To: The Department of Planning, Housing and Infrastructure (DPHI)
Date: 5 June 2025
Subject: Formal Objection to the Wattle Creek Battery Energy Storage System (SSD-63345458) Environmental Impact Statement

This submission constitutes a formal objection to the proposed Wattle Creek Battery Energy Storage System (BESS) (SSD-63345458), a project comprising a 350 MW / 1400 MWh BESS (EIS Main Text, p.36; BTA Appendix 12, p.1), as described in the proponent's EIS documentation. Note: Inconsistent BESS container numbers are cited across documents (656 containers in EIS Main Text, p.36 & PHA, p.10; 415 containers in BTA, Appendix 12, p.4).

A thorough review of the Environmental Impact Statement (EIS) and its supporting specialist assessments, particularly the Preliminary Hazard Analysis (PHA, Appendix 15), Bushfire Threat Assessment (BTA, Appendix 12), Water Resources Impact Assessment (WRIA, Appendix 11), Aboriginal Cultural Heritage Assessment (ACHA, Appendix 8), Agricultural Impact Assessment (SLAIA, Appendix 13), Electromagnetic Fields Assessment (EMF, Appendix 14), Appendix 4 (Summary of Management and Mitigation Measures), Appendix 3 (Statutory Compliance Table), Appendix 16 (Social Impact Assessment - SIA), and cognisant of the requirements laid out in the project's SEARs (Appendix 1 of EIS - SEARs Checklist), reveals a project proposal for a major hazardous industrial facility that is fundamentally flawed. The EIS fails to adequately assess or provide credible mitigation for the significantly amplified risks associated with a BESS of this enormous scale (350MW / 1400MWh, storing a cited "Approx. 5,125 tonnes" of Lithium-ion Batteries - PHA, Table 3-3, p.11; EIS Main Text, Table 6.39, p.180), fails to meet requisite environmental and safety standards (despite acknowledging relevant legislation like the Resilience and Hazards SEPP and Biodiversity and Conservation SEPP in Appendix 3, p. 3-4, and the SEARs mandating such compliance – e.g., SEARs Checklist, p.5 regarding SEPP Resilience and Hazards, and p.6 regarding SEPP Biodiversity and Conservation), and presents an unacceptable risk to the community and the environment, a risk acknowledged in part by the proponent's own SIA (Appendix 16, Table ES.1, p.iv) which identifies multiple potential negative social impacts of medium to high significance.

The documentation, rather than providing a rigorous and objective assessment of potential impacts as required by the SEARs (SEARs Checklist, p.2, requiring "an assessment of the likely impacts of all stages of the development...taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice"), appears to be an exercise in justification. It is characterised by a pattern of downplaying significant risks (particularly those related to fire, explosion, and toxic plume release – despite the

PHA's conclusion of "no observed offsite impacts" [PHA, p.i, p.25]), deferring critical safety planning and mitigation details to post-approval stages (e.g., NorBE nitrogen and phosphorus solution deferral, EIS Main Text [p.155], WRIA Appendix 11 [p.69, p.89], with Appendix 4 offering no specific advanced treatment commitments beyond general CEMP measures like WR-03, despite the SEARs Checklist, p.6, requiring assessment of impacts on the Sydney drinking water catchment and consistency with the SEPP (Biodiversity and Conservation) 2021 including NorBE; Emergency Response Plan deferral to "Pre-Construction" (BTA Appendix 12, p.19; Appendix 4, Measure BF-01), contrary to the implication of SEARs requiring comprehensive hazard assessment upfront (SEARs Checklist, p.5); PHA recommendations for UL9540A testing and validation "Before construction" [PHA, p.i, p.25] and a Final Hazard Analysis also "Pre-Construction" (Appendix 4, Measures H-01, H-02, H-03), despite SEARs requiring a PHA in accordance with HIPAP No. 6 (SEARs Checklist, p.5)), presenting conclusions based on insufficient assessment methodologies (e.g. reliance on a Level 2 QRA for a major hazardous facility [PHA, p.3; EIS Main Text, p.181], even though Appendix 3, p.3-8 lists HIPAP No. 6 - Guidelines for Hazard Analysis as a relevant guideline, and the SEARs explicitly require a PHA in accordance with this guideline (SEARs Checklist, p.5)), and proposing solutions that are demonstrably inadequate (e.g., the "minimum 40,000 L water supply" for firefighting, confirmed in Appendix 4, Measure BF-02). The project splitting, acknowledged in the EIS (EIS Summary p.1, 5; EIS Main Text p.1, 6, 28), further obscures true cumulative impacts, including social impacts related to workforce influx and pressure on local services, a concern touched upon in Appendix 16 (p.iv, p.61-68), despite the SEARs requiring assessment of cumulative impacts in accordance with the "Cumulative Impact Assessment Guideline (DPIE, July 2021)" (SEARs Checklist, p.2).

This objection will demonstrate that the EIS, in its current form, is not fit for purpose and that the project, as presented, should be refused. The core grounds for this objection are:

An Unacceptable Threat to Public Safety and Emergency Response Capability: The proposal places a major hazardous industrial facility—specifically the 350 MW / 1400 MWh BESS—in a high bushfire risk area (BTA, Appendix 12, p.1; EIS Main Text, p.27, 172). The EIS and its supporting documents, including the Preliminary Hazard Analysis (PHA, Appendix 15), Bushfire Threat Assessment (BTA, Appendix 12), and the commitments in Appendix 4 (Management and Mitigation), fail to demonstrate a credible, adequately resourced, or proven emergency management strategy. This is despite the SEARs (SEARs Checklist, p.6) requiring "An assessment of potential hazards and risks including but not limited to assessment of bushfire risk against the

RFS Planning for Bushfire Protection 2019," and the proponent acknowledging relevant statutory frameworks such as the Rural Fires Act 1997 and RFS Planning for Bushfire Protection (PBP) in Appendix 3 (p.3-7). The proponent's SIA (Appendix 16, Table ES.1, p.iv) itself identifies "Livelihood impacts associated with property damage due to heightened bushfire risk" and "Reduced access to the project site for emergency services e.g. RFS and subsequent safety impacts" as potential negative social impacts of medium to high significance. Critically:

- The proposed dedicated firefighting water supply of a "minimum 40,000 litre" (BTA, Appendix 12, p.20, Section 4.5; EIS Main Text, p.177; confirmed as a mitigation commitment in Appendix 4, Measure BF-02) is indefensibly insufficient, being orders of magnitude below FRNSW Safety Bulletin SB2202 guidelines for a BESS of this scale (1400MWh), rendering any emergency plan for a BESS fire ineffective. The PHA (Appendix A, p.28) also lists an even lower ">20,000 L" as a general safeguard. The EIS Main Text (p.50) also contradictorily states the firefighting water "capacity [is] to be determined during the detailed design phase." For the entire Wattle Creek Energy Hub, incorporating the co-located 100MW BESS (Solar Farm SSD-63344210), a total of 450MW/1800MWh of BESS capacity would require a water supply likely in the order of millions of litres, fully endorsed by FRNSW. This falls short of the SEARs advice from RFS (SEARs Checklist, p.20) requiring details on "available static water supply for fire fighting purpose".
- The PHA's claim of "no observed offsite impacts" (PHA, p.i, p.25; referenced in EIS Main Text, p.181 and EIS Summary, p.10) from a BESS fire or major transformer incident is unsubstantiated. This conclusion is based on a "Level 2 Assessment" (PHA, p.3), which is insufficient for a facility storing 5,125 tonnes of Class 9 Dangerous Goods, particularly when the proponent acknowledges the SEPP (Resilience and Hazards) 2021 and HIPAP guidelines (HIPAP 4 & 6) as applicable (Appendix 3, p.3-4 & p.3-8). The SEARs (SEARs Checklist, p.5) explicitly require a "Preliminary Hazard Analysis (PHA) prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011)" and that the PHA must "verify separation distances to on-site and off-site receptors...and compliance with Hazardous Industry Advisory Paper No. 4, 'Risk Criteria for Land Use Safety Planning (DoP, 2011)". Appendix 4 (Measure H-02) confirms that "A final hazard analysis (FHA) will be completed for the Project when the Project design has achieved an adequate level of detail (i.e. specific BESS technology has been selected and layout has been confirmed)" scheduled for "Pre-Construction," admitting the current PHA is not final. A comprehensive Level 3 Quantitative Risk

Assessment (QRA) as per HIPAP guidelines (HIPAP 4 & 6) is required for the entire Energy Hub prior to any approval. The BTA (p.8) itself references the PHA's conclusion that the project is "only potentially hazardous" (a conclusion also stated in EIS Main Text, p.172 and EIS Summary, p.10).

- The EIS documentation, including the PHA, BTA, and Appendix 4, lacks critical quantitative risk modelling and defers essential planning:
    - **Failure Modes and Effects Criticality Analysis (FMECA):** No FMECA appears to have been conducted for the BESS, nor is it explicitly committed to in Appendix 4 prior to the Final Hazard Analysis. This is a critical omission for a complex hazardous facility.
    - **Toxic Gas Plume Dispersion Modelling:** The PHA (p.19) acknowledges Hydrogen Fluoride (HF) as a concern but dismisses detailed analysis as the initiating fire is deemed "unlikely." This is inadequate for a 1400MWh facility.
    - **Fire Propagation:** The PHA (p.16) dismisses BESS unit-to-unit fire propagation as "unlikely" based on design, not robust modelling for the proposed scale.
    - **UL9540A Test Data:** The PHA (p.15) states a UL9540A report "is unable to be shared" and defers validation to "Before construction" (PHA, p.i, p.25; EIS Main Text, p.182, Table 6.41). Appendix 4 (Measure H-03) commits that "BESS must be tested and installed in accordance with UL9540A, and report recommended clearances based on testing" during "Pre-Construction". Verifiable data for all BESS technologies across the entire hub is needed upfront, particularly as the SEARs (SEARs Checklist, p.5) require the PHA to "consider all recent standards and codes".
    - **Emergency Response Plan:** The BTA (p.19, Section 4.1) confirms the ERP "will be developed...in consultation with the RFS and NSW Fire and Rescue," indicating deferral (also supported by EIS Main Text, p.177, 178). Appendix 4 (Measure BF-01) confirms the ERP will be developed "Pre-Construction". This contravenes the spirit of the SEARs which require comprehensive assessment of hazards and risks (SEARs Checklist, p.5-6) and specific RFS advice for a "Bush Fire Emergency Management and Operations Plan" (SEARs Checklist, p.20).
    - **Asset Protection Zones (APZs):** The BTA (p.19, Section 4.2) states a "minimum, a 10 m Asset Protection Zone (APZ) will be applied to all proposed infrastructure" (also stated in EIS Main Text, p.177). This "minimum 10 m" APZ is reiterated as a mitigation commitment in Appendix 4 (Measure BF-02). It does not provide specific calculations or justification (e.g., against PBP 2019 radiant heat tables, a guideline acknowledged in Appendix 3, p.3-7, and required by SEARs Checklist, p.6 & p.20) for the adequacy of a 10m APZ for a

1400MWh BESS facility, particularly if adjacent to Category 1 vegetation (vegetation described in EIS Main Text, p.175). These omissions and deferrals are contrary to guidance like FRNSW SB2202, HIPAP No. 4 & 6, and the specific SEARs from RFS (SEARs Checklist, p.20, requiring "asset protection zones around all assets").

