SUBMISSION OF OBJECTION

McCullys Gap Battery Energy Storage System

SSD-81555720

Submitted by: Billy Hanley

Position: OBJECT

Requested outcome: Relocation of the proposed development to a more appropriate and less sensitive location

22 September 2026

1. Why I object to the proposed location

I object to the McCullys Gap Battery Energy Storage System, SSD-81555720, at its proposed location.

I am not opposed to battery energy storage or to infrastructure that supports the electricity network. My concern is where this project is being placed and what that means for the people who already live and farm in McCullys Gap. This is a 400 MW / 1,600 MWh BESS with a project substation, about 800 metres of 330 kV connection infrastructure and associated works. It is proposed to operate remotely 24 hours a day, seven days a week for at least 30 years. The development application gives an estimated development cost of about $498.7 million.

I have spent a considerable amount of time reading the EIS and the supporting reports. Some of the concerns I originally had have been addressed to a degree. Others have not. In several important areas the conclusion depends on information that will not be finalised until detailed design or on nearby projects where enough information is not yet available for a full cumulative assessment.

My main concern is still the choice of site. The EIS describes McCullys Gap as a small rural locality and recognises that residents value its rural character. The Social Impact Assessment also records the land as being used for agricultural grazing. If a project of this scale can be placed somewhere with greater separation from homes and less impact on an established rural community, I believe that alternative should be properly investigated before this site is approved.

I am asking for the project to be relocated to a more suitable location. In particular, I would like to see genuine consideration given to previously disturbed land, industrial land, mining modified land or another site where the same infrastructure can be built with less impact on nearby residents and the rural environment.

2. Alternative sites and why McCullys Gap was chosen

Section 2.4 of the EIS says alternative locations were considered in the broader vicinity of the Muswellbrook 330 kV substation. It says factors included grid capacity, land availability, landowner interest, planning considerations, sensitive receivers, environmental and cultural constraints, access, topography and constructability.

The EIS also says some locations were not progressed because of greater connection distance, environmental sensitivity, land use conflict, construction complexity or cost. It then concludes that the McCullys Gap site had the lowest overall risk and was the most suitable site.

What I cannot find is the information that allows a resident or the Department to properly test that conclusion. The alternative sites are not identified or mapped in the material I have reviewed. I cannot see their distance from houses, their environmental constraints or how community impact and safety were weighed against cost, connection distance and delivery time.

That matters here. The Noise and Vibration Impact Assessment identifies the closest residence to the BESS facility as about 390 metres away. It also identifies another residence about 50 metres from the project area boundary.

I would like the applicant to show what alternative sites were actually considered and why they were rejected. This does not require commercially sensitive information to be made public. A simple comparison of the planning issues would allow the Department and the community to understand why this rural site was chosen over the alternatives.

I would also like a clear answer on whether previously disturbed, industrial or mining modified land was specifically considered. Being close to the existing substation is obviously convenient, but the project does not physically have to sit beside a substation simply because that makes the connection easier. Site suitability still needs to be demonstrated.

3. The number of energy projects being concentrated in this area

The EIS does consider cumulative impacts and I recognise that. The problem is that some of the surrounding projects are not far enough advanced for the cumulative assessment to be complete.

The Noise and Vibration Impact Assessment identifies six future projects that could interact with this project. It says detailed construction, operational and traffic information was not available for the Muswellbrook Pumped Hydro Energy Storage project, the Muswellbrook Thermal Storage Facility and the Bells Mountain BESS. The cumulative noise assessment for those projects therefore had to be qualitative rather than quantitative.

That is an important distinction. Saying cumulative impacts are expected to be manageable based on the information currently available is not the same as modelling what residents may actually experience when several projects are operating or being constructed at the same time.

The EIS also recognises possible cumulative effects from construction noise, traffic, visual change and social impacts. The Social Impact Assessment records community concern about the cumulative effect of energy development in the area.

