NSW GOVERNMENT Planning & Infrastructure

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Our ref: 13/14508-1

Ms Annmaree Laverty
Newtricity
1 Raven Street
GLADESVILLE NSW 2111

Dear Ms Laverty,

**DGRs for Woolbrook Wind Farm (SSD 13_6162)**

Please find attached a copy of the Director General's environmental assessment requirements (DGRs) for the preparation of an Environmental Impact Statement (EIS) for the Woolbrook Wind Farm. These requirements have been prepared in consultation with relevant government agencies based on the information you have provided to date. I have also attached a copy of the government authorities' comments for your information and note that while a number of agencies have yet not responded, should comments be received they will be promptly forwarded to you. Please note that the Director-General may alter these requirements at any time.

If you do not lodge a DA and EIS for the development within 2 years, you must consult further with the Director General in relation to the preparation of the EIS.

Prior to exhibiting the EIS that you submit for the development, the department will review the document in consultation with the relevant agencies to determine if it addresses the requirements in Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*.

I would appreciate it if you would contact the department at least two weeks before you propose to submit your EIS. This will enable the department to:

- confirm the applicable fee (see Division 1AA, Part 15 of the *Environmental Planning and Assessment Regulation 2000*); and
- determine the number of copies (hard-copy and CD-ROM) of the EIS that will be required for reviewing purposes.

If your development is likely to have a significant impact on matters of National Environmental Significance, it will require an approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This approval would be in addition to any approvals required under NSW legislation and it is your responsibility to contact the Department of the Environment to determine if an approval under the EPBC Act is required (http://www.environment.gov.au or 6274 1111).

Your contact officer, Tracy Bellamy, can be contacted on (02) 9228 6106 or at Tracy.Bellamy@planning.nsw.gov.au. Please mark all correspondence regarding the proposal to the attention of the contact officer.

Yours sincerely

Karen Jones 20.1.14

**Director, Infrastructure Projects**
as delegate for the Director General

# Director General's Environmental Assessment Requirements

**Section 78A (8A) of the Environmental Planning and Assessment Act 1979**
**Schedule 2 of the *Environmental Planning and Assessment Regulation 2000***

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| **Application Number** | SSD 13_6162 |
| **Development** | **Woolbrook Wind Farm**<br>The construction, operation and maintenance of up to 30 wind turbines across three properties with capacities ranging from 2.3 – 4 megawatts (MW) and an approximate maximum height of 130-150 metres above ground level, together with connection to the existing Tamworth (Calala) substation via approximately 60km of 132 kilovolt (kV) transmission line. The proposal also includes an onsite 22kV/132kV substation, internal electrical connections, control buildings /equipment storage, internal and external access track upgrades and a temporary concrete batching plant along with other associated internal and external infrastructure. |
| **Location** | Located within the Northern Tablelands region of NSW, specifically situated in the Walcha and Tamworth Local Government Areas, to the south of Woolbrook and approximately 38km north east of Tamworth. The development site is located on land along the western and southern sides of Campfire Road. It also includes a study area for transmission line infrastructure, generally located in an area between Woolbrook and Tamworth, as shown in the Woolbrook Preliminary Environmental Assessment (PEA), dated 19 November 2013. |
| **Proponent** | Newtricity |
| **Date of Issue** | January 2014 |
| **General Requirements** | The Environmental Impact Statement (EIS) must meet the minimum form and content requirements of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000* and include the following:<br><br>1. the information required under clause 6, including but not limited to:<br>• the description of the development, for both the wind farm and associated infrastructure, should include:<br>→ construction, operation and decommissioning details;<br>→ a site plan at an adequate scale with dimensions, showing the development's location, orientation, site coverage, access roads and entrances to public roads;<br>→ the location and dimensions of all development components including the wind turbines (including map coordinates in latitude/longitude and maximum AHD heights) and the proposed external cladding materials, wind monitoring/ or met masts, underground/ overhead cabling between turbines, electrical substation and transmission line linking the wind farm to the grid, including identification of whether the transmission lines are aboveground or underground, temporary concrete batching plant(s), construction compounds, access roads/road upgrades (including internal access tracks), road crossings and obstacle lighting. The description of the transmission line connecting the wind farm to the grid should clearly identify where upgrades of existing lines are proposed, where the line might parallel existing lines/easements, and where a new transmission line route/easement will be created;<br>→ supporting maps/plans clearly identifying existing environmental features (e.g. watercourses, vegetation), infrastructure and land use (including nearby residences and approved residential developments or subdivisions), the number of turbines within 2km of a dwelling or approved dwelling, and the location/siting of the development (including associated infrastructure) in the context of this existing environment; |

