



Darlington Point Solar Modification 1

Increasing BESS Capacity
State Significant Development Modification Assessment
(SSD 8392 MOD 1)

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Executive Summary

Edify Energy Pty Ltd (Edify) has approval to develop the Darlington Point Solar Farm (the project), located approximately 10 km south of Darlington Point in the Riverina Murray region of NSW.

The approved project involves the development of a solar farm with 275 megawatts (MW) capacity, a battery energy storage system (BESS) with 50 MW / 100 MW-hours (MWh) capacity, grid connection infrastructure and road upgrades.

The solar farm has been constructed and is currently undergoing commissioning. Construction of the approved BESS has not commenced.

Proposed Modification

The modification application seeks to increase the capacity of the approved BESS from 50 MW / 100 MWh to 200 MW / 400 MWh. The BESS would remain in the same location within the approved development footprint.

Engagement

The Department published the application on its website on 7 June 2021 and sought comments from Murrumbidgee Council, Fire and Rescue NSW and the NSW Rural Fire Service. None of the agencies objected to the proposed modification.

Assessment

In assessing the merits of the proposed modification, the Department has considered the merits of the proposal in accordance with the relevant matters for consideration under the *Environmental Planning and Assessment Act 1979*.

Edify prepared a risk assessment and a revised Preliminary Hazard Analysis (PHA) for the modified project that recommended specific controls to limit the consequences and likelihood of potentially hazardous incidents, including minimum boundary setback and separation distances between battery modules/containers.

The Department is satisfied that the modification would not result in any significant impacts or hazards, subject to the implementation of safety studies and plans, as outlined in the PHA provided by Edify. Any potential noise and transport impacts would be minor and could be managed by the existing conditions of consent, and there would be no significant additional amenity impacts.

Summary

The Department's assessment has concluded that the modification should be approved to increase the capacity of the battery energy storage system, which would improve the ability of the project to store solar energy for dispatch to the grid outside of daylight hours and / or during periods of peak demand. This also has the potential to further contribute to increased grid stability and energy security. Consequently, it is in the public interest and should be approved.

Contents

1	Introduction	1
1.1	Consent History	2
2	Proposed modification	3
2.1	Scope of modification	3
2.2	The Applicant	4
3	Statutory context	4
3.1	Scope of modifications	4
3.2	Consent authority	4
3.3	Mandatory matters for consideration.....	4
4	Engagement	6
4.1	Department's engagement.....	6
4.2	Key Issues – Government Agencies	6
5	Assessment	6
5.1	Hazards	6
5.2	Other considerations	7
5.3	Summary	9
6	Evaluation	10
7	Recommendation	11
8	Determination	12
	Appendices	13
	Appendix A – List of referenced documents	13
	Appendix B – Modification report	13
	Appendix C – Additional Information	13
	Appendix D – Notice of Modification	13
	Appendix E - Consolidated Consent.....	13
	Appendix F – Summary of Administrative Changes to Conditions	13

1 Introduction

Edify Energy (Edify) has approval to develop the Darlington Point Solar Farm (the project), located approximately 10 km south of Darlington Point in the Riverina Murray region of NSW (see **Figure 1**).



Figure 1 | Regional Context

1.1 Consent History

The project was granted development consent on 7 December 2018 by the Executive Director, Resource Assessments and Business Systems, as delegate of the then Minister for Planning.

The consent permits the construction, operation, upgrading and decommissioning of a solar farm with a generating capacity of approximately 275 megawatts (MW) (see **Figure 2**) and includes:

- approximately 1,000,000 solar panels (up to 3 m high) and up to 55 inverter stations (up to 4.5 m high),
- a 50 MW / 100 MWh battery energy storage system (BESS) (up to 3.3 m high) and an onsite substation;
- connection to TransGrid’s 132 kilovolt (kV) Darlington Point substation;
- internal access tracks, staff amenities, maintenance and storage building, car park, site office, fire breaks and security fencing; and
- subdivision of the project site to facilitate long term leasing of the land.

Construction of the solar farm commenced in March 2019, and the grid connection and market registration process with the Australian Energy Market Operator (AEMO) began in August 2020. The project is currently undergoing the commissioning process.