Fundamental Deficiencies in Traffic and Road Safety Assessment: The Traffic and Transport Assessment (TTA, Appendix 10 of BESS EIS) presents contradictory conclusions and inadequate planning, exacerbated by the BESS construction, with key mitigation strategies deferred to a "Pre-construction" Traffic Management Plan (Appendix 4, Measure TT-01). This is despite SEARs (SEARs Checklist, p.4) requiring "an assessment of the likely transport impacts to the site access route(s), site access point(s)... particularly in relation to the capacity and condition of the roads, road safety and intersection performance" and to "provide details of measures to mitigate and / or manage potential impacts including a schedule of all required road upgrades... developed in consultation with the relevant road authority". The TTA's Executive Summary (p.1) claims the road network has "significant spare capacity" and proposed upgrades will manage impacts (a claim echoed in EIS Summary, p.8), claims challenged by its own data and proposals. Appendix 3 (p.3-3) notes the Roads Act 1993 is applicable. The proponent's SIA (Appendix 16, Table ES.1, p.iv) acknowledges "Increased travel time and safety issues associated with deterioration of local roads as a result of increased project-related traffic" and "Decreased pedestrian and road user safety due to increased traffic during construction" as potential negative social impacts of medium to high significance.

- **Canyonleigh Road Condition and Proposed Upgrades:**
    - **Evidence:** The TTA (p.19, Section 2.2.1.4) confirms Canyonleigh Road is narrow (varying road width of 5-6m for sealed section, 5-7m for unsealed section) and partially unsealed. It proposes "suitable resurfacing works" but explicitly states these are "to be contained within the existing road carriageway and include no additional road widening " (TTA, p.38, Section 3.4.2; p.97, Table 25). This limited scope of "resurfacing works" with design deferred to "the future detailed design phase" is confirmed as the proposed mitigation in Appendix 4 (Measure TT-06). The TTA (p.89, Section 5.6.1) also notes "higher (>10%) increases in pavement loading" on Canyonleigh Road due to project traffic, with mitigation being pre/post dilapidation surveys (Measure TT-06) and infrastructure agreements. Goulburn Mulwaree Council's SEARs advice (SEARs Checklist, p.23) explicitly notes Canyonleigh Road's unsealed state, infrequent maintenance, and that "projected volume of heavy vehicle movements to support construction may therefore necessitate the need to

upgrade the road," referencing that consents for adjacent power stations require it to be bitumen sealed.
    - **Critique:** Resurfacing without widening fails to address the fundamental safety and capacity issues of a narrow rural road subjected to a massive increase in heavy vehicle traffic, contrary to the SEARs requirement for ensuring road capacity and safety (SEARs Checklist, p.4). Relying on reactive dilapidation surveys and agreements is insufficient.
    - **Statement:** The proponent fails to justify how Canyonleigh Road, without widening and proactive structural upgrades, can safely accommodate the projected cumulative construction traffic, particularly in light of specific Council concerns highlighted in the SEARs advice (SEARs Checklist, p.23).
- **Flawed Data Collection & Modelling:**
    - **Evidence:** The TTA for the BESS confirms reliance on a '12-hour period' of turning movement counts at key intersections on 'Wednesday 7 August 2024' (BESS TTA, p.23, Section 2.3.2) to establish its baseline. (Note: BESS TTA p.22, Section 2.3.1 also mentions using TfNSW historical count data for Hume Highway and deriving daily volumes for other roads from the 7 August 2024 intersection counts by applying a factor of 1.25 to convert 12-hour to 24-hour volumes as per Austroads Guide to Pavement Technology Part 4K, Section 5.2).
    - **Critique:** A single 12-hour count is insufficient to establish a robust baseline for predicting impacts of this scale and cumulative nature, potentially underestimating existing traffic variations and thus the project's relative impact. This is directly contrary to TfNSW SEARs advice (SEARs Checklist, p.14 of SEARs PDF / p.24 of user file, under TfNSW advice in BESS TTA, Table 3, p.10 as cited in objection) which states: "Traffic count surveys should be undertaken for a minimum of one day (preference seven days for improved accuracy of data)."
    - **Statement:** The traffic impact assessment must be based on more comprehensive traffic data, consistent with TfNSW advice provided in the SEARs (SEARs Checklist, p.14 of SEARs PDF / p.24 of user file).
- **Deferral of Critical Safety Measures & Audits:**
    - **Evidence:** The BESS SEARs (p.7, Table 2, Item 1.ii of original SEARs, as referenced by proponent) require "an assessment of the likely transport impacts to the site access route(s), site access point(s)... particularly in relation to...road safety and intersection performance". The TTA (p.86, Section 5.5) includes only a "high-level road safety assessment." A detailed Traffic Management Plan (TMP), including for OSOM vehicles, is deferred to pre-construction (TTA, p.93, Section 6.2; confirmed in Appendix 4, Measure

TT-01). Specific treatments for the school bus stop at Brayton Rd/Canyonleigh Rd intersection are subject to "further discussions to be undertaken with Council" and "addressed through the detailed design of the project and the traffic management plan" (TTA, p.38, Section 3.4.1; p.92, Section 5.7.1; p.97, Table 25; with Appendix 4, TT-06 mentioning BAR treatments and potential relocation "subject to further consultation with Council"). TfNSW SEARs advice also requests a "concept-level route analysis... for OSOM transit" including identification of pinch points and bridge assessments (SEARs Checklist, p.24).
    - **Critique:** Deferring a detailed Road Safety Audit and specific, critical safety management plans (OSOM, school bus interactions) to a "Pre-construction" TMP (Appendix 4, TT-01) prevents their assessment as part of the EIS process, undermining the SEARs requirement for upfront assessment of road safety (SEARs Checklist, p.4).
    - **Statement:** Why is a formal, independent detailed Road Safety Audit not submitted with the EIS? Why are detailed strategies for OSOM vehicle management (as prompted by TfNSW SEARs advice, SEARs Checklist, p.24) and school bus safety not fully developed and presented?
- **Inadequate Cumulative Impact Assessment and Management:**
    - **Evidence:** The TTA (Table 19, p.68) forecasts a cumulative daily traffic increase on Canyonleigh Road (Gravel Road to Site Access, Bi-Dir) from a 2026 Background of 120 vehicles to a Cumulative Construction 2026 volume of 1,132 vehicles. This represents an increase of 1,012 vehicles, or an 843.3% increase ((1132-120)/120 * 100%). Despite this, the TTA Executive Summary (p.1) broadly claims impacts can be managed with the limited proposed upgrades (confirmed as primarily "resurfacing" in Appendix 4, TT-06). This aligns with the proponent's own Appendix 18 (Cumulative Impact Summary), which identifies 'Transport' as a 'HIGH' cumulative impact issue with the Wattle Creek Solar Farm (SSD-63344210), noting its construction is expected to be concurrent and will add an average of 39 trucks per day via Canyonleigh Road, and also rates 'Transport' as 'HIGH' with the Marulan Gas Fired Power Station (MP07_0175). The SEARs (SEARs Checklist, p.4) require "a cumulative impact assessment of traffic from nearby developments". Goulburn Mulwaree Council's SEARs advice (SEARs Checklist, p.23) explicitly highlights the cumulative impact from multiple SSD-scale extractives and energy projects in the vicinity and the need for this to be "fully understood".
    - **Critique:** The massive increase in traffic, particularly heavy vehicles, on a narrow, partially unsealed road like Canyonleigh Road, which is not proposed to be widened (Appendix 4, TT-06 confirms resurfacing "within the existing

road carriageway"), represents an unacceptable safety risk and impact on amenity. The proposed "resurfacing" and BAR treatments are insufficient for this scale of impact and do not align with the SEARs requirement for effective mitigation of cumulative impacts (SEARs Checklist, p.4).
    - **Statement:** A more robust cumulative traffic impact assessment is required for the entire Energy Hub, with commitments to specific, proactive road upgrades (including widening and structural improvements on Canyonleigh Road) necessary to ensure safety and serviceability, not just reactive "rehabilitation" or minor intersection tweaks as outlined in Appendix 4 (TT-06), addressing the SEARs (SEARs Checklist, p.4) and Council concerns (SEARs Checklist, p.23).

Significant and Unresolved Environmental Impacts (as detailed in BESS EIS Appendix 7 - BDAR, Appendix E - Aquatic Assessment, Appendix 11 - Water Resources Impact Assessment and Appendix 13 - Agricultural Impact Assessment):
The SEARs (SEARs Checklist, p.3) mandate "an assessment of the biodiversity values and the likely biodiversity impacts of the project in accordance with Section 7.9 of the Biodiversity Conservation Act 2016 (NSW)(BC Act), the Biodiversity Assessment Method (BAM) 2020 and documented in a Biodiversity Development Assessment Report (BDAR)". Specific agency advice from BCD (SEARs Checklist, p.12-13) reinforces these requirements, including the application of the avoid, minimise, and offset hierarchy.

- **Impacts to White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC:**
    - **Evidence:** The BESS BDAR (Table 4.2, p.67; Table 8.1, p.160; Table ES.1, p.iii) confirms the project will impact a total of 2.12 ha of this Critically Endangered Ecological Community (PCT 3376). This includes 0.89 ha of woodland in Good/Moderate condition (0.44 ha in common ancillary features and 0.45 ha in transmission line option 2) and 1.23 ha of Derived Native Grassland. This specific CEEC is highlighted in the Commonwealth SEARs requirements (SEARs Checklist, p.7) and BCD's SEARs advice as an SAII entity likely to be impacted (SEARs Checklist, p.16).
    - **Critique:** The BESS BDAR's SAII assessment (p.200-204, Table 9.2) dismisses a Serious and Irreversible Impact by comparing this loss to the CEEC's total extent in NSW (claiming an impact of 0.0013%). This regional-scale comparison downplays the significance of losing any area of a CEEC, particularly higher-quality woodland remnants, and seemingly ignores the explicit flagging of this CEEC as a potential SAII by BCD (SEARs Checklist, p.16). The ongoing decline and fragmentation of this CEEC means any further loss is significant.
    - **Statement:** How does the proponent justify that the removal of 2.12 ha of this

CEEC, including 0.89 ha of "Good/Moderate" condition woodland, does not constitute an SAII, particularly considering SAII Principles 1 (rapid rate of decline) & 2 (very small population size), and its identification as a likely SAII entity in BCD's SEARs advice (SEARs Checklist, p.16)?

