

New England Solar and Battery Project

Submissions Report

Prepared for ACEN Australia Pty Ltd

January 2023

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ACEN Australia Pty Ltd

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1 Introduction

1.1 Background

ACEN Australia Pty Ltd (ACEN Australia) (formerly named UPC Renewables Australia Pty Ltd) has approval to develop the New England Solar and Battery Project; a significant grid-connected solar farm and battery energy storage system (BESS) along with associated infrastructure, approximately 6 kilometres (km) east of the township of Uralla, which lies approximately 19 km south of Armidale, in the Uralla Shire local government area (LGA) (the project). The project was approved, subject to conditions, by the NSW Independent Planning Commission (IPC) on 9 March 2020 (SSD-9255).

The project is within the New England Renewable Energy Zone (REZ), which has been formally declared by the NSW Minister for Energy under Section 19(1) of the NSW *Electricity Infrastructure Investment Act 2020*. The New England region of NSW has been selected by the NSW Government for the development of the New England REZ due to its significant natural energy resources and has an intended network capacity of 8 gigawatts (GW).

ACEN Australia is seeking approval to amend the project boundary and development footprint to include additional land adjacent to the approved solar array areas. The proposed modification also includes an increase to the project's energy storage capacity; an increase in the number of over-dimensional vehicle movements permitted to access the site during construction, upgrading and decommissioning; an increase in the number of daily heavy vehicle movements; and an increase in the project's construction hours.

A modification report was prepared to support the application to modify SSD-9255. The modification was placed on public exhibition by NSW Department of Planning and Environment (DPE) from 4 November 2022 to 17 November 2022. During the exhibition period, advice was received from nine NSW Government agencies, Uralla Shire Council and Transgrid. Objections were received from two community stakeholders.

DPE requested in correspondence dated 18 November 2022 a written response to issues raised in the submissions (as required under Section 104 of the NSW Environmental Planning and Assessment Regulation 2021) in the form of a Submissions Report prepared having regard to *State Significant Development Guidelines – Preparing a Submissions Report* (DPE 2021).

1.2 Overview of the modification

ACEN Australia is seeking to modify SSD-9255, pursuant to Section 4.55(2) of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) to:

- amend the project boundary and development footprint;
- increase the project's storage capacity by approximately 1,200 MW (AC) from up to 200 MW (AC) to approximately 1,400 MW (AC) (ie from up to 400 MWh to up to 2,800 MWh);
- allow for additional land that could be utilised for adding direct current (DC) solar PV capacity, without changing the solar component of the project's total generating capacity of 720 MW(AC);
- increase the number of over-dimensional vehicle movements during construction, upgrading and decommissioning from 15 to 30;
- increase the number of daily heavy vehicle movements during construction;
- increase the project's construction hours; and
- amend the schedule of land.

The modification area is considered suitable for solar development as it is in a heavily cleared agricultural landscape, connected to the approved development footprint and accessible using the approved vehicle access route. The additional substation/BESS footprint is within the approved development footprint and is close to the approved substation/BESS footprint. No feasible alternatives to the proposed modification have been identified.

The proposed modification will not change the approved life of project operations.

The proposed modification is described in detail in Chapter 3 of the modification report (EMM 2022).

Since the submission of the modification report (EMM 2022), ACEN Australia identified an additional approximately 8.9 ha of land suitable for inclusion in the project boundary and development footprint. This land has recently been acquired by a project landholder, as a result of the closure of three Crown 'paper' roads and adjoins the existing approved project boundary and/or modification area. The proposed inclusion of the additional land in the project boundary and development footprint is likely to result in additional surface disturbance activities that were not assessed as part of the modification report and supporting assessments. An assessment of the potential impacts of the proposed inclusion of the additional land to the original modification area is provided in an accompanying amendment report (EMM 2023).

1.3 Document structure

This submissions report is structured as follows:

- Chapter 2 includes an analysis of the submissions received from stakeholders;
- Chapter 3 describes any other relevant actions taken since the exhibition of the modification report (including government and community consultation and any additional assessments required);
- Chapter 4 provides responses to the issues raised in submissions;
- Chapter 5 provides an updated justification for the modification; and
- Appendices:
 - Appendix A – Submissions register;

The accompanying amendment report (EMM 2023) includes an updated table of consolidated mitigation measures for the project (Appendix C) along with an updated set of project layout figures incorporating amendments made in response to submissions and additional land parcels assessed within the amendment report (Appendix D).

2 Analysis of submissions

2.1 Submissions received

During the exhibition period, advice was received from nine NSW Government agencies, Uralla Shire Council and Transgrid. Objections were also received from two community stakeholders. A submissions register is provided in Appendix A.

