11 September 2024

SQUADRON ENERGY

Mr Kendall Clydsdale

Principal Case Manager
Office of the Independent Planning Commission NSW

By email: [redacted]

Dear Kendall

Spicers Creek Wind Farm (SSD-41134610) - IPC Public Meeting Questions on Notice and Additional Clarifications

The Spicers Creek Wind Farm Project (the Project) was referred to the Independent Planning Commission (IPC) on 30 July 2024. As part of the process, the IPC held a Public Meeting on 29 August 2024 at Dunedoo. Squadron Energy (SQE) appreciated the opportunity to present at the Public Meeting and to listen to the presentations from the other speakers.

As per correspondence dated 5 September 2024, the IPC issued a request for SQE to address questions that were taken on notice during the Public Meeting. The matters that the IPC are seeking a response are as follows:

1. Please provide information regarding the Applicant's proposed bush fire response and management processes which would apply to the project in an emergency event.

2. The Commission heard concerns from the community regarding the potential use of 'Bisphenol A' (BPA) in wind turbine blade construction and subsequent potential contamination matters. Please provide information regarding the project's proposed turbine blades and if there is any potential for a BPA contamination issue to arise.

3. Please provide information on the project's potential to create 'infrasound' impacts and any subsequent mitigation measures which may be required to address such impacts, should the Commission choose to grant development consent to the project.

4. Please provide information on potential impacts arising from the project's proposed infrastructure in relation to overland water flow, soil erosion, and the potential for outflows from the site to downstream waterways with subsequent potential water contamination impacts.

5. Please provide details of the Applicant's proposed ongoing community and stakeholder engagement processes should the Commission choose to grant development consent to the project.

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This response also seeks to provide clarification in relation to some of the key themes raised by speakers during the Public Meeting:

- public liability insurance and implications for landholders
- biosecurity
- decommissioning
- visual screening options for impacted properties without neighbour agreements
- Project traffic management on unapproved roads.

Yours faithfully

Trish McDonald
Acting Head of Project Development

Matters taken on notice during Public Meeting

1. Please provide information regarding the Applicant's proposed bush fire response and management processes which would apply to the project in an emergency event.

The Australasian Fire and Emergency Service Authorities Council Limited (AFAC) has developed a national position on wind farms in relation to bushfire prevention, preparedness, response and recovery which is set out in the Wind Farms and Bushfire Operations (2018) guideline.

SQE will prepare and implement a Bushfire Emergency Management Plan as part of the implementation of the Project, building on the commitments already made in the EIS (Umwelt, 2023) regarding fire safety, ensuring that appropriate on-ground bushfire controls are in place for the Project recognising the potential local limitations associated with aerial fire fighting within the area occupied by the wind farm.

The Bushfire Emergency Management Plan will address the operational requirements in relation to aerial fire fighting and access in relation to both the Project Site and the Dapper Nature Reserve. These requirements will be developed in consultation with the Rural Fire Service (RFS), Fire and Rescue NSW, National Parks and Wildlife Service (NPWS) and the Warrumbungle Emergency Management Committee. Should a fire start on the Project Site or enter the Project Site, regardless of how it starts, SQE will initiate its bushfire response plan and work with relevant agencies to respond to the bushfire.

The Bushfire Emergency Management Plan will identify all relevant bushfire risks and mitigation measures associated with the construction and operation of the Project, including:

- detailed measures to prevent or mitigate fires igniting, outlining:
  - Asset Protection Zone (APZ) locations and management requirements
  - any specific construction management requirements
  - access locations, passing bays and any alternate emergency access
  - management requirements in relation to aerial firefighting
  - water supply and location and any other bush fire suppression systems (including any drenching systems, static water supply, natural water sources)
  - construction work that should not be carried out during total fire bans
  - availability of fire-suppression equipment
  - storage and maintenance of fuels and other flammable materials

- prior notification of the local NSW RFS Fire Control Centre for any works that have the potential to ignite surrounding vegetation, proposed to be carried out during a bush-fire fire danger period to ensure weather conditions are appropriate
- appropriate bush fire emergency management and evacuation plan.

