

Surat Gas Project North

Environmental Authority EA0001399 (SGP North EA)

SGP North EA Amendment¹ - Stage 5 Development Further Information Request Response

16 July 2026

The following document provides the responses to a request for further information (RFI) issued by the Department of Environment, Tourism, Science, and Innovation (DETSI) on 4 June 2026. The information requested pertains to Arrow Energy's proposed amendment to the Surat Gas Project (SGP) North Environmental Authority (EA) (EA0001399) for the development of the SGP North Stage 5.

¹ SGP North EA Amendment application reference: A-EA-AMD-101077970, Arrow CSG (Australia) Pty Ltd, 30 April 2026.

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1.	Spatial Data – Biodiversity Matters		
	Spatial data has been provided for the footprint of Stage 5 development, however, mapped ground-truthed biodiversity spatial information has not been provided. Spatial data describing biodiversity matters provides for a detailed assessment of the proposal and corresponding impacts. Additionally, several items raised within this information request would benefit from the inclusion of spatial data to support the assessment process.	Provide ground-truthed spatial data files that were relied upon to determine the extent of impacts proposed to biodiversity matters with this amendment including; – Mapped Ground-truthed Regional Ecosystems (GTRE) – Environmentally Sensitive Areas (ESAs) and their protection zones (identifying the individual ESA trigger) – Areas mapped as Matters of State Environmental Significance (MSES) and Prescribed Environmental Matters (PEMs), and – Survey efforts that were undertaken for the stage 5 footprint from 2025 specifically, to determine the split between wider Surat Gas Project (SGP) survey efforts undertaken in previous years.	The ground-truthed spatial data files used to determine the extent of impacts proposed to biodiversity matters from the development of the SGP North Stage 5 are provided in Attachment 1. The ground-truthed data from the survey efforts of 2025 undertaken for the SGP North Stage 5 development footprint is included in the spatial data files provided in Attachment 1. Please also refer to Biodiversity Impact Assessment Report (BIA Report) submitted with the SGP North EA amendment application (DETSI reference A-EA-AMD-101077970). Please refer to BIA Report, Arrow Energy, Version 2.0, 26/03/2026, Section 2, Table 2.2 and Table 2.3.
2.	Impacts to Connectivity		
	Impacts to Connectivity have been discussed in the submitted Biodiversity Impact Assessment, however it was determined that 0 hectares of impact will occur due to this amendment and no Significant Residual Impact (SRI) is triggered. It is unclear whether the Landscape Fragmentation and Connectivity (LFC) Tool has been run on the known footprint of the SGP North development to date (stages 1-4) in addition with the proposed stage 5 footprint.	Confirm if the LFC tool has been run on the SGP North total footprint for Stage 1 to Stage 5 inclusive. If not, perform this analysis and submit results from the LFC tool to determine if the impact total for Connectivity needs to be updated and authorised for Stage 5.	The LFC Tool results provided with the SGP North EA Amendment application (DETSI reference A-EA-AMD-101077970) was run for the SGP North Stage 5 footprint impacts only as that is the area subject of the amendment being sought to the SGP North EA (EA0001399). As requested, the LFC Tool has been re-run for the total Connectivity for the SGP North, from Stages 1 to 5, and are provided in Attachment 2. As some clearing of the already approved Stages 1 and 2 has already been undertaken, two (2) scenarios were considered while re-running the LFC Tool. These are: • LFC Tool Output 1 scenario: considers SGP North Stages 1 to 4 as <u>cleared</u> plus the proposed Stage 5 development footprint;

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			• LFC Tool Output 2 scenario: considers SGP North Stages 1 to 4 as <i>not</i> cleared plus the proposed Stage 5 development footprint, i.e., considers all SGP North Stages as <i>not</i> cleared. Please note that SGP North Stage 4, i.e., SGP North Solar Farm development footprint, has not yet been cleared, so the assumption of it being cleared is only for the purpose of this exercise. The results from running the LFC Tool for the total Connectivity impacts from SGP North Stages 1 to 5 inclusive, considering the two different scenarios indicate: • LFC Tool Output 1 results: The analysis has determined that any impact on connectivity areas is not significant (refer to Attachment 2.a). The LFC Tool Output 1 results indicate that a significant reduction in core remnant vegetation at the local scale is FALSE, OR a change from core to non-core remnant at the site scale is False. A 'not significant' outcome typically means that: – connectivity is largely retained (habitat patches are still connected and wildlife movement pathways remain viable); – the impact is minor or fragmented already, and clearing occurs in already fragmented areas or small non-critical patches; and – no critical corridors are affected, i.e., the development does not cut through identified connectivity areas and Regional ecological function is maintained. As the LFC Tool is specifically designed to assess impacts on connectivity areas containing remnant vegetation, a 'not significant' result means those areas are not meaningfully compromised. The landscape may be altered, but not enough to disrupt ecological connectivity at a meaningful scale.

