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Our ref: 13/10745-1

Ms Annmaree Lavery
Newtricity
1 Raven Street
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Dear Ms Lavery

**Revised Secretary's Environmental Assessment Requirements
Biala Wind Farm (SSD 13_6039)**

I refer to advice submitted to the Department in November and December 2014 by your consultant (ERM) about amendments to the proposed Biala Wind Farm.

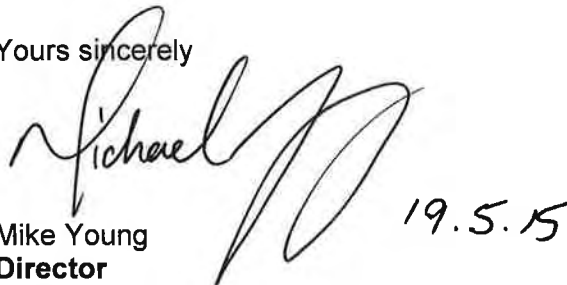
In response to this advice, the Department has elected to issue revised Secretary's Environmental Assessment Requirements (SEARs) for the preparation of an Environmental Impact Statement (EIS) for the Biala Wind Farm (see attached).

Please ensure that the EIS also considers the issues raised previously by government agencies, and attached to the Director-General's requirements issued for this development on 12 August 2013. Please also consider the additional comments from the NSW Office of Environment and Heritage (see attached).

Prior to exhibiting the EIS, the Department will review the document to determine if it adequately addresses the SEARs.

Please contact Tracy Bellamy on the above details if you would like to discuss this matter.

Yours sincerely



Mike Young
Director
Resource Assessments
as delegate for the Secretary

Secretary'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*

Application Number	SSD 13_6039
Development	Biala Wind Farm The construction, operation and decommissioning of a wind farm with: • up to 31 turbines with capacities up to 4 megawatts (MW) and an approximate maximum height of up to 150 metres above ground level; and • ancillary structures, access tracks, onsite electrical infrastructure, and temporary concrete batching plant(s). The proposed transmission line to connect the wind farm to the electricity grid no longer forms part of the State Significant Development application, and will be assessed separately under Part 5 of the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act).
Location	Approximately 8 km east of Biala and 14.5 km southwest of Crookwell, in the Upper Lachlan Local Government Area
Proponent	Newtricity
Date of Issue	19 May, 2015
General Requirements	The Environmental Impact Statement (EIS) must meet the minimum form and content requirements of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i> (EP&A Regulation) and include the following: 1. A detailed description of the development (Clause 6 of Schedule 2 to the EP&A Regulation), for both the wind farm and associated infrastructure, including: • details of construction, operation and decommissioning, including compliance with building standards and relevant codes / specifications for the construction of wind farms; • the proposed external cladding materials, underground/overhead cabling between turbines, electrical substations, meteorological monitoring masts, access roads (including internal access tracks), road/intersection upgrades, obstacle lighting; and temporary facilities such as concrete batching plants and construction compounds; • site plans and maps at an adequate scale with dimensions showing: – the location and dimensions of all project components including coordinates in latitude/longitude and maximum AHD heights of the turbines; – existing environmental features (e.g. watercourses, vegetation communities), infrastructure, land use (including nearby residences and approved residential developments or subdivisions), the number of turbines within 2 km of a dwelling or approved dwelling, and the location/siting of the development (including associated infrastructure) in the context of this existing environment; • a timeline identifying the development's proposed construction and operation components, their envisaged lifespan and arrangements for decommissioning (including the proposed funding arrangements and how agreements with associated landowners have addressed decommissioning liabilities); and • resourcing requirements (e.g. water supply and sand/gravel).