- **Impacts on Other Native Vegetation and Threatened Species Habitat:**
  - **Evidence:** The BESS BDAR (Table ES.1, p.iii; Table 10.2, p.207) details impacts to other native vegetation, including up to 2.05 ha of PCT 4063 River Oak Forest and significant areas of PCT 3374 Peppermint Grassy Forest. The total native vegetation clearing is up to 28.84 ha (BDAR, p.159), comprising 8.63 ha of woodland and 20.21 ha of native grassland (actual total depends on TX line option). The BDAR (Table ES.2, p.iv; Section 5.4.2) confirms direct impacts to habitat for species credit species including Gang-gang Cockatoo (up to 4.46 ha of breeding/foraging habitat), South-eastern Glossy Black-Cockatoo (up to 4.46 ha of breeding/foraging habitat), Large-eared Pied Bat (up to 6.51 ha of foraging habitat), and Squirrel Glider (up to 6.51 ha of habitat). Several other ecosystem credit threatened species were also recorded (BDAR, p.ii). Many of these species are listed in the Commonwealth SEARs (SEARs Checklist, p.7-8) as likely to be significantly impacted or requiring further investigation (e.g., Gang-Gang Cockatoo, Large-eared Pied Bat).
  - **Critique:** The BESS BDAR (p.142) states that while Koala was not recorded, eight SEPP-listed Koala feed tree species occur, and all PCTs represent potential Koala habitat. However, it does not appear to generate species credits for Koala, despite Koala being listed in Commonwealth SEARs (SEARs Checklist, p.8). The loss of native vegetation, including mature woodland providing hollows and foraging resources, contributes to cumulative habitat loss for a range of threatened species. This is particularly critical as Appendix 18 (Cumulative Impact Summary) rates 'Biodiversity' as a 'HIGH' cumulative impact with the Wattle Creek Solar Farm (SSD-63344210, noted for a 580 ha disturbance area) and the Marulan Gas Fired Power Station (MP07_0175, noted for 34.2 ha native vegetation disturbance). Mitigation measures in Appendix 4 (e.g., B-01 "Native vegetation removal will be minimised during detailed design", B-04 BMP "Pre-Construction", B-11 Rehabilitation Plan "Pre-Construction") defer specific actions and rely on future planning, despite Appendix 3 (p.3-3) confirming the Biodiversity Conservation Act 2016 and Biodiversity Assessment Method (BAM) apply, as mandated by SEARs (SEARs Checklist, p.3). The SIA (Appendix 16, Table ES.1, p.iv) also lists "Loss of important environmental values on the site e.g. flora and fauna due to site clearing" as a potential negative social impact of medium to high significance.
  - **Statement:** The EIS must provide a robust assessment of the cumulative

impact of removing up to 28.84 ha of native vegetation, including habitat for multiple threatened species (many identified in the SEARs Checklist, p.7-8), when considered alongside the impacts of the adjacent Wattle Creek Solar Farm and other regional developments.

- **Failure to Meet NorBE Water Quality Criteria:**
  - **Evidence:** The BESS EIS Main Text (p.155, Section 6.9.3.1) and BESS EIS Summary (p.9) explicitly state that post-development pollutant discharges will not achieve WaterNSW's Neutral or Beneficial Effect (NorBE) criteria for mean annual Total Nitrogen (TN) loads. The Water Resources Impact Assessment (WRIA, Appendix 11, p.69, Table 5.9; p.89, Section 7.1.3) confirms this, showing an increase in TN loads from 109 kg/year to 196 kg/year post-development, marking the NorBE assessment for TN loads as "False". Furthermore, the WRIA (Appendix 11, p.69, Table 5.9) also indicates that Total Phosphorus (TP) fails to meet the NorBE load reduction target , achieving only a 4% reduction instead of the required 10% improvement, also resulting in a "False" NorBE assessment for TP loads. The WRIA (Appendix 11, p.70, Section 5.5.2) further reveals that post-development concentrations for both TN and TP do not consistently meet the NorBE requirement of being equal to or better than pre-development concentrations across the 50th to 98th percentile range. The proposed solution for these NorBE failures is deferred, with the WRIA (Appendix 11, p.69, p.89) and EIS Main Text (p.155) / EIS Summary (p.9) stating that "refinement of the MUSIC water quality model will be undertaken during the detailed design phase... to optimise the operational Project stormwater treatment train." Appendix 4 (Management and Mitigation) primarily lists general erosion and sediment control measures (e.g., WR-01 to WR-07) to be detailed in a "Pre-Construction" CEMP, and does not specify any advanced nutrient treatment technologies or commitments that would verifiably address these documented NorBE failures for TN and TP. This is a direct failure to meet the SEARs (SEARs Checklist, p.6) which require "an assessment of the potential impacts of the development on the Sydney drinking water catchment...and whether the development can be constructed and operated to have a neutral or beneficial effect on water quality consistent with the provisions of State Environmental Planning Policy (Biodiversity and Conservation) 2021." Appendix 3 (p.3-4) acknowledges this SEPP.
  - **Critique:** It is unacceptable to present an EIS for approval that documents a failure to meet mandatory environmental standards for the Sydney drinking water catchment for multiple key pollutants (TN and TP loads, and TN and TP concentrations intermittently) with only generic mitigation commitments, particularly when this is a specific requirement of the SEARs (SEARs Checklist,

p.6) and the relevant SEPP is acknowledged (Appendix 3, p.3-4). The deferral of a demonstrated, viable, and peer-reviewed solution is an attempt to sidestep proper assessment. Compounding this, the WRIA itself (Appendix 11, p.69) notes a potential "anomaly" in the MUSIC modelling for TN , suggesting the pre-development TN quantity might be "overly low" or the post-development load "over-estimated," casting further doubt on the reliability of the assessment. The WRIA (Appendix 11, p.69) also questions the feasibility of standard tertiary treatment measures , stating that "Bio-retention basin are indicated to be unsuitable due to the scale of this Project" and while "constructed wetlands are suitable... the use of such measures is not feasible given the Project Area not possessing large and level expanses for its construction" and the requirement for them to be outside the 2% AEP flood envelope.

    - **Statement:** Why is project approval being sought before a design and water quality management plan are presented that verifiably meet all NorBE criteria (as required by SEARs Checklist, p.6, and the SEPP (Biodiversity and Conservation) 2021, acknowledged in Appendix 3, p.3-4) for both loads and concentrations of TN and TP for the entire Wattle Creek Energy Hub, especially when the proponent's own assessment questions the reliability of its TN modelling, the feasibility of common mitigation solutions for these specific pollutants, and Appendix 4 offers no specific advanced treatment solutions?

- **Impacts on Groundwater Dependent Ecosystems (GDEs) and Aquatic Habitats:**
    - **Evidence:** The BESS BDAR (Aquatic Assessment, Appendix E, p.24) notes high potential aquatic GDEs along the Wollondilly River (classified as Type 1, Class 1 major key fish habitat - Aquatic Assessment, Appendix E, p.15, 23). The Water Resources Impact Assessment (WRIA, Appendix 11, p.46, Section 3.7.1 & Figure 3-17) confirms the presence of mapped high potential aquatic GDEs along the Wollondilly River within the Project Area. However, the BDAR (Aquatic Assessment, Appendix E, p.25) states that none of the impacted PCTs are considered GDEs at risk of extinction from water level fluctuations. The EIS Main Text (p.156) and the WRIA (Appendix 11, p.93, Section 7.5; p.99, Section 9) dismiss significant direct impacts to groundwater and GDEs based on the assertion that the project is unlikely to intercept the regional water table. The Aquatic Assessment (Appendix E, p.26-28) considers impacts to Macquarie Perch (Endangered) and Australian Grayling (Vulnerable) unlikely to be significant. The SEARs (SEARs Checklist, p.4) require assessment of impacts on "listed aquatic threatened species... under the Fisheries

Management Act 1994" and BCD SEARs advice (SEARs Checklist, p.13) requires mapping of "Groundwater dependent ecosystems".
    - **Critique:** While direct GDE vegetation impacts or groundwater interception are dismissed, the potential for altered surface flows, erosion, and sedimentation from extensive site disturbance (a development footprint of approximately 75 ha, as per WRIA, Appendix 11, p.13 and EIS Main Text, p.1) to indirectly impact aquatic GDEs and key fish habitat in the Wollondilly River requires more rigorous assessment and mitigation commitments than presented in Appendix 4 (which lists general measures like WR-01 to WR-07, WR-21), as implied by SEARs relating to water resource impacts (SEARs Checklist, p.6).
    - **Statement:** What specific, verifiable measures will be implemented to ensure that construction and operational runoff from the 75 ha development footprint does not degrade high potential aquatic GDEs and key fish habitat in the Wollondilly River and its tributaries, given the acknowledged risks of erosion and sedimentation and the SEARs requirements for assessing such impacts (SEARs Checklist, p.4, p.6, p.13)?
- **Unresolved Land Use Conflicts and Soil Erosion Risks:**
    - **Evidence:** The Agricultural Impact Assessment (SLAIA, Appendix 13) concludes overall low and temporary impacts to agriculture. However, its Land Use Conflict Risk Assessment (LUCRA) identifies several "Moderate" residual risks even after proposed mitigation measures (SLAIA, Appendix 13, Table 15, p.38). These include ongoing concerns about biosecurity breaches, fire spread, impacts on potential local tourism amenity, effects on neighbouring insurance premiums, and rehabilitation outcomes. Furthermore, the SLAIA (Appendix 13, p.33) identifies that the dominant soils within the 75 ha development footprint have a "Very High" erosion risk (Sodosols, 46 ha) or "Moderate to High" erosion risk (Chromosol/Kurosol Complex, 29 ha). The SEARs (SEARs Checklist, p.4) require assessment of soil erosion potential and impacts on existing land uses, including agricultural land.
    - **Critique:** While standard mitigation measures are proposed for erosion and agricultural impacts (SLAIA, Appendix 13, Section 6), the identification of multiple "Moderate" residual land use conflict risks in the proponent's own LUCRA suggests that not all agricultural and amenity impacts are fully resolved or mitigated to a low level. The inherently high to very high erodibility of the soils across the entire development footprint also presents a significant ongoing management challenge. Failure to implement exceptionally robust and site-specific erosion and sediment controls could exacerbate runoff and sedimentation, further jeopardising the already compromised water quality

outcomes (NorBE failures) and impacting downstream agricultural land and aquatic environments. Generic commitments to a CEMP (Appendix 4) may be insufficient given these site-specific soil risks.

- **Statement:** How can the project be justified when its own assessment (SLAIA, Appendix 13, p.38) acknowledges multiple "Moderate" residual risks for land use conflict with neighbouring agricultural and community interests? What specific, enhanced, and guaranteed mitigation measures, beyond standard CEMP provisions, will be implemented to manage the "Very High" and "Moderate to High" soil erosion risk across the development footprint (SLAIA, Appendix 13, p.33) to prevent sediment and pollutant runoff, particularly in light of the project's failure to meet NorBE criteria?