I would like the Department to consider the bigger planning question, not just each development in isolation. At what point does the continued concentration of major energy infrastructure change McCullys Gap from a rural community into an energy infrastructure precinct? If important neighbouring projects do not yet have enough information for proper cumulative modelling, I believe those assessments should be updated when that information becomes available.

4. Bushfire, emergency access and evacuation

The Bushfire Hazard Assessment states that the whole project area is mapped as Vegetation Category 3 Bushfire Prone Land. It also describes the relevant fire conditions as capable of producing fast moving and intense fires that are difficult to control.

The project proposes emergency access, water supply, fire suppression equipment and a Bushfire Emergency Management and Operations Plan. However, that emergency plan is to be prepared after detailed design and then provided to NSW RFS for review and comment.

For residents, the practical question is what happens if something goes wrong. A battery incident does not have to occur by itself. It could happen during severe fire weather, during a bushfire, during a power or communications failure or while emergency services are already dealing with another incident.

I want to know what happens if Sandy Creek Road or another important route is affected by smoke, fire, an exclusion zone, emergency vehicles or a heavy vehicle incident. What alternative route is available to residents? Who decides whether people evacuate or shelter in place? How are residents warned? What happens with livestock and people who may need assistance?

I would also like to know which emergency services are expected to respond to a serious BESS incident, what specialist battery fire capability is available locally and what assumptions have been made about response time, breathing apparatus, water supply and exclusion zones.

These are not matters that should be left entirely to a management plan written after approval. They are relevant to whether the location itself is suitable.

5. Battery fire, thermal runaway and the final battery design

The Preliminary Hazard Analysis is one of the more important documents I have read. It says that preliminary risk screening did not itself require a PHA, but the HAZID process identified plausible BESS events such as fire and explosion caused by thermal runaway that may generate off site impacts. A PHA was therefore completed.

The PHA considers latent battery failure, overcharging and overheating. For thermal radiation it uses an assumed container geometry and an assumed external surface temperature of 660 degrees Celsius. It concludes that the modelled thermal radiation consequences remain within the project area and the EIS reports negligible calculated off site fatality, serious injury and property damage risk under the scenarios assessed.

I acknowledge those findings. My concern is that the same report says the battery supplier and BESS selection will be finalised during detailed design.

That means some of the equipment the risk assessment ultimately depends on has not yet been selected. I would like to know what happens if the final battery system has a different energy density, container arrangement, thermal behaviour, fire performance or separation requirement from the system assumed in the assessment. There should be a clear requirement for the risk assessment to be revisited if the final equipment falls outside the assumptions already assessed.

There is another point I would like clarified. Mitigation measure HR1 refers to at least three metres separation from the project area boundary, subject to confirmation by the BESS designer or supplier through thermal testing or modelling. The PHA discussion refers to the indicative layout having about 20 metres between a battery container and the site boundary. I would like to know what separation distance will actually be maintained and whether the larger distance forms part of the safety case.

The final assessment should also deal with a credible event involving propagation beyond one unit where that is possible, the duration of a fire, reignition, handling of damaged units and the area emergency responders may have to keep clear.

6. Smoke and toxic gases from a battery fire

The PHA acknowledges that smoke from a battery fire could contain small quantities of fluorinated hydrocarbons or acids. It characterises the likely off site health effect as low and compares the smoke hazard with a plastics fire.

What I have not found in the material I have reviewed is quantitative atmospheric dispersion modelling for toxic combustion products equivalent to the modelling undertaken for thermal radiation.

This is important because heat radiation and smoke are different hazards. Showing where a certain level of heat radiation extends does not tell residents how far smoke or combustion products may travel under an unfavourable wind direction or stable night time conditions.

I would like either a quantitative plume dispersion assessment for credible fire scenarios using the final battery system or a clear technical explanation of why one is not required. It should identify the relevant combustion products, the assumptions about how much is released and for how long, the weather conditions considered and the concentrations that could occur at roads and nearby residences.

There should also be a clear process for air, soil, water, pasture and farm dam testing after an incident where neighbouring land could have been affected.