Although subdivision of the site creating a new 2 ha lot for the approved BESS has occurred, construction of the BESS has yet to commence.

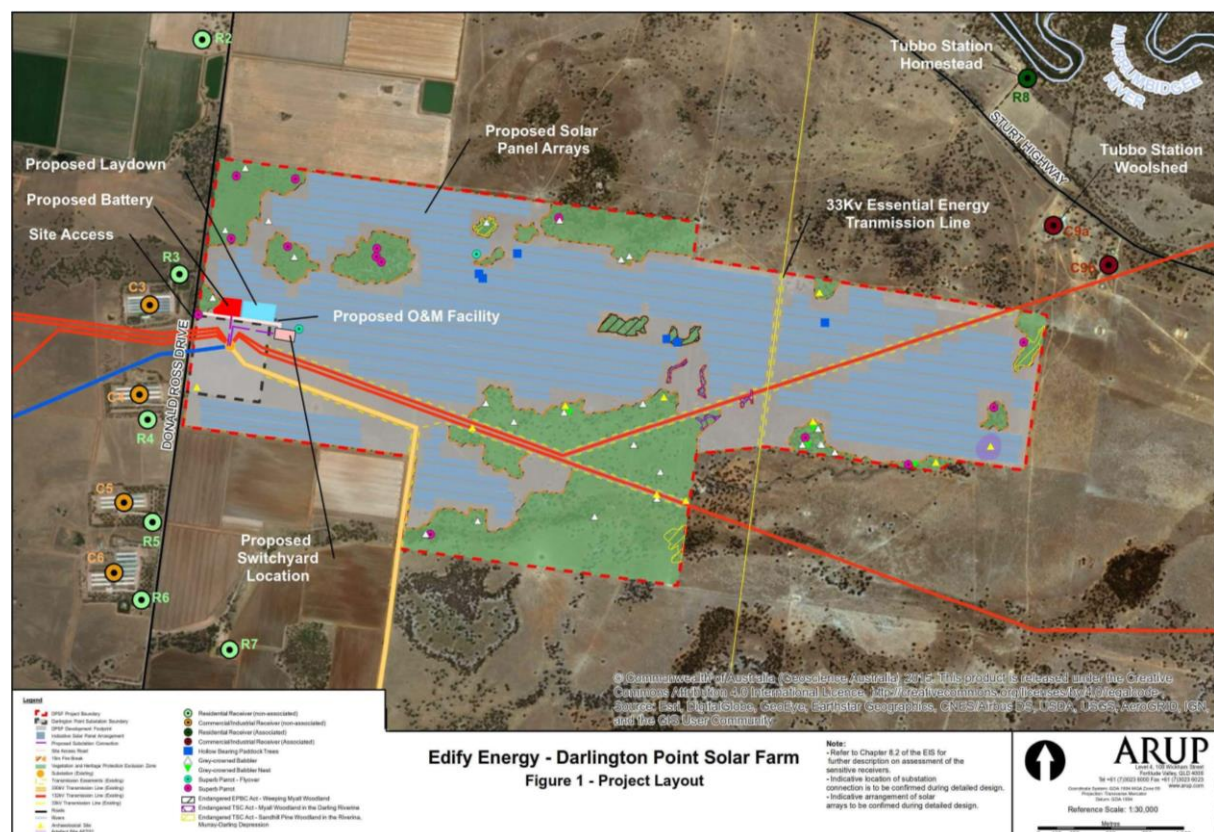


Figure 2 | Project Layout

2 Proposed modification

2.1 Scope of modification

Edify is seeking to modify the development consent to increase the total power and storage capacity of the BESS from 50 MW / 100 MWh to 200 MW / 400 MWh.

The proposed modification is described in detail in the Modification Report (see **Appendix B**), and additional information that Edify submitted on 29 June 2021 (see **Appendix C**).

Despite the increase in capacity, the proposed BESS would remain within the approved 2 ha area within the site (see **Figure 3**). This is possible through improvements in battery technologies, which has increased the efficiency and capacity of energy storage systems. Edify consider the modification would provide additional dispatchable energy, storage and firming capacity, which would contribute to improving the stability of the National Energy Market.