Inadequate Assessment and Management of Aboriginal Cultural Heritage:
The SEARs (SEARs Checklist, p.4) require "an assessment of the impact to Aboriginal cultural heritage items (cultural and archaeological) in accordance with the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH, 2011) and the Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW (DECCW, 2010), including results of archaeological test excavations (if required)" and "evidence of consultation with Aboriginal communities... having regard to the Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010)". A review of the proponent's Aboriginal Cultural Heritage Assessment (ACHA, Appendix 8 of EIS) reveals several deficiencies:

- **Incomplete Archaeological Investigation:** The ACHA itself acknowledges a limitation in its test excavation program, stating, "some 16 proposed test pits unable to be excavated due to the amount of groundwater and boggy conditions" (ACHA, Appendix 8, p.143). While the report claims "similar landforms were excavated to evaluate the likelihood of the presence of cultural material," this gap means that specific areas of archaeological potential may not have been adequately assessed, thereby failing to meet the SEARs requirement for a thorough investigation to inform the EIS. This omission undermines the completeness of the archaeological record presented for the development footprint.
- **Assessment of Significance and Consultation:** The ACHA Executive Summary (Appendix 8, p.vi) states that of 17 new Aboriginal sites identified, "Sixteen of these sites have low significance and one has moderate significance." However, Recommendation 1 (ACHA, Appendix 8, p.viii) asserts: "Sites located within the development footprint are listed in Table 11.1 and have been assessed as possessing low archaeological significance." Table 11.1 (ACHA, Appendix 8, p.176) lists 9 sites within the development footprint that will be subject to "Total harm" and "Total loss of value." If the single "moderate significance" site is among these

9 impacted sites, then Recommendation 1 inaccurately downplays its significance. If it is not among the 9, its relationship to the impacts and the basis for its moderate significance assessment versus the "low" assessment for all impacted sites is unclear. Furthermore, during Stage 4 consultation on the draft ACHA, a Registered Aboriginal Party (RAP) stated, "The subject site has high significance, including intangible elements and the Wollondilly River" (ACHA, Appendix 8, p.13-14, quoting Anonymous Party 1). The ACHA does not appear to adequately reconcile this RAP assertion of "high significance" and intangible values with its own conclusions of predominantly low significance for impacted archaeological sites, potentially failing to fully address RAP concerns as required by consultation guidelines.

- **Clarity of Mitigation for Impacted Sites:** While the ACHA Executive Summary (Appendix 8, p.vii) identifies 9 Aboriginal sites within the development footprint that will be directly and totally harmed, Recommendation 2a (ACHA, Appendix 8, p.viii) only specifies three sites—Wattle Creek 3 (AHIMS #52-4-0771), Wattle Creek 17 (AHIMS #52-4-0806), and Wattle Creek 18 (AHIMS #52-4-0805)—for "community collection of isolated artefacts...as they will be harmed by the Project." Section 12.3 Strategies to Minimise Harm (ACHA, Appendix 8, p.182) states, "Six artefact sites and 3 artefact scatter sites will be harmed through this community salvage program," which aligns with the 9 sites listed in Table 11.1. The discrepancy in Recommendation 2a, which only names three isolated finds for collection, creates ambiguity regarding the specific mitigation actions (collection/salvage) for the remaining six impacted sites, including three artefact scatters (Wattle Creek AS 6, AS 7, AS 8) and three other isolated finds (Wattle Creek AFT 13, AFT 16). This lack of clarity in the primary recommendations for all impacted sites is a deficiency.

These points indicate that the ACHA may not fully satisfy the SEARs regarding thorough investigation, robust significance assessment incorporating RAP feedback, and clear, comprehensive mitigation strategies for all identified impacts on Aboriginal cultural heritage.

Systemic Methodological Flaws Undermining Key Assessments:

- **Noise Assessment (NVA, Appendix 6):** PNTLs (EIS Main Text, Table 6.5, p.80) are confirmed by the NVA (Appendix 6, p.17, Section 5.2; Appendix E, p.60) to be based on the NPfI's minimum assumed Rating Background Levels (RBLs) as site-specific LA90 background noise measurements were not conducted. This approach is questionable given the SEARs (SEARs Checklist, p.4) require "operational noise impacts in accordance with the NSW Noise Policy for Industry

(2017)". Claims of compliance (EIS Summary, p.6) need validation with site-specific LA90 data and certified sound data for BESS components (HVAC for 656 BESS containers [NVA, App 6, Table 7, p.20], 164 inverters, transformers [NVA, App 6, Table 7, p.20; EIS Main Text, p.81-82]). Appendix 4 (Measure NV-02) states that "predicted noise levels for all components of the operational noise assessment will be updated during the detailed design phase once the Project configuration and equipment selections are confirmed... prior to the commencement of construction," acknowledging the current assessment is not based on final selections. Appendix 3 (p.3-6) lists the NSW Noise Policy for Industry as a relevant guideline. The SIA (Appendix 16, Table ES.1, p.iv) acknowledges "Social amenity impacts due to noise and vibration associated with construction activities" as a potential negative social impact of medium to high significance.

- **Landscape and Visual Impact Assessment (LVIA, Appendix 5 of BESS EIS):** The BESS LVIA (Appendix 5) itself claims the BESS (containers) will not be visible from non-associated dwellings (LVIA, p.4, p.55), aligning with EIS Main Text (p.73, 76) and EIS Summary (p.12) statements. However, the BESS LVIA (Appendix 5) fails to assess all significant BESS project components, contrary to SEARs (SEARs Checklist, p.4) which require "a detailed assessment of the likely visual impacts of all components of the project (including transmission lines, substations and any other ancillary infrastructure)". Notably, the up to 80m communications mast , identified in the EIS Main Text (p.36, 41) as part of the BESS substation, is not mentioned or assessed in the BESS LVIA (Appendix 5, see Table 06 Project Components, p.15). This is a critical omission. Furthermore, the LVIA's photomontages, based on March site visits (LVIA, p.4, p.9), likely represent "leaf-on" conditions and do not adequately demonstrate worst-case winter visibility for all BESS project components, including the BESS substation, transmission lines (up to 60m towers, LVIA p.62), and the unassessed 80m comms mast. Mitigation LV-03 in Appendix 4 regarding lighting refers to AS4282 but lacks commitment to quantitative modelling. The SIA (Appendix 16, Table ES.1, p.iv) lists "Change in the rural landscape resulting in impacts on visual amenity" as a potential negative social impact of medium to high significance.
- **Deferral of Critical EMF Mitigation for Public Safety:** The Electromagnetic Fields (EMF) Assessment (Appendix 14) identifies that at the crossover points of the proposed 330 kV transmission lines with existing 330 kV lines, cumulative electric fields will exceed the ICNIRP general public exposure limit of 5 kV/m, reaching up to 7.4 kV/m (EMF Report, p.iii, p.16, p.18, p.20). This is a direct contravention of the SEARs (SEARs Checklist, p.6) which require assessment against ICNIRP guidelines. Instead of presenting a definitive, assessed mitigation

strategy to address this public safety exceedance, the EMF report recommends that "Restricting public access in the crossover area or adjusting the transmission crossover setup to meet established electric field limits must be considered following analysis in detailed design" (EMF Report, p.iii, p.20). This defers a critical safety mitigation for a known exceedance to a post-approval stage, preventing its scrutiny as part of the EIS and providing no certainty that a feasible or publicly acceptable solution exists or will be implemented.

- **Improper Assessment of Cumulative Impacts via Project Splitting:** This 350 MW BESS application (SSD-63345458) is explicitly linked to the 265 MW Solar Farm and 100 MW BESS (SSD-63344210) (EIS Main Text, p.1, 28; EIS Summary p.1, 5). This "project splitting" prevents transparent assessment of the total combined risks of the Wattle Creek Energy Hub (450 MW / 1800 MWh BESS capacity). The SEARs (SEARs Checklist, p.2) explicitly require "an assessment of the likely impacts of all stages of the development...including any cumulative impacts...taking into consideration...the Cumulative Impact Assessment Guideline (DPIE, July 2021)". Appendix 3 (p.3-6) also lists the "Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE, 2022)" as relevant. The EIS's dismissal of cumulative impacts as "minimal" or manageable (EIS Summary, p.11; EIS Main Text, p.217) is not credible without a consolidated hazard assessment for the co-located BESS facilities. The BTA (Appendix 12, p.17) only briefly mentions considering the Solar Farm BESS in management measures, falling short of a cumulative hazard assessment. Appendix 4 mitigation measures are project-specific and do not detail an integrated approach for cumulative impacts for the entire Energy Hub. The SIA (Appendix 16, p.iv) notes potential negative social impacts from cumulative workforces on "access to housing and accommodation" and "access to health and emergency services". Goulburn Mulwaree Council's SEARs advice (SEARs Checklist, p.22) also stresses the need to "fully understand" cumulative impacts, particularly on housing, given other major projects in the area.
- **Use of Restrictive Neighbour Agreements to Preempt Opposition:** Review of Neighbour Benefit Sharing Deed documents offered by the proponent to nearby landholders for the Wattle Creek Projects reveals concerning clauses. These deeds require landholders to accept an extremely broad range of "Accepted Impacts" (Item 8, Reference Schedule of Deed; Clause 3.1 of Deed), encompassing all visual, noise (operational and construction, even outside standard hours), dust, vibration, and traffic impacts stemming from the construction, operation, and decommissioning phases. This contractual "acceptance" of impacts, which the proponent's own SIA (Appendix 16, Table ES.1, p.iv) identifies as medium to high community concerns, appears to be an attempt

to diminish the validity of future complaints or impact assessments. Critically, Clause 3.2(a) of the Deed explicitly states the "Landholder must not object, or cause, procure, assist or encourage any other person... to, object to any application made for any Approvals for the Wattle Creek Projects, including the applications for Development Consent or any applications to modify any Development Consent." Clause 3.2(b) further restricts any submission by requiring it to note the Deed's existence, make no comment on Accepted Impacts, and state it is not an objection. Such restrictive covenants effectively attempt to silence the most directly affected residents, thereby potentially skewing the perception of community sentiment, undermining the public consultation process (a process mandated by SEARs, see SEARs Checklist, p.7, requiring engagement consistent with "Undertaking Engagement Guidelines for State Significant Projects (DPIE, 2021)") for current and future project modifications, and eroding trust. This approach directly relates to the SIA's findings of a "Perceived inability to influence planning and decision-making" and "Lack of trust" (Appendix 16, p.iv, p.73-74) within the community.

The cumulative effect of these deficiencies demonstrates a failure to adequately assess the Wattle Creek BESS's impacts in line with the SEARs. This submission will now detail these failings with specific references to the proponent's documentation.