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			• LFC Tool Output 2 results: The analysis has determined a significant impact on connectivity areas (refer to Attachment 2.b). The LFC Tool Output 2 results indicate that a significant reduction in core remnant vegetation at the local scale is False, OR a change from core to non-core remnant at the site scale is True. This result is consistent with Connectivity impacts as identified and approved in the current SGP North EA (EA0001399) as the SGP North is likely to fragment habitat or disrupt wildlife movement; i.e., the SGP North is likely to cause a significant residual impact on landscape connectivity by fragmenting habitat or disrupting ecological connections between vegetation patches or corridors, at a scale that is important at the bioregional level. Connectivity offset requirements for the whole SGP North and for Stages 1 to 3 are already considered in the SGP North EA (EA0001399), with a total of 500.4 ha impacted on Connectivity. However, if the SGP North Stage 5 development - which is the subject of this EA amendment - is considered in isolation, the results from the LFC Tool, as provided with the EA Amendment application of 30 April 2026 (DETSI reference A-EA-AMD-101077970) indicate the there are no significant impacts on landscape connectivity. This means that: – The SGP North Stage 5 does not materially fragment habitat at the assessed scale; – The key ecological linkages remain functionally intact; and – Any loss of vegetation is considered minor or localised, i.e., not regionally important. As per above, no specific offsets on habitat fragmentation or connectivity are required for the SGP North Stage 5 development, nor there is a requirement for project redesign. Other matters, such as impacts to threatened species are still considered with the EA amendment application. A 'not significant' result for the SGP North Stage 5 means this development stage of the SGP North does not meaningfully

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			disrupt landscape connectivity at the regulatory scale and does not trigger offsets for connectivity. This result is reflected as 0 ha impacts to Connectivity as a result of the development of the SGP North Stage 5 and is provided in the marked-up EA on <i>Schedule F, Table 3 – Authorised impacts to PEMs</i> (Condition Biodiversity 11) with the EA amendment application submitted on 30 April 2026 (DETSI reference A-EA-AMD-101077970). The impacts to Connectivity for the whole of the SGP North remains at a total of 500.4 ha. Arrow Energy believes that applying the LFC Tool for Output 1 scenario as described above, i.e., with SGP North Stages 1 to 4 cleared and Stage 5 proposed which gave a ‘not significant impact’ result on connectivity, is the appropriate approach given that the SGP North stages 1 to 4 have been assessed, approved, and offsets provided². By running the LFC Tool for the Output 2 scenario with the assumption that all previous stages are still remnant vegetation (i.e., so pre-impact or assuming not cleared at the present moment) does not reflect a real scenario of the current on-the-ground conditions and re-prosecutes previous assessments. Re-prosecution of previously offset areas could be considered counting offsets again, or ‘double dipping’, and that the connectivity assessment does not consider the time elapsed between assessments and the changing information on regional ecosystem descriptions, and/or spatial location, as the SGP North Stage 5 development is located away from previously assessed areas. Arrow Energy believes that it is more appropriate to run the LFC Tool considering that the previous SGP North Stages (i.e., 1 to 4) have been cleared (i.e., post-impact) to truly represent the on-the-ground conditions, such as, existing and previously approved

² Impacts from the SGP North Stage 4, i.e., the SGP North Solar Farm project, have been assessed under EPBC Act, approval currently under referral EPBC 2024/10002. Offsets for the SGP North Stage 4 will be addressed through the EPBC Act (refer to current EA0001399).

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			disturbances impacting on fragmentation and patch size. Arrow Energy believes that running the LFC tool based on Output 1 scenario is consistent with the requirements as set out in the <i>Landscape Fragmentation and Connectivity (LFC) Tool User Guide</i> (DETSI, EPP/2018/4228, Version 2.01, 5 December 2023) as the LFC tool is assessing impacts to core habitat and fragmentation to those beforementioned core habitats. Using the LFC Tool to solely run the SGP North Stage 5 impacts will not significantly alter the remaining area of core habitat for the SGP North Stages 1 to 4 LFC Tool outcome for which connectivity impacts have already been assessed. Arrow Energy has run the LFC tool in line with the DETSI LFC Tool User Guide EPP/2018/4228, Version 2.01 (refer to Attachment 2).
3.	Vegetation within the defined distance of a watercourse		
	When determining impacts to vegetation occurring within the defined distance of a watercourse, the BIA report states the following: <i>"In the absence of Project-specific data defining the actual spatial location of defining banks, the watercourse centre line has been used to calculate the GTRE mapped vegetation within the defined distance relevant to the watercourse."</i> The defined distance, for a regional ecosystem, means a distance identified in the environmental offsets policy as the relevant distance from the defining banks of a relevant watercourse or relevant drainage feature. For drainage features, without defined banks, it is appropriate to take this distance from the centreline of the drainage feature. However larger watercourses will have defined banks that are offset from the mapped centreline, many of which may have a defined bank that is visible spatially. Determining the impact to this PEM using only the mapped centreline underestimates the actual impact areas.	- Review all project impacts to regulated vegetation within the defined distance of a watercourse and determine if the banks of these watercourses are visible spatially. Assess this for the following mapped watercourses that intersect the project footprint: – 21 x Stream Order 1 watercourses – 4 x Stream Order 2 watercourses – 1 x Stream Order 3 watercourses – 1 x Stream Order 4 watercourses – 2 x Stream Order 5 watercourses - Quantify new impacts to watercourse vegetation arising from the above assessment, using the distances from the defining banks detailed in the Queensland Environmental Offsets Policy Significant Residual Impact Guideline. Include any distances or justifications of the measurements between the mapped centreline and any defining banks of each watercourse. Ensure the entire extent of	- Arrow Energy determined Regulated Vegetation impacts using the distances specified in the Queensland Environmental Offset Policy (2025), as described in Section 4.4.4 of the BIA Report submitted with the SGP North EA amendment application (DETSI reference A-EA-AMD-101077970). Where the defining banks of a watercourse are visible, the required distance is measured from those banks. In the absence of surveyed defining banks, the mapped watercourse centreline was used to calculate the area of ground-verified regulated vegetation within the defining banks relevant for offsets distance. An additional buffer was applied to accommodate the in-stream component depending on stream order (SO): – An additional 2 m for SO 1 and 2 watercourses; – An additional 5 m for SO 3 and 4 watercourses; and – An additional 10 m for SO ≥5 watercourses. This approach was based on measuring the in-stream component of several streams from each SO to achieve a conservative buffer distance. The defining banks cannot be reliably identified from aerial imagery for SO 1 and most SO