Construction of the BESS would take up to 6 months, involve up to 35 full-time equivalent workers, and increase the project's capital investment value by \$174.6M. No other changes to the project are proposed as part of this modification application.

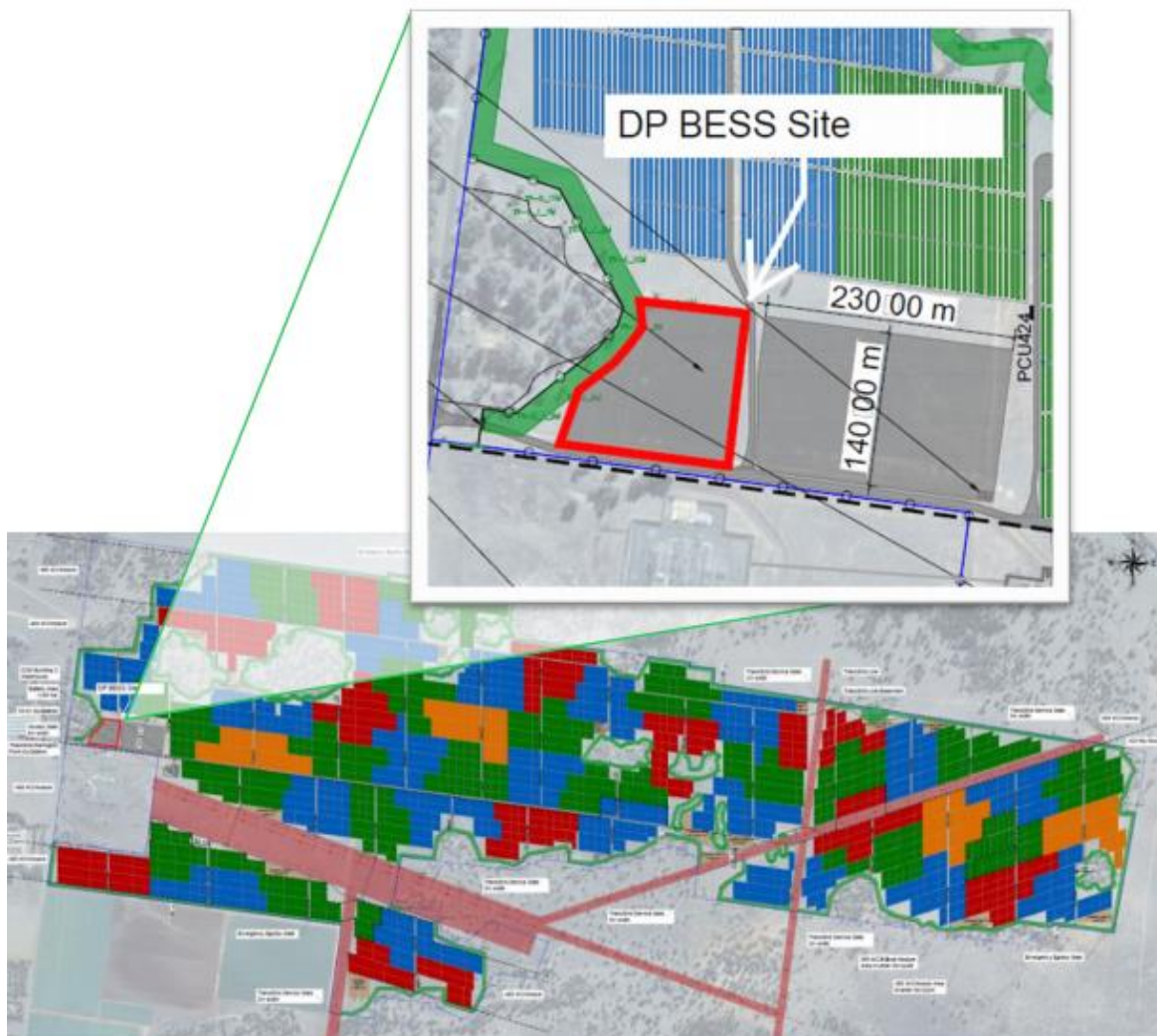


Figure 3 | Approved BESS location within the site

2.2 The Applicant

Since approval, the project has been commercially split into two separate components: the solar farm and the BESS. Edify is the Applicant for the purposes of this modification. The solar farm, which is undergoing commissioning, is owned and operated by Darlington Point Solar Farm Pty Ltd (DPSF).