The advice and submissions received for the proposed modification can be viewed on DPE's website:

<https://www.planningportal.nsw.gov.au/major-projects/projects/new-england-solar-mod-2>

2.2 Summary of submissions

2.2.1 NSW Government agencies

i Biodiversity and Conservation Division

Biodiversity and Conservation Division (BCD) reviewed the modification report (including the biodiversity development assessment report (BDAR)) and had no issues to raise.

BCD noted that Condition 11 of Schedule 3 of the development consent for SSD-9255 requires the preparation of a biodiversity management plan (BMP) to ensure effective implementation of each of the biodiversity management and mitigation measures listed in the BDAR. BCD noted that it will be necessary to modify Condition 11 to require the BMP to include the management and mitigation measures for any additional impacts from the proposed modification.

The project's impacts on biodiversity are managed through the implementation of the *New England Solar Farm – Biodiversity Management Plan*, which will be updated to include reference to the modification area.

BCD's submission did not contain any matters for further consideration in this report.

ii Heritage NSW

Heritage NSW reviewed the modification report (including the Aboriginal cultural heritage assessment (ACHA)) and had no issues to raise.

Aboriginal cultural heritage values within the approved project boundary are currently subject to management under the *New England Solar Farm – Aboriginal Heritage Management Plan* (AHMP). The AHMP will be updated to incorporate the modification and will include management requirements for Aboriginal cultural heritage values. The two artefact sites, NE119 and NE20, within the modification area will be subject to surface collection. All other identified sites will be avoided.

Heritage NSW's submission did not contain any matters for further consideration in this report.

iii NSW Department of Primary Industries – Agriculture

NSW Department of Primary Industries (DPI) – Agriculture reviewed the modification report and noted that as the new land areas are owned by existing project landholders and are adjacent to the approved development footprint, no extra agricultural impacts are likely. No further comments were provided.

DPI's submission did not contain any matters for further consideration in this report.

iv Crown Lands

Crown Lands reviewed the modification report and recommended that ACEN Australia contact Crown Lands as early as possible to discuss and initiate the processes required to authorise the use of and/or access to Crown land and roads.

As noted within the modification report, there are a number of Crown roads within the development footprint and project boundary, including within, and adjacent to, the modification area. Applications to close these roads have been lodged with Crown Lands and ownership of these roads has now been transferred from the State of NSW to the project landholders. The request to amend the project to include these roads within the project boundary and development footprint is the subject of a separate amendment report (EMM 2023).

ACEN Australia currently holds LN 609354 under Section 152A of the NSW *Roads Act 1993*, which allows Crown roads within the project boundary to be used for electricity generation and supply. Should the proposed modification be approved, the licence will be amended as required.

ACEN Australia will continue to engage with Crown Lands.

Crown Land's submission did not contain any matters for further consideration in this report.

v Fire and Rescue NSW

Fire and Rescue NSW (FRNSW) reviewed the modification report and provided the following recommendations:

- A comprehensive Fire Safety Study (FSS) should be developed in accordance with the requirements of Hazardous Industry Planning Advisory Paper (HIPAP) No.2 and is to meet the operational requirements of FRNSW. The development of the FSS should consider the operational capability of local fire agencies and the need for the facility to achieve an adequate level of on-site fire and life safety independence. The FSS should consider worst-case fire scenarios including a full BESS unit fire and demonstrate no fire propagation within the facility. The FSS should be submitted, reviewed, and meet the operational requirements of, FRNSW prior to any further submission being made to FRNSW; this includes:
 - an Initial Fire Safety Report (IFSR); and/or
 - Performance-Based Design Brief/Fire Engineering Brief Questionnaire (FEBQ).
- A comprehensive emergency response plan (ERP) should be developed for the site in accordance with HIPAP No.1.
- An Emergency Services Information Package (ESIP) should be prepared in accordance with FRNSW (2019) *Fire Safety Guideline – Emergency Services Information Package and Tactical Fire Plans*.

A FSS is a requirement of Condition 13 of Schedule 3 of SSD-9255.

In accordance with the summary of management and mitigation measures in Table C.1 of the modification report (EMM 2022), ACEN Australia has prepared a *Fire and Emergency Response Plan 2020-2025* for the project. The plan includes a commitment to develop an ESIP.

FRNSW's submission did not contain any matters for further consideration in this report.

vi Mining, Exploration & Geoscience – Geological Survey of NSW

Mining, Exploration & Geoscience (MEG) – Geological Survey of NSW (GSNSW) reviewed the modification report and did not raise any concerns.

It is noted that the project boundary overlaps EL 9415 held by LM2 Metals Pty Ltd. ACEN Australia will engage with the licence holder, LM2 Metals Pty Ltd.