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| | → a timeline identifying the development's proposed construction and operation components, their envisaged lifespan and arrangements for decommissioning. Include a Decommissioning and Rehabilitation Plan with proposed funding arrangements and confirming that the Proponent is responsible for decommissioning; and<br>→ resourcing requirements (including, but not limited to, water supply and gravel).<br><br>2. the content listed in clause 7, including, but not limited to:<br>• a summary of the EIS;<br>• a statement of the objectives of the development, including a description of the strategic need, justification, objectives and outcomes. This should include:<br>→ a strategic assessment of the need, scale, scope and location for the development in relation to predicted electricity demand, predicted transmission constraints and the strategic direction of the region and the State in relation to electricity supply, demand and electricity generation technologies, and its role within the Commonwealth's Renewable Energy Target Scheme. The EIS must clearly demonstrate that the existing transmission infrastructure has sufficient capacity to accommodate the development;<br>→ a justification for the development taking into consideration the objects of the *Environmental Planning and Assessment Act 1979* (EP&A Act); and<br>→ a clear demonstration of quantified and substantiated greenhouse gas benefits, taking into consideration sources of electricity that could realistically be replaced and the extent of their replacement, with reference to the Department of Environment, Climate Change and Water *NSW wind farm greenhouse gas savings tool* (www.environment.nsw.gov.au/climatechange/greenhousegassavingstool.htm);<br>• an analysis of feasible alternatives to the carrying out of the development, having regard to its objectives, including an assessment of the environmental costs and benefits of the development relative to alternatives and the consequences of not carrying out the development, the suitability of the chosen option and whether or not the development is in the public interest. This should include:<br>→ an analysis of the suitability of the development with respect to potential land use conflicts with existing and future surrounding land uses (including rural residential development, building entitlements and subdivision potential), land of significant scenic or visual value, land of high agricultural value, mineral resources (including mining leases/exploration licences, known mineral resources and any areas with high potential for the discovery of mineral resources within or in the vicinity of the site and demonstrate how impacts will be avoided or minimised), forestry, conservation areas and Crown land, and road access, taking into account local and strategic land use objectives and the potential for social and economic impacts on the local community. The analysis of site suitability shall consider any Environmentally Sensitive Area Mapping held by Walcha Shire Council and Tamworth Regional Council; and<br>→ description of the alternatives considered (location and/or design) for all development components including the option to connect to the Bendemeer substation and the reasons for rejecting options, and justification for the preferred development demonstrating its benefits on a local and strategic scale and how it achieves stated objectives and any measures to offset residual impacts (for example community enhancement programmes);<br>• an identification of how relevant planning, land use and development matters (including relevant strategic and statutory matters) have been considered in the impact assessment (direct, indirect and cumulative impacts) and/or in developing management/ mitigation measures, including section 79C of the EP&A Act, applicable State Environmental Planning Policies (SEPP), Local Environmental Plans, the nature and extent of any prohibitions that apply to the development and demonstration that the site is suitable for the proposed use in accordance with SEPP 55 – Remediation of Land; and<br>• detail how the principles of ecologically sustainable development will be |