3 Statutory context

3.1 Scope of modifications

Consideration as modification

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.

Edify has given an undertaking that the modified project remains substantially the same as the project that was originally approved in accordance with Section 115(1) of the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation).

The Department has considered the scope of the modification application and the existing consent and considers that the modification is substantially the same development as originally approved and can be considered as a modification and does not require a new development application

Type of Modification

The Department has reviewed the scope of the modification application and considers that despite the increase in the capital cost of the BESS, the application can be characterised as a modification involving minimal environmental impacts as the proposal:

- would not significantly increase the environmental impacts of the project as approved;
- would not change the approved development footprint; and
- 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 consent under Section 4.55(1A) of the EP&A Act. Accordingly, the application may be assessed and determined under this section.

3.2 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 26 April 2021 as Murrumbidgee Council (Council) did not object to the proposal, Edify did not make any political donations, and there were no public objections.

3.3 Mandatory matters for consideration

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

- environmental planning instruments or proposed instruments;
- any planning agreements;
- 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; and
- the reasons for granting approval 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 *Murrumbidgee Council Local Environmental Plan 2013* (the LEP). There are no proposed or draft LEPs or development control plans (DCPs) for Murrumbidgee Council LGA for consideration in this modification. The modification is entirely within the approved project site boundary, specifically within land zoned RU1 – Primary Production under the LEP.

Any planning agreement

Edify entered into a voluntary planning agreement with Council, which was negotiated separately from the Department's assessment process and involved Edify making a lump sum payment to Council. The agreement with Council is considered further in **section 5**.

EP&A Regulation

The modification application satisfies the requirements of Section 115 of the 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**.

Suitability of the site

The Department's assessment of the original application concluded that the site was suitable for a solar farm and energy storage subject to the conditions of consent. Edify is proposing to increase the capacity of the approved BESS but would remain within the development footprint and therefore would not substantially change the approved project.

Submissions

The Department notified and sought advice from Council and relevant government agencies, and this is discussed in **section 4**.

Public interest

The consideration of public interest is provided in **section 6**.

The reasons for granting the consent for the original application

The Department has considered the reasons for granting consent to the original application and is satisfied that the proposed modification is consistent with those reasons. The Department also considered the impacts and benefits of the solar farm in accordance with the EP&A Act in granting consent.

4 Engagement

4.1 Department's engagement

In accordance with the EP&A Regulation, the Department is not required to notify any other parties of the modification application. Notwithstanding, the Department sought comments from Murrumbidgee Council (Council), Fire and Rescue NSW (FRNSW) and the NSW Rural Fire Service (RFS). The application was also made publicly available on the Department's website on 7 June 2021.

The Department received correspondence from DPSF, which operates the solar farm component of the approved project. The concerns raised have been considered in **section 5**.

4.2 Key Issues – Government Agencies

While none of the government agencies objected to the proposed modification, Council requested that Edify pays an additional section 7.12 levy based on the increased capital investment value of the modification application. This is because Council considers the construction workforce could increase demand for services and community facilities from Council and the loss of farming land for developments of this nature could diminish the economic capacity in the area.

This request is considered in more detail in **section 5**.

5 Assessment

The Department has considered the merits of the proposed modification application in accordance with the relevant matters for consideration described in **section 3.3**.

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; applicable government policies and guidelines; agency advice 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 impacts of the project. Potential hazards from the proposed changes are discussed in **section 5.1**, while other matters for consideration are discussed in **section 5.2**.

5.1 Hazards

Edify provided an updated preliminary hazard analysis (PHA) based on the increased BESS capacity proposed in this modification application. Relevant criteria for the PHA include the size of the site footprint, proposed location of infrastructure, surrounding land uses, and the separation distances between battery units and from the BESS to neighbouring properties.