Detailed Assessment Critiques

Bushfire Threat Assessment (BTA, Appendix 12) & Preliminary Hazard Analysis (PHA, Appendix 15 for BESS EIS)

The safety assessments for the 350 MW BESS are critically flawed and present an unacceptable risk, especially given its scale (1400MWh, 5,125 tonnes of LIBs – PHA, p.11; EIS Main Text, Table 6.39, p.180) and location in a high bushfire risk area (BTA, p.1; EIS Main Text, p.27, 172). The SEARs (SEARs Checklist, p.6) specifically require "An assessment of potential hazards and risks including but not limited to assessment of bushfire risk against the RFS Planning for Bushfire Protection 2019". The RFS SEARs advice (SEARs Checklist, p.20) further details requirements including identification of ignition sources, hazardous material storage, vegetation management, fire suppression, APZs, water supply, access, and an Emergency Management Plan. The EIS's assertion that "Bushfire risk can be appropriately managed" (BTA, p.23; EIS Main Text, p.172; PHA, p.21; EIS Summary, p.10) and that the PHA shows "no impact offsite" (PHA, p.i, p.25; EIS Main Text, p.181; EIS Summary, p.10) is not substantiated. The necessity for a consolidated hazard and bushfire risk assessment is underscored by the proponent's Appendix 18 (Cumulative Impact Summary), which designates 'Hazards and Risk' and 'Bushfire' as 'HIGH' for cumulative impacts with the co-located Wattle Creek Solar Farm (SSD-63344210, which includes a 100MW BESS) and the adjacent Marulan Gas Fired Power Station (MP07_0175). The proponent acknowledges the Rural Fires Act 1997 and RFS Planning for Bushfire Protection (PBP) in Appendix 3 (p.3-7) as governing frameworks. Their own SIA

(Appendix 16, p.53) notes community concern: "those who responded to the survey were concerned about personal safety due to potential heightened bushfire risk particularly associated with the Project (6.1 out of 7), with one proximal landholder elaborating on this concern with the belief that should a fire start, it would be unable to be extinguished."

- **Grossly Inadequate and Contradictory Water Supply:**
  - **Evidence:** The BTA (Appendix 12, p.20, Section 4.5) and EIS Main Text (p.177) state a "minimum 40,000 litre water supply will be provided on site". This is confirmed as a mitigation commitment in Appendix 4 (Measure BF-02: "details of the availability of fire-suppression equipment (minimum 40,000 L water supply)"). However, the EIS Main Text (p.50) also states the firefighting water "capacity [is] to be determined during the detailed design phase". The PHA (Appendix A, p.28) lists an even lower ">20,000 L" as a general safeguard for substation fires.
  - **Critique:** 40,000L is indefensibly insufficient for a 1400MWh BESS fire, contravening FRNSW Safety Bulletin SB2202, which indicates a need for potentially millions of litres, and falls well short of addressing the RFS SEARs advice for "available static water supply for fire fighting purpose" (SEARs Checklist, p.20). The deferral of final capacity determination and the existing low figure (formalised in Appendix 4) are unacceptable.
  - **Statement:** The proponent fails to demonstrate how bushfire risk for a 1400MWh BESS can be "appropriately managed" (BTA, p.23) with such an undersized (Appendix 4, BF-02) and ambiguously defined water supply, failing to meet RFS SEARs advice (SEARs Checklist, p.20). A compliant, FRNSW-endorsed supply must be detailed pre-approval.
- **Underestimation of Ember Attack & Potentially Non-Compliant Asset Protection Zones (APZs):**
  - **Evidence:** The BTA (p.19, Section 4.2) and EIS Main Text (p.177) state: "At a minimum, a 10 m Asset Protection Zone (APZ) will be applied to all proposed infrastructure (with the APZ being maintained to the standard of an Inner Protection Area (IPA))". Appendix 4 (Measure BF-02) reiterates this commitment: "implementation and maintenance of APZ's (minimum 10 m to all proposed infrastructure maintained as IPA)".
  - **Critique:** A "minimum 10m" APZ is highly unlikely to be compliant or sufficient under RFS Planning for Bushfire Protection (PBP) 2019 (acknowledged in Appendix 3, p.3-7, and a key SEARs requirement, SEARs Checklist, p.6 & p.20) for a 1400MWh BESS facility adjacent to hazardous vegetation (described in BTA, p.12 and EIS Main Text, p.175). The BTA provides no specific calculations (e.g. radiant heat modelling) to justify this 10m APZ for the BESS, unlike the Solar Farm BTA which at least noted inconsistencies with PBP 2019. This does

not meet the RFS SEARs requirement for detailing "asset protection zones around all assets" (SEARs Checklist, p.20).
    - **Statement:** Robust modelling must demonstrate APZs defend against catastrophic ember attack. APZs must be PBP 2019 compliant or a rigorously justified performance-based solution provided for the BESS, as per SEARs (SEARs Checklist, p.6 & p.20).
- **Unrealistic Ignition Risk Assessment, Deferred Emergency Planning & Missing Performance Solution:**
    - **Evidence:** The BTA (p.19, Section 4.1) and EIS Main Text (p.177, 178) confirm the Emergency Response Plan "will be developed for the Project, in consultation with the RFS and NSW Fire and Rescue," indicating deferral. Appendix 4 (Measure BF-01) confirms the "ERP will be developed prior to the commencement of construction".
    - **Critique:** Deferring detailed, peer-reviewed emergency plans for a major hazardous facility to "Pre-Construction" (Appendix 4, BF-01) prevents scrutiny of its feasibility and resourcing, and fails to meet the RFS SEARs advice for a "Bush Fire Emergency Management and Operations Plan" to be included in the EIS (SEARs Checklist, p.20).
    - **Statement:** A comprehensive, FRNSW/RFS endorsed Emergency Plan for the 350MW BESS is critical and must be assessed pre-determination, as per RFS SEARs advice (SEARs Checklist, p.20).
- **Failure to Integrate BESS Hazards, Insufficient QRA, Missing FMECA & Plume Modelling:**
    - **Evidence:** The PHA (p.3) confirms a "Level 2 Assessment was selected" (referenced in EIS Main Text, p.181) for a facility storing 5,125 tonnes of LIBs (PHA, p.11). It concludes "no observed offsite impacts" (PHA, p.i, 25). HF gas analysis was dismissed as "unlikely" (PHA, p.19). The UL9540A report is "unable to be shared" (PHA, p.15), and validation deferred (PHA, p.i, 25; EIS Main Text, p.182). Appendix 4 (Measure H-02) confirms a "final hazard analysis (FHA) will be completed... Pre-Construction" once technology is selected, and Measure H-03 confirms UL9540A testing and clearance reporting is also "Pre-Construction". This approach falls short of the rigorous assessment required by the SEPP (Resilience and Hazards) 2021 and associated HIPAP guidelines (HIPAP 4 & 6), all acknowledged by the proponent in Appendix 3 (p.3-4 & p.3-8) and mandated by SEARs (SEARs Checklist, p.5, requiring PHA per HIPAP No.6 and consideration of HIPAP No.4).
    - **Critique:** A Level 2 QRA is insufficient (HIPAP guidelines mandate Level 3 for facilities of this nature and scale, as per the SEARs-referenced HIPAP No.6,

SEARs Checklist, p.5). The "no offsite impacts" claim is not credible. Dismissing HF analysis is a dangerous flaw. Withholding UL9540A data and deferring the FHA (Appendix 4, H-02, H-03) prevents independent safety assessment. The PHA (p.3, Table 2-1) criteria for Level 1 analysis ("No major off-site consequences") were seemingly not met, yet a full Level 3 QRA was still avoided.

    - **Statement:** A full Level 3 QRA (HIPAP 4, HIPAP 6 compliant) is mandatory, as per the guidelines acknowledged in Appendix 3 (p.3-8) and required by SEARs (SEARs Checklist, p.5). PHA must include FMECA and comprehensive toxic plume modelling. Verifiable UL9540A data for the chosen BESS technology must be provided pre-approval, not deferred as per Appendix 4 (H-03).
- **Quantitative Risk Assessment (QRA) Deficiencies & SEPP (Resilience and Hazards) 2021 (related to above):**
    - **Evidence:** BESS PHA is "preliminary" (Level 2) (PHA, p.3), with Appendix 4 (H-02) confirming a "final hazard analysis" is deferred to "Pre-Construction". PHA Executive Summary (p.i) and EIS Summary (p.10) claim project is "only potentially hazardous" based on this (also referenced in EIS Main Text, p.172). The BTA (p.8) also references this PHA conclusion. Appendix 3 (p.3-4) confirms the proponent's awareness of the SEPP (Resilience and Hazards) 2021, which requires robust hazard assessment as per SEARs (SEARs Checklist, p.5).
    - **Critique:** This conclusion is based on an insufficient and preliminary assessment. Risks are not properly quantified against HIPAP No. 4 criteria (acknowledged in Appendix 3, p.3-8, and required by SEARs, SEARs Checklist, p.5).
    - **Statement:** Detailed justification for not conducting a Level 3 QRA for this major hazardous development is required, and it must not be deferred to post-approval as implied by Appendix 4 (H-02), to meet the intent of the SEPP (Resilience and Hazards) 2021 and SEARs (SEARs Checklist, p.5).

Traffic and Transport Assessment (TTA, Appendix 10 of BESS EIS)
The TTA for the BESS project (Appendix 10) itself contains evidence of fundamental contradictions, reliance on potentially unrepresentative data, deferral of critical safety planning (formalised by the commitment to a "Pre-construction" detailed TMP in Appendix 4, Measure TT-01), and an underestimation of the true impacts on the local road network, particularly Canyonleigh Road. This is despite clear SEARs (SEARs Checklist, p.4) for assessment of traffic impacts on road capacity, condition, safety, intersections, cumulative impacts, and the provision of a schedule of required road upgrades. Appendix 3 (p.3-3) confirms the applicability of the Roads Act 1993. The SIA (Appendix 16, p.51 & Table ES.1, p.iv) notes community concerns around "Decreased pedestrian and road user safety due to

increased traffic during construction" and "Increased travel time and safety issues associated with deterioration of local roads".