MEG GSNSW’s submission did not contain any matters for further consideration in this report.

vii [NSW Department of Planning and Environment Water](#)

DPE Water reviewed the modification report and requested clarification on riparian buffers for mapped watercourses within the modification area. A summary of mapped watercourses within the modification area is provided in Table 2.1.

Table 2.1 Mapped watercourses within the modification area

Modification area	Number of mapped watercourses by stream order		
	First	Second	Third and above
Area 1	-	-	-
Area 2	-	-	-
Area 3	1	-	1
Area 4	3	1	-
Area 5	1	-	1

As listed in Table 2.1, the modification area includes a number of 1st and 2nd order watercourses which will be impacted by the project. These mapped lower order watercourses do not have a discernible channel and therefore are considered unlikely to satisfy the definition of ‘waterfront land’ established within the *NSW Water Management Act 2000*. Riparian vegetation and the riparian zones adjacent to the 1st and 2nd order streams that traverse the modification area have been modified and degraded by historical land use practices and past disturbances associated with land clearing, cropping and intensive livestock grazing. In some cases, the water that would have flowed through these streams has been diverted by the project landholders through the establishment of contour banks. Therefore, no buffers or setbacks from these mapped watercourses are proposed.

Area 3 and Area 5 both include sections of a third order watercourse. In accordance with the *Guidelines for Controlled Activities on Waterfront Land* (DoI 2018), a 30 m buffer from each edge of the channel for both watercourses will be maintained to minimise potential impacts on downstream water quality and erosion. Should they be required, creek crossings and associated works within the buffer zones will be undertaken in accordance with:

- *Guidelines for Controlled Activities on Waterfront Land* (DoI 2018);
- *Policy and Guidelines for Fish Friendly Waterway Crossings* (DPI 2003); and
- *Fish Passage Requirements for Waterway Crossings* (Fairfull and Witheridge 2003).

The development footprint layer has been updated to exclude land within 30 m of the channel for the third order watercourses within Area 3 and Area 5. Please refer to Figure 3.1 in the amendment report.

A consolidated response to the matter raised by DPE Water is provided in Section 4.1.

DPE Hazards reviewed the modification report and supporting preliminary hazard analysis (PHA), as well as the *New England Solar Farm – Environmental Impact Statement (EIS)* (EMM 2019a) and requested clarification on a number of matters related to the BESS. The matters raised and responses to these are summarised in Table 4.1. In addition, DPE Hazards reviewed a draft version of this Submissions Report and requested further consideration of a number of matters as summarised in Table 4.2.

ix Transport for NSW

Transport for NSW (TfNSW) reviewed the modification report and had no issues to raise.

TfNSW's submission did not contain any matters for further consideration in this report.

2.2.2 Uralla Shire Council

Uralla Shire Council reviewed the modification report and provided comment on the standard of the primary access route used to access the development footprint. Uralla Shire Council noted:

As part of Council's original submission for the development application for the New England Solar Farm, Council put forward that that roads used for access to the development site should be of Austroads standards for safety purposes. This submission was not supported.

In light of the proposed increase in traffic movements, Council believes that the movements should again be assessed against Austroads standards and that the access should be upgraded to these standards in the interest of road safety.

A detailed response to the matters raised by Uralla Shire Council is provided in Section 0.

2.2.3 Transgrid

Transgrid provided a response to the notice of exhibition; however, no comments were provided on the modification report.

Transgrid's submission did not contain any matters for further consideration in this report.

2.2.4 Community submissions

There were two objections to the proposed modification, both of which were from community members outside of the local area (ie one objection from a community member 5,100 km from the project and one objection from a community member >100 km from the project). One submission noted their opposition to solar and wind farms. The other submission objected to the project generally and didn't provide any specific comments on the proposed modification.

The submission raised several concerns about the project. Each of these concerns were also raised in community submissions received during the public exhibition of the EIS (EMM 2019a). The *New England Solar Farm – Response to Submissions (RTS)* (EMM 2019b) provided detailed responses to each of these concerns. The concerns raised and references to the relevant section of the RTS are provided below:

- site suitability (Section 5.3 of RTS);
- appropriate development on agricultural land (Section 5.4 of RTS);
- impacts on tourism (Section 18.3 of RTS);

- heat impacts from infrastructure (Section 22.3 of RTS);
- responsibilities for decommissioning and disposal (Section 22.15 of RTS);
- impacts on wildlife (Section 7.3 of RTS);
- surface water impacts (Section 14.6 of RTS);
- potential for contamination (Section 10.4 of RTS); and
- inability for solar energy to meet needs of electricity market (Section 22.5 of RTS).