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		each Regional Ecosystem (RE) mapped as remnant vegetation within these areas is quantified, regardless of threatened status under the <i>Nature Conservation Act 1992</i>. 3. Provide the results of the assessed defined banks of watercourses either in pdf map format or spatial data files.	2. For this reason, Arrow Energy adopted a conservative approach by using the watercourse centreline and applying an additional buffer (see above) on top of the defined distances in the Environmental Offsets Policy (2025). This approach overestimates the impact areas to watercourse regulated vegetation by 4 m on average. Please, refer to the biodiversity impact assessment spatial data provided in Attachment 1. 2. No new impacts to watercourse vegetation were identified. 3. As no new impacts to watercourses were identified, this Action is not required.
4.	Likelihood of Occurrence assessment		
	The Likelihood of Occurrence (LOO) assessment present in Appendix D of the BIA indicates this assessment is for a different environmental authority (EA0001498). Several of the species present in the LOO assessment are not present on the WildNet species records results as indicated in the assessment. Conversely, several conservation significant species indicated in the WildNet species records results with records within the project area have not been included in the LOO assessment.	1. Confirm if the LOO assessment has been run on species specific to the SGP North EA, if not, submit a revised LOO assessment applicable to the species identified in desktop surveys (WildNet, Protected Matters Search Tool, Atlas of Living Australia, etc.) for this specific amendment and EA (include required actions of issues raised in items 5 and 6). a. If the LOO assessment identifies matters that should have been included in targeted field surveys and subsequent assessments (i.e. quantified impacts and SRI assessment), then include these updated assessments for all identified matters that were previously not considered. i. Ensure that the updated LOO assessment includes site-specific information to support the conclusions made for each species (e.g. whether there is feeding or breeding habitat characteristics present on site, etc.). ii. Ensure that the justification for each species provides sufficient information to	1. Arrow Energy confirms that the Likelihood of Occurrence (LOO) assessment undertaken and provided in Appendix D of the BIA Report submitted with the EA Amendment application (DETSI reference A-EA-AMD-101077970) are specific to the SGP North Stage 5 Development. The reference to environmental authority EA0001498 is a <i>typographical error</i> and does not mean that the LOO assessment as provided in Appendix D of the BIA report provided with the EA amendment application is for EA0001498. This <i>typographical error</i> has been rectified in the updated version of the BIA report attached to this RFI response (refer to Attachment 3). Arrow Energy confirms that the LOO assessment as provided with the SGP North EA Amendment was undertaken using the data applicable to SGP North Stage 5 and is associated with the SGP North EA, EA0001399. Therefore, a revised LOO assessment is not required. a. Actions 1.a.i., 1.a.ii., and 1.a.iii. are not required. An updated version of the BIA report is provided with this RFI response. Please refer to Attachment 3.

