



Jemalong Solar Farm MOD 2

*State Significant
Development
Modification Assessment
(SSD 8803 MOD 2)*



September 2019

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Executive Summary

Genex Power Limited (Genex) has approval to develop the Jemalong Solar farm, approximately 26 kilometres (km) southwest of Forbes, in the Forbes local government area.

Since its approval in 2018, the project has undergone one administrative modification, involving minor changes to the subdivision plan. The approved project includes the construction, operation, upgrading and decommissioning of a solar farm with an estimated capacity of 50 megawatts (MW).

Proposed Modification

The modification application seeks approval for an expanded area for solar arrays and consequently expanded development footprint, which has resulted from the detailed design process of the solar array. The proposed additional area of solar arrays would increase the approved 74 ha to 112 ha development footprint within the existing 165 ha project site to ensure there is adequate spacing between the rows of solar panels and internal access tracks. The modification also seeks approval for a slight increase in the height of inverter stations.

Engagement

The Department published the application on its website on 23 July 2019 and sought comment from Forbes Shire Council and the Office of Environment and Heritage. None of the agencies objected to the proposed modification but provided advice related to their respective regulatory responsibilities.

Assessment

In assessing the merits of the proposed modification, the Department has considered the existing conditions of consent; previous environmental assessments for the project; the modification application and supporting information; applicable government policies and guidelines; and requirements of the EP&A Act. The key issues considered in the Department's assessment are the compatibility of land use, impacts on biodiversity and heritage values, visual amenity, flooding and bushfire.

The additional 38 ha is land zoned RU1 (Primary Production) under the Forbes Local Environmental Plan 2013 (Forbes LEP). The Department considers the modified project would remain consistent with objectives of the RU1 zone. The additional 38 ha is within the 165 ha project site and would not result in a significant reduction in the overall agricultural productivity of the region. Additionally, the site could be easily returned to agricultural uses after the project is decommissioned and the inherent agricultural capability of the land would not be affected.

The modification would not increase impacts to biodiversity values as the additional 38 ha comprises highly disturbed land with a history of agricultural practices, and there would be no additional clearing of native vegetation or endangered ecological communities.

The proposal is unlikely to increase the visual impacts of the project given the distance from the two nearest non-associated residences are approximately 1.7 km north of the project boundary.

The conditions of consent require Genex to install the solar panels above the 1 in 25 year flood height (elevated by at least 0.3 m). The flood impact assessment undertaken as part of the modification concluded that if the solar panels installed in the proposed additional area are also built at this minimum elevation then the project would have negligible impacts on the floodplain.

Summary

On balance, the Department considers that the proposed modification has merit, and is in the public interest.

In this regard, the proposed modification would allow the benefits of the project to be realised, particularly as it would ensure the project's constructability.

The Department's assessment has concluded that the modification would not result in any significant impacts beyond those that were assessed and approved. Any residual environmental and amenity impacts associated with the proposed modification could be mitigated and managed through the existing conditions of consent.

In modifying the consent, the Department has taken the opportunity to update and strengthen the existing conditions relating to compliance reporting and environmental audits to better reflect contemporary conditions that apply to other solar farms in NSW.

Importantly, the expanded development footprint is required to ensure the project's constructability. As such, the Department considers that the proposed modification should be approved.



1. Introduction

Genex Power Limited (Genex) acquired the development consent for the Jemalong Solar Farm (the project) in March 2019. The project is located 26 kilometres (km) south west of Forbes in the Forbes Shire local government area (see **Figure 1**).