As discussed in the modification report (EMM 2022), the proposed modification has been designed to avoid and minimise adverse biophysical, social and economic impacts, where possible, and is not anticipated to significantly change previously assessed and approved impacts under SSD-9255.

The proposed modification will increase the extent of:

- the project boundary by approximately 293 hectares (ha) to 3,655 ha (an increase of approximately 8.4%);
and
- the development footprint by approximately 133 ha to 2,194 ha (an increase of approximately 6.3%).

All of the additional land is adjacent to existing areas within the approved development footprint.

The community submissions did not contain any matters for further consideration in this report.

3 Actions taken since exhibition

3.1 Engagement

3.1.1 NSW Department of Planning and Environment

ACEN Australia continued to engage with DPE during the public exhibition of the modification report and as part of the preparation of this submissions report. Separate meetings were held with DPE and DPE Hazards on 28 November 2022 to discuss the proposed modification.

3.1.2 Uralla Shire Council

ACEN Australia continues to engage with Uralla Shire Council on a regular basis.

ACEN Australia discussed the content of Uralla Shire Council's submission with the Acting Executive Director Infrastructure and Development on 28 November 2022. The outcomes of this discussion informed the response provided in Section 0 of this report.

3.1.3 Community consultation

ACEN Australia continues to engage with the local community on a regular basis. Updates continue to be provided via the Uralla Wordsworth, project web page and project Facebook regarding the status of the modification application.

3.2 Additional assessments

No additional assessments are required to address the matters raised in submissions.

At the time of writing this report, an amendment report (EMM 2023) was written in parallel.

The updated justification of the modified project and updated mitigation measures in relation to the submissions received and analysed as part of this assessment has been considered and included within the relevant section of the amendment report.

4 Response to submissions

4.1 Watercourses

As discussed in Section 2.2.1vii, DPE Water reviewed the modification report and requested clarification on riparian buffers for mapped watercourses within the modification area.

No buffers or setbacks from first or second order watercourses mapped within the modification area are proposed. In accordance with the *Guidelines for Controlled Activities on Waterfront Land* (DoI 2018), a 30 m buffer from each edge of the channel for both mapped third order watercourses will be maintained to minimise potential impacts on downstream water quality and erosion.

Should they be required, creek crossings and associated works within the buffer zones for the mapped third order watercourses, will be undertaken in accordance with:

- *Guidelines for Controlled Activities on Waterfront Land* (DoI 2018);
- *Policy and Guidelines for Fish Friendly Waterway Crossings* (DPI 2003); and
- *Fish Passage Requirements for Waterway Crossings* (Fairfull and Witheridge 2003).

4.2 Battery energy storage system

As discussed in Section 2.2.1viii, DPE Hazards reviewed the modification report and requested clarification on the proposed additional BESS infrastructure. The matters raised and responses to these are summarised in Table 4.1.

Table 4.1 Response to matters raised by DPE Hazards

Matter raised	Response
In the PHA, Figure 2.2 identifies two locations, North Block and South Block as part of this modification that will allow for the increase in capacity of the BESS. Layouts of the BESS options for the North Block and South Block are presented in Figure 6.1, Figure 6.2 and Figure 6.3. The Department is uncertain if there is any increase in energy storage capacity for the existing BESS areas, approved under the original SSD-9925, beyond the 400MWh. If the energy discharge or storage capacity, on the original allocated BESS area has increased, then the Applicant must verify that there is sufficient area available, including separation distances, to accommodate the BESS capacity.	The proposed modification does not seek to increase the energy storage capacity within the existing BESS area.