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		verify that the identified status is appropriate for that species. iii. Ensure that any absence of evidence (of species occurrence) is not used as justification as evidence of absence.									
5.	Likelihood of Occurrence assessment criteria (Part 1)										
	The table below details the LOO assessment criteria extracted from the submitted BIA report: <table><tr><th>Likelihood</th><th>Criteria</th></tr><tr><td>Likely to occur</td><td>Suitable habitat within or immediately adjacent the SGP Stage 5 area; numerous relevant records (< 30 years old and within 20 km).</td></tr><tr><td>Possible to occur</td><td>Suitable habitat within or adjacent the SGP Stage 5; numerous records but records > 20 km away or > 30 years old; Or Marginal habitat within the SGP; few, but recent (<30 yrs), records within 20 km of SGP.</td></tr><tr><td>Unlikely to occur</td><td>No suitable habitat; few records from desktop assessment and records > 20 km from the SGP Stage 5.</td></tr></table> Considering each of these criteria has requirements relating to distance of species occurrence records from the site, it would be relevant to include all records of species occurrences starting at a minimum, a 20km buffer. - The results from WildNet species records provided in Appendix C of the BIA indicate that the default 1km buffer around each tenure boundary applied to these reports was relied upon. The approximate distance from the disturbance footprint to this 1km buffer limit varies, however in many cases is only 5-6km, significantly less than the distance imposed by the criteria used in the LOO assessment. - It is also unclear if what buffer distance was used when generating results from the Protected Matters Search Tool (PMST) as the results do not identify the buffer distance used. Additionally, despite Atlas of Living Australia (ALA) results being referenced in the BIA, results from ALA searches have not been provided, so the distance used is unable to be verified also.	Likelihood	Criteria	Likely to occur	Suitable habitat within or immediately adjacent the SGP Stage 5 area; numerous relevant records (< 30 years old and within 20 km).	Possible to occur	Suitable habitat within or adjacent the SGP Stage 5; numerous records but records > 20 km away or > 30 years old; Or Marginal habitat within the SGP; few, but recent (<30 yrs), records within 20 km of SGP.	Unlikely to occur	No suitable habitat; few records from desktop assessment and records > 20 km from the SGP Stage 5.	- Provide new species occurrence record searches from, at a minimum, WildNet, ALA, and PMST, using a preferred 50km buffer around each tenure boundary. For WildNet, this needs to be done via the WildNet Species & Sighting Search Tool rather than Environmental reports online, as the Species & Sighting Search Tool allows a buffer area up to 100km to be applied based on a central point coordinate location. - From these results, identify species (both MSES and MNES) that were previously discounted from assessment or miscategorised in the LOO assessment due to inadequate buffer distances. - Complete a new LOO assessment incorporating these new desktop surveys while also addressing issued raised in items 4 and 6. - Complete an SRI assessment for all new species identified, ensure that the SRI assessment includes specific information on how the species is expected to withstand the impacts associated with constructing wells and linear infrastructure disturbance.	- The WildNet Species & Sightings Search no longer generates a report, making it difficult to attach the search results to the assessment. For this reason, the PMST Environmental Report Online was used instead. The default buffer (1 km) applied in the PMST Environmental Report Online was incorrect. All likelihood assessments were based on results from a 50 km buffer obtained from WildNet, PMST and ALA searches. The searches were conducted using two centre points for WildNet: 150.1795, -26.4607 and 150.2910, -26.5180 (refer to BIA Report, Section 2.1.2); and the results from these searches are provided in Attachment 4: 4.a., and 4.b, respectively. For the ALA search, a 50 km KML buffer was generated from the impact area with the search results provided in Attachment 5. The results from WildNet and the ALA are consistent with those presented in Attachment C of the SGP Stage 5 BIA report (PMST Environmental Report Online) (Refer to Attachment 3). The identified species and their associated likelihood of occurrence assessments remain unchanged and do not alter the outcomes or conclusions of the assessment. The spreadsheets as per Attachment 4 provide the WildNet Species search results for the two different centre points as mentioned above. - No further action is required - No further action is required. - No further action is required.
Likelihood	Criteria										
Likely to occur	Suitable habitat within or immediately adjacent the SGP Stage 5 area; numerous relevant records (< 30 years old and within 20 km).										
Possible to occur	Suitable habitat within or adjacent the SGP Stage 5; numerous records but records > 20 km away or > 30 years old; Or Marginal habitat within the SGP; few, but recent (<30 yrs), records within 20 km of SGP.										
Unlikely to occur	No suitable habitat; few records from desktop assessment and records > 20 km from the SGP Stage 5.										

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	Additionally, the department has a standard requirement for desktop surveys to begin with a buffer of 50km around the proposed site, particularly for areas of significant contiguous vegetation (note the three bordering state forests surrounding SGP North).																	
6.	Likelihood of Occurrence assessment criteria (Part 2)																	
	There is a significant gap in probability percentage values between the ‘Possible to Occur’ and ‘Likely to Occur’ categories. The department seeks to understand the rationale behind this decision, and why the decision was made to not create criteria to capture species within this probability range, specifically values that are towards the 60-80% range. This is likely underestimating the number of species that utilise the SGP North impact area as habitat. The criteria applied in the LOO assessment recognise species classified as ‘Possible to Occur’ as having suitable habitat within or adjacent to the impact area. However, these species and their habitats are subsequently excluded from further assessment. This methodology does not align with the department’s standards, which require that all impacts on identified potential habitat (refer to the definitions of habitat in item 7) must be quantified and subject to a SRI assessment, completed by both the applicant and reassessed by the DETSI. <table><thead><tr><th>Likelihood</th><th>Criteria</th><th>Probability</th></tr></thead><tbody><tr><td>Known to occur</td><td>Recorded within and/or immediately adjacent the SGPN Stage 5 area</td><td>100%</td></tr><tr><td>Likely to occur</td><td>Suitable habitat within or immediately adjacent the SGPN Stage 5 area; numerous relevant records (< 30 years old and within 20 km).</td><td>>80%</td></tr><tr><td>Possible to occur</td><td>Suitable habitat within or adjacent the SGPN Stage 5; numerous records but records > 20 km away or > 30 years old; Or Marginal habitat within the SGP; few, but recent (<30 yrs); records within 20 km of SGP.</td><td>10-20%</td></tr><tr><td>Unlikely to occur</td><td>No suitable habitat; few records from desktop assessment and records > 20 km from the SGPN Stage 5.</td><td><10%</td></tr></tbody></table>	Likelihood	Criteria	Probability	Known to occur	Recorded within and/or immediately adjacent the SGPN Stage 5 area	100%	Likely to occur	Suitable habitat within or immediately adjacent the SGPN Stage 5 area; numerous relevant records (< 30 years old and within 20 km).	>80%	Possible to occur	Suitable habitat within or adjacent the SGPN Stage 5; numerous records but records > 20 km away or > 30 years old; Or Marginal habitat within the SGP; few, but recent (<30 yrs); records within 20 km of SGP.	10-20%	Unlikely to occur	No suitable habitat; few records from desktop assessment and records > 20 km from the SGPN Stage 5.	<10%	Either – - Revise and create new LOO categories to ensure all probabilities are captured, then complete a new LOO assessment with these new criteria using new species record searches requested in item 4. - Complete a revised SRI assessment which includes all species that have been assessed as ‘Possible to Occur’ in the current BIA, ensure all impacts to these habitats are quantified, regardless of an SRI determination. Ensure sufficient species- and site-specific information is provided to allow the department to carry out an SRI assessment.	There is a <i>typographical error</i> in Table 2.1 of the BIA Report (in Section 2.1.2.1) where "Possible to occur" should read 10–80%, instead of 10-20%. This error does not affect the LOO species assessment, as all species were assessed using the correct likelihood of occurrence criteria as per below: - Known: 100% - Likely: >80% - Possible: 10–80% - Unlikely: <10% Therefore, the assessment and conclusions presented remain unchanged, and Actions 1 or 2 as per Item 6 are not required. An updated version of the BIA report is provided with this RFI response. Please refer to Attachment 3.
Likelihood	Criteria	Probability																
Known to occur	Recorded within and/or immediately adjacent the SGPN Stage 5 area	100%																
Likely to occur	Suitable habitat within or immediately adjacent the SGPN Stage 5 area; numerous relevant records (< 30 years old and within 20 km).	>80%																
Possible to occur	Suitable habitat within or adjacent the SGPN Stage 5; numerous records but records > 20 km away or > 30 years old; Or Marginal habitat within the SGP; few, but recent (<30 yrs); records within 20 km of SGP.	10-20%																
Unlikely to occur	No suitable habitat; few records from desktop assessment and records > 20 km from the SGPN Stage 5.	<10%																