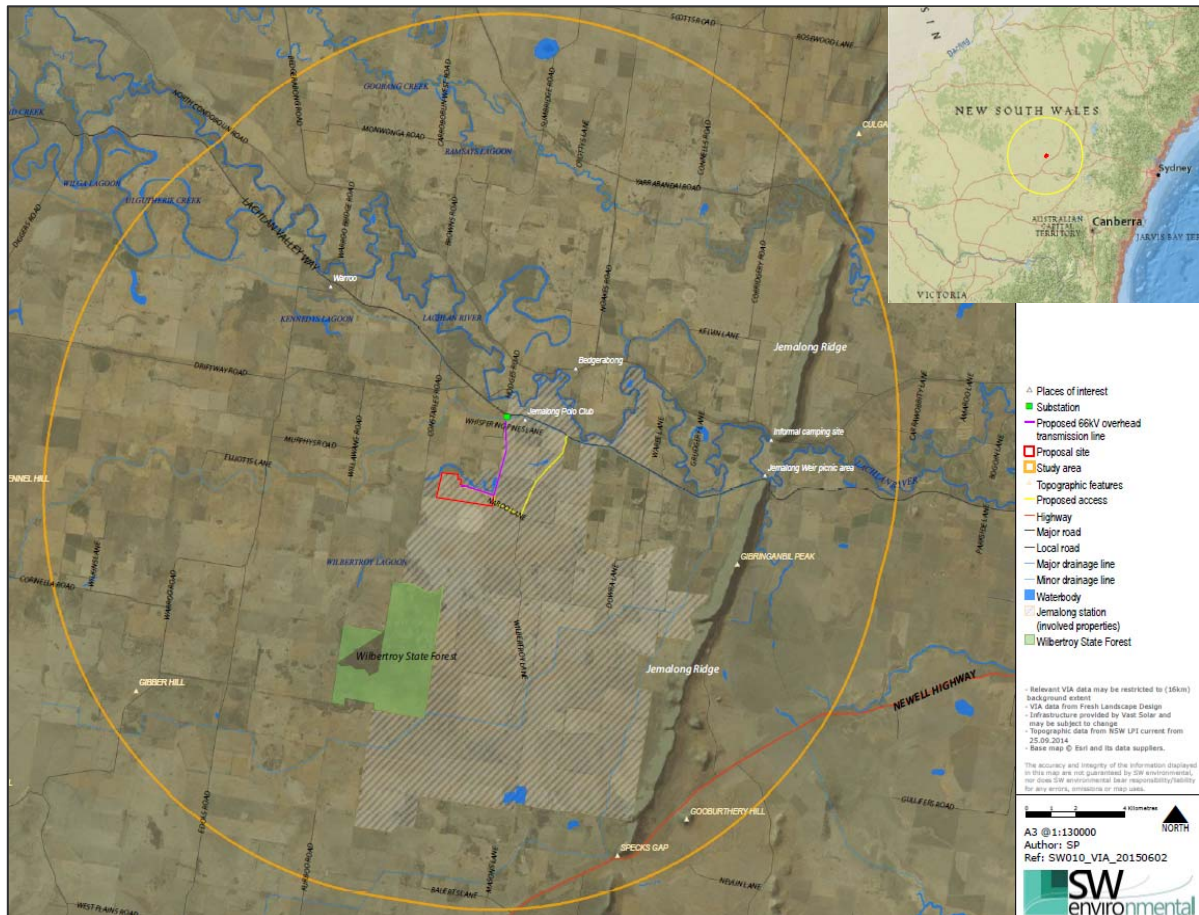


Figure 1 | Regional Context

1.1 Consent History

The project was granted development consent on 18 May 2018 by the Executive Director, Resource Assessments and Business Systems, as delegate of the then Minister for Planning. A subsequent modification to the consent (Mod 1) involved revising the subdivision layout and was granted consent on 27 July 2018 by the Director, Resource and Energy Assessments, as delegate of the then Minister for Planning.

The consent allows for the construction, operation, upgrading and decommissioning of a solar farm with an initial capacity of 50 MW, including:

- approximately 170,000 solar panels (up to 3.5 m in height), 22 inverters stations (up to 3 m in height) and an onsite substation;
- a 5 kilometre (km) above ground transmission line connecting to the Essential Energy West Jemalong Substation;
- internal access tracks, underground cabling, staff amenities, offices, car parking, laydown area and perimeter security fencing; and
- subdivision for the project site and the substation.

Genex has yet to commence construction of the project.

1.2 Development Footprint

The existing project site is 165 hectare (ha) with a 74 ha development footprint, which was designed to avoid impacts on flood prone land, remnant native vegetation, hollow-bearing trees and Aboriginal heritage items. There are two non-associated residences located within 2 km of the project site, with the closest residence located approximately 1.7 km to the north of the proposed solar panels.

The site and surrounds are currently used for agricultural practices, primarily livestock grazing, and is part of the Jemalong Station, which is a 17,478 ha cattle farm.

The project is located within the floodplain of the Lachlan River and is adjacent to the Thurumbidgee Lagoon, which is an ephemeral waterbody (see **Figure 3**).