	2. A summary of the EIS and a description of the strategic need, justification, objectives and outcomes (Clause 7 of Schedule 2 to the EP&A Regulation) for the the wind farm and associated infrastructure, including: • a justification for the development taking into consideration the objects of the EP&A Act, including how the principles of ecologically sustainable development will be incorporated in the design, construction and ongoing operation phases of the development; • a strategic assessment of the need, scale, scope and location for the project including consideration of: – the predicted electricity demand in NSW and the National Electricity Market; – the Commonwealth's Renewable Energy Target Scheme; – the greenhouse gas benefits of the project (quantified and substantiated), taking into consideration sources of electricity that could realistically be replaced (using the NSW wind farm greenhouse gas savings tool – www.environment.nsw.gov.au/climatechange/greenhousegassavingstool); • an analysis of feasible alternatives to the carrying out of the development, 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; – an analysis of the suitability of the project with respect to potential land use conflicts with existing and future surrounding land uses (including other proposed or approved wind farms, existing or proposed electricity transmission lines, rural residential development, building entitlements and subdivision potential), land of significant scenic value, land of high agricultural value, mineral resources, forestry, conservation areas and Crown land, taking into account local and strategic land use objectives, the potential for social and economic impacts on the local community, and the Environmentally Sensitive Area Mapping held by Upper Lachlan Shire Council; and – description of the alternatives considered (location and/or design) for all project components, and justification for the preferred project demonstrating its benefits on a local and strategic scale and how it achieves stated objectives and any measures to offset residual impacts (e.g. community enhancement programmes); and • 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 (including in accordance with SEPP 55 – Remediation of Land). The EIS must also: • provide an overview of the approvals process for the transmission line connection to the existing high voltage electricity network under Part 5 of the EP&A Act, including timing, responsibilities, and how this process would integrate with the planning and development of the wind farm under Part 4 of the EP&A Act; • sufficient information to demonstrate the feasibility of the transmission line having regard to the acceptability of likely environmental impacts (including cumulative impacts), land use constraints, and any technical constraints associated with connecting to the existing high voltage electricity network; and • consider the minimum form and content requirements of the Draft <i>NSW Planning Guidelines: Wind Farms</i> (as updated), including procedures for consulting with the community and stakeholders, and meeting assessment requirements.
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	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: • adequate baseline data; • consideration of potential cumulative impacts due to other development in the vicinity, paying particular attention to existing and proposed wind farms, such as Gullen Range, Gunning and Crookwell 1, 2 and 3; and • 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: Landscape and Visual Impacts - the EIS must: • provide a comprehensive assessment of the landscape character and values and any scenic or significant vistas of the area potentially affected by the project taking into account cumulative impacts from surrounding proposed, approved or operational 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 project based on surveys and consultation; • assess the impact of shadow "flicker", blade "glint" and night lighting from the wind farm; • identify the zone of visual influence of the wind farm including consideration of night lighting (no less than 10 km) and assess the visual impact of all project components on this landscape; • include photomontages of the project taken from potentially affected residences and in particular from all non-host dwellings within 2 km 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 the wind farm. The photomontages must include representative views of turbine night lighting if proposed; • provide an assessment of the feasibility, effectiveness and reliability of proposed mitigation measures and any residual impacts after these measures have been implemented; and • if any agreements with residents in regard to visual impacts are proposed, provide sufficient information to enable a clear understanding of what has been agreed and what matters are covered by any such agreements. Noise and Vibration Impacts - the EIS must: • include a comprehensive noise assessment of all phases and components of the project taking into account cumulative impacts from surrounding approved or operational wind farms in the locality including: turbine operation, the operation of the electrical substation, 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); • 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 classes and the van den Berg effect for wind turbines). The probability of such occurrences must be quantified;
- include monitoring to ensure that there is adequate wind speed/profile data and ambient background noise data that is representative for all sensitive receptors;
 - 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);
 - 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;
 - clearly outline the noise mitigation, monitoring and management measures that would be applied to the project, including an assessment of the feasibility, effectiveness and reliability of proposed measures and any residual impacts after these measures have been incorporated;
 - 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 matters are covered by any such agreements; and
 - 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.

The noise assessment must be undertaken in a manner that is consistent with the following guidelines:

- Wind Turbines - the South Australian Environment Protection Authority's *Wind Farms _Environmental Noise Guidelines (2003)* however, measurements shall be taken at hub height;
- Substation – *NSW Industrial Noise Policy (EPA, 2000)*;
- Site Establishment and Construction – *Interim Construction Noise Guidelines (DECC, 2009)*;
- Traffic Noise – *NSW Road Noise Policy (DECCW 2011)*; and
- Vibration – *Assessing Vibration: A Technical Guideline (DECC, 2006)*.

