the potential for an SRI.</p> <p>As requested, the spatial data includes:</p> <ul style="list-style-type: none"> <li>Regional ecosystem ID and status at a 1:20,000 scale;</li> <li>Fauna and flora survey results;</li> <li>MSES and MNES areas (known or likely to be present, if applicable)</li> </ul> | RFI Attachment E: Spatial Files |

e) **Supporting Information**

***Issue***

Surat Gas Project Threatened Species Mapping Rules Review (Ecosmart Ecology and 3D Environmental, 2023) has been used in the assessment of whether proposed disturbance will have an SRI on PEMs. It is unclear how this review of mapping rules has affected the SRI assessment.

The Ecosmart 2023 report has also been referenced in relation to the occurrence of Major Mitchell's Cockatoo not expected in this area.

***Information requested***

| <b>Item</b> | <b>Information Requested</b>                                                                                              | <b>Arrow Response</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Relevant Documents</b>                         |
|-------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| 5a          | Provide a copy of Surat Gas Project Threatened Species Mapping Rules Review (Ecosmart Ecology and 3D Environmental, 2023) | A copy of the Surat Gas Project Threatened Species Mapping Rules Review (Ecosmart Ecology and 3D Environmental, 2023) is provided as Attachment D of this response.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | RFI Attachment D: Protected Species Mapping Rules |
| 5b          | Explain how the mapping rules and/or other report has been used to assess SRI.                                            | <p>The 2023 mapping rules build upon previous studies (desktop and field surveys) and create a method for mapping habitat for MNES and MSES within the SGP based on known area of occupancy and vegetation community association.</p> <p>The rules described areas as 'core' and 'general' habitat for species. These generally match the definition of 'Core Habitat Possible' and General Habitat Possible' used in the Method for mapping Matters of state environmental significance, for the State Planning Policy 2017. Version 6.0 (DES 2020).</p> <p>These updated mapping rules incorporate recent MNES and MSES species listings and consolidate previous assessments into a comprehensive set of rules that are used in determining environmental offset requirements as per DES (2020).</p> |                                                   |
| 5c          | Confirm the occurrence of Major Mitchell's Cockatoo on PL194                                                              | Major Mitchell's Cockatoo has been recorded 15 times within 50 km of the SGP area since 1975. The species inhabits dry inland areas (mostly in semi-arid and arid areas) including sparsely timbered open grasslands, Callitris and Casuarina woodlands, mulga woodlands,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                   |

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|  |  | <p>usually along tree-lined watercourses. Habitats within the SGP are generally too closed and more mesic than areas inhabited by this species.</p> <p>Only two accurate records exist within the vicinity of the SGP which are in the Lake Broadwater area, and both are greater than 30 years old. No known records of this species exist within PL194. Several undated or old (&gt;50 years) records exist within 50 km of the SGP. The age and paucity of records indicate the species does not occur in the area with any frequency and has been described as a 'Transient' by EcoSmart (2023). The SGP project is considered very unlikely to impact this species</p> |  |
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f) **Mapping**

**Issue:**

Figure 1 in the SRI report shows ground-verified remnant and re-growth vegetation. The area on Lot 72 DY97 shows an area of re-growth vegetation that varies from the RVM that shows the area as remnant.

**Information requested:**

| Item | Information Requested                                                                                                            | Arrow Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Relevant Documents                                    |
|------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| 6a   | Provide details on the ground-verification of this area and the factors used to determine that this area is re-growth vegetation | <p>The areas of proposed disturbance on Lot 72 DY97 were verified via field survey in April and May 2024. These surveys were undertaken by suitably qualified and experienced persons and confirmed these areas to be regrowth vegetation. The Ecological Field Survey (EFS) Forms are available in Attachment C.</p> <p>The factors used to determine the vegetation status can be seen on the EFS sheets.</p> <p>From time-to-time environmental values will be identified via site survey that differ from those mapped on a desktop level. The process to refine understanding of the actual on ground values is provided for in the existing EA.</p> <p>Condition Biodiversity 3 provides that where mapped biodiversity values differ from those that may be identified via desktop assessments, activities may proceed based on the confirmed on-the-ground biodiversity values.</p> | RFI Attachment C: Ecological Field Survey (EFS) Forms |



g) **Dalby State Forest**

**Issue**

A large amount of the disturbance is proposed within the Dalby State Forest.