2. Proposed Modification

Genex is seeking to further modify the development consent (SSD 8803) for the Jemalong Solar Farm. The modification is described in detail in the Modification Report (see **Appendix B**) and a comparison of the proposed development footprint with the approved development footprint is shown in **Figure 2**.

The modification application seeks approval for:

- an expanded area of solar arrays and consequently expanded development footprint within the project site; and
- a slight increase in the height of inverter stations.

Genex has advised that there would be a reduction in the number of:

- solar panels from 170,000 to 160,000; and
- inverter stations from 22 to 20.

No other changes are proposed to the onsite substation, other ancillary infrastructure or the site access point.

2.1 Area of Solar Array

The proposed additional area of solar arrays would increase the approved 74 ha development footprint by 38 ha (an increase of 51%). The revised development footprint would be 112 ha within the existing 165 ha project site.

The proposed expansion to the development footprint is the result of the detailed design process of the solar array and a review of constructability to achieve 50 MW electricity generation capacity undertaken by Genex since acquiring the project. Detailed design has resulted in an increase in spacing between the rows of solar panels and changes to the internal access tracks.

The expanded development footprint would retain the minimum 10 m defendable space around the perimeter of the solar array within the revised development footprint as required by the consent conditions to treat the development as an asset protection zone (APZ).

2.2 Inverter Stations

The proposal also seeks approval for a slight increase in the height of the inverter stations from 3 m to 3.2 m.