Vegetation within the APZs will be maintained as an Inner Protection Area in accordance with the vegetation maintenance requirements outlined in Appendix 5 of the RFS publication *Planning for Bushfire Protection 2019*, including:

- Trees:
  - tree canopy cover should be less than 15% at maturity
  - trees at maturity should not touch or overhang any buildings
  - lower limbs should be removed up to a height of 2 m above the ground
  - tree canopies should be separated by 2 to 5 m
  - preference should be given to smooth barked and evergreen trees.
- Shrubs:
  - create large discontinuities or gaps in the vegetation to slow down or break the progress of fire towards buildings should be provided
  - shrubs should not be located under trees
  - shrubs should not form more than 10% ground cover
  - clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.
- Grass:
  - grass should be kept mown (as a guide grass should be kept to no more than 100 mm in height)
  - leaves and vegetation debris should be removed.

Vegetation across the Development Footprint will also be managed to appropriately reduce fuel loads (grassed areas mowed regularly, ground debris removed, trees maintained as required). It should also be noted that the APZs have been factored into the Development Footprint and Development Corridor and no further un-assessed vegetation clearance is required.

Essential equipment associated with the wind farm will be designed and housed in such a way as to minimise the impact of bushfires on the capabilities of the infrastructure during bushfire emergencies and reduce bushfire risk to surrounding land.

Access to the Project Site will be provided via multiple access points, from the north (via Sweeneys Lane) from the west (via Saxa Road) and from the south (via Gollan Road). The Project will facilitate improved ground-based emergency services access by the all weather, low gradient access tracks throughout the site and strategic location of firewater. This will aid the on-ground response to any bushfires in the area.

An appropriate dedicated water supply for bushfire protection will be provided on site in the vicinity of the site operations and maintenance facility. The volume and location of the water supply will be subject to consultation with the RFS during the development of the Bushfire Emergency Management Plan. This dedicated water supply will be installed at the commencement of construction. Trailer drawn firefighting equipment will be maintained on site. Details will be confirmed and included in the Bushfire Emergency Management Plan. Also, during construction, watercarts will have firefighting capability and well as having storz fittings installed to allow fire hoses to be connected directly to the watercart.

In relation to aerial access for fire fighting purposes, the AFAC Guideline advises that windfarm operators should be responsible for ensuring that the relevant emergency protocols and plans are properly executed in an emergency event. During an emergency, operators need to react quickly to ensure they can assist and intervene in accordance with their planned procedures, including:

- liaison with the relevant fire and land management agencies that is ongoing and effective
- access is available to the Project Site by emergency services response for on-ground firefighting operations
- turbines are shut down immediately during emergency operations – where possible, blades should be stopped in the 'Y' or 'rabbit ear' position, as this positioning allows for the maximum airspace for aircraft to manoeuvre underneath the blades and removes one of the blades as a potential obstacle
- aerial bushfire fighting personnel are required to assess risks posed by aerial obstacles, wake turbulence and moving blades in accordance with routine procedures.

The Bushfire Emergency Management Plan will address the operational requirements in relation to aerial fire fighting and access. These requirements will be developed in consultation with the RFS and generally in accordance with the AFAC Guidelines.

With the implementation of a Bush Fire Emergency Management Plan in consultation with the RFS, it is considered that potential bushfire risk associated with the Project can be appropriately managed.

2. The Commission heard concerns from the community regarding the potential use of 'Bisphenol A' (BPA) in wind turbine blade construction and subsequent potential contamination matters. Please provide information regarding the project's proposed turbine blades and if there is any potential for a BPA contamination issue to arise.

Bisphenol A (BPA) is a common industrial chemical that has been used to make certain plastics and resins since the 1950s.

In July 2021, a small group from Norway (The Turbine Group) (TTG) released a self-published report that claimed that wind turbine blades shed dangerous amounts of microplastics and bisphenol A (BPA). This report has not been peer-reviewed or published in any academic journals. The report has led to stories in local and international media outlets, resulting in increased concern among residents who are seeking information on living near wind turbines.

In March 2023, American Clean Power (ACP) published a fact sheet to correct what it identified as misinformation. The fact sheet states that wind turbine blades contain only microscopic traces of residual BPA and therefore do not account for any emissions of BPA or microplastics to the environment. Further, ACP (2023) states that once the BPA-based epoxy glue used in manufacturing of turbine blades is hardened in the factory prior to delivery to a project site, the blades only contain microscopic traces of residual BPA. It identified that if released to a natural environment, the trace amounts of BPA would rapidly undergo biodegradation and thereby be removed. The extremely low potential for BPA emissions from wind turbine blades does not pose a risk to the environment or people, and is much lower compared to what the US Food and Drug Administration has approved for human exposure from commonly used food and beverage packaging (ACP, 2023).

The NSW Government's position is that wind turbine electricity does not involve the production of pollutants, emissions or waste which can have significant effects on our health and well-being (NSW Government, 2023).