7. Firewater, stormwater and contamination

The EIS says operational runoff would be directed to a stormwater management basin that would also be capable of containing firewater during an emergency. Captured firewater would then be pumped out and taken to an appropriately licensed facility. That is a sensible commitment.

What I would like to see is the calculation behind it. How much firewater is the basin designed to contain? What firefighting or cooling flow rate has been assumed and for how long? What happens if the basin already contains stormwater? What rainfall event has been allowed for? What freeboard remains and where does water go if the design capacity is exceeded?

The DCCEEW Water advice called for a consolidated site water balance and assessment of surface water and groundwater impacts. The emergency containment function should be demonstrated as part of the final design rather than simply stated as an intention.

A serious fire during heavy rain may be unlikely, but it is not impossible. I would like the design to show that the containment system can deal with the event it is supposed to contain without contaminated water leaving the site.

Baseline soil and water information is also important. If there is ever an incident, neighbouring landholders need a reliable starting point so that any change can be identified rather than argued about afterwards.

8. Noise

The Noise and Vibration Impact Assessment identifies 209 sensitive receivers in its study area. The closest residence to the BESS facility is about 390 metres away. Long term unattended monitoring was carried out from 30 June to 17 July 2025 at two locations within the project area.

The report says rural background noise at evening and night is generally in the low to mid 30 dBA range. Where measured background levels were below the minimum levels in the NSW Noise Policy for Industry, minimum rating background levels of 35 dBA during the day and 30 dBA during the evening and night were adopted. The modelling predicts that the project will comply with the applicable operational noise limits.

The report also considered tonal and low frequency characteristics. It identified a predicted tonal characteristic at receiver R4 in the 6.3 kHz band but concluded that it was unlikely to be perceptible against the background and did not apply a penalty.

One limitation that stood out to me is the statement that the equipment noise data did not provide one third octave levels below 25 Hz for the battery containers and power conversion systems. I am not claiming this proves there will be an unacceptable low frequency noise problem. I am saying that the final equipment should be checked using complete source data so the conclusion can be verified.

The cumulative operational noise issue also comes back into this. Some nearby projects could only be considered qualitatively because detailed noise predictions were not yet available.

I would like post commissioning noise monitoring at representative nearby residences when the facility is operating under conditions likely to produce high noise levels, including night time operation and periods of high cooling demand. That monitoring should consider tonal characteristics and low frequency noise using the equipment that is actually installed.

Construction noise should not be overlooked either. During temporary road widening in wet conditions the report predicts three residential receivers will be highly noise affected at more than 75 dBA. Other construction scenarios also produce exceedances at a number of residences. These impacts may be temporary, but they are still part of what nearby residents will experience.

9. Electromagnetic fields

The EIS identifies the battery containers, cabling, switchyard and 330 kV connection as potential sources of electromagnetic fields. It says final substation layout and equipment selection will occur during detailed design and expects exposure at the substation boundary to be comparable with existing background levels.

I am not making unsupported claims about health effects. I simply think that if the final equipment and layout have not yet been selected, the prediction should be verified once they are. Final design modelling should show expected levels at the project boundary, public roads and representative nearby residences under the maximum relevant operating condition. Post commissioning measurements could then confirm the prediction.

10. Biodiversity and habitat

The EIS contains a range of biodiversity measures including avoidance, fauna management, pre clearing surveys, habitat tree procedures, biosecurity controls, rehabilitation and offsets. I recognise those measures.

My concern again comes back to site selection. Offsets and management measures deal with impacts after a location has been chosen. They do not answer whether the impact could have been avoided by choosing a less sensitive site in the first place.

The alternative site assessment should therefore show how the biodiversity constraints at this site compared with the other sites that were considered. The same applies to cumulative biodiversity impacts where nearby projects have not yet finalised their disturbance footprints.

11. Agriculture, livestock and rural land

The Social Impact Assessment says the project area is currently used for agricultural grazing. It reports that about 9.4 hectares of mapped agricultural land would be within the operational area and about 5.1 hectares would be removed from agricultural production for the operating life of the project.