Table 4.1 Response to matters raised by DPE Hazards

Matter raised	Response
<p>In Section 6.2, the distances between BESS subunits (container, enclosure, rack) are presented. The minimum distances are described as being sourced from “Original Equipment Manufacturers (OEM) Specifications”. The Department seeks further justification for the basis for these minimum distances, given the information below.</p> <p>The Department does recognise UL 9540A testing to support the evaluation of separation distances between BESS subunits. UL9540A testing is provided for the unique battery and BESS subunit, and its findings can only be used for that specific BESS subunit.</p> <p>The Department highlights that where separation distances are based on a UL9540A test report, it is expected that the UL9540A test report that is specific for the chosen design will be supplied during the post approval process.</p> <p>The Department also appreciates that UL9540A test results may not be available for public exhibition due to commercial and privacy agreements. As such the Applicant may use the commercial in confidence UL9540A test results as the basis of modelling to determine separation distances between BESS subunits (for example a reduced heat release rate in comparison to a generic BESS subunit) with the clear understanding that supporting evidence (UL9540A test results) would be provided at post approval stage.</p> <p>As such, please provide further clarification on the basis for the separation distances between BESS subunits to mitigate fire propagation.</p>	<p>As noted in Section 2.5 of the PHA, the BESS that will be installed as part of the proposed modification will be tested for compliance with UL 9540A. As part of discussions with DPE Hazards, it was noted that the UL 9540A test will be battery specific for the make and model and will be performed in accordance with the intended installation condition and/or configuration, including clearances or spacing as per manufacturer specification.</p> <p>Compliance to UL 9540A has now become the minimum requirement in the industry and various BESS suppliers have model specific test results as part of their due diligence. The clearances shown in Table 6.1 of the PHA and demonstrated in Figure 6.1, Figure 6.2 and Figure 6.3 were determined from OEM specifications from multiple battery manufacturers active in the utility-scale BESS market in Australia. It was assumed that the spacing/clearances from surveyed manufacturers (included in Table 6.1 of the PHA) comply with UL 9540A. The exact spacing is not able to be determined until the detailed design stage when the BESS manufacturer and specific model is selected, and their specific installation and spacing requirements are known.</p> <p>Following approval of the proposed modification, once detailed design is completed and the BESS manufacturer is selected, ACEN Australia will provide the specific UL 9540A test report for the chosen design to DPE Hazards.</p> <p>Based on the indicative layouts shown in Figure 6.1, Figure 6.2 and Figure 6.3 of the PHA, which show the different configuration options based on the clearances outlined in Table 6.1, ACEN Australia has demonstrated that the designated land areas can accommodate the additional BESS and meet the proposed increased storage capacity.</p>

Table 4.1 Response to matters raised by DPE Hazards

Matter raised	Response
<p>The PHA, as one of the options, examines dedicated BESS buildings to house the battery racks. The Department seeks the following information regarding these dedicated BESS buildings:</p> <ol style="list-style-type: none"> 1. In Figure 6.3 of the PHA, a dedicated BESS building is presented. This dedicated BESS building would contain 80 indoor racks. The Department seeks further justification on the selection of 80 indoor racks as the basis for each room. 2. Given a dedicated BESS building will have a significantly larger energy storage capacity than a containerised or outdoor enclosure BESS subunit the Department seeks further information and clarification on: <ul style="list-style-type: none"> – the evaluation of the consequences for a fire event in a dedicated BESS building and radiant heat levels that may be generated; and – demonstrate the fire from an individual building will have enough separation to prevent escalation to other dedicated BESS buildings. 	<p>The concept design for the dedicated BESS building option presented on Figure 6.3 of the PHA assumes:</p> <ul style="list-style-type: none"> • usage of a BESS rack suitable for use in a dedicated building with similar design features and dimensions to that of the outdoor-rated rack; • the BESS rack will be compliant with UL 9540A to minimise fire propagation between the units; • the same number of racks (8,064) and power conversion system (PCS) skids (504) as the outdoor rack option (as indicated in Table 2.1 of the PHA); • each battery room will contain 96 BESS racks (arranged in 6 rows where each row comprises 16 BESS racks) with each row connected to 1 PCS skid (consistent with the outdoor rack option); and • the BESS racks will be housed in purpose-built building(s). <p>ACEN Australia is exploring three configuration options for the BESS. During detailed design, selection of the configuration option, BESS make and model and number of racks required will be determined. Information requested by DPE Hazards in item (b) will be provided as part of detailed design once the most suitable BESS solution has been selected.</p> <p>As part of discussions with DPE Hazards, it was noted that DPE Hazards would like ACEN Australia to demonstrate that the hazards and risks associated with the dedicated BESS building and proposed controls to address these have been considered. These are provided below.</p>
<p>The Department acknowledges that the dedicated BESS buildings may not be fully designed at this stage. However, the Department seeks further information on the standards and specifications that will be used in implementing controls appropriate to a dedicated BESS building. The Department considers the individual BESS building as serving a function similar to the containers that enclose battery racks. As such, we seek information on the following:</p> <ol style="list-style-type: none"> a) Given the information provided in NFPA 855 and FM Global DS 5-33, will an automatic sprinkler system be installed as part of the dedicated BESS buildings and, if so, please provide the standard to be used for the sprinkler system design. b) Information on any additional smoke or fire detection, and their actions, to be installed in the building or compartment in addition to the detection described in Table 2.1 of the PHA. c) Deflagration venting of battery electrolytes and explosive atmospheres are identified in Table 4.4 of the PHA as potential hazards. As such, the Departments seeks further information on the deflagration venting protection proposed for dedicated BESS buildings. 	<p>Further context on the dedicated BESS building option is provided above.</p> <p>The proposed controls considered for the dedicated BESS building including the standards of reference are provided below. These are in line with the BESS design considerations from Entura, which informed the content of the PHA.</p> <p>National Fire Protection Association (NFPA) 855 Standard for the Installation of Stationary Energy Storage Systems</p> <ul style="list-style-type: none"> • For a BESS installed within a room, building, or walk-in unit: <ul style="list-style-type: none"> – explosion prevention systems designed, installed, operated, maintained and tested in accordance with NFPA 69 Standard on Explosion Prevention Systems; and – deflagration venting installed and maintained in accordance with NFPA 68 Standard on Explosion Protection by Deflagration Venting. <p>The above are not required where approved by local authorities based on compliance to UL 9540A test or deflagration hazard study demonstrating that the flammable gas concentrations in the room, building or walk-in unit cannot exceed 25% of the Lower Flammability Limit (LFL) where gas is likely to accumulate. However, explosion prevention controls (eg passive exhaust ventilation, gas detectors) will still be considered.</p>