Further to this, the proposed blade supplier for the Project, GE Vernova, has confirmed that wind turbine blades consist of the following main materials by weight:

- glass (fibreglass)
- resin
- carbon
- foam/balsa
- cables/metals.

Based on the generally recognised scientific knowledge of today, GE Vernova can comfortably state that the environmental health and safety impact of all components is low.

Fibreglass and resin are chemically inert and do not pose a significant health or environmental risk.

3. Please provide information on the project's potential to create 'infrasound' impacts and any subsequent mitigation measures which may be required to address such impacts, should the Commission choose to grant development consent to the project.

Infrasound is generally considered to be sound at frequencies less than 20 Hz and inaudible. Sound below 20 Hz can be audible however provided that the sound level is sufficiently high.

The NSW Government has indicated that there is no evidence that infrasound impacts are an issue for wind farms in NSW. The Australian Medical Association has advised that infrasound and low frequency sound generated by wind farms are well below the level that is harmful to humans (NSW Government, 2023).

The NSW Government's position is informed by the scientific findings of the National Health and Medical Research Council (NHMRC) and the advice of NSW Health. It is understood that the NSW Government will continue to monitor contemporary scientific research outcomes to ensure its position reflects robust evidence of any health effects, including any advice released from the National Wind Farm Commissioner and the Independent Scientific Committee on Wind Turbines (NSW Government, 2023).

A Noise and Vibration Assessment (NVA) was prepared for the Project in accordance with the Secretary's Environmental Assessment Requirements (SEARs) and relevant guidelines. The predicted equivalent noise level (Laeq,10min) was adjusted for tonality and low frequency noise in accordance with the NSW *Wind Energy: Noise Assessment Bulletin*. As discussed in the Environmental Impact Statement (EIS) for the Project (Umwelt, 2023), analysis of the Project data indicates that the proposed turbines do not have tonal characteristics or excessive low frequency noise.

4. Please provide information on potential impacts arising from the project's proposed infrastructure in relation to overland water flow, soil erosion, and the potential for outflows from the site to downstream waterways with subsequent potential water contamination impacts.

A Water Resources Impact Assessment (WRIA) was prepared for the Project in relation to water and soils, including the likely impacts of the development (including flooding) on surface water and groundwater resources traversing the site and surrounding watercourses, and measures proposed to monitor, reduce and mitigate these impacts.

The WRIA found:

- Surface water quality impacts are most likely during the construction and decommissioning stages of the Project, when soils may be disturbed during vegetation

removal, excavation works or stockpiling of materials. The use of erosion and sediment controls, and materials storage and handling requirements means potential water quality impacts are expected to be minor. Water quality impacts during the operational stage are expected to be negligible as the day-to-day activities would be limited to routine maintenance and monitoring.

- The Project design generally avoids work close to or within waterways, but some waterway crossings will be needed. These will be designed to minimise impacts on stream stability and fish passage, using relevant guidelines and policies and in consultation with DPI Fisheries.
- As the Project is not predicted to interact with groundwater, there are no impacts predicted to groundwater resources, including groundwater dependent ecosystems and bore water users.

The key factor influencing the extent of sediment runoff and stormwater pollution is likely to be weather events. The occurrence of a major storm event at a critical phase of the construction period could potentially result in higher levels of turbid runoff. With the implementation of erosion and sediment controls and materials storage and handling requirements (outlined in Section 6.8.4 of the EIS) potential water quality impacts would be appropriately managed and are expected to be minor.

In addition, the potential exists for spills (such as hydraulic oil and fuels from equipment or vehicles as well as concrete spills, building materials and chemicals) that could interact with water resources. With the implementation of the control measures outlined in Section 6.8.4 of the EIS, potential construction-related soil and water contamination would be appropriately managed and the risk associated with this potential impact is expected to be minor.

Erosion and sedimentation risk during operations will be controlled through the establishment of effective site stabilisation measures following construction and maintenance of access tracks, waterway crossings and other areas susceptible to erosion.

Appropriate erosion and sediment controls will be designed, installed and maintained in accordance with Managing Urban Stormwater: Soils and Construction Volume 1 (Landcom, 2004) and Volume 2 (DECC, 2008) (the 'Blue Book').

In relation to potential flooding impacts associated with the Project, a flood assessment was undertaken in consideration of *Australian Rainfall and Runoff: A Guide to Flood Estimation* (ARR 2019) (Ball et al., 2019). Detailed flood modelling results were provided in Appendix B of the WRIA (refer to Appendix 15 of the EIS).