**Information requested:**

| Item | Information Requested                                                                                            | Arrow Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| 7a   | Explain how the proposed infrastructure layout represents the least adverse impact for the proposed development. | <p>The development of the Dalby State Forest forms an important component of the broader Surat Gas Project by providing a linkage with the surrounding infrastructure located on neighbouring tenures of PL230 to the south and PL253 to the northeast.</p> <p>Arrow was granted Petroleum Lease 194 in accordance with the <i>Queensland Petroleum and Gas Act 2004</i>, and on the basis of work program commitments that include development of the tenure. The Petroleum Lease, as issued by the Department of Resources (DoR), includes the area of the Dalby State within PL194.</p> <p>The extent of adverse impact in the Dalby State Forest has been reduced by limiting proposed infrastructure to essential petroleum activities which are required to bring the resource to surface. There are significant infrastructure requirements to effectively develop PL194 that have been located outside of the Dalby State Forest, including but not limited to:</p> <ul style="list-style-type: none"><li>• Dams</li><li>• Water Treatment facilities</li><li>• Gas compression facilities</li></ul> <p>The <i>Forestry Act 1959</i> (Forestry Act) identifies a number of secondary purposes for State forests, including grazing, conservation, recreation, apiary sites, infrastructure and resource exploration and development.</p> <p>Engagement has been ongoing with the Queensland Parks and Wildlife Service (QPWS) regarding the development in the State Forest with regard</p> |

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|  |  | <p>obtaining an Occupation Permit under the Forestry Act. The latest engagement being in March 2024, when the QPWS Rangers were presented cross sectional drawings of the site-specific design. The Rangers were stepped through how the proposed disturbance has been mitigated through the overlapping of infrastructure during the proposed construction phases. The Rangers also acknowledged Arrow has utilised existing cleared areas and has avoided cross fall to lessen the construction impacts on the forest. QPWS have approved the updated Administrative Plan for the Occupation Permit.</p> <p>The proposed development within the Dalby State Forest has been limited to the greatest extent practicable and enables linkages to the surrounding development areas within the Surat Gas Project. The proposed layout represents the least practicable impact for the proposed development of PL194</p> |
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**h) Prescribed Environmental Matters**

**Issue**

Some endangered, vulnerable or of concern species identified in Regulated Vegetation and Wildnet species searches have not been adequately considered.

- i. Regulated vegetation of concern prescribed regional ecosystem RE 11.3.2 have been identified in the area of proposed disturbance in the southeastern corner of PL194, however this is not considered in the application material.
- ii. *Picris barbarorum*, *Solanum Papaverifolium* and *Solanum Stenopterum* have likelihood of occurrence considered as possible in the EcoSmart Ecology Report dated 2017, however have not been addressed within the SRI report.
- iii. Southern whiteface, Painted honeyeater, Wedge- tailed shearwater, Pale imperial hairstreak and Platypus have all been identified in Wildnet species searches, however have not been addressed within the SRI report.

**Information requested:**

| Item | Information Requested                                                                                                                                                                                                                                                                                                                                   | Arrow Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Relevant Documents                                                                                                                 |
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| 8a   | Confirm whether RE 11.3.2 is on PL194                                                                                                                                                                                                                                                                                                                   | Based on Queensland Government supplied mapping data, in conjunction with ground-verified data, of concern Regional Ecosystem 11.3.2 is not being impacted for any PL194 project activities and is therefore not considered further in this application.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | RFI Attachment A: Significant Residual Impacts to Prescribed Environmental Matters Report P-EA-100464322 (SRI Report, version 2.0) |
| 8b   | Evidence that the comprehensive desktop assessment undertaken has identified the potential occurrence of protected wildlife on PL194, with particular note to species recorded as been identified in the area. Evidence that all relevant species, with consideration to the species described above, are included in the ecological and SRI assessment | <p>The presence/absence of each PEM was determined in accordance with the 'Method for mapping Matters of State environmental significance for the State Planning Policy 2017' (DES, 2020).</p> <p>Detailed and seasonal ecological assessments (Ecosmart Ecology and 3D Environmental, 2017, 2018, 2019 and 2021) were undertaken for the SGP area (covering on-tenure PLs and off-tenure PPLs), which provided ground-verified data on PEMs (including wildlife habitat).</p> <p>This ground-verified data was used to cross-check Queensland Government supplied mapping data on PEMs (including wildlife habitat). Additionally, the Queensland Government's Landscape Fragmentation and Connectivity (LFC) Tool was used to assess potential impacts on connectivity areas using ground-verified data.</p> <p>Further ecology field surveys of the alignment proposed as part of this amendment where undertaken in April and May 2024. Arrow considers the SRI Report (Attachment A) appropriately addresses the species of relevance and with potential for an SRI on PL194. Further detail regarding specific</p> | RFI Attachment A: Significant Residual Impacts to Prescribed Environmental Matters Report P-EA-100464322 (SRI Report, version 2.0) |