Table 4.1 Response to matters raised by DPE Hazards

Matter raised	Response
<p>d) Please supply information regarding the cooling and/or HVAC systems for the dedicated BESS buildings and details of any chemicals to be used in these systems.</p> <p>The Department may also require further information based on responses to the queries above.</p>	<ul style="list-style-type: none"> • Exhaust ventilation system designed to limit the maximum concentration of flammable gas to 25% LFL of the total volume of the room or enclosure or walk-in unit. • Smoke and fire detection on areas containing BESS within the building. • Compartmentalisation – rooms or spaces containing the BESS racks are separated from other areas of the building by fire barriers with a minimum 2 hour fire resistance rating. • Fire sprinklers (or alternative fire control and suppression system) with suppression density based on large-scale fire testing set by UL 9540A. This also includes consideration for the required fire water volume capacity as well as provision of containment system to accommodate the capacity of expected discharge for a period of 10 minutes. • Building usage will aim to be restricted for storage and operation of the BESS and its components only, limiting the occupants in the building to only those that operate and maintain the system. • Means of egress in accordance with local building code. <p>UL 9540A</p> <p>UL 9540A applies to a BESS unit (a rack or container), that is a defined proprietary product and is typically installed outdoors. Installation of such units within a larger enclosure or purpose-built structure does not imply that that structure is UL 9540A certified, and additional requirements should be used for such purpose-built structures.</p> <p>Australian National Code of Construction</p> <p>Dedicated use building will also need to meet the requirements of the National Construction Code and regulated Australian Standards. While these do not offer specific requirements for large, dedicated use battery buildings as NFPA does, general requirements for fire rating of materials, fire detection systems and related requirements will still apply.</p>
<p>Given the knowledge developed in the past few years and concerns raised from FRNSW, fire escalation between the BESS subunits resulting in a bigger fire event is the major concern for all BESS proposals that are above 30 MW. As such, the Applicant must focus on demonstrating that the separation between BESS subunits (such as outdoor containers or racks) or the separation of individual BESS buildings are sufficient to mitigate fire escalation. Furthermore, the Applicant must demonstrate that the area available for the entire BESS is sufficient given the separation distances between BESS subunits and/or BESS buildings.</p>	<p>The PHA concluded that the proposed additional BESS footprints are sufficient to accommodate the proposed additional BESS units for all three enclosure options (ie small enclosures/cabinets/larger battery buildings) and account for the required separation distances between the BESS sub-units and asset protection zones (APZs) (where required).</p>

Table 4.2 Response to additional matters raised by DPE Hazards following review of the draft Submissions Report

Matter raised	Response
<p>The (Draft) RtS identifies that consideration of sprinkler systems will be made at the detailed design stage. However, it also indicated the sprinkler discharge limit of 10 minutes. It should be noted that quantification of the required discharge time may be undertaken at the Fire Study stage in consultation with FRNSW. Depending on the consultation outcome, the discharge time may be longer than 10 minutes;</p>	<p>It is noted that this comment is provided in reference to the identified option where the BESS is located within a dedicated building and will be applicable only if ACEN pursues this option.</p> <p>A FSS is a requirement of Condition 13 of Schedule 3 of SSD-9255, which has been prepared by ACEN Australia, and will be updated in consideration of the detailed design of the BESS. It is proposed that requirement for update to the FSS be captured as an amended condition of consent associated with this proposed modification.</p>
<p>A commitment to the chemical types for cooling the batteries with dedicated BESS buildings will need to be considered for the HVAC system. The type of refrigerant and its quantity will need to be assessed against “Applying SEPP 33”. If information on a refrigerant cannot be detailed, the Department may condition the development requiring that the refrigerant be a non-dangerous good.</p>	<p>It is noted that this comment is provided in reference to the building HVAC system that would house the BESS in the event that ACEN adopts that design option.</p> <p>The type and quantity of refrigerant that would be used under this scenario, if selected, would be identified during detailed design of the BESS facility. At that time, the classification (either dangerous or non-dangerous good) and quantity of material proposed for use would be identified in consideration of the ADG Code.</p> <p>If the proposed refrigerant is a classified dangerous good of a quantity that exceeds the threshold as per SEPP 33, reassessment of the potential hazard will be undertaken as part of a Final Hazard Analysis for the facility. It is proposed that this requirement be captured as an amended condition of consent associated with this proposed modification.</p>