The assessment says there would be no residual impact to private agricultural landholders from the change in land use because agreements exist or are proposed with the relevant parties. That may deal with the land being directly used for the project. It does not necessarily answer what happens to neighbouring agricultural properties if there is an abnormal incident involving smoke, contaminated water, road restrictions or an emergency exclusion zone.

Emergency planning should cover livestock, pasture, farm dams, rainwater systems, alternative feed and water, veterinary assessment, environmental testing and the process for deciding when agricultural land is safe to use again.

12. Traffic and road access

The EIS recognises construction traffic on Sandy Creek Road and possible overlap with other projects. Traffic management plans will help, but residents, farm vehicles, heavy project vehicles and emergency services will still be using the same local road network.

I would like clear requirements covering peak heavy vehicle movements, oversized loads, resident access, dust, road condition surveys and repair of damage caused by project traffic. There should also be coordination between major projects if construction periods overlap so the combined traffic impact is managed rather than each project dealing only with its own vehicles.

13. Visual impact and rural character

The Social Impact Assessment recognises that rural character is important to the community. It says four nearby residential receivers are likely to have views of the facility and that three of those would have new electrical infrastructure introduced into their views.

The project relies partly on existing vegetation, new screen planting and the use of suitable colours and finishes. Screen planting takes time to establish, so I do not think it should be treated as though the visual impact disappears when construction finishes. Any landscaping condition should deal with planting width, species, establishment, replacement of failed plants and the level of screening that is expected to be achieved.

The bigger issue is cumulative visual change. One project may be partly screened. Several energy projects across the same rural locality can still change the character of the area.

14. Property, insurance and financial impacts

I am not claiming that the project will reduce every nearby property value by a particular amount or make properties uninsurable. I do not have evidence that would justify making that claim.

I do think these concerns deserve a proper response when they are raised by nearby owners. If residents provide evidence of difficulty with insurance, finance or marketability because of the project, the applicant and the Department should explain how that information has been considered.

There should also be a clear process if a project incident causes a demonstrable financial loss or physical impact to neighbouring property.

15. Social impact on a small rural community

The Social Impact Assessment describes McCullys Gap as a small rural locality with a population of 262 and little community infrastructure. It also recognises that rural character is valued and that residents have concerns about the cumulative effect of energy development.

I think this matters because the impact of a project cannot always be reduced to whether each individual technical limit is met. Residents may experience years of construction, additional traffic, changed views, new

industrial infrastructure and concern about emergency events while the wider benefits of the project are spread across the electricity network.

The Department should consider where the benefits and burdens fall. A project can provide a broader public benefit and still be in the wrong location.

16. Battery replacement, waste and decommissioning

The project is intended to operate for at least 30 years. The EIS commits to decommissioning above ground infrastructure and rehabilitating disturbed areas for rural land use.

Over that period batteries and other equipment will need replacement. The consent should clearly deal with failed or damaged battery units, temporary storage, transport, recycling or disposal, removal of electrical equipment and foundations, contaminated material and the standard of rehabilitation expected at the end of the project.

I would also like to know what financial security exists to make sure decommissioning and remediation are actually paid for if the project changes ownership, the operating company becomes insolvent or the project reaches the end of its life without enough money set aside. That cost should not end up with the landowner, neighbouring residents or the government.

17. Responsibility if something affects neighbouring land

There should be no uncertainty about which legal entity is responsible throughout construction, operation, a future sale of the project, an incident and eventual decommissioning.

If an incident could have affected neighbouring land, residents should not have to pay for their own technical investigation simply to establish whether contamination has occurred. Appropriate baseline information, incident triggered monitoring and clear responsibility for testing, remediation and compensation would avoid that problem.

18. Questions I would like answered before the project is approved

After reading the EIS and the supporting reports, these are the questions I would like answered before a decision is made:

1. What alternative sites were considered? Can they be identified or mapped and can the reasons each was rejected be explained?

2. How much weight was given to distance from homes, rural character, agriculture, biodiversity, emergency access and safety compared with connection distance, construction cost and delivery time?