The PHA included a quantitative consequence analysis for two events that could cause offsite impacts, a battery fire and battery explosion. To minimise these risks to an acceptable level, Edify has committed to adopting the recommendations made in the PHA. This includes designing the BESS with minimum site boundary setback distances, separation distances between individual BESS units, installing fire suppression systems if BESS units are containerised and procuring a BESS with explosion venting or explosion prevention systems.

DPSF raised concerns about bushfire management and the Asset Protection Zone (APZ) required under the consent. In this regard, the consent requires a 10 m APZ around the perimeter of the solar

array area. The Department has recommended recommended conditions for the APZ to also apply around the perimeter of the BESS.

Recommended Conditions

The existing conditions include a requirement for Edify to prepare a Fire Safety Study prior to commencing construction of the BESS. To appropriately manage the risks from the proposed increase in BESS capacity, the Department has strengthened this condition by requiring Edify to prepare the study based on the detailed design in consultation with FRNSW and the RFS.

Further, the Department has recommended strengthening the Emergency Plan requirements to reflect more contemporary BESS approvals in NSW. This includes a new condition stipulating that the BESS capacity must not exceed a total delivery capacity of 200 MW or storage capacity of 400 MWh.

5.2 Other considerations

Table 1 | Summary of other impacts as a result of the proposed modification

Issue	Findings	Potential for additional impacts
Noise	<ul style="list-style-type: none"> DPSF raised concerns that the noise modelling has underestimated the noise impacts of the modification on surrounding receivers. Edify provided a noise assessment for this modification, concluding that there would be no significant changes to construction noise from the approved project. Noise modelling for the cumulative operational noise of the modified project (solar farm and proposed BESS) was based on worst-case scenario assumptions. The modelling predicts that the proposed BESS with up to 170 BESS units would be consistent with the relevant operational noise criteria (i.e. 35 dB(A)) at all non-associated residences. As the final battery model and its noise specifications have not been selected, the Department has strengthened the noise conditions by adding a condition that limits noise generated by the operation of the development would not exceed the criteria specified in the <i>Noise Policy for Industry</i> (EPA 2017) at all non-associated residences. 	No
Visual	<ul style="list-style-type: none"> The proposed BESS would generally be in the same location as approved. However, the height of the containers housing BESS units could increase from 3.3 m to a maximum height of 5 m. Four non-associated residences are located within 2 km of the BESS (see Figure 2). Of these, three (R3, R4 and R5) are workers' accommodation located on the poultry farms along Donald Ross Drive, the nearest (R3) is located around 270 m from the BESS. The nearest private residence (R2) is approximately 1.8 km from the BESS. Despite the potential increase in height, the topography and existing mature woodland vegetation immediately west of the BESS location 	No

Issue	Findings	Potential for additional impacts
	<p>and surrounding the four nearest non-associated residences would significantly screen views of the BESS.</p> <ul style="list-style-type: none"> The Department considers that the proposed modification would not have minimal visual impacts beyond those already assessed and approved under the consent. 	
Traffic	<ul style="list-style-type: none"> Construction of the BESS would utilise the approved site access point on Donald Ross Drive, which was upgraded as required under the consent. Vehicle movements can be appropriately managed with the existing consent conditions and Traffic Management Plan. 	No
Biodiversity	<ul style="list-style-type: none"> The Department considers that the modification would not increase impacts on biodiversity values as the proposed BESS is within the approved disturbance footprint, which was cleared and used as a site office and laydown area during the construction of the solar farm. 	No
Heritage	<ul style="list-style-type: none"> There are no changes to the approved disturbance footprint, and the identified Aboriginal Heritage items are not located in proximity to the BESS. Therefore existing consent conditions are adequate. 	No
Socio-economic	<ul style="list-style-type: none"> Council requested an additional development contribution of 1% (\$1.75M) of the increase in the capital investment value of the proposed modification. The Department discussed this request with Council and examined its merits, noting that the main solar farm has already been constructed, that Edify entered into an agreement with Council prior to commencing construction of the solar farm, which included a lump-sum contribution. The Department understands that Edify will consult directly with Council regarding any additional voluntary community funding as a result of this modification. The Department does not consider that the proposed modification would create any significant demand on Council infrastructure or services and does not consider an additional levy is required. Furthermore, the BESS would require a smaller workforce of up to 35 construction jobs, during the three to six month construction period compared with the 300 construction workers involved in the construction of the solar farm, with the requisite road upgrades for site access already completed and an Accommodation and Employment Strategy in place. 	No

5.3 Summary

The Department is satisfied that the modification would not result in any significant additional environmental or amenity impacts, beyond those currently approved for the project and that the revised conditions of consent would adequately address any potential impacts.