The Project Site was found to present a low risk of flooding under both the existing and climate change conditions modelled, with minimal risk to changes in internal or external waterway flows. Access points to the Project Site were also predicted to be of low flood risk.

Modelled 1% Annual Exceedance Probability (AEP) depths, velocities and flood hazard indicate that proposed site buildings, substations and turbines are outside the predicted flood extent, including turbines 17 and 97. The Probably Maximum Flood (PMF) scenario inundation extents cover a significantly greater land area of the Project Site, however, much of this is shallow overland sheet flow with low flood hazard. Under the modelled PMF scenario, turbines 17 and 97 were located in a higher risk area.

During the detailed design and construction process, wind turbines can be micro-sited within 100 m of the locations proposed in the EIS. SQE has already undertaken further assessment of turbines 17 and 97 and identified potential moves within the Development Corridor, in line with the micro-siting allowance. Wind turbine 17 has been earmarked to move approximately 25 m to the north-east and out of the predicted flood area. Similarly, turbine 97 will be micro-sited approximately 100 m north, away from Sandy Creek, which has reduced any potential flood risk. Further refinements to turbine locations may also occur during the construction process.

Peak stormwater discharges from the Project Site for impervious areas may increase slightly through the creation of compacted gravel roads and some small operational buildings. However, potential impacts to drainage features and downstream watercourses are likely to be minimal due to the relative size of the Project Site in relation to the size of the receiving catchments, and the distributed nature of minor impacts.

As part of the detailed design process, if there is an intent to fill or level areas of flood inundation for the construction of wind turbines and/or ancillary infrastructure, individual or collective assessments would be required. No such works are proposed at this time and therefore no impacts are predicted. If such works are required, the assessments would form part of a Soil and Water Management Plan to be developed as part of the Construction Environmental Management Plan (CEMP) which will be prepared prior to the commencement of construction.

5. Please provide details of the Applicant's proposed ongoing community and stakeholder engagement processes should the Commission choose to grant development consent to the project.

SQE will continue to engage with the community throughout the construction, operation and decommissioning phases of the Project, should the Project be approved. The approach for ongoing community engagement and public participation will be guided by the following industry and government standards and frameworks:

- The International Association for Public Participation (IAP2)'s *Spectrum of Public Participation* (2018).
- Clean Energy Council's *Enhancing Positive Social Outcomes from Wind Farm Development: Evaluating community engagement and benefit sharing in Australia* (2018).
- NSW Government's *Undertaking Engagement Guidelines for State Significant Projects* (DPHI, 2024).

SQE will update the existing Stakeholder Engagement Plan (SEP) for the Project prior to construction commencing. The SEP will include requirements to regularly monitor, review and adapt ongoing community engagement strategies over time to ensure it remains effective and encourages community participation.

Ongoing engagement will be undertaken with key stakeholders and will include:

- regular updates to the Project website
- distribution of newsletters/Project updates, information sheets, fact sheets and/or FAQs to the local community
- phone calls and ongoing face to face meetings with local landowners, including hosts, associated landowners and non-associated landowners
- community drop-in sessions and attendance at local Shows and events
- letter box drops
- operation of the free call community enquiry line
- maintenance of a complaints register
- the Project email address and free call number will remain in place, and SQE representatives will continue to take responsibility for addressing feedback and concerns as and when they arise.

SQE will also ensure that relevant information is publicly available for the life of the Project on its website. This will include, but is not limited to:

- the final layout plans for the Project
- current statutory approvals for the Project
- approved strategies, plans or programs required under conditions of consent
- a comprehensive summary of the monitoring results

- a complaints register
- any independent environmental audits.

Clarification of additional issues

Public Liability Insurance

A community representative raised concerns relating to public liability insurance and implications for neighbouring landowner should the Project be approved.

SQE understands that its wind farm projects operate in rural environments, sharing boundaries with neighbouring landowners with different adjoining land uses.

During the construction and operational phases of its wind farm projects, SQE takes out a range of insurance policies including policies that respond to physical loss or damage to tangible property (e.g. the wind farm). These policies cover property damage where the loss or damage results from a cause which originated on neighbouring land (for example, where an accidental fire starts on neighbouring land and damages the wind farm). In the ordinary course SQE would seek to recover under these project insurance policies.