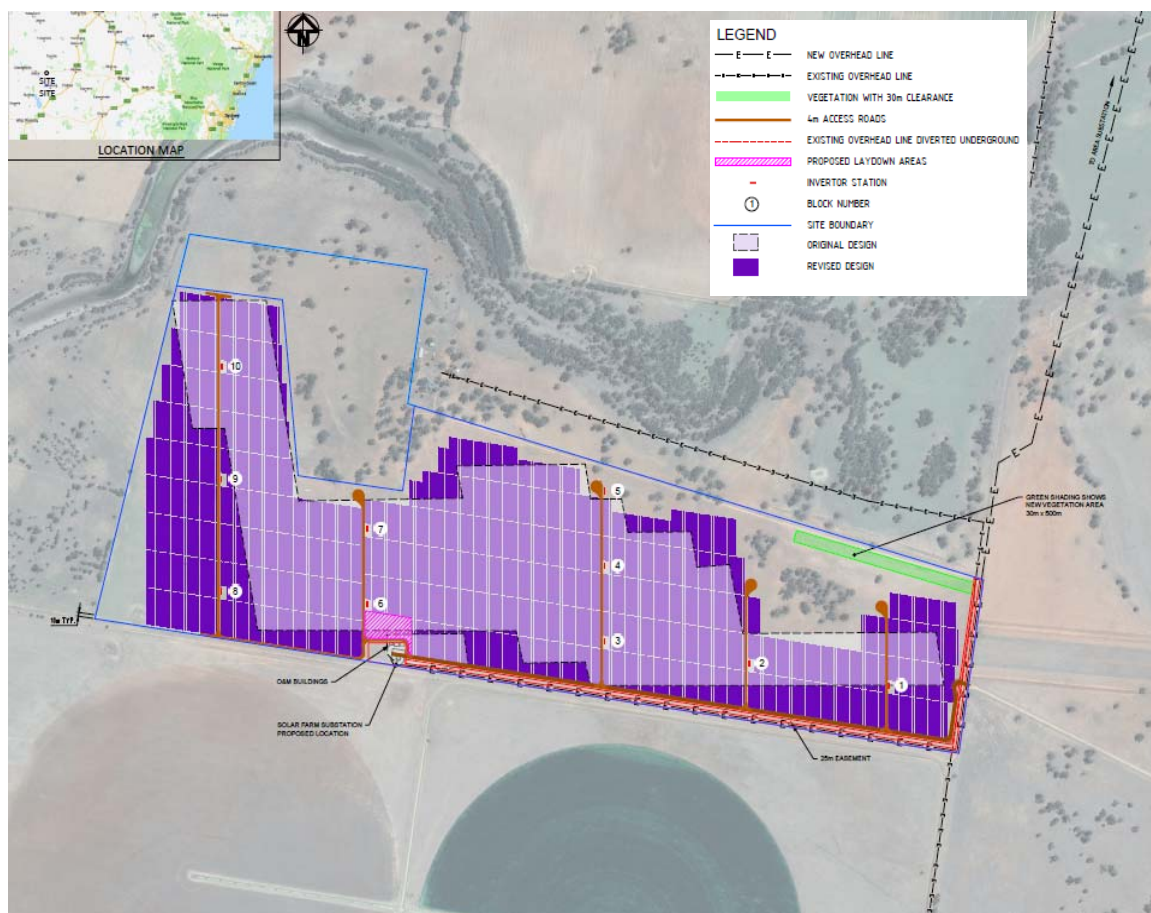


Figure 2 | Approved and Proposed development footprint comparison

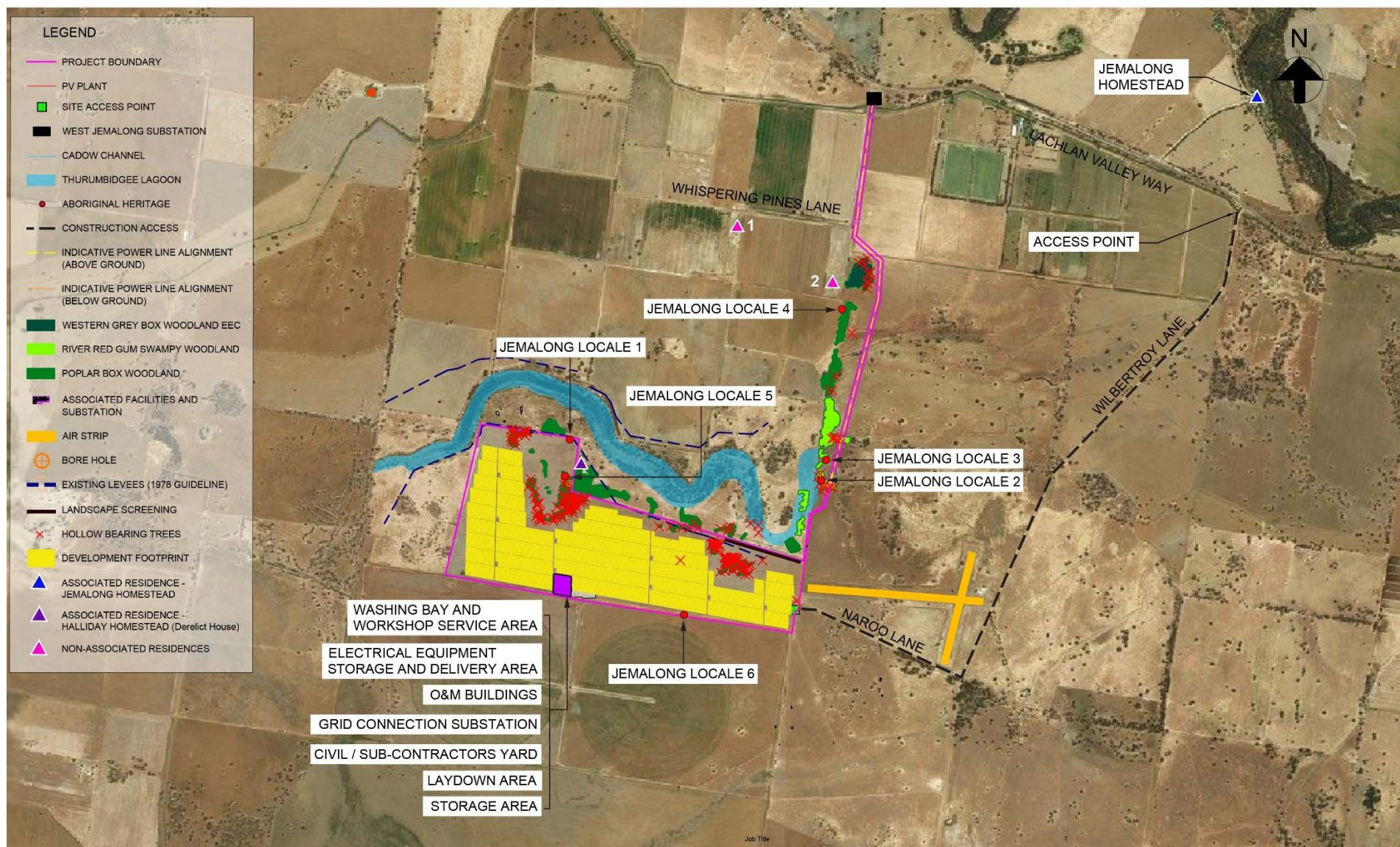


Figure 3 | Proposed Project Layout



3. Statutory Context

3.1 Scope of Modifications

The project was originally approved under Section 4.38 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and any modification to this consent must be made under Section 4.55 of the EP&A Act.

