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Locked Bag 5022
Parramatta NSW 2124

Via email

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CC: joshua.stanbury@ses.nsw.gov.au

Dear Pragya,

State Significant Development Application for Corowa Battery Energy Storage System

Thank you for the opportunity to provide advice on the State Significant Development Application (SSDA) for Corowa Battery Energy Storage System (BESS), at 275 Whitehead Street, Corowa, Federation Council Government Area. It is understood that the Project would involve construction, operation and eventual decommissioning of a 100MW / 200MWh (2-hours) BESS. It would include the following key infrastructure components:¹

- Lithium Iron Phosphate (LFP)2 battery storage units, enclosed in 60 containers (up to 5,000 cells per container)
- Associated switch room, High Voltage (HV) transformers and HV switchgear
- 30 x Medium Voltage (MV) power station Power Conversion Systems (PCUs)
- Harmonic filter
- Operations and Maintenance (O&M) building
- Internal access and parking, fencing and security infrastructure
- Connection (above / below ground) to the existing 132 / 122kV Essential Energy Corowa Substation.
- Permanent ancillary infrastructure:
 - Operation and maintenance facility including site office
 - A Battery Management System to monitor individual battery cell health and integrated fire monitoring and control systems
 - Internal vehicle access tracks and parking
 - Security fencing, lighting, signage and lightning protection
 - Water tanks

¹ NGH. 2026. Environmental Impact Statement - Corowa Battery Energy Storage System, page 66 - 68

- Site access and intersection upgrades:
 - The site access off Whitehead Street will require upgrade
 - The intersection at Honour Avenue / Bullecourt Road will be upgraded
- It is understood that the BESS will employ 117 Full time equivalent staff during the construction phase and once completed it will be operated entirely remotely. The BESS is expected to operate 24 hours/day with an operational lifespan of 20 years.²

The NSW State Emergency Service (NSW SES) is the agency responsible for dealing with floods, storms and tsunami in NSW. This role includes, planning for, responding to and coordinating the initial recovery from floods. As such, the NSW SES has an interest in the public safety aspects of the development of flood prone land, particularly the potential for changes to land use to either exacerbate existing flood risk or create new flood risk for communities in NSW.

The NSW SES recommends that consideration of flooding issues is undertaken in accordance with the requirements of NSW Government's Flood Prone Land Policy as set out in the [Flood Risk Management Manual](#) 2023 (the Manual) and supporting guidelines, including the [Support for Emergency Management Planning](#) and relevant planning directions under the *Environmental Planning and Assessment Act, 1979*. Some of the relevant issues which are of concern to the NSW SES are detailed in Attachment A.

We have reviewed the following documents provided as part of the preparation of our advice.

- NGH. 2026. Environmental Impact Statement - Corowa Battery Energy Storage System
- Fyfe. 2026. Hydrological Investigation Report – Corowa BESS

It is noted that the proposed development footprint is in the eastern part of the broader site, adjacent to Whitehead Road.³ The site is free from mainstream flooding from the Murray River events up to and including the 0.2% Annual Exceedance Probability (AEP) event.⁴ However, it becomes completely inundated by Murray River flooding in the Probable Maximum Flood event, with flood depths that can reach 2 metres⁵ and hazard level peaking at H4 at the BESS site and the entry off Whitehead Street,⁶ and H5 in the western part of the site.⁷ The entire site is classified as Flooded Isolated Submerged (FIS),⁸ suggesting it would become isolated, prior to complete inundation occurring⁹ which would make it a **Low Flood Island**.

² NGH. 2026. Environmental Impact Statement - Corowa Battery Energy Storage System, page xxii - xxiii

³ NGH. 2026. Environmental Impact Statement - Corowa Battery Energy Storage System, page 37

⁴ WMA Water. 2024. Corowa Howlong and Mulwala Flood Study, Appendix F, Figure F7c

⁵ WMA Water. 2024. Corowa Howlong and Mulwala Flood Study, Appendix F, Figure F8c

⁶ NGH. 2026. Environmental Impact Statement - Corowa Battery Energy Storage System, page 67 - 68

⁷ WMA Water. 2024. Corowa Howlong and Mulwala Flood Study, Appendix F, Figure F19c

⁸ WMA Water. 2024. Corowa Howlong and Mulwala Flood Study, Appendix F, Figure F21c

⁹ WMA Water. 2024. Corowa Howlong and Mulwala Flood Study, page 145

In addition to mainstream flooding, the site is also impacted by overland flow flooding, with floodwaters extending across the full extent of the property with approximately 0.5 metres depth and H2 hazard level in an overland flooding PMF event.¹⁰

In summary, we:

- **Recommend** pursuing additional flood information to fully understand the risk of flooding at this site for the full range of events up to and including the Probable Maximum Flood (PMF) event, including time to inundation, available warning time, duration of inundation and isolation, for both mainstream and overland flooding events. A thorough assessment should be used to inform appropriate flood mitigation and emergency management strategies for the site.
- **Note** the proposed development is intended to be operated entirely remotely, however, consideration should be given to access/egress constraints and developing an Emergency Plan for the site (that includes the flood hazard) relevant for both construction and operation phases of the project, informed by a clear understanding of flood risks at the site from both mainstream and overland flooding. All site occupants must be made aware of the flood risk at the site and ensure they are able to safely evacuate to an area above the PMF extent, particularly considering complete inundation of the site occurs in a PMF.
- **Recommend** pursuing site design and stormwater management that reduces the impact of flooding and mitigate risk to people and infrastructure and minimise flood damages and disruptions.

You may also find the following Guidelines on the NSW SES website useful:

- [Reducing Vulnerability of Buildings to Flood Damage](#)
- [Designing Safer Subdivisions](#)
- [Managing Flood Risk Through Planning Opportunities](#)

Please feel free to contact Ana Chitu via email at rra@ses.nsw.gov.au should you wish to discuss any of the matters raised in this correspondence. The NSW SES would also be interested in receiving future correspondence regarding the outcome of this referral via this email address.

Yours sincerely,



Peter Cinque
Senior Manager, Emergency Risk Management
NSW State Emergency Service

¹⁰ NGH. 2026. Environmental Impact Statement - Corowa Battery Energy Storage System, page 267 - 268

ATTACHMENT A: Principles Outlined in the Support for Emergency Management Planning Guideline¹¹

Principle 1 Any proposed Emergency Management strategy should be compatible with any existing community Emergency Management strategy.

Any proposed Emergency Management strategy for an area should be compatible with the strategies identified in the relevant local or state flood plan or by the NSW SES.

According to the NSW State Flood Plan¹² and the Federation Council Flood Emergency Sub Plan,¹³ where evacuation is the primary emergency management strategy for people impacted by flooding.

Principle 2 Decisions should be informed by understanding the full range of risks to the community.

Decisions relating to future development should be risk-based and ensure Emergency Management risks to the community of the full range of floods are effectively understood and managed.

While the Hydrological Investigation Report (Fyfe, 2026) notes that *the site is free from flooding from the River Murray, but subject to overland flooding from local rainfall*,¹⁴ the Environmental Impact Statement (EIS) includes mapping showing the site completely inundated by mainstream Murray River flooding in a Probable Maximum Flood (PMF) event.¹⁵

It is noted that the proposed development footprint is in the eastern part of the broader site, adjacent to Whitehead Road.¹⁶ The Corowa, Howlong & Mulwala Flood Study (WMA Water, 2024) suggests the proposed development site is not impacted by mainstream flooding from the Murray River in events up to and including the 0.2% Annual Exceedance Probability (AEP) event.¹⁷ However, it is impacted by Murray River flooding in the PMF event, with flood depths that can reach 2 metres.¹⁸ The flood hazard level varies across the broader site, from H3 – H4 in the central and eastern parts (where the BESS is proposed) and around the site entry off Whitehead Street,¹⁹ and H5 in the western part of the site.²⁰ The Flood Study (WMA Water,

¹¹ NSW Government. 2023. Principles Outlined in the Support for Emergency Management Planning Guideline

¹² NSW Government. 2021. NSW State Flood Plan. Section 1.6 – Key Principles. 1.6.2, page 5

¹³ NSW SES. 2023. Federation Council Flood Emergency Sub Plan, Section 1.6.2, page 7

¹⁴ Fyfe. 2026. Hydrological Investigation Report – Corowa BESS, page 7

¹⁵ NGH. 2026. Environmental Impact Statement - Corowa Battery Energy Storage System, Figure 6-48, page 266

¹⁶ NGH. 2026. Environmental Impact Statement - Corowa Battery Energy Storage System, page 37

¹⁷ WMA Water. 2024. Corowa Howlong and Mulwala Flood Study, Appendix F, Figure F7c

¹⁸ WMA Water. 2024. Corowa Howlong and Mulwala Flood Study, Appendix F, Figure F8c

¹⁹ NGH. 2026. Environmental Impact Statement - Corowa Battery Energy Storage System, page 67 - 68

²⁰ WMA Water. 2024. Corowa Howlong and Mulwala Flood Study, Appendix F, Figure F19c

2024) classified the entire site as Flooded Isolated Submerged (FIS),²¹ suggesting it would first become isolated, prior to complete inundation occurring²², making it a **Low Flood Island**.