- **Contradictory and Unsafe Conclusions Regarding Canyonleigh Road:**
    - **Evidence:** The TTA (p.19, Section 2.2.1.4) describes Canyonleigh Road as narrow (varying road width of 5-6m for the sealed section, and 5-7m for the unsealed section) and partially unsealed. Despite acknowledging "higher (>10%) increases in pavement loading" on Canyonleigh Road (TTA, p.89, Section 5.6.1), the TTA proposes only "suitable resurfacing works" which "are to be contained within the existing road carriageway and include no additional road widening " (TTA, p.38, Section 3.4.2; p.97, Table 25). This is explicitly confirmed as the extent of roadworks in Appendix 4 (Measure TT-06), which lists "Provision of resurfacing works to the existing carriageway of Canyonleigh Road" with the design developed in "the future detailed design phase". The primary mitigation for pavement damage is reactive pre/post-construction dilapidation surveys and potential "rehabilitation works" (TTA, p.89-90, Sections 5.6.1 & 5.6.4; p.97-99, Table 25; Appendix 4, TT-06). Goulburn Mulwaree Council's SEARs advice (SEARs Checklist, p.23) highlighted concerns that "the projected volume of heavy vehicle movements to support construction may therefore necessitate the need to upgrade the road."
    - **Critique:** The TTA's conclusion that impacts can be managed with resurfacing and minor intersection adjustments (TTA Exec Summary, p.1; EIS Summary, p.8) is untenable and contrary to the SEARs (SEARs Checklist, p.4) requirement for adequate mitigation and road upgrades. Resurfacing a narrow road without widening or significant structural upgrades (as confirmed by Appendix 4, TT-06) does not address its inability to safely accommodate an 843.3% increase in daily traffic (TTA, p.68, Table 19, comparing cumulative 2026 AADT of 1,132 on Canyonleigh Rd [Gravel Road to Site Access, Bi-Dir] to 2026 background of 120 vehicles [Bi-Dir]), much of which will be heavy vehicles for BESS component delivery.
    - **Statement:** The proponent fails to justify how Canyonleigh Road, in its current narrow and structurally deficient state, can safely accommodate the projected cumulative construction traffic without significant proactive upgrades including widening and structural strengthening, not just reactive resurfacing and dilapidation agreements as proposed in Appendix 4 (TT-06). This is a failure to meet SEARs (SEARs Checklist, p.4) and address Council's concerns (SEARs Checklist, p.23).
- **Flawed Data Collection & Modelling:**
    - **Evidence:** The TTA for the BESS confirms reliance on a '12-hour period' of

turning movement counts at key intersections on 'Wednesday 7 August 2024' (BESS TTA, p.23, Section 2.3.2) to establish its baseline. (Note: BESS TTA p.22, Section 2.3.1 also mentions using TfNSW historical count data for Hume Highway and deriving daily volumes for other roads from the 7 August 2024 intersection counts by applying a factor of 1.25 to convert 12-hour to 24-hour volumes as per Austroads Guide to Pavement Technology Part 4K, Section 5.2).
    - **Critique:** A single 12-hour count is insufficient to capture the full variability of existing traffic conditions (e.g., weekly patterns, seasonal agricultural movements, other local heavy vehicle movements from quarries) and thus may not provide a robust baseline for assessing the impact of a major construction project with significant cumulative effects. This methodology is contrary to the TfNSW SEARs advice (cited by the proponent in their BESS TTA, Table 3, p.10, and consistent with SEARs Checklist agency advice section, p.14 of PDF / p.24 of user file) stating: "Traffic count surveys should be undertaken for a minimum of one day (preference seven days for improved accuracy of data)."
    - **Statement:** The traffic impact assessment must be based on more comprehensive and representative traffic data (e.g., recent 7-day counts covering various conditions) to accurately model existing conditions and predict future impacts, as recommended by TfNSW in the SEARs advice (SEARs Checklist, p.14 of PDF / p.24 of user file).
- **Deferral of Critical Safety Measures & Audits:**
    - **Evidence:** The BESS Project SEARs (as referenced in TTA, p.7, Table 2, Item 1.ii) explicitly require "an assessment of the likely transport impacts to the site access route(s)... particularly in relation to... road safety and intersection performance" and "a schedule of all required road upgrades... developed in consultation with the relevant road authority." While the TTA includes a "high-level road safety assessment" (TTA, p.86, Section 5.5), it does not constitute a formal, independent detailed Road Safety Audit. Furthermore, a detailed Traffic Management Plan (TMP), including specific strategies for Over Size Over Mass (OSOM) vehicle movements (TTA, p.93, Section 6.2; with TfNSW SEARs advice specifically requesting a concept-level OSOM route analysis, SEARs Checklist, p.24) and definitive safety treatments for the school bus stop at the Brayton Road/Canyonleigh Road intersection (TTA, p.38, Section 3.4.1; p.92, Section 5.7.1; p.97, Table 25), are deferred to a "Pre-construction" TMP as detailed in Appendix 4 (Measure TT-01, which includes "Procedures for escort of OSOM vehicles" and consultation regarding school bus operators).

    - **Critique:** Deferring a detailed, independent Road Safety Audit and specific TMP measures to "Pre-Construction" (Appendix 4, TT-01) prevents its findings from informing the EIS and approval process, contravening the SEARs requirement for upfront assessment (SEARs Checklist, p.4). Similarly, deferring concrete plans for managing OSOM vehicle hazards and ensuring school bus safety means these critical risks are not fully assessed or mitigated at the EIS stage.
    - **Statement:** Why has a formal, independent detailed Road Safety Audit, addressing all project phases including cumulative impacts, not been completed and submitted with the EIS as per SEARs (SEARs Checklist, p.4)? Why are specific, enforceable management plans for OSOM vehicles (as requested by TfNSW SEARs advice, SEARs Checklist, p.24) and school bus interactions not fully detailed and assessed now, rather than being deferred to a TMP outlined in Appendix 4 (TT-01)?
- **Inadequate Cumulative Impact and Heavy Vehicle Management:**
    - **Evidence:** The TTA (Table 19, p.68) projects a cumulative (Project + Wattle Creek Solar Farm + Marulan Gas Fired Power Station) peak construction daily traffic volume on Canyonleigh Road (specifically the "Gravel Road to Site Access" segment, Bi-Directional) of 1,132 vehicles in 2026. This is an increase from a "Background 2026" AADT of 120 vehicles (Bi-Dir) for the same segment, representing an 843.3% increase ((1132-120)/120 * 100 = 843.3%). Despite this, the TTA (Executive Summary, p.1) concludes that impacts "can be appropriately managed" with the proposed limited upgrades (resurfacing, BAR treatment at one intersection – confirmed in Appendix 4, TT-06). This is further compounded by the proponent's Appendix 18 (Cumulative Impact Summary), which rates 'Transport' as a 'HIGH' cumulative impact for the Wattle Creek Solar Farm (SSD-63344210) (noting an "average of 39 trucks per day" via Canyonleigh Road and concurrent construction), and the Marulan Gas Fired Power Station (MP07_0175), and also identifies 'Transport' as a 'RED' (HIGH) or 'YELLOW' (MODERATE) cumulative impact for numerous other regional projects. Appendix 4 (TT-01) states the TMP will include "Consideration of cumulative impacts of other projects along the route, based on updated information that is available at that time," again deferring this crucial assessment, despite the SEARs specifically requiring "a cumulative impact assessment of traffic from nearby developments" (SEARs Checklist, p.4). Goulburn Mulwaree Council's SEARs advice (SEARs Checklist, p.22) also highlights the significant cumulative project load in the area.
    - **Critique:** An 843.3% increase in traffic, including a substantial number of heavy vehicle movements for BESS components (TTA, p.44-45, Table 12,

indicates approximately 370 BESS module containers [derived from Table 1, p.3, "Approx. 370" containers] plus 3 OSOM movements for substation construction, and other heavy vehicles for materials), on a narrow, partially unsealed rural road like Canyonleigh Road, which is explicitly not proposed to be widened (confirmed by Appendix 4, TT-06), constitutes an unacceptable degradation of road safety, serviceability, and local amenity. The proposed "resurfacing" and minor intersection treatment outlined in Appendix 4 (TT-06) are grossly inadequate for this scale of cumulative impact and fail to meet the SEARs (SEARs Checklist, p.4).

- **Statement:** The proponent must commit to specific, proponent-funded, proactive upgrades to Canyonleigh Road, including widening to a safe two-lane sealed standard and structural improvements capable of handling the total projected heavy vehicle load from the entire Wattle Creek Energy Hub, before any construction commences, not the limited and deferred measures in Appendix 4 (TT-06). This is essential to meet the SEARs for traffic management and cumulative impacts (SEARs Checklist, p.4) and address Council concerns (SEARs Checklist, p.22-23).

Biodiversity (BESS BDAR, Appendix 7) and Aquatic Impacts (Appendix E and WRIA Appendix 11)

The SEARs (SEARs Checklist, p.3) mandate a comprehensive biodiversity assessment including a BDAR prepared in accordance with the BAM, and specific requirements for offsetting. Commonwealth SEARs (SEARs Checklist, p.7-11) list numerous threatened species and communities likely to be significantly impacted, including White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC, Gang-Gang Cockatoo, and Large-eared Pied Bat, and require detailed habitat descriptions and impact assessments. BCD SEARs advice (SEARs Checklist, p.12-17) also lists SAII entities likely to be impacted, including this CEEC.

- **Impacts to White Box - Yellow Box - Blakely's Red Gum Grassy Woodland and Derived Native Grassland CEEC:**
  - **Evidence:** The BESS BDAR (Table 4.2, p.67; Table 8.1, p.160; Table ES.1, p.iii) confirms the project will impact a total of 2.12 ha of this CEEC. This includes 0.89 ha of woodland in Good/Moderate condition and 1.23 ha of Derived Native Grassland. (EIS Main Text, p.95, 97 confirms these figures and the CEEC status). This CEEC is specifically listed as likely to have significant impacts in the Commonwealth SEARs (SEARs Checklist, p.7) and as an SAII entity by BCD (SEARs Checklist, p.16).
  - **Critique:** The BESS BDAR's SAII assessment (p.200-204, Table 9.2) dismisses a Serious and Irreversible Impact by comparing this loss to the CEEC's total extent in NSW. This regional-scale comparison downplays the significance of

losing any area of a CEEC, particularly higher-quality woodland remnants, and seems to disregard its specific identification as a critical matter in both State and Commonwealth SEARs (SEARs Checklist, p.7, p.16).
    - **Statement:** How does the proponent justify that the removal of 2.12 ha of this CEEC, including 0.89 ha of "Good/Moderate" condition woodland, does not constitute an SAII, particularly considering SAII Principles 1 & 2, and its explicit mention as an SAll entity by BCD and a matter of National Environmental Significance in the SEARs (SEARs Checklist, p.7, p.16)?
- **Impacts on Other Native Vegetation and Threatened Species Habitat:**
    - **Evidence:** The BESS BDAR details impacts to other native vegetation (up to 28.84 ha total) and direct habitat impacts for species like Gang-gang Cockatoo, South-eastern Glossy Black-Cockatoo, Large-eared Pied Bat, and Squirrel Glider. (EIS Main Text, Table 6.13, p.108; Table 6.12, p.99; Table 6.14, p.108). These species are specifically mentioned in Commonwealth SEARs as requiring assessment (SEARs Checklist, p.7-8).
    - **Critique:** The BDAR underplays potential Koala habitat impacts (Koala listed in Commonwealth SEARs, SEARs Checklist, p.8). Cumulative habitat loss from this project and others (Wattle Creek Solar Farm, Marulan Gas Power Station – rated 'HIGH' cumulative biodiversity impact in Appendix 18) is critical. Deferral of detailed biodiversity management (Appendix 4, B-04, B-11) is contrary to the spirit of SEARs requiring upfront assessment (SEARs Checklist, p.3).
    - **Statement:** The EIS must provide a robust assessment of the cumulative impact of removing up to 28.84 ha of native vegetation, including habitat for multiple threatened species listed in State and Commonwealth SEARs (SEARs Checklist, p.3, p.7-8), meeting statutory requirements.
- **Failure to Meet NorBE Water Quality Criteria (also detailed under Water Quality Impacts section below):**
    - **Evidence:** The EIS (p.155, Summary p.9) and WRIA (Appendix 11, p.69, p.89) document failures to meet NorBE for TN loads (increase from 109 to 196 kg/year), TP loads (4% reduction vs. 10% required), and TN/TP concentrations intermittently. Solutions are deferred to detailed design. Appendix 4 offers only general measures. This fails the SEARs (SEARs Checklist, p.6) requiring assessment of impacts on Sydney drinking water catchment and NorBE consistency with SEPP (Biodiversity and Conservation) 2021.
    - **Critique:** Documenting NorBE failure without a viable solution is unacceptable given the SEARs mandate (SEARs Checklist, p.6). WRIA (Appendix 11, p.69) notes TN modelling anomalies and questions feasibility of standard treatments (bio-retention, wetlands).
    - **Statement:** Why is approval sought before a verifiable plan meeting all NorBE

criteria (as per SEARs, SEARs Checklist, p.6) for TN and TP is presented, especially with modelling uncertainties and mitigation feasibility doubts?