Biosecurity

As confirmed by the Department of Planning, Housing and Infrastructure (DPHI) at the Public Meeting, SQE has committed to the implementation of biosecurity controls for the Project which will be ongoing throughout pre-construction, construction, operation and decommissioning phases. With the proposed controls in place and with SQE's focus on being a positive and long-term member of the communities in which its operations, SQE is aware of the need to appropriately manage pests, weeds and biosecurity as part of implementing the Project. SQE is focussed on being a good neighbour and will respond in a timely manner to any weed or pest issues/risks that arise and will continue to liaise with neighbours to the Project regarding any feedback or issues they may identify.

With regards to the ongoing effective management of risks to regional agricultural resources and productivity, SQE has implemented biosecurity controls for its work on the Project to date and is committed to the ongoing implementation of appropriate biosecurity controls and access controls including:

- Weed management, including that all machinery and equipment will be cleaned thoroughly prior to entering the Development Footprint. Cleaning will include the removal of all mud and plant matter, followed by washing with high pressure water.
- Fencing and access control, including:

- During construction, the approved construction footprint will be clearly demarcated and identified during the construction stage with survey pegs and at some locations with flagging, bunting or similar to avoid accidental damage to areas outside of the Development Footprint.

- Access control to protect and demarcate areas outside the Development Footprint from vehicle access, human access, and accidental disturbance.

Biosecurity commitments are also detailed in a Land Use Protocol which forms part of the agreements with host landowners.

Further, the CEMP and Operational Environmental Management Plan (OEMP) will contain provisions for regular inspections relating to weeds and pests and provisions for implementation of controls as necessary.

Also, as specifically requested by the National Parks and Wildlife Service (NPWS) for the protection of Dapper Nature Reserve, the Biodiversity Management Plan (or CEMP where relevant) will include application of biosecurity controls for the Project Site, in accordance with NSW *Saving Our Species – Hygiene guidelines, Protocols to protect priority biodiversity areas in NSW from Phytophthora cinnamomi, myrtle rust, amphibian chytrid fungus and invasive plants* (DPIE 2020) (https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Wildlife-management/saving-our-species-hygiene-guidelines-200164.pdf).

Decommissioning

SQE has committed to decommission the Project at the end of the operational life. DPHI has issued a draft Recommended Instrument of Consent which includes conditions relating to the decommissioning and rehabilitation of the Project Site (conditions B50 to B52). Condition B50 requires SQE to rehabilitate the site to the satisfaction of the Planning Secretary within 18 months of the cessation of operations, unless the Planning Secretary agrees otherwise.

The costs of decommissioning will be borne by SQE, or the relevant owner of the Project at the time. As the owner of the Project, SQE would be responsible for decommissioning the Project. All project costs, including decommissioning are considered in the funding and operation of the project.

Prior to the commencement of decommissioning activities, SQE would prepare a detailed Decommissioning and Rehabilitation Plan in consultation with DPHI and the local Councils to guide the implementation of the decommissioning works. This is appropriate given that the specific needs of the closure process will evolve over the decades of operation and preparing a detailed plan in consultation with relevant key stakeholders at that time and considering current recycling technology and waste disposal practices is the best outcome. SQE has,

however, detailed the general principles to be followed as part of the closure process as outlined in the EIS.

In relation to turbine components, SQE does not plan to dispose of these components at municipal facilities. Many components of turbines can be recycled and the decommissioning of each turbine and associated facilities will be undertaken in a manner that allows recovery of recyclable material. The Decommissioning and Rehabilitation Plan will include a detailed review of the associated waste streams and recycling/disposal options available at the time. At the end of the operational life of the Project, all above ground infrastructure will be dismantled and removed from the Project Site and recycled in accordance with best practice at the time.

Visual Impact Mitigation for non-associated landowners

The planning system allows proponents and landowners to enter into negotiated agreements to manage exceedances of the relevant assessment criteria as well as decommissioning and removal of turbines at the cessation of operation. As outlined in the *Wind Energy: Visual Assessment Bulletin for State significant wind energy development* (DPE, 2016), the Agreements can:

- be specifically tailored to the individual circumstances of the landowner
- provide for the implementation of a broader suite of measures, such as financial compensation, acoustic treatments to buildings, landscaping and screening, and arrangements for decommissioning and rehabilitation of the site.

Where a negotiated agreement has not been entered, the draft Recommended Instrument of Consent includes the Condition B1, which requires SQE to work with relevant landowners on reasonable and feasible mitigation measures aimed at reducing the visibility of the wind turbines from the residence and its curtilage, commensurate with the level of visual impact on the residence.

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