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| | incorporated in the design, construction and ongoing operation phases of the development.<br><br>The EIS must consider the minimum form and content requirements of the Draft *NSW Planning Guidelines: Wind Farms (*as updated*)*, including procedures for consulting with the community and stakeholders, and meeting assessment requirements.<br><br>The EIS must demonstrate that the wind farm will be capable of meeting relevant Building Code of Australia (BCA) standards and other relevant codes / manufacturers' specifications for the construction of wind farms.<br><br>Notwithstanding the key issues specified below, the EIS must include an environmental risk assessment to identify the potential environmental impacts associated with the development. Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include:<br>• adequate baseline data;<br>• consideration of potential cumulative impacts due to other development in the vicinity. Particular consideration should be given to any other known wind farms proposed in the vicinity; and<br>• measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment. |
| **Key issues** | The EIS must address the following specific matters for both the wind farm and associated infrastructure:<br>• **Landscape and Visual Impacts** - the EIS must:<br>→ provide a comprehensive assessment of the landscape character and values and any scenic or significant vistas of the area potentially affected by the development taking into account cumulative impacts from any surrounding proposed, wind farms in the locality, including an assessment of the significance of landscape values and character in a local and regional context. This should describe community and stakeholder values of the local and regional visual amenity and quality, and perceptions of the development based on surveys and consultation;<br>→ assess the impact of shadow "flicker", blade "glint" and night lighting from the wind farm;<br>→ identify the zone of visual influence of the wind farm including consideration to night lighting (no less than 10km) and assess the visual impact of all the development's components on this landscape;<br>→ include an assessment of any cumulative visual impacts from transmission line infrastructure;<br>→ include photomontages of the development taken from potentially affected residences and in particular from all non-host dwellings within 2km of a proposed wind turbine (including approved but not yet developed dwellings or subdivisions with residential rights), settlements and significant public view points, and provide a clear description of proposed visual amenity mitigation and management measures for both the wind farm and the transmission line. The photomontages must include representative views of turbine night lighting if proposed;<br>→ provide an assessment of the feasibility, effectiveness and reliability of proposed mitigation measures and any residual impacts after these measures have been implemented; and<br>→ include consideration of alternative transmission line pole designs to minimise visual impact.<br><br>• **Noise and Vibration Impacts** - the EIS must:<br>→ include a comprehensive noise assessment of all phases and components of the development including: turbine operation, the operation of the electrical substation, corona and / or aeolian noise from the transmission line, |



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| | construction noise (focusing on high noise-generating construction scenarios and works outside of standard construction hours), traffic noise during construction and operation, and vibration generating activities (including blasting) during construction and/ or operation. The assessment must identify noise/ vibration sensitive locations (including approved but not yet developed dwellings), baseline conditions based on monitoring results, the levels and character of noise (e.g. tonality, impulsiveness, low frequency etc) generated by noise sources, noise/ vibration criteria, modelling assumptions and worst case and representative noise/ vibration impacts. The assessment should be based on separate daytime (7am to 10pm) and night time periods (10pm to 7am);<br>→ in relation to wind turbine operation, determine the noise impacts under operating meteorological conditions (i.e. wind speeds from cut in to rated power), including impacts under meteorological conditions that exacerbate impacts (including varying atmospheric stability). The probability of such occurrences must be quantified;<br>→ include monitoring to ensure that there is adequate wind speed/profile data and ambient background noise data that is representative for all sensitive receptors;<br>→ provide justification for the nominated average background noise level used in the assessment process, considering any significant difference between daytime and night time background noise levels at background noise levels higher than 30 dB(A);<br>→ consider special audible characteristics, including tonality, amplitude modulation, and low frequency noise (apply penalties where relevant), and identify any risks with respect to tonal, low frequency or infra-noise;<br>→ clearly outline the noise mitigation, monitoring and management measures that would be applied to the development. This must include an assessment of the feasibility, effectiveness and reliability of proposed measures and any residual impacts after these measures have been incorporated;<br>→ if any noise agreements with residents are proposed for areas where noise criteria cannot be met, provide sufficient information to enable a clear understanding of what has been agreed and what criteria have been used to frame any such agreements; and<br>→ include a contingency strategy that provides for additional noise attenuation should higher noise levels than those predicted result following commissioning and/or should noise agreements with landowners not eventuate.<br><br>The assessment must be undertaken consistent with the following guidelines:<br>→ Wind Turbines - the South Australian Environment Protection Authority's *Wind Farms _Environmental Noise Guidelines (2003)* however, measurements shall be taken at hub height;<br>→ Substation – *NSW Industrial Noise Policy* (EPA, 2000);<br>→ Site Establishment and Construction – *Interim Construction Noise Guidelines* (DECC, 2009);<br>→ Traffic Noise – *NSW Road Noise Policy* (DECCW 2011); and<br>→ Vibration – *Assessing Vibration: A Technical Guideline* (DECC, 2006).<br><br>• **Biodiversity** - the EIS must include an ecological assessment considering terrestrial and aquatic ecosystems (as relevant) including groundwater dependent ecosystems, consistent with *Guidelines for Threatened Species Assessment* (DEC, 2005); *Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings* (Fisheries NSW); and Natural England Technical Information Note TIN051: Bats and Onshore Wind Turbines *Interim Guidance* (Natural England, 2012). The EIS must:<br>→ identify threatened species, populations and communities listed under both State and Commonwealth legislation that have the potential to occur on site including the Endangered Ecological Communities (EECs) *New England Peppermint Grassy Woodlands; Weeping Myall Woodlands; White Box –* |

*Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland;* the Threatened Flora species Barrington Tops Ant Orchid *(Chiloglottis platyptera); Dichanthium setosum; Diuris pedunculata; Eucalytus nicholii; Eucalytus rubida subsp barbigerorum; Euphrasia arguta; Granite Homoranthus (Homoranthus prolixus); McKie's Stringybark (Eucalytus mckieana); Native Milkwort (Polygala linariifolia);Velvet Wattle (Acacia pubifolia); and* threatened fauna species Booroolong Frog *(Litoria booroolongensis);* Border Thick-tailed Gecko *(Uvidicolus sphyrurus);* Eastern Cave Bat *(Vespedelus troughtonii);* Eastern False Pipistrelle *(Falsistrellus tasmaniensis);* Greater Long-eared Bat *(Nyctophilus corbeni);* Koala *(Phascolarctos cinereus);* Large Eared Pied Bat *(Chanlinobilis dwyeri);* Powerful Owl *(Ninox strenua);* Regent Honeyeater *(Anthochaera Phrygia);* Scarlet Robin *(Petroica boodang);* Spotted-tail Quoll *(Daryurus maculate);* Swift Parrot *(Lathamus discolour);* Varied Sittella *(Daphoenositta chrysoptera);*

→ map existing vegetation by vegetation/ community type and include details on existing site conditions, including whether the vegetation comprises a highly modified or over-cleared landscape and the types and quality of habitat resources available. Vegetation mapping should consider any Environmentally Sensitive Area Mapping held by Walcha Shire Council and Tamworth Regional Council;

→ provide details of the survey methodology employed including survey effort and representativeness for each species targeted and clear justification for species that were discounted from requiring field surveys or further assessment;

→ demonstrate a design philosophy of impact avoidance on ecological values, and in particular, ecological values of high significance;

→ provide a worst case estimate of vegetation to be cleared (in hectares), including quantifying impacts (in hectares) by vegetation type and threatened species habitat (as relevant);

→ assess the significance of impacts to native vegetation, listed threatened species, populations and communities and their habitats with consideration to local and region-based ecological implications, including edge effects, habitat connectivity and distribution of species. The assessment must consider impacts to in-stream and riparian ecology from works close to waterways and/ or waterway crossings. In addition, impact of the development on birds and bats from blade strikes, low air pressure zones at the blade tips (barotrauma), and alteration to movement patterns resulting from the turbines must be assessed, including demonstration of how the development has been sited to avoid and/ or minimise such impacts;