The Department has reviewed the scope of the modification application and considers that the application can be characterised as a modification involving environmental minimal impact as the proposal:

- would not significantly increase the environmental impacts of the project as approved;
- is within the existing project site;
- is substantially the same development as originally approved.

Consequently, the Department is satisfied that the application can be characterised as a modification to the existing approval under Section 4.55(1A) of the EP&A Act, as it would result in substantially the same project as originally approved.

3.2 Modifying a Development Consent

The Department confirms that the application contains the relevant information required under Clause 115 of the EP&A Regulation, including:

- a description of the proposed modification and its expected impacts;
- the relevant fee; and
- landowners' consent.

3.3 Consent Authority

Although the Minister for Planning and Public Spaces is the consent authority for the application, the Director, Energy Assessments, may determine the application under the Minister's delegation dated 11 October 2017 as Council did not object to the proposal, Genex did not make any political donations and there were no objections.

3.4 Matters for Consideration

In accordance with section 4.55(3) of the EP&A Act, the following must be considered in granting the modification application as relevant to the application:

- environmental planning instruments, proposed instrument or development control plan;
- any planning agreement;
- EP&A Regulation;
- likely impacts of the modification application, including environmental impacts on both the natural and built environments, and social and economic impacts;
- suitability of the site;
- any submissions;
- the public interest;
- the reasons for granting the consent for the original application.

The Department has considered the relevance of the considerations for the modification application below.

Environmental planning instruments, proposed instrument or development control plan

The environmental planning instrument relevant to this modification is the *Forbes Local Environment Plan 2013* (Forbes LEP). There are no proposed or draft LEPs or development control plans (DCPs) for Forbes LGA for consideration in this modification.

Any planning agreement

There are no voluntary planning agreements between Genex and Forbes Shire Council.

EP&A Regulation

There are no additional considerations relevant to the modification application in the EP&A Regulation.

Likely impacts of the modification application

The likely impacts of modification are considered in **Section 5** of this report.

Suitability of the site

The Department's assessment of the original application concluded that the site was suitable for a solar farm subject to the conditions of consent. The suitability of the site with the proposed additional area of solar arrays is considered in **section 5.1**.

Submissions

The Department notified and sought advice from Forbes Shire Council, the Office of Environment and Heritage and the Environment Protection Authority and this is discussed further in **Section 4** of this report. No submissions on the modification were received from the general public. Notwithstanding, Genex provided written landholder support from the two nearest non-associated residences. Both non-associated residences raised no issues with the proposed modification.

Public Interest

The consideration of public interest is provided in **Section 6** of this report.

The reasons for granting the consent for the original application

The Department considered the impacts and benefits of the solar farm in accordance with the EP&A Act in granting consent.



4. Engagement

In accordance with the EP&A regulations, the Department is not required to notify any other parties of the modification application. Notwithstanding, the Department sought comment from Forbes Shire Council, the Office of Environment and Heritage and the Environment Protection Authority, and the application was made publicly available on the Department's website on 23 July 2019.

While none of the agencies objected to the proposed modification, several provided advice. This advice is summarised below and considered in more detail in **Section 5** of this report.

The **Office of Environment and Heritage** (OEH) raised no concerns, confirming that the areas proposed as part of the expanded development footprint would not increase the impacts to biodiversity values or Aboriginal cultural heritage items beyond those assessed as part of the approved project.

Environment Protection Authority (EPA) provided advice and recommendations on implementing all reasonable and feasible measures to protect surface waters, and minimise dust emissions, sediment discharge and chemical spills. The Department notes that the EPA's recommendations are already reflected in the conditions of approval.

Forbes Shire Council (Council) raised no concerns.



5. Assessment

The Department has considered the merits of the proposed modification application in accordance with the relevant matters for consideration described in **Section 3.4**.