3. Were previously disturbed, industrial or mining modified sites specifically considered? If they were, why were they rejected?

4. If the final battery supplier and BESS system will not be selected until detailed design, how will the Department make sure the final equipment still fits within all of the fire, hazard and noise assumptions used for approval?

5. Why does mitigation measure HR1 refer to a minimum three metre boundary separation when the PHA discussion refers to an indicative battery container distance of about 20 metres from the site boundary? What distance will actually be maintained?

6. What is the maximum credible thermal runaway or battery fire event for the final system, including possible propagation, fire duration and reignition?

7. What evidence shows how toxic smoke from a credible battery fire would behave under an unfavourable wind direction and stable night time conditions?

8. If toxic plume dispersion modelling has not been carried out, why is it considered unnecessary when the PHA itself says plausible BESS fire and explosion events may generate off site impacts?

9. If normal road access is affected by smoke, fire, an exclusion zone, bushfire or emergency operations, what practical alternative evacuation route is available to residents?

10. Which emergency services are expected to respond to a serious BESS incident and what specialist battery fire capability, breathing apparatus, water supply and response time have been assumed?

11. What firewater volume is the containment system designed for? What water flow, incident duration, rainfall allowance, basin level and freeboard have been assumed?

12. What happens to contaminated firewater if the containment system is already holding stormwater or the incident occurs during heavy rain?

13. What are the final night time, tonal and low frequency noise levels at nearby homes using the equipment that is actually installed?

14. How will the lack of one third octave source data below 25 Hz for the battery containers and power conversion systems in the current noise assessment be dealt with for the final equipment?

15. Will cumulative noise and other cumulative impacts be reassessed when detailed information becomes available for the nearby projects that could only be assessed qualitatively?

16. What monitoring will be carried out after commissioning to confirm the predicted noise and electromagnetic field levels?

17. How will livestock, pasture, farm dams, rainwater systems and neighbouring agricultural operations be dealt with after a significant incident?

18. Who pays for environmental testing, agricultural loss, evacuation costs, remediation or property damage if they are caused by a project incident?

19. What financial security guarantees that decommissioning and rehabilitation will be completed if the project changes ownership or the project company becomes insolvent?

20. If a reasonably available alternative site can provide greater separation from homes and reduce several of these impacts at the same time, why should the McCullys Gap site be preferred?

19. What I am asking the Department to do

I recognise that grid scale battery storage can play an important role in the electricity system. My objection is not to the technology itself. It is to placing a project of this size in this location and adding another major energy development to an established rural community.

There is a substantial amount of technical work in the EIS and I do not suggest that every issue has been ignored. What concerns me is that some important conclusions still depend on information that will only be known at detailed design, some cumulative impacts cannot yet be fully assessed and the alternative sites that supposedly led to McCullys Gap being selected are not shown in enough detail for that conclusion to be tested.

Fire safety, smoke, emergency access, firewater, noise, agriculture, biodiversity, traffic, visual impact and social impact are different issues, but they all come back to the same decision. Is this the right place to put the project?

I ask the Department not to approve SSD-81555720 at the proposed McCullys Gap location unless it is satisfied on clear evidence that this site is appropriate and that a reasonably available alternative would not materially reduce the impacts on residents and the surrounding rural area.

My preferred outcome is relocation to a less sensitive site, with genuine consideration given to previously disturbed land, industrial land, mining modified land or another suitable location where the project can be built with greater separation from homes and less impact on an established rural community.

Documents I reviewed

In preparing this objection I reviewed the Environmental Impact Statement and the project documents available to me, including:

- Environmental Impact Statement, August 2026
- Development application material submitted 14 August 2026
- Technical Report 2, Noise and Vibration Impact Assessment
- Technical Report 9, Preliminary Hazard Analysis
- Technical Report 10, Bushfire Hazard Assessment
- Technical Report 11, Social Impact Assessment
- Appendix C, Consolidated Mitigation Measures
- NSW DCCEEW Water advice on the Secretary's Environmental Assessment Requirements
- Estimated Development Cost cover letter