→ consider cumulative effects on bird/bat strike, movement patterns and loss of habitat;

→ include details of how flora and fauna impacts would be managed during construction and operation including adaptive management, rehabilitation/ regeneration measures and maintenance protocols;

→ demonstrate how the development (with the incorporation of all proposed measures to avoid, mitigate and/ or offset impacts) achieves a biodiversity outcome consistent with "maintain or improve" principles. Sufficient details must be provided of the specific areas and management proposed to offset the impacts of the development on biodiversity, and how the offset areas will be secured in perpetuity; and

→ address the risk of weed spread, both noxious and environmental weeds, and identify mitigation measures.

- **Heritage Impacts** – the EIS must include an assessment of impacts on Aboriginal and historic heritage. The EIS must:

→ include sufficient information to demonstrate the likely impacts of the development on Aboriginal heritage values/items (archaeological and cultural) and outline proposed mitigation measures (including consideration of the effectiveness and reliability of the measures) in accordance with the Draft



*Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community* Consultation (DEC, 2005). The assessment must be undertaken by suitably qualified heritage consultants and demonstrate effective consultation with Aboriginal communities in determining and assessing impacts, developing options and selecting options and mitigation measures (including the final proposed measures); and

→ provide sufficient information to demonstrate the likely impacts of the development on historic heritage values (including heritage vistas) and, where impacts to State or local historic heritage items are proposed, outline proposed mitigation and management measures (including consideration of the effectiveness and reliability of the measures) generally consistent with the guidelines in the NSW Heritage Manual. Where impacts to State or local historic heritage items are proposed, a statement of heritage significance must be included.

- **Traffic and Transport** – the EIS must assess the construction and operational traffic impacts of the development including:

→ details of traffic volumes (both light and heavy vehicles) and transport routes during construction and operation;

→ assess the potential traffic impacts of the development on road network function (including intersection level of service) and safety, and including impact on existing transport including school bus routes and freight operations;

→ assess the capacity of the existing road network to accommodate the type and volume of traffic generated by the development (including over-mass /over-dimensional traffic) during construction and operation, differentiating between various raw material deliveries and staff and contractors, including full details of any required upgrades to roads, bridges, site access provisions (for safe access to the public road network) or other road features;

→ details of measures to mitigate and/or manage potential impacts, including construction traffic control, road dilapidation surveys and measures to control soil erosion and dust generated by traffic volumes;

→ details of access roads within the site including how these would connect to the existing public road network (i.e. site access) and ongoing operational maintenance requirements for on-site roads; and

→ consideration of relevant RMS and Council traffic/road policies.

- **Hazard/Risks** – the EIS must include an assessment of the following:

→ Aviation Safety: potential impacts on aviation safety, including cumulative effects of any other potential wind farms in the vicinity, potential wake/turbulence issues, the need for aviation hazard lighting, considering nearby aerodromes and aircraft landing areas, defined air traffic routes, aircraft operating heights, approach/departure procedures, radar interference, communication systems, and navigation aids. Aerodromes within 30km of the turbines should be identified and impacts on obstacle limitation surfaces addressed. Assess the impact of the turbines on the safe and efficient aerial application of agricultural fertilisers and pesticides in the vicinity of the turbines and transmission line. An Aeronautical Impact Statement (AIS) prepared by an appropriately qualified person including the associated height and cords for each turbine;

→ Telecommunications: identify possible effects on telecommunications systems, assess impacts and mitigation measures including undertaking a full engineering assessment to examine the potential impacts as well as analysis and agreement on the implementation of suitable options to avoid potential disruptions to radio communication services; which may include the installation and maintenance of alternative sites;

→ Health: consider and document health issues, focusing on neighbours with dwellings within 2km of proposed wind turbines. Identify potential hazards and risks associated with electric and magnetic fields and demonstrate the