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|    |                                                                                                              | species identified in this RFI is provided in response to item 8c below.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| 8c | Provide justification why any species recorded as been identified on site have been excluded, where relevant | <p>All applicable conservation significant species have been considered and assessed. No species recorded on site has been excluded from the assessment.</p> <p>To address the species specifically mentioned in this RFI:</p> <p><i>Picris barbarorum</i> although possible has not been recorded on PL194 or in fact any SGP tenure to date, the closest record being 19 km south east of PL194. No potential habitat for this species is being impacted for any PL194 project activities and it is therefore not considered further in this application.</p> <p><i>Solanum Papaverifolium</i> is known to occur within the broader SGP area however none of its potential habitat is being impacted for any PL194 project activities and it is therefore not considered further in this application.</p> <p><i>Solanum Stenopterum</i> although possible to occur has not been recorded on PL194 or in fact any SGP tenure to date, the closest record being approximately 35 km south east of PL194. No potential habitat for this species is being impacted for any PL194 project activities and it is therefore not considered further in this application.</p> <p>Southern whiteface, although possible to occur with some low-amenity habitat scattered throughout the SGP area, has not been recorded within the SGP area and none of its potential habitat is being impacted for any PL194 project activities. Therefore, the species is not considered further in this application.</p> |  |

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|  |  | <p>Painted honeyeaters are known to occur within the SGP area, although they are likely to occur infrequently, where isolated areas of remnant brigalow present high amenity habitat due to the species' strong association with mistletoe. However, none of the species' potential habitat is being impacted for any PL194 project activities and it is therefore not considered further in this application.</p> <p>Wedge-tailed shearwaters are oceanic-specialist seabirds able to sleep on the wing. They breed on small tropical islands over 50 km offshore from mainland Australia. Any records within 100 km of the SGP area are either erroneous or due to individuals being forced off course by cyclonic weather. There is most certainly no habitat for this species impacted by the SGP. They are so very unlikely that the species was not even considered in the EcoSmart (2023) likelihood of occurrence assessment and as such will not be considered further in this or any other SGP application.</p> <p>Pale imperial hairstreak is known to occur within the SGP area, however the species is restricted to Brigalow-dominated woodlands, particularly old-growth Brigalow communities, as it feeds exclusively on Brigalow and none of this potential habitat is being impacted for any PL194 project activities. Therefore, the species is not considered further in this application.</p> <p>Platypus is known to occur within the broader SGP area although there are very few records west of Toowoomba, none of which are within 50 km of PL194 (it could be considered on the edge of the species' known range). Although there are some ephemeral watercourses impacted by the project, none of these provide the permanent flowing water that these</p> |  |
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|    |                                                                                                                                                                                                                                           | semiaquatic mammals require. Therefore, none of the species' potential habitat is being impacted for any PL194 project activities and as such it is not considered further in this application. |                                                                                                                                                                                                       |
| 8d | Confirm if any ground-verification has been undertaken on PL194 that varies from Queensland Government regulated mapping. Where applying on the basis of on-ground verification, provide details of on the ground-verification activities | The entire area has been ground-verified as per the mapping supplied within the SRI assessment report and much of it varies from Queensland Government regulated mapping.                       | RFI Attachment A:<br>Significant Residual Impacts to Prescribed Environmental Matters Report P-EA-100464322 (SRI Report, version 2.0)<br><br>RFI Attachment C:<br>Ecological Field Survey (EFS) Forms |

i) **Matters of National Environmental Significance**

**Issue**

The EPBC approval (EPBC 2010/5344) was for the larger Surat Gas Project (SGP). Ecosmart Ecology Report 2017 identified several species with a likelihood of occurrence as possible that have EPBC approval. These include *Xerothamnella herbacea*, Belson's panic, Toadflax.