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7.	Identifying all Protected Wildlife Habitat matters		
	The LOO assessment identifies a number of species with suitable habitat within the project area, that have been excluded from further assessment due to being assigned as 'Possible to Occur' likelihood (as raised in item 5). Schedule 2, section 6(3) of the Environmental Offsets Regulation 2014 states that: <i>"A habitat for an animal that is critically endangered wildlife, endangered wildlife or vulnerable wildlife or a special least concern animal is a matter of State environmental significance. Examples of habitat— an area of land used by an animal for foraging, roosting, nesting or breeding."</i> The SRI guideline provides further context on what is considered habitat: <i>"Habitat is the area occupied, or periodically or occasionally occupied, by any species, population or ecological community and includes all the different aspects (both biotic and abiotic) used by species during the different stages of their life cycles."</i> Regardless of whether the proposed activities are causing a SRI, the application must identify the extent of impact to PEMs proposed so that the full extent of impact to Biodiversity related environmental values can be understood and assessed. Additionally, as raised in item 4, the absence of evidence (of species occurrence) should not be considered as evidence of absence.	For all PEM species with suitable habitat within the project area, identify the extent of impact (ha) expected to these habitat areas (regardless of SRI determination). Include species that have had LOO status changes following the reassessment required per items 4, 5 and 6. Ensure the effects of indirect impacts are also considered and identified.	The purpose of the BIA is to assess impacts to PEMs that may result in a SRI, in accordance with the relevant assessment framework. The request assumes that species assessed as 'Possible to Occur' have been excluded from further assessment. However, no species have been assigned a 'Possible to Occur' likelihood rating within the LOO assessment with the exception of the Diamond Firetail (see further details below in the response to this Item7). Species assessed as having suitable habitat within the project area were evaluated in accordance with the adopted assessment methodology described in Section 1.3.1 of the BIA report which is based on relevant guideline requirements. The BIA focuses on determining whether project activities are likely to result in impacts to PEMs that may constitute a SRI. Species and habitat areas that do not meet the criteria for SRI assessment are outside the scope and purpose of the BIA. Consequently, the assessment does not provide impact area (ha) estimates for all species where there is potentially suitable habitat when it has been determined that no SRI has been identified. The assessment of habitat impacts presented in the BIA is therefore limited to those PEMs and habitat areas relevant to the determination of SRI, consistent with the objectives of the BIA and the applicable statutory framework. The Diamond firetail (<i>Stagonopleura guttata</i>) was the only species identified as having a 'Possible to occur' likelihood of occurrence in the LOO assessment in Attachment D of the BIA report submitted with the EA amendment application on 30 March 2026 (DETSI reference A-EA-AMD-101077970). However, this was a <i>typographical error</i>, as the species is classified as 'Known to occur', as described in Table 3.6 of the BIA. This <i>typo error</i> has been rectified in the updated version of the BIA report attached to this RFI response (refer to Attachment 3). The impacts to this species has been assessed under the SRI assessment (see Section 4.5.1.6 of the BIA) and was identified