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| | application of the principles of Prudent Avoidance;<br>→ Bushfire Hazards: identify potential hazards and risks associated with bushfires/use of bushfire prone land, including the risks that a wind farm will cause bush fire and any potential impacts on the aerial fighting of bush fires incorporating options to switch off turbines during bushfires, and demonstrating compliance with *Planning for Bush Fire Protection 2006*; and<br>→ Blade throw: assess blade throw risks.<br><br>• **Water Supply, Water Quality and Hydrology** – The EIS must:<br>→ identify water demands, and determine whether an adequate and secure water supply is available for the development;<br>→ identify water sources (surface and groundwater), water disposal/discharge methods and water storage structures in the form of a water balance;<br>→ include the statutory (licensing) context of the water supply sources;<br>→ assess potential environmental impacts associated with the use of the identified water sources including impacts on groundwater and implications for existing licensed users/basic landholder rights;<br>→ assess potential environmental impacts associated with any proposed discharges, and proposed monitoring methodology where required;<br>→ assess the potential to intercept groundwater, including predicted dewatering volumes, zone of drawdown and associated impact, water quality and disposal methods;<br>→ where the development involves crossing or works within 40 metres of waterways, identify likely impacts to the waterways, how the waterways are proposed to be crossed and be designed in accordance with the NSW Office of Water *Guidelines for Controlled Activities* (2010);<br>→ describe the measures to minimise hydrological, water quality, aquatic and riparian impacts, including contingency requirements to address surface and groundwater impacts; and<br>→ identify how works within steep gradient land or highly erosive soil types will be managed during construction and operation, including in relation to access roads. |
| **Consultation** | During the preparation of the EIS, you must consult with relevant local, State and Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with:<br>• Walcha Shire Council<br>• Tamworth Regional Council;<br>• Namoi Catchment Management Authority;<br>• Local Aboriginal Land Council;<br>• Office of Environment and Heritage<br>• Environment Protection Authority;<br>• NSW Trade and Investment Department (Resources & Energy);<br>• Department of Primary Industries (Catchments and Lands (Crown Lands), Fisheries NSW, Agriculture NSW, and NSW Office of Water);<br>• NSW Roads and Maritime Services;<br>• NSW Rural Fire Service;<br>• Air Services Australia;<br>• Civil Aviation Safety Authority;<br>• Department of Defence;<br>• NSW Government Telco Authority and other registered communications licensees (including emergency services);<br>• Aerial Agricultural Association of Australia;<br>• NSW Farmers Association;<br>• relevant service providers;<br>• relevant minerals stakeholders (including exploration and mining title holders); and<br>• the public, including community groups and adjoining and affected landowners (including "associated" and "non associated" properties). |



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| | A comprehensive, detailed and genuine community consultation and engagement process must be undertaken. This process must ensure that the community is both informed of the proposal and is actively engaged in issues of concern to them, and is given ample opportunity to provide its views on the proposal. Sufficient information must be provided to the community so that it has a good understanding of what is being proposed and of the impacts. There should be a particular focus on those non wind farm associated community members who live in proximity to the site, and in particular neighbours located within 2km of a wind turbine.<br><br>The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.<br><br>The EIS must:<br>• demonstrate effective consultation with stakeholders, and that the level of consultation with each stakeholder is commensurate with their degree of interest/concern or likely impact;<br>• provide evidence of consultation with all neighbours with dwellings within 2km of proposed wind turbines to identify any issues and potential approaches to mitigate any adverse impacts, including details of any written agreements;<br>• clearly describe the consultation process undertaken for each stakeholder/group including details of the dates of consultation and copies of any information disseminated as part of the consultation process (subject to confidentiality);<br>• describe the issues raised during consultation and how and where these have been addressed in the EIS; and<br>• provide details of the status of the community consultative committee required to be formed by the Applicant, consistent with the provisions of the *Draft NSW Planning Guidelines: Wind Farms* (as updated). |
| **Further consultation after 2 years** | If you do not lodge a development application and EIS for the development within 2 years of the issue date of these DGRs, you must consult further with the Director General in relation to the preparation of the EIS. |