4.3 Primary vehicle access route

As discussed in Section 2.2.2, Uralla Shire Council reviewed the modification report and raised concerns on the suitability of the primary vehicle access route for additional vehicle movements.

The primary vehicle access route has been upgraded in accordance with the requirements listed in Appendix 4 of SSD-9255. This has included upgrades at:

- New England Highway and Barleyfields Road (north) intersection;
- Barleyfields Road (between New England Highway and Big Ridge Road);
- Barleyfields Road and Big Ridge Road intersection; and
- Big Ridge Road (segments 1, 3, 4 and 5 and site access points).

Following completion of the required upgrades, works were inspected by Uralla Shire Council, a road safety audit was undertaken, and a defects list created. Uralla Shire Council has since confirmed with ACEN Australia that all items identified in the road safety audit and defects list have been closed.

As discussed in the modification report, the proposed increase in heavy and over-dimensional vehicle movements results in negligible change in impact to the local and regional road network and is able to be facilitated by the high standard of road and intersection upgrades ACEN Australia has delivered since the project was approved.

The road upgrades ACEN Australia has delivered along Barleyfields Road (north) and Big Ridge Road since the project was approved provide for a maximum capacity of up to 1,000 vehicles per day. Previous assessments forecast the daily volume of traffic, including local traffic and project-related traffic, as 971 along Barleyfields Road, and 671 along Big Ridge Road. Project-related traffic was estimated to consist of 220 light vehicles and 56 heavy vehicles. To ensure that the overall level of daily traffic on Barleyfields Road remains at or below the capacity of 1,000 vehicles per day, daily light vehicles during construction will be reduced by 14 to account for the proposed increase in heavy vehicles. This will result in revised daily construction vehicles consisting of 206 light vehicles and 84 heavy vehicles. The proposed increase in heavy vehicles can be accommodated within existing spare capacity along the primary vehicle access route.

It is acknowledged that segments 4 and 5 of Big Ridge Road, whilst upgraded in accordance with the requirements listed in Appendix 4 of SSD-9255, remain unsealed. Prior to project approval, ACEN Australia carefully considered the appropriate upgrade requirements for segments 4 and 5 of Big Ridge Road, including the potential safety risks raised by Uralla Shire Council prior to project approval. As articulated previously, segments 4 and 5 of Big Ridge Road were previously an unformed farm track used by a very small number of project landholders to access their properties. During construction, the use of segments 4 and 5 has been heavily reduced for these landholders. The topography of these segments is predominantly flat with very good sight due to very little roadside vegetation along the primarily straight alignment of Big Ridge Road. There is no through traffic and there are no residences or residential driveways accessible from segments 4 or 5.

Local traffic does not use segments 4 and 5 of Big Ridge Road as it does not service any properties other than those that form part of the development footprint. Nonetheless, measures currently used to manage traffic through segments 4 and 5 include:

- a reduction in the posted speed limit of sections of Barleyfields Road (ie from 80 km/h to either 60 km/h or 40 km/h as shown in Photograph 4.1); and
- a security presence at the commencement of Segment 5 responsible for signing in/out all persons entering/exiting site to ensure that non-project related vehicles do not enter the site (as shown in Photograph 4.2).

Signage along New England Highway, Barleyfields Road (north) and Big Ridge Road is also used to alert road users to the presence of heavy vehicles and turning traffic (as shown in Photograph 4.3).

It is considered that the existing condition of segments 4 and 5 of Big Ridge Road remain suitable for the duration of project construction. Segments 4 and 5 of Big Ridge Road will continue to be maintained in accordance with Section 3.10 of the traffic management plan (TMP).

The TMP has also been updated to reflect the proposed increase in heavy vehicle movements. The revised TMP was reviewed by Uralla Shire Council and has since been updated to address comments from Uralla Shire Council on the ongoing maintenance of the primary vehicle access route during construction.