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			and considered as a SRI (see Table 5.3 of the BIA report) (refer to Attachment 3). Under the SRI Guideline and Environmental Offsets Regulation modelling approach, core habitat is identified through the integration of suitable habitat attributes, species occurrence records, and other ecological factors. While vegetation communities, landscape features, and habitat structure may indicate the potential to support a particular species, they do not confirm that an area functions as core habitat or that disturbing this habitat will constitute a SRI. Evidence of species presence, through verified records and targeted surveys, is a key component in distinguishing core habitat from general habitat areas of lower value but still constituting potential habitat. The absence of historical records for a particular species suggests that the available habitat is unlikely to be actively utilised by that species. However, Arrow Energy has not assumed the absence of any species based solely on a lack of records. Instead, a precautionary approach has been applied, whereby the presence of these species has not been ruled out, and they are identified as having the potential to occur within the study area, but not necessarily constituting a SRI if the area is disturbed. An updated version of the BIA report is provided with this RFI response. Please refer to Attachment 3.
8.	Field Survey Results		
	Ecological field surveys conducted on lot 302/RP897544 on 23/09/2025, lot 3/RP184124 on 18/08/2025, and lot 2/RP913167 between 11-13 August 2025, identified suitable habitat for the following cryptic species: – <i>Acanthophis antarcticus</i> (Common Death Adder) – <i>Furina dunmalli</i> (Dunmall's Snake) All three lots intersect the proposed disturbance footprint for SGP North stage 5. However, these cryptic	Considering the issues with the LOO assessment raised in items 4, 5 and 6, the cryptic nature of the species, and the presence of suitable habitat within the SGP Stage 5 footprint, a reassessment of impacts to these species is required. 1. Quantify the impacts to these Protected Wildlife Habitat matters or provide adequate justification including ground-truthed spatial data results from recent surveys, as to why	In addition to the information provided in Item 7 of this RFI response, Arrow Energy has surveyed the SGP North area on several occasions. These surveys included, but were not limited to, targeted fauna surveys for the cryptic species and their habitat identified in the submission. The surveys are summarised in Table 2.2 and Table 2.3 of the BIA report (refer to Attachment 3). Also, the details of each Fauna survey effort are provided in Section 2.2.2.1 and Table 2.4 of the BIA report. None of the cryptic species listed in Section 2.3.1.3 have been recorded within the proposed SGP North Stage 5 project area, nor are there sufficient historical records in the surrounding area to

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	species have been excluded from further assessment due to lack of recent records.	these species should not be quantified and are excluded from assessment. 2. Determine if this assessment should be applied to other cryptic species identified but excluded from assessment, or that have been assessed but haven't had impacts quantified due to an SRI determination in the BIA (e.g. <i>Adclarkia cameroni</i>).	justify a likelihood of occurrence classification higher than unlikely. While areas of potential habitat were identified during the most recent surveys undertaken in 2025, no core habitat features for these species' were obtained. As described in Section 1.3, potential habitat is a combination of factors that include modelled distribution, habitat features and records. The combination of these factors provides justification for species' utilisation of focal areas (SRI Guideline, 2014). Although the habitat within the Study area presents some features that may be considered suitable for species, there are no historical records of these species in the vicinity to indicate that the area provides functional habitat or supports local populations and thereby warrant consideration under the SRI assessment. The SRI assessments were only applied to species with a LOO of 'Known', 'Likely' or 'Possible' and impacts on their habitat are then documented within the Prescribed Environmental Matters (PEMs) table in Section 5 of the BIA (refer to Attachment 3). Arrow Energy's conclusions are consistent with and based on the definition of habitat in the SRI Guidelines (2014) and expert opinion, which recognises that habitat suitability, in isolation, should not be interpreted as evidence that a species currently uses, or would use a particular location. Furthermore, Arrow Energy obtained approval for biodiversity impacts from the SGP North project areas located on PL305 and PL492 with the major amendment to the SGP North EA approved on 7 November 2024, where these species were also assessed but not included as a SRI for the same reasons. Accordingly, Arrow Energy considers these species to have an 'Unlikely' likelihood of occurrence within the SGP North Stage 5 project area. Arrow Energy will undertake project activities in accordance with appropriate management measures to avoid harm to any fauna species that may occur within the area. However, for the purposes of the SRI assessment, Arrow Energy has considered only those species with a 'Known', 'Likely' or