- **Impacts on Groundwater Dependent Ecosystems (GDEs) and Aquatic Habitats (also detailed under Water Quality Impacts section below):**
    - **Evidence:** High potential aquatic GDEs along Wollondilly River (BDAR Aquatic Appendix E, p.24; WRIA Appendix 11, p.46). Extensive site disturbance (75 ha). SEARs require impact assessment on aquatic threatened species (SEARs Checklist, p.4) and mapping of GDEs (BCD SEARs advice, SEARs Checklist, p.13).
    - **Critique:** Potential for indirect impacts (altered flows, erosion, sedimentation) on GDEs and key fish habitat from large disturbance needs more rigorous assessment and specific mitigation than general measures in Appendix 4, to satisfy SEARs (SEARs Checklist, p.4, p.6, p.13). WRIA (Appendix 11, p.87) notes risks.
    - **Statement:** What specific, verifiable measures beyond general CEMP provisions (Appendix 4) will ensure runoff from the 75 ha footprint does not degrade aquatic GDEs and key fish habitat, per SEARs (SEARs Checklist, p.4, p.6, p.13)?

Noise and Vibration Assessment (NVA, Appendix 6 of BESS EIS)
The Noise Assessment requires scrutiny, particularly regarding actual background noise levels and certified equipment data, as SEARs (SEARs Checklist, p.4) require assessment against the NSW Noise Policy for Industry (NPfI). The SIA (Appendix 16, p.46-47 & Table ES.1, p.iv) notes high community concern about noise.

- **Use of Assumed Background Noise Levels vs. Site-Specific LA90:**
    - **Evidence:** PNTLs (EIS Main Text, p.80) derived using NPfI's minimum assumed RBLs, not site-specific LA90 measurements (NVA, Appendix 6, p.17, App E, p.60).
    - **Critique:** If actual rural background levels are lower, PNTLs are inflated. Compliance claims (EIS Summary, p.6) are questionable and don't meet the rigor implied by SEARs (SEARs Checklist, p.4).
    - **Statement:** Proponent must conduct site-specific LA90 monitoring to establish accurate RBLs, as relying on assumed minimums does not robustly demonstrate compliance as per NPfI and SEARs (SEARs Checklist, p.4).
- **Unverified Equipment Data and Tonality Assessment for BESS Components:**
    - **Evidence:** NVA (Appendix 6, Table 7, p.20; Table 10, p.21) uses "library data" for inverters, "supplied data" for batteries, and estimations for transformers (models "yet to be finalised"). Appendix 4 (NV-02) defers updates to detailed design.
    - **Critique:** NVA (Appendix 6, p.22-23) dismisses tonality for transformers based

on low overall levels, not spectral analysis. Reliance on non-certified/estimated data undermines assessment robustness, despite SEARs requiring assessment based on the NPfI (SEARs Checklist, p.4).
    - **Statement:** How is the operational noise assessment valid without manufacturer-certified, model-specific sound data and rigorous tonality assessment for all equipment, as implied by SEARs requiring NPfI compliance (SEARs Checklist, p.4)? Updates (Appendix 4, NV-02) must use this data.
- **Construction Noise and Mitigation:**
    - **Evidence:** NVA (Appendix 6, Table 13, p.31) predicts construction noise exceedances (50-55 dBA vs 45 dBA NML at R003). Canyonleigh Road resurfacing noise to affect 18 receivers (NVA, Table 16, p.33-34). Mitigation deferred to CEMP (Appendix 4, NV-01). "Disruption Payments" mentioned (NVA, Exec Summary, p.4). SEARs (SEARs Checklist, p.4) require assessment of construction noise against ICNG.
    - **Critique:** Predicted exceedances are significant. Deferring specific mitigation (Appendix 4, NV-01) is unacceptable. "Disruption payments" don't replace robust mitigation.
    - **Statement:** Proponent must provide a detailed Construction Noise and Vibration Management Plan with the EIS for cumulative construction, detailing specific, enforceable mitigation, respite, monitoring, and complaint procedures, satisfying SEARs for ICNG compliance (SEARs Checklist, p.4).

Landscape and Visual Impact Assessment (LVIA, Appendix 5 of BESS EIS)
The LVIA may underestimate visual impacts. SEARs (SEARs Checklist, p.4) require "a detailed assessment of the likely visual impacts of all components of the project...on surrounding residences and key locations...and provide details of measures to mitigate". SIA (Appendix 16, p.45 & Table ES.1, p.iv) notes high community concern.

- **Photomontages and Screening:**
    - **Evidence:** BESS LVIA (Appendix 5, p.4, p.55) claims BESS containers not visible from non-associated dwellings. Site visits in Feb/March (leaf-on). Crucially, the up to 80m comms mast (EIS Main Text, p.36, 41) is NOT assessed in BESS LVIA (Table 06, p.15), a direct failure of SEARs (SEARs Checklist, p.4) to assess "all components".
    - **Critique:** "Leaf-on" photomontages are not worst-case. Omission of 80m mast is significant. Assessment of other components also needs "leaf-off" views. Appendix 4 (LV-02) is vague.
    - **Statement:** Proponent must supply "leaf-off" winter photomontages for ALL visible components (including the omitted 80m comms mast), as required by SEARs (SEARs Checklist, p.4). Assessment should not rely on non-guaranteed existing screening.

- **Night Lighting:**
  - **Evidence:** BESS LVIA (Appendix 5, p.57) claims limited, low-level, non-permanent lighting, unlikely to cause noticeable impact. Appendix 4 (LV-03) commits to AS4282.
  - **Critique:** LVIA lacks quantitative modelling (lux contours, spill diagrams) to demonstrate AS4282 compliance. Cumulative night lighting from entire Energy Hub not assessed. SEARs require detailed assessment and mitigation (SEARs Checklist, p.4).
  - **Statement:** Proponent must provide quantitative night lighting modelling for all BESS lighting and cumulatively for the Energy Hub, demonstrating AS4282 compliance, to satisfy SEARs (SEARs Checklist, p.4).

Water Quality Impacts (WRIA, Appendix 11 of BESS EIS)
Admitted NorBE failure is critical. SEARs (SEARs Checklist, p.6) mandate assessment of impacts on Sydney drinking water catchment and NorBE consistency with SEPP (Biodiversity and Conservation) 2021.

- **Failure to Meet NorBE Criteria for Nitrogen and Phosphorus:**
  - **Evidence:** EIS (p.155, Summary p.9) and WRIA (Appendix 11, p.69, Table 5.9, p.89, p.70) document:
    - TN Loads: Increase 109 to 196 kg/year ("False" NorBE).
    - TP Loads: Only 4% reduction vs. 10% required ("False" NorBE).
    - TN/TP Concentrations: Not consistently meeting NorBE (50th-98th percentile).
      Solution deferred to detailed design (WRIA, p.89; EIS, p.155). Appendix 4 lacks specific nutrient removal strategies. This is a direct failure of SEARs (SEARs Checklist, p.6).
  - **Critique:** Unacceptable to approve a project failing mandatory NorBE standards (SEARs Checklist, p.6) without a demonstrated, viable solution. Deferral sidesteps assessment. WRIA (Appendix 11, p.69) notes:
    - **Modelling Uncertainty:** TN modelling anomaly, possibly "overly low pre-development quantity" or "over-estimated post-development load".
    - **Feasibility of Standard Solutions:** Bio-retention "unsuitable scale"; constructed wetlands "not feasible" due to terrain/flood constraints.
  - **Statement:** Why is approval sought before a specific, engineered plan verifying all NorBE criteria (per SEARs, SEARs Checklist, p.6) for TN and TP is presented, especially with WRIA's modelling uncertainties, mitigation doubts, and Appendix 4's lack of specific advanced treatment?

Improper Assessment of Cumulative Impacts & Project Splitting (Central to BESS Objection)
EIS fails to properly assess cumulative impacts of the Wattle Creek Energy Hub by project splitting, contrary to SEARs (SEARs Checklist, p.2) requiring assessment per "Cumulative

Impact Assessment Guideline (DPIE, July 2021 / Oct 2022)".