Edify has committed to implement controls to manage risks and the likelihood of potentially hazardous incidents to acceptable levels, in accordance with a risk hazard assessment and PHA for the proposed modification.

The Department is satisfied that the modification would improve the ability of the project to store solar energy for dispatch to the grid outside of daylight hours and / or during periods of peak demand, which has the potential to further contribute to increased grid stability and energy security.

The Department has also taken the opportunity to update the existing consent with new agency names and the Schedule of Land to reflect the subdivision undertaken as part of the consent, and updated standard compliance conditions (see a summary of the administrative changes in **Appendix F**).

Edify had some concerns regarding the potential implications the proposed changes would have on the solar farm component of the project, which DPSF has already built and is managing. The Department acknowledges these concerns but considers the updates provides clarity on current compliance requirements and do not materially change the obligations of the constructed solar farm.

6 Evaluation

Proposed modification

The modification proposed to increase the capacity of the BESS from 50 MW / 100 MWh to 200 MW / 400 MWh. 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 project as approved.

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 environmental assessments for the project; and
- requirements of the EP&A Act.

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

- the modification would improve the ability of the project to store solar energy for dispatch to the grid;
- the modification is consistent with the objectives of the LEP;
- the 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 agreements 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 consent.

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. Further, increasing the capacity of the BESS would provide an additional and substantial investment towards improving the reliability of the network at Darlington Point, provide storage and firming capacity to the NEM, and provide ancillary services which contribute to the stability and functionality of the electrical grid.

The Department has drafted a Notice of Modification (see **Appendix D**) and a consolidated version of the development consent (see **Appendix E**). The Department has recommended updated conditions for battery storage restriction and an updated development layout plan.

The Department is satisfied that the proposed modification is in the public interest and should be approved subject to these conditions.

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 Darlington Point Solar Farm Modification 1 (SSD 8392) falls within the scope of section 4.55(1A) of the EP&A Act;
- **accepts and adopts** all of the findings and recommendations in this report as the reasons for making the decision to approve the modification;
- **modify** the consent (SSD 8392); and
- **signs** the attached approval of the modification (**Appendix C**).

Recommended by:



15/10/2021

Natasha Homsey
Senior Environmental Assessment Officer
Energy Assessments

Recommended by:



15/10/2021

Anthony Ko
Team Leader
Energy Assessments

8 Determination

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



22/10/21

Nicole Brewer

Director

Energy Assessments

as delegate of the Minister for Planning and Public Spaces

Appendices

Appendix A – List of referenced documents

Darlington Point Solar Farm, Modification Report 1, 4 June 2021

Darlington Point Solar Farm Additional Information, 29 June 2021

Appendix B – Modification report

Appendix C – Additional Information

Appendix D – Notice of Modification

Appendix E - Consolidated Consent

Appendices B to E – see the Department’s Major Projects Website at:

<https://www.planningportal.nsw.gov.au/major-projects/project/41231>

Appendix F – Summary of Administrative Changes to Conditions

Condition	Consideration	Reasons for changes
Definitions	Definitions	Updating agency names
	Update definition of EIS	To include the modification application provided to the Department
Schedule 3: condition 24 and 26	Fire Safety Study and Emergency Plan	Conditions update to reflect contemporary hazard management requirements
Schedule 4: conditions 4 to 7	Compliance	Conditions update to reflect contemporary compliance requirements and procedures
Appendix 2	Schedule of Lands	Schedule updated to reflect the lot references resulting from subdivision undertaken as part of the consent
Appendix 3	Incident notification and reporting requirements	Requirements updated to reflect contemporary SSD Solar farm development consents