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			"Possible" likelihood of occurrence, consistent with the SRI Guideline.
9.	Maximum Boundary Figure		
	Figure 1 in Schedule F of the draft EA depicts the SGP North Stage 1, 2, 3, 4 and 5 Maximum Boundary. This has been provided to assist with defining the area in which ESA impacts are limited. However, this figure does not provide the detail required to adequately define the locations of this boundary as the resolution of northing / easting values presented around the perimeter of the map are too low.	Provide alternative options to define this boundary appropriately in one of the two following forms: a) a high-resolution pdf map, zoomed into the areas applicable for stages 1-5, with clearly defined coordinates delineating the stage 1-5 boundary; or b) spatial data of the proposed stage 1-5 maximum boundary.	The SGP North EA (EA0001399) Schedule F, Figure 1, as submitted with the marked-up EA for the SGP North Stage 5 EA amendment application (DETSI, A-EA-AMD-101077970), includes all of the SGP North stages, i.e., SGP North Stages 1 to 5, and is the maximum boundary for the currently approved stages 1 to 4 and the SGP North Stage 5 area. The boundaries for the SGP North Stages 1 to 5 are in the map (refer to Attachment 6). a) As requested, a pdf map for SGP North Stage 1, 2, 3, 4 and 5 Maximum Boundary is provided in Attachment 6 . b) As requested, spatial data for the SGP North Stages 1, 2, 3, 4, and 5 maximum boundary, in consistency with Schedule F, Figure 1 as provided in the marked-up EA, is provided in Attachment 7 .
10.	Category C ESA – Essential Habitat		
	It is unclear if the departments current definition of Category C ESA has been considered when quantifying impacts from the stage 5 development. The following excerpt is from page 15 of the BIA: <i>"This assessment uses the Queensland Government's current 'Essential habitat' mapping as the basis for evaluating potential impacts to essential habitat. The revised definition of 'Essential habitat' issued by the Department of the Environment, Tourism, Science and Innovation (DETSI) has not been applied, as it is not currently reflected in the conditions of the existing EA. Arrow intends to engage with the Department to clarify whether and how the updated definition may be retrospectively applied to previously assessed and approved impacts under existing EAs."</i> Other references to Category C ESA, Essential Habitat impacts throughout the BIA indicate the latest definition has been incorporated into the assessment.	Confirm that the latest definition of Category C ESA has been applied when determining impacts for the proposed amendment. Also, provide further information regarding the quote from page 15 of the BIA referencing previously assessed and authorised impacts to Essential Habitat.	Arrow Energy confirms that the latest definition of Category C ESA has been applied when determining impacts from the proposed amendment, i.e., SGP North Stage 5. In November 2023, DETSI proposed changes to the principles of "Essential Habitat" and the introduction of the term "Protected Wildlife Habitat". The proposal was to consolidate ESA Category C Essential Habitat, Essential Regrowth, Of Concern Regional Ecosystems and Protected Wildlife Habitat into a single ESA Category C classification. The statement on page 15 of the BIA Report refers to this proposed change. This section of the BIA has been reviewed and updated (refer to Attachment 3), as the ESA Category C Essential Habitat classification has not changed, and "Protected Wildlife Habitat" has instead been introduced as an additional Category C ESA. Arrow Energy confirms that all Category C ESAs have been correctly applied (see Section 3.1 and Table 3.1 of the BIA report).

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			The impacts on the ESA categories are illustrated in Figures 3.2, 3.3, and 3.4, and the impacts to each ESA category are summarised in Table 5.1. An updated version of the BIA report is provided with this RFI response. Please refer to Attachment 3.
11.	Demonstrating appropriateness of offsets		
	The proposed amendment seeks significant disturbances and impacts to MSES and MNES including to endangered species. The impacts are proposed to be offset, however, the application information does not include an assessment as to why an offset is an appropriate outcome for each species being impacted. For example, certain species which have a limited modelled potential habitat range (e.g. for <i>Adclarkia cameroni</i>, Brigalow Woodland Snail) where continuous fragmentation within that limited range can potentially result limited opportunities for an offset delivery to achieve a conservation outcome that counterbalances the Significant Residual Impact the proposal will have on existing habitat.	Identify, for each applicable species, what considerations have been made in determining that an offset is an appropriate way to counterbalance the Significant Residual Impact from the proposal. Ensure the following considerations are included at a minimum: • Remaining habitat extent (locally and regionally) • Threatening processes for each species • Remaining land available for offset delivery, even where a financial offset is proposed. Species distribution models can be presented to justify conclusions made for this consideration.	Arrow Energy has opted to apply the principles of the <i>Environmental Offsets Act 2014</i> (EO Act) legal framework to counterbalance the significant residual impacts (SRI) as identified in the assessment of environmental impacts through the impact assessment provided in the BIA Report submitted with the SGP North EA amendment application (DETSI, A-EA-AMD-101077970). The application of the EO Act principles aims to counterbalance the identified SRIs on matters of national, state, and local significance by using environmental offsets. The considerations to determine offsets for each species are described in the SRI assessment in Section 4.5.1 of the BIA report. Arrow Energy notes that the assessment of potential impacts on Brigalow Woodland Snail concluded no SRI and therefore offsets will not apply to this species. The SRI assessment identified impacts associated with species' ecologically significant locations, including breeding, feeding, nesting, migration, and resting sites. The significance and extent of these impacts vary by species and have been assessed individually (refer to BIA Report Section 4.5.1). These SRIs are primarily habitat-based, resulting from the loss or disturbance of core habitat values. Gas field development within remnant vegetation is undertaken incrementally, with linear infrastructure generally confined to corridors approximately 20–40 m wide, while surrounding vegetation remains intact. As such, the proposed activities are not expected to substantially impede species movement or landscape connectivity.