At the completion of construction, the use of segments 4 and 5 will be negligible and limited to project landholders accessing their properties and project-related contractors, ACEN Australia staff and Transgrid employees accessing the site for operations and maintenance purposes.



Photograph 4.1 Speed limit signage on Segment 4 of Big Ridge Road



Photograph 4.2 Security checkpoint at commencement of Segment 5 of Big Ridge Road



Photograph 4.3 Signage on New England Highway for other road users

5 Updated justification of the modified project

A description of the need and justification for the proposed modification is provided in the accompanying amendment report (EMM 2023). The updated justification provided in the amendment report provides an overarching justification in regard to biophysical, social and economic factors; the principles of ESD; and the consistency of the proposed modification and amendment with the objects of the EP&A Act.

References

DoI 2018, *Guidelines for Controlled Activities on Waterfront Land*.

DPE 2021, *State Significant Development Guidelines – Preparing a Submissions Report*.

DPI 2003, *Policy and Guidelines for Fish Friendly Waterway Crossings*.

EMM 2019a, *New England Solar Farm – Environmental Impact Statement*. Prepared by EMM for UPC\AC.

- 2019b, *New England Solar Farm – Response to Submissions*. Prepared by EMM for UPC\AC.
- 2019c, *New England Solar Farm – Amendment Report*. Prepared by EMM for UPC\AC.
- 2022, *New England Solar and Battery Project – Modification to development consent SSD-9255*. Prepared by EMM for ACEN Australia.
- 2023, *New England Solar and Battery Project – Amendment Report*. Prepared by EMM for ACEN Australia.

Fairfull and Witheridge 2003, *Why do fish need to cross the road? Fish Passage Requirements for Waterway Crossings*.

Abbreviations

ACEN Australia	ACEN Australia Pty Ltd
ACHA	Aboriginal cultural heritage assessment
AEMO	Australian Energy Market Operator
AHMP	Aboriginal heritage management plan
APZ	asset protection zone
AR	amendment report
BCD	Biodiversity and Conservation Division
BDAR	biodiversity development assessment report
BESS	battery and energy storage system
BSAL	biophysical strategic agricultural land
CBSI	community benefit sharing initiative
CEMP	construction environmental management plan
DPE	NSW Department of Planning and Environment
DPI	NSW Department of Primary Industries
EIS	environmental impact statement
EMM	EMM Consulting Pty Limited
EMP	environmental management plan
EP&A Act	NSW <i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	NSW Environmental Planning and Assessment Regulation 2000
ERP	emergency response plan
ESCP	erosion and sediment control plans
ESD	ecologically sustainable development
ESIP	emergency services information package
FMP	fire management plan
FRNSW	Fire and Rescue NSW
ha	hectares
HHA	historic heritage assessment
HHMP	historic heritage management plan
km	kilometre
LFL	lower flammability limit
LGA	local government area
LSC	land and soil capability

MEG – GSNSW	Mining, Exploration & Geoscience – Geological Survey of NSW
MW	megawatt
NEM	National Electricity Market
NFPA	National Fire Protection Association
NSW	New South Wales
OEMP	operational environmental management plan
O&M	operations and maintenance
PAD	potential archaeological deposit
PCT	plant community type
PCU	power conversion unit
PV	photovoltaic
RAP	registered Aboriginal party
REZ	renewable energy zone
RTS	response to submissions
SSD	State significant development
SWMP	soil and water management plan
TfNSW	Transport for NSW
TMP	traffic management plan
WMP	waste management plan

Appendix A

Submissions register

Table A.1 Submissions register

Submitter	Object/support/comment	Aboriginal cultural heritage	Air quality	Biodiversity	Bushfire	Cumulative impacts	Economic	Engagement and community outreach	Hazards and risks	Historical heritage	Land	No comments	Noise	Other	Social	Strategic and statutory context	Traffic	Visual	Waste	Water	
BCD	Comment			✓																	
HeritageNSW	Comment	✓																			
DPI Agriculture	Comment										✓										
Crown Lands	Comment										✓			✓							
FRNSW	Comment				✓				✓												
MEG – GSNSW	Comment										✓										
DPE Water	Comment																				✓
DPE Hazards	Comment								✓												
TfNSW	Comment																✓				
Uralla Shire Council	Comment																✓				
Transgrid	Comment											✓									
Suella Trutton	Object			✓		✓	✓	✓	✓		✓			✓	✓	✓		✓	✓	✓	✓
Terry Wicks	Object													✓							

Appendix B

Updated mitigation measures

B.1 Updated mitigation measures

Updated mitigation measures for the project are provided in the Appendix A, of the amendment report. The mitigation measures outlined in Appendix A of the amendment report have been updated in relation the submissions received in this report.

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