In assessing the merits of the proposed modification, the Department has considered the existing development consent; previous environmental assessments for the project; the modification application and supporting information; comments from neighbouring landowners; applicable government policies and guidelines; agency comments and requirements of the EP&A Act. A list of the key documents that informed the assessment is provided in **Appendix A**.

The Department has considered whether the proposed changes would result in any material increases in the environmental or amenity impacts of the project. The key matters for consideration on this project include the compatibility of land use, impacts on biodiversity values, visual amenity and flooding.

5.1 Compatibility of Proposed Land Use

The existing development consent allows for solar panels and associated infrastructure within a 74 ha development footprint within the 165 ha project site. The proposed modification would increase the development footprint by approximately 38 ha. The development footprint would be 112 ha within the project site.

The additional 38 ha has the same zoning (RU1 Primary Production) as the existing development footprint under the Forbes LEP. The Department considers that, the modified project would remain consistent with objectives of the RU1 zone.

The proposed expansion would not result in additional impacts on the inherent agricultural capability of the land beyond those considered and assessed under the existing consent as the expanded development footprint is within the existing project site. Further, a solar farm would not limit the ability of the site returning to agricultural use in the future once the project is decommissioned.

The Department considers that the proposed solar array and expanded development footprint represents an effective and compatible use of the land within the region. The existing conditions, including the decommissioning and rehabilitation objectives in the consent, adequately address the potential impacts on agricultural land.

5.2 Biodiversity

The biodiversity survey undertaken for the original application surveyed the 165 ha project site, however only the 74 ha development footprint was assessed and approved as disturbance area.

The additional 38 ha proposed as development footprint is comprised of mostly cleared and highly disturbed agricultural land with a long history of cropping and livestock grazing. The groundcover is predominantly exotic species. The expanded development footprint would not require any additional clearing of native vegetation or endangered ecological communities (EEC).

The Department, in consultation with OEH, considers that the modification would not increase impacts to biodiversity values, the area was surveyed in the original application, and a further BDAR is not required.

5.3 Visual

The Department considers that the proposal is unlikely to increase the visual impacts of the project given the two nearest non-associated residences (R1 and R2) are approximately 1.7 km north of the project boundary. Existing vegetation would screen the additional solar array, and would be supplemented by the approved vegetation screening in the north east corner of the project site.

Importantly, both R1 and R2 were consulted during application process, support the modification and raised no concerns with the proposal.

5.4 Flooding

The site is located adjacent to Flood Network Zones A and B under the *Lachlan River: Jemalong Gap to Condobolin Floodplain Management Plan* (Lachlan River FMP). The existing consent requires Genex to install the solar panels above the 1 in 25 year flood height (elevated by at least 0.3 m) and no changes to the location of ancillary infrastructure is proposed.

A flood impact assessment was undertaken as part of the proposal, which concluded that installing the solar panels in the additional area of solar arrays above the 1 in 25 year flood height and above the minimum elevation, the project would have negligible impacts on the floodplain mitigation of impacts of the project on the floodplain. The Department considers that the modification has been designed in accordance with existing conditions and the existing conditions are adequate to manage on the floodplain.

5.5 Other Matters for Consideration

Genex undertook a heritage assessment of the proposed modification, which did not identify any additional Aboriginal or European heritage sites in the expanded footprint. Although the development footprint would move closer Jemalong Locale 6 (JL6) to the south, which is the only Aboriginal heritage item located directly adjacent to the solar array, Genex has designed the additional solar array to accommodate a total 25 m setback from JL6. This is made up of a 20 m setback from the solar array as well as a fenced 5 m exclusion zone during construction.

The Department and OEH consider that the proposed modification would not increase the Aboriginal heritage impacts of the project and can be adequately managed under the existing consent conditions.

In regard to bushfire risk, the existing conditions require Genex to manage the development as an APZ. The expanded development footprint would maintain the required 10 m defendable space around the perimeter of the solar panel area within the development footprint as required by the existing consent conditions.

Subject to the existing conditions, the Department considers that the modification would result in negligible environmental impacts. Further, the expanded development footprint is required to ensure the project's constructability by providing adequate spacing between rows of solar panels and internal access tracks.