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			The availability and extent of affected Regional Ecosystems at both local and regional scales are detailed in Tables 3.2 and 3.3 of the BIA report, with the vegetation communities and proposed impacts to each RE presented in Table 4.1. Given that the SRIs relate primarily to habitat function and availability, environmental offsets provide an appropriate mechanism to counterbalance these impacts through the long-term protection, restoration, or management of equivalent ecological values that support species persistence and recovery. At this stage, Arrow Energy has not determined whether any required offsets will be delivered through a financial settlement offset or a land-based offset. Offset considerations are made in more detail outside of the EA amendment process. Arrow Energy has secured several offset properties and have a State Offset Delivery Plan in place along with Federal Offset Management Plans which detail the values and considerations that have been made in determining that an offset is an appropriate way to counterbalance SRIs from the broader SGP.
12.	Sensitive receptors		
	The supporting information main report indicates an assessment has been carried out for noise and air impacts in relation to surrounding sensitive receptors. However, there is no information supplied indicating the proximity to the stage 5 development or the locations of these sensitive receptors. Table 5-1 provides the only indication that the closest sensitive receptor is 130m away, however provides no further location information.	1. Identify all sensitive receptors located within proximity of the SGP North stage 5 development footprint. 2. For each receptor, include the following information: a. Geographic location (supplied as coordinates). b. Type of sensitive receptor (e.g., residential property, school, hospital, etc.).	1. Arrow Energy is providing the location of the sensitive receptors in the vicinity of the SGP North Stage 5 development in the map provided in Attachment 8. The identified sensitive receptors are based on a combination of both Arrow Energy and Queensland Government databases. 2. Geographic locations of the sensitive receptors in the vicinity of the SGP North Stage 5 development footprint, including GPS coordinates (response to 2.a.) and the type of sensitive receptor (response to 2.b.) are provided in Attachment 9.
13.	Impacts to sensitive receptors		
	Following item 12, further information is required regarding the potential impacts that may arise due to the construction and operation of the stage 5 development. The current reporting does not provide an adequate discussion of the anticipated effects on these receptors or outline any additional assessments conducted to evaluate such impacts.	1. Provide a detailed explanation of the potential impacts (e.g. noise, air quality) from both the construction and operational phases of the stage 5 development on each of the identified sensitive receptors.	1. Potential impacts from construction and operational phases due to the development of the SGP North were provided in the SGP North EA Amendment application approved by DETSI on 7 November 2024 (DETSI, application reference number A-EA-AMD-100565408). Potential impacts from construction and operational phases of the SGP North Stage 5 are provided in Table 4-4 of the SGP

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		2. Where applicable, update the noise and air quality assessments to reflect the risks specific to these identified sensitive receptors. a. Include any revised analysis or additional mitigation measures proposed to minimise or manage the identified risks.	North EA Amendment Supporting Information Report as part of this EA amendment application (DETSI's reference A-EA-AMD-101077970). 2. As per Section 4.1 of the SGP North EA Amendment Supporting Information Report (Arrow Energy, 30 March 2026), additional air and noise quality assessments are not required to be conducted for the SGP North Stage 5 as the assessments from the approved SGP EIS and SEIS and from those conducted for the approved amendment for the SGP North EA of 7 November 2024 consider the assessments on air quality impacts and noise from the SGP North as sufficient for determining the risks to sensitive receptors. Section 4.1.2 of the <i>SGP North EA Amendment Supporting Information Report</i> (Arrow Energy, 30 March 2026) states that there will be no change to emissions generated by the identified air and noise emission sources as a result of the SGP North Stage 5 EA amendment. Furthermore, the SGP North EA amendment for the SGP North Stage 5 does not consider the inclusion of any air or noise emissions from additional major facilities or infrastructure, such as, for example, a field compression station, as the relevant major air and noise emissions sources were already assessed and included in the SGP North EA amendment approved on 7 November 2024, which included potential impacts from those major facilities. These potential impacts to air and noise were assessed, submitted to DETSI, and are approved with conditions in the current SGP North EA (EA0001399). As such, the current SGP North EA dated 28/01/2026 includes conditions for compliance regarding potential impacts to air quality and noise. a. Proposed mitigation measures to minimise the risks from air and noise impacts due to the development of the SGP North Stage 5 can be found in the <i>SGP North EA Amendment Supporting information Report</i> (30 March 2026), Section 5, Table 5.1. Due to the nature of the SGP North Stage 5 development, such as:

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			– the development not adding any high air and/or noise emitters; – the development only considering construction and operation of wells and gathering - and associated infrastructure - of which impacts and mitigation measures are already considered in the assessment; and – because the impact assessments to sensitive receptors are already considered within the SGP North EA amendment approved by DETSI on 7 November 2024, Arrow Energy considers that a revised analysis and/or additional mitigation measures, other than those already proposed in Section 5 and Table 5.1 of the <i>SGP North EA Amendment Supporting Information report</i> (30 March 2026), are not required.

- Attachment 1. SGP North Stage 5 - Biodiversity Impacts Spatial Data**
- Attachment 2. SGP North Stages 1, 2, 3, 4, and 5 - LFC Tool Results:**
 - Attachment 2.a. LFC Tool Output 1 Results – SGP North Stages 1 to 4 cleared + proposed SGP North Stage 5**
 - Attachment 2.b. LFC Tool Output 1 Results – SGP North Stages 1 to 4 not cleared + proposed SGP North Stage 5; , i.e., All SGP North Stages not cleared**
- Attachment 3. SGP North Stage 5 - Updated BIA Report (02 JUL 2026)**
- Attachment 4. SGP North Stage 5 - WildNet Species List:**
 - Attachment 4.a. Wildnet Species List – Centre point -26.4607, 150.1795**
 - Attachment 4.b. WildNet Species List – Centre point -26.5180, 150.2910**
- Attachment 5. ALA (Atlas of Living Australia) Search – 50 Km buffer**
- Attachment 6. SGP North Stage 1, 2, 3, 4, and 5 - Maximum Boundary map**
- Attachment 7. SGP North Stage 1, 2, 3, 4, and 5 - Maximum Boundary Spatial data**
- Attachment 8. SGP North Stage 5 - Relevant sensitive receptors locations map**
- Attachment 9. SGP North Stage 5 – Relevant sensitive receptors information**