In addition to mainstream flooding, the site is also impacted by overland flow flooding, with flood depths at the site up to 0.2 metres in a 1% AEP event.²³ *Under PMF conditions, the floodwaters would extend across the full extent of the property with approximately 0.5m depth, however the flood velocity is generally lower than 0.25m/s*, with the hydraulic hazard at the site peaking at H2.²⁴ However, the Hydrological Investigation Report (Fyfe, 2026) did not include modelling for overland flooding events greater than the 1% AEP, neither did it include any modelling for Murray River mainstream flooding.

We advise that risk assessment should consider flooding from *any source* and for the full range of flood events, including events up to and including the PMF, and not focus only on the 1% AEP flood. Climate change should also be considered, in line with NSW Government Guidelines.

We recommend pursuing additional flood information to fully understand the risk of flooding and isolation at this site for the full range of events up to and including the PMF event, including time to inundation, available warning time, duration of inundation and isolation, for both mainstream and overland flooding events. A thorough assessment should be used to inform appropriate flood mitigation and emergency management strategies for the site.

While the proposed development is intended to be operated entirely remotely, consideration should be given to access/egress constraints and developing an Emergency Plan for the site (that includes the flood hazard) relevant for both construction and operation phases of the project, informed by a clear understanding of flood risks at the site from both mainstream and overland flooding. All site occupants must be made aware of the flood risk at the site and ensure they are able to safely evacuate to an area above the PMF extent, particularly considering complete inundation of the site occurs in a PMF.

It is noted that an elevated hardstand is proposed as the sole mitigation measure to protect the Site from flooding in the 1% AEP scenario and during the climate change scenario of a 1% AEP SSP3 – 7.0 2090 storm event, the proposed elevated hardstand provides 500mm freeboard from flooding.²⁵

We also recommend pursuing site design and stormwater management that reduces the impact of flooding and mitigate risk to people and infrastructure and minimise flood damages and disruptions.

²¹ WMA Water. 2024. Corowa Howlong and Mulwala Flood Study, Appendix F, Figure F21c

²² WMA Water. 2024. Corowa Howlong and Mulwala Flood Study, page 145

²³ Fyfe. 2026. Hydrological Investigation Report – Corowa BESS, Appendix C

²⁴ NGH. 2026. Environmental Impact Statement - Corowa Battery Energy Storage System, page 267 - 268

²⁵ Fyfe. 2026. Hydrological Investigation Report – Corowa BESS, page 29

Principle 3 Development of the floodplain does not impact on the ability of the existing community to safely and effectively respond to a flood.

The ability of the existing community to effectively respond (including self-evacuating) within the available timeframe on available infrastructure is to be maintained. It is not to be impacted on by the cumulative impact of new development.

Risk assessment should have regard to flood warning and evacuation demand on existing and future access/egress routes. Consideration should also be given to the impacts of localised flooding on evacuation routes. Evacuation must not require people to drive or walk through flood water.

Principle 4 Decisions on development within the floodplain does not increase risk to life from flooding.

Managing risks associated with **Low Flood Islands** requires careful consideration of development type, likely users, and their ability respond to minimise their risks. This includes consideration of:

- **Isolation** – There is no known safe period of isolation in a flood, the longer the period of isolation the greater the risk to occupants who are isolated.
- **Secondary risks** – This includes fire and medical emergencies that can impact on the safety of people isolated by floodwater. The potential risk to occupants needs to be considered and managed in decision-making.
- **Consideration of human behaviour** – The behaviour of individuals such as choosing not to remain isolated for an extended flood duration needs to be considered.

Principle 5 Risks faced by the itinerant population need to be managed.

Any Emergency Management strategy needs to consider people visiting the area or using a development.

Principle 6 Recognise the need for effective flood warning and associated limitations.

An effective flood warning strategy with clear and concise messaging understood by the community is key to providing the community an opportunity to respond to a flood threat in an appropriate and timely manner.

The Bureau of Meteorology (BoM) provides Flood Warnings for Murray River flooding in this area based on the readings at the Corowa forecast gauge, with 24 hours target warning lead time for water levels exceeding 6 metres (just over the Moderate Flood Level of 5.9 m) at

the gauge.²⁶ However, these Flood Warnings are being provided for mainstream/riverine flooding and are not available for overland flooding events.

Principle 7 Ongoing community awareness of flooding is critical to assist effective emergency response.

Development within a floodplain will necessitate ongoing involvement from the NSW State Emergency Service (SES) in community awareness, preparedness, and response activities.

²⁶ Bureau of Meteorology. 2025. Service Level Specification for Flood Forecasting and Warning Services for New South Wales and the Australian Capital Territory – Version 3.16, page 25