In summary, the Department considers that the proposed modification would not result in any environmental or amenity impacts beyond those currently approved for the project and that the existing conditions of consent adequately addressed any potential impacts.



6. Evaluation

Proposed Modification

The Department has assessed the modification application in accordance with the relevant statutory requirements, having regard to the Modification Report and documentation relating to the original project. The Department has assessed the proposed modification to allow for the increase in the solar array and as associated increase in the development footprint from 74 ha to 112 ha within the project site.

Likely impacts of the modification application

In assessing the merits of the proposal, the Department has considered the:

- relevant matters for consideration identified in Section 3.3;
- existing conditions of approval;
- previous EAs for the project; and
- requirements of the EP&A Act.

The Department considers that the proposed modification application meets these requirements as:

- the modification is consistent with the objectives of the Forbes LEP;
- the proposed modification would not significantly impact on the natural and built environments, and there would not be any social and economic impacts beyond those already assessed;
- there are no draft environmental planning instruments, development control plans and planning agreement or requirements in the EP&A regulation relevant to the modification application;
- there are no land use conflicts between the land and the use of surrounding land in the locality (including agricultural land) noting that the solar farm and associated infrastructure have been assessed in detail and the existing consent would effectively manage and minimise any residual impacts associated with the project; and
- the modification application is consistent with the reasons given for the original approval.

The Department's assessment has found that the proposed modification would not result in any significant impacts beyond those that were assessed and approved under the existing consent. Any residual environmental and amenity impacts associated with the proposed modification could be mitigated and managed through the revised conditions of consent.

Importantly, the proposed modification would allow the benefits of the project to be realised, particularly as it would ensure the project's constructability.

Consequently, the Department is satisfied that the proposed modification is in the public interest and should be approved.

The Department has drafted a Notice of Modification (see **Appendix C**) and a consolidated version of the development consent as modified (see **Appendix D**). To permit the proposed modification, the conditions have been updated with a new definition of the EIS and a revised figure with the modified development layout.

Additionally, in modifying the development consent, the Department has taken the opportunity to update and strengthen the existing conditions relating to compliance reporting and environmental audits to better reflect contemporary conditions that apply to other solar farms in NSW (see **Appendix E**).

Genex has reviewed the proposed changes to the conditions and does not object to them.



7. Recommendation

It is recommended that the Director, Energy Assessments, as delegate of the Minister for Planning and Public Spaces:

- **considers** the findings and recommendations of this report;
- **determines** that the application Jemalong Solar Modification 2 (SSD 8803) falls within the scope of section 4.55(1A) of the EP&A Act ;
- **forms the opinion** under section 7.17(c) of the Biodiversity Conservation Act 2016 that a biodiversity development assessment report is not required to be submitted with this application as the modification will not increase the impact on biodiversity values on the site;
- **accepts and adopts** all of the findings and recommendations in this report as the reasons for making the decision to grant consent to the application;
- **modify** the consent (SSD 8803); and
- **signs** the attached approval of the modification (**Attachment C**).

Recommended by:

02/09/2019

Natasha Homsey
Environmental Assessment Officer
Energy Assessments

Recommended by:

May Patterson
Team Leader
Energy Assessments

2/9/19



8. Determination

The recommendation is **Adopted** / Not adopted by:

3/9/19

Nicole Brewer
A/Director
Energy Assessments



Appendices

Appendix A – List of Documents

Modification Report titled *Jemalong Solar Farm Modification 2 SSD 8803*, RPS, July 2019.

Additional Information received from Genex, dated August 2019.

Appendix B – Modification Report

Appendix C – Notice of Modification

Appendix D – Consolidated Consent

Appendices B-D - See the Department's Major Projects Website at:

<https://www.planningportal.nsw.gov.au/major-projects/project/13701>

Appendix E – Summary of Administrative Changes to Conditions

Condition Number	Condition	Reason for changes
Definitions	Definitions	Including contemporary definitions for solar farm development consents and updating agency names.
Schedule 4: condition 2	Revision of Strategies, Plans and Programs	Condition updated to reflect contemporary solar farm development consents
Schedule 4: condition 4 & 5	Compliance Reporting and Notifications obligations	Conditions updated to reflect contemporary solar farm development consents
Schedule 4: condition 7 & 8	Independent Environmental Audit obligations and Access to Information	Condition updated to reflect contemporary solar farm development consents