**Information requested:**

| Item | Information Requested                                                                                                                                            | Arrow Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Relevant Documents                                                                                                                                                                                                 |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9a   | Provide details on the greater disturbance of EPBC approved species for the SGP project and identify to what extent these disturbance approvals relate to PL194. | <p>The potential impacts from the development of PL194 were assessed and approved under the EPBC approval (EPBC 2010/5344). This was provided as Attachment 1 of the original amendment application. The EPBC approval addresses a range of listed species and ecological communities with potential to occur across the Surat Gas Project, which includes PL194.</p> <p>As a condition of the EPBC approval, Arrow have prepared the SGP Stage 1 Offset Strategy which was approved by the Department of Agriculture, Water and the Environment (DAWE) on 7 July 2019.</p> <p>The SRI Report (Attachment A) addresses the MSES which are also MNES and where Arrow considers there is potential for a significant residual impact (SRI) in accordance with the Queensland Environmental Offsets Act 2014. These species were not addressed in the EPBC approval and are now proposed to be addressed through the EA.</p> <p>The SRI assessment provided has been informed by ground-verified data to identify the species relevant and with potential for an SRI in PL194. Other species may be addressed in the EPBC approval but that have not been determined to have potential for an SRI within PL194 and do not form part of this EA amendment application.</p> <p>To date, Arrow have not exceeded the disturbance limits in the EPBC approval for <i>Xerothamnella herbacea</i>, Belson's panic or Toadflax</p> | <p>Original Application Appendix 1 - EPBC approval (EPBC 2010/5344).</p> <p>RFI Attachment A: Significant Residual Impacts to Prescribed Environmental Matters Report P-EA-100464322 (SRI Report, version 2.0)</p> |



j) **Offsets**

**Issue**

For an offset to be determined an appropriate outcome for the proposed impacts to PEMs, it must be practicable to deliver in accordance with the Queensland Environmental Offsets Policy (the Offsets Policy). Even if the offset is to be delivered through a financial offset, the intent of the Offsets Policy is that the funds will be used to deliver a land based offset.

**Information requested:**

| Item | Information Requested                                                                                                                                                                          | Arrow Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Relevant Documents |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 10a  | For all proposed impacts to PEMs, assess and confirm that suitable land exists for an offset to be delivered in accordance with the requirements of the Queensland Environmental Offset Policy | <p>The Queensland Environmental Offset Policy prescribes the approach for offsetting an SRI on a PEM, this includes provision of a financial settlement offset. Financial settlement offset payments for State-required offsets are administered by DESI with the funds being quarantined for offset projects throughout the state. It is understood the Department has established an Offsets Project Management Committee to advise on strategic approaches and the annual priorities for new offset projects.</p> <p>Financial settlement offsets require payment amounts calculated in accordance with the Financial Settlement Offset Calculator that is administered by DESI. Section 2.3.2 of the Environmental Offsets Policy notes the State is responsible for delivering a conservation outcome from a financial settlement offset payment. These outcomes may be based on a single financial offset project or pooling a number of offset payments in order to achieve more effective and strategic outcomes for the impacted matters. Land based Offsets may be established through this process, as deemed to best meet annual and longer-term objectives.</p> <p>Management of the offset fund is subject to governance policies and reporting to ensure that objectives of the projects are met on time and on budget. Arrow understands that land-based solutions are available, and that</p> |                    |

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|  |  | these may form part of larger projects when provided as part of a financial settlement offset. It is Arrow's understanding that either a direct land-based offset or the payment of a financial settlement offset will meet the objectives of the Queensland Environmental Offset Policy. |  |
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Attachment A: Significant Residual Impacts to Prescribed  
Environmental Matters Report P-EA-100464322 (SRI  
Report)

## Attachment B: Ecological survey assessment summary and results

## Attachment C: Ecological Field Survey (EFS) Forms

## Attachment D: Protected Species Mapping Rules

## Attachment E: Spatial Files

## Attachment F: Essential habitat and protected wildlife habitat