- Evidence: BESS EIS (p.1, 28, 212-221; Summary p.1, 5) confirms "project splitting" with Wattle Creek Solar Farm (SSD-63344210) sharing infrastructure. Proponent's Appendix 18 (Cumulative Impact Summary) identifies "HIGH" potential for "substantial cumulative impacts" with the co-located Solar Farm (100MW BESS) and Marulan Gas Power Station across Biodiversity, Waste, Social/Economic, Noise, Visual, Bushfire, Heritage, Hazards, Land Use, Transport. Appendix 18 notes concurrent construction and specific overlaps (workforce, traffic). Goulburn Mulwaree Council SEARs advice (SEARs Checklist, p.22) also demands cumulative impacts be "fully understood". Yet EIS Main Text (p.217) dismisses them as "minimal". Appendix 4 lacks an integrated cumulative management framework. SIA (Appendix 16, p.iv, 61, 68) notes cumulative social risks.
  A detailed cumulative hazard and safety assessment for the combined 450MW/1800MWh BESS capacity is critically lacking, despite Appendix 18 rating "Hazards and Risk" and "Bushfire" as "HIGH" cumulative issues and SEARs requiring such assessment (SEARs Checklist, p.2, p.5-6). BTA (Appendix 12, p.17) only briefly mentions Solar Farm BESS.
- **Critique:** Project splitting prevents holistic assessment, failing SEARs (SEARs Checklist, p.2). Appendix 18 confirms high cumulative risks, contradicting EIS dismissal. EIS fails to quantify cumulative traffic, noise, biodiversity, visual, and critically, hazard impacts, despite Appendix 18's "HIGH" ratings and SEARs requirements (SEARs Checklist, p.2, p.4, p.5-6). No cumulative PHA models combined haulage or cascading fire/explosion risks between BESS units or solar farm. This is indefensible given Appendix 18 and SEARs.
- Statement: Why has the proponent failed to provide an integrated EIS assessing true cumulative impacts of the entire Wattle Creek Energy Hub, especially when their Appendix 18 identifies "HIGH" potential cumulative impacts, SEARs (SEARs Checklist, p.2) mandate it per guidelines, Council SEARs advice (SEARs Checklist, p.22) demands it, and Appendix 4 is project-specific and deferred?
  How can DPHI make an informed decision without transparent assessment of combined impacts from both SSDs, particularly regarding shared infrastructure, concurrent construction, compounded operational risks (cascading fire/explosion, as per "HIGH" cumulative "Hazards and Risk" in Appendix 18), and total emergency response for a 450MW/1800MWh BESS co-located with a 265MW solar farm, all of which are core to the SEARs requirements (SEARs Checklist, p.2, p.5-6)?

Conclusion and Recommendation

The Environmental Impact Statement for the Wattle Creek Battery Energy Storage System (SSD-63345458) is demonstrably inadequate and fails to meet numerous key Secretary's

Environmental Assessment Requirements (SEARs) (as detailed in Appendix 1 of EIS - SEARs Checklist). It is characterised by systemic flaws, including the downplaying of significant risks (as evidenced by claims of "no impact offsite" in the PHA [p.i, 25] and EIS Summary, p.10, despite the scale of the facility), the deferral of critical planning (e.g. NorBE nitrogen and phosphorus solutions [EIS Main Text p.155; EIS Summary p.9; WRIA Appendix 11, p.69, p.89, with no specific advanced nutrient treatment in Appendix 4 despite SEARs Checklist, p.6, requiring NorBE assessment]; firefighting water capacity [EIS Main Text p.50, BTA p.20, with the inadequate 40,000L confirmed in Appendix 4, BF-02, contrary to RFS SEARs advice, SEARs Checklist, p.20]; PHA recommendations for UL9540A validation "Before construction" [PHA, p.i, 25; Appendix 4, H-03] and Final Hazard Analysis "Pre-Construction" [Appendix 4, H-02], despite SEARs Checklist, p.5 requiring upfront PHA per HIPAP No.6]; ERP deferral [BTA p.19; EIS Main Text, p.177, 178; Appendix 4, BF-01], contrary to RFS SEARs advice, SEARs Checklist, p.20]), using insufficient hazard assessment (Level 2 QRA for a 1400MWh facility [PHA, p.3; EIS Main Text, p.181], despite SEARs Checklist, p.5, requiring PHA per HIPAP No.6), and proposing inadequate solutions (40,000L water for firefighting [BTA p.20, EIS Main Text p.177; Appendix 4, BF-02]; 10m APZs [BTA p.19; EIS Main Text, p.177; Appendix 4, BF-02, despite SEARs Checklist, p.6 & p.20 requirements]; resurfacing only of narrow roads subject to >800% traffic increase [TTA p.38, Section 3.4.2; p.68, Table 19; Appendix 4, TT-06], contrary to SEARs Checklist, p.4, and Council SEARs advice, SEARs Checklist, p.23]).
The project poses an unacceptable public safety risk (including from unresolved EMF exceedances at line crossovers as per Appendix 14, p.iii, p.20), fails water quality standards for multiple pollutants (Nitrogen and Phosphorus) in contravention of acknowledged statutory requirements (Appendix 3, p.3-4) and specific SEARs (SEARs Checklist, p.6), and key assessments (traffic, noise, biodiversity, Aboriginal cultural heritage, visual, agricultural impacts) are flawed or incomplete, failing their respective SEARs (SEARs Checklist, p.3-4). The Agricultural Impact Assessment (Appendix 13, p.38) itself identifies "Moderate" residual risks for several land use conflicts. Project splitting (EIS Main Text, p.1, 28; EIS Summary, p.1, 5) undermines cumulative impact understanding, a concern validated by the proponent's own Appendix 18 (Cumulative Impact Summary) which identifies "HIGH" potential for substantial cumulative impacts with co-located and nearby projects across almost all environmental and social aspects, and is contrary to cumulative impact guidelines cited in the SEARs (SEARs Checklist, p.2). Appendix 4 (Management and Mitigation) further confirms the widespread deferral of critical detailed planning and reliance on standard or inadequate measures. The EIS does not assure safe operation. The SIA (Appendix 16, Table ES.1, p.iv) further lists numerous potential negative social impacts of medium to high significance, underscoring profound community concerns. The offering of Neighbour Benefit Sharing Deeds that restrict objection rights undermines the SEARs requirement for genuine consultation (SEARs Checklist, p.7).

Therefore, I strongly urge the Department of Planning, Housing and Infrastructure to

refuse consent for the Wattle Creek Battery Energy Storage System (SSD-63345458).

Should the Department, against this advice, consider the project further, a comprehensively revised and integrated EIS for the ENTIRE Wattle Creek Energy Hub is mandatory, addressing all deficiencies highlighted herein and fully satisfying all SEARs (Appendix 1 of EIS - SEARs Checklist). This must include, at a minimum:

- A FRNSW/RFS endorsed Emergency Plan for the entire Wattle Creek Energy Hub (combined 450MW/1800MWh BESS and Solar Farm) , featuring an adequate and FRNSW-compliant water supply (realistically millions of litres for the combined BESS capacity, not the 40,000L proposed in Appendix 4, BF-02), a Level 3 Quantitative Risk Assessment (QRA) (compliant with HIPAP 4, HIPAP 6 (acknowledged in Appendix 3, p.3-8 and SEARs Checklist, p.5), and SEPP Resilience and Hazards (acknowledged in Appendix 3, p.3-4 and SEARs Checklist, p.5) for the total Dangerous Goods inventory of the entire Energy Hub, not a deferred FHA as per Appendix 4, H-02), a comprehensive FMECA for all BESS components, and detailed toxic plume dispersion modelling for worst-case BESS fire scenarios. Verifiable UL9540A test data for all BESS technologies used across the entire Energy Hub must be provided upfront, not as a "Pre-Construction" activity (Appendix 4, H-03). This aligns with SEARs Checklist, p.5-6 & p.20.
- Proponent-funded Canyonleigh Road upgrades (including widening to a safe two-lane sealed standard and structural strengthening) based on new, comprehensive (e.g., 7-day, per TfNSW SEARs advice, SEARs Checklist, p.14 of PDF / p.24 of user file) traffic data modelling CUMULATIVE construction and operational traffic for the entire Energy Hub, and a formal, independent Road Safety Audit covering all project phases, not the limited "resurfacing" committed to in Appendix 4 (TT-06). This addresses SEARs Checklist, p.4, and Council SEARs advice, SEARs Checklist, p.22-23.
- A comprehensive Aboriginal Cultural Heritage Assessment (ACHA) that includes complete archaeological test excavations of all identified areas of potential, a robust assessment of significance that fully incorporates RAP consultation and addresses intangible values, and provides clear, consistent, and comprehensive mitigation strategies for all impacted sites, developed in full consultation with RAPs and addressing all requirements of the SEARs (SEARs Checklist, p.4) and relevant guidelines.
- An EMF assessment that presents definitive mitigation strategies for identified public exposure exceedances at transmission line crossovers (Appendix 14, p.iii), not deferring these to detailed design, ensuring compliance with ICNIRP guidelines as per SEARs (SEARs Checklist, p.6).
- A revised Agricultural Impact Assessment and LUCRA that proposes effective

mitigation to reduce all identified land use conflicts to 'Low' residual risk, and provides specific, enhanced management plans for areas with "Very High" and "Moderate to High" soil erosion risk (SLAIA, Appendix 13, p.33, p.38) to demonstrably protect water quality and agricultural values, fulfilling SEARs (SEARs Checklist, p.4).

- Site-specific LA90 background noise monitoring at all potentially affected receivers, with NPfI compliant operational noise modelling (in line with the Noise Policy for Industry, Appendix 3, p.3-6 and SEARs Checklist, p.4) using certified data for actual BESS equipment (HVAC, PCS, transformers) and solar farm components for the entire Energy Hub, including rigorous tonality assessment and enforceable noise limits, with modelling updates (Appendix 4, NV-02) based on this comprehensive initial data.
- A demonstrated, engineered, peer-reviewed solution for achieving full NorBE compliance for both Total Nitrogen and Total Phosphorus (loads and concentrations) for the entire Energy Hub, prior to any approval, specifically addressing the modelling uncertainties and mitigation feasibility concerns identified in the BESS WRIA (Appendix 11, p.69), and going beyond the generic CEMP measures in Appendix 4, to meet the requirements of the SEPP (Biodiversity and Conservation) 2021 (Appendix 3, p.3-4) and SEARs Checklist, p.6.
- Robust SAII assessment for any Box Gum Woodland CEEC (and other TECs including those listed in SEARs Checklist, p.7-8, p.16) impacted by the entire Energy Hub, with a reconciled clearing footprint and offset calculation for all cumulative biodiversity impacts, and clear, verifiable measures to protect GDEs from indirect impacts, in line with the Biodiversity Conservation Act 2016 and BAM (Appendix 3, p.3-3) and SEARs Checklist, p.3, p.7-11, p.12-17.
- A specific cumulative LVIA for the entire Energy Hub, including winter "leaf-off" photomontages for all project components (including the 80m communications mast and all BESS/solar infrastructure, per SEARs Checklist, p.4), and quantitative night lighting modelling for all project components individually and cumulatively, demonstrating compliance with AS 4282 (beyond the general commitment in Appendix 4, LV-03).
- An integrated cumulative impact assessment for the entire Wattle Creek Energy Hub, transparently addressing all combined environmental, social (including those medium-high risks identified in Appendix 16, p.iv), and safety impacts, not dismissing them as "minimal" (EIS Summary, p.11; EIS Main Text, p.217), especially since the proponent's Appendix 18 already concedes a "HIGH" potential for substantial cumulative impacts across most categories with the co-located Wattle Creek Solar Farm and Marulan Gas Fired Power Station, and Appendix 4 measures

do not adequately address this integrated risk. This must be conducted in accordance with the "Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE, 2022)" listed in Appendix 3 (p.3-6) and SEARs Checklist, p.2, and address Council SEARs advice (SEARs Checklist, p.22).

Without these fundamental revisions and demonstrated solutions, the project remains an unacceptable imposition of risk and environmental damage on this community, and demonstrably fails to meet the government's own assessment requirements (SEARs).