Biodiversity - the EIS must:

- include an ecological assessment of potential impacts on terrestrial and aquatic ecosystems (including Wattle Creek, Biala Creek and groundwater dependent ecosystems);
- assess and document impacts in accordance with the *Framework for Biodiversity Assessment* unless otherwise agreed by the Office of Environment and Heritage;
- provide justification for site selection of the proposed turbine locations taking into account the potential to use areas of lower habitat value within the site;
- identify threatened species, populations and communities listed under both State and Commonwealth legislation that have the potential to occur on site with particular reference to species identified by the Office of Environment and Heritage (OEH) letters dated 2 August 2013 and 9 January 2015;
- 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 Upper Lachlan Shire Council and any areas subject to an agreement with South East Local Land Services);
- map rivers, streams, wetlands and estuaries (as described in Appendix 2 of the *Framework for Biodiversity Assessment*);
- describe baseline conditions for any water resources likely to be affected including water quality objectives (as endorsed by the NSW Government <http://www.environment.nsw.gov.au/ieo/index.htm>) and indicator and trigger values/criteria for the environmental values identified in the water quality objectives in accordance with ANZECC (2000) *Guidelines for Fresh and Marine Water Quality* and or local objectives, criteria or targets endorsed by the NSW Government;

- 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 project 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 project has been sited to avoid and/ or minimise such impacts;
- consider cumulative effects, including the effects of multiple wind farms in the vicinity 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 project (with the incorporation of all proposed measures to avoid, mitigate and/ or offset impacts) achieves a biodiversity outcome consistent with the *NSW Government Offsets Policy for Major Projects*. Sufficient details must be provided of the specific areas and management proposed to offset the impacts of the project 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, including:

- sufficient information to demonstrate the likely impacts of the project 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 *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). 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) be undertaken and documented in accordance with the *Aboriginal cultural heritage consultation requirements for proponents* (DECCW, 2010); and
- provide sufficient information to demonstrate the likely impacts of the project 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 project 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 project (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 both on-site and local roads;
- consideration of relevant RMS and Council traffic/road policies; and
- consideration of appropriate road upgrade and/or maintenance contributions to Council over the life of the project to address impacts on the local road network.

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

- *Aviation* - potential impacts on aviation safety, including cumulative effects of multiple 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 30 km 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 2 km of proposed wind turbines. Identify potential hazards and risks associated with electric and magnetic fields and demonstrate the application of the principles of Prudent Avoidance;
- *Bushfire* - 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 bushfire, and demonstrating compliance with *Planning for Bush Fire Protection 2006*; and
- *Blade Throw* - assess blade throw risks.

Water Supply, Water Quality and Hydrology – the EIS must:

- identify water demand, and determine whether an adequate and secure water supply is available for the project;
- identify water sources (surface and groundwater), water disposal/discharge methods and water storage structures in the form of a water balance;
- include the statutory (licensing) context of the water supply sources;
- 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;
- assess potential environmental impacts associated with any proposed discharges, and proposed monitoring methodology where required;
- assess the potential to intercept groundwater, including predicted dewatering volumes, zone of drawdown and associated impact, water quality and disposal

	methods; • where the project 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 <i>NSW Office of Water Guidelines for Controlled Activities</i> (2010); • describe the measures to minimise hydrological, water quality, aquatic and riparian impacts, including contingency requirements to address surface and groundwater impacts; and • 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: • Upper Lachlan Shire Council; • South East Local Land Services; • Local Aboriginal Land Council; • Office of Environment and Heritage; • Environment Protection Authority; • NSW Trade and Investment Department (Resources & Energy); • Department of Primary Industries (Catchments and Lands (Crown Lands), Fisheries NSW, Agriculture NSW, and NSW Office of Water); • NSW Roads and Maritime Services; • NSW Rural Fire Service; • Air Services Australia; • Civil Aviation Safety Authority; • Department of Defence; • NSW Government Telco Authority and other registered communications licensees (including emergency services); • Aerial Agricultural Society of Australia; • relevant service providers; • relevant minerals stakeholders (including exploration and mining title holders); and • the public, including community groups and adjoining and affected landowners (including "associated" and "non-associated" residences). The EIS must: • 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; • provide evidence of consultation with all neighbours with dwellings within 2 km of proposed wind turbines to identify any issues and potential approaches to mitigate any adverse impacts, including details of any written agreements; • 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); • describe the issues raised during consultation and how and where these have been addressed in the EIS; and • provide details of the status of the community consultative committee to be formed by the Applicant under the provisions of the <i>Draft NSW Planning Guidelines: Wind Farms</i> (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 SEARs, you must consult further with the Secretary in relation to the preparation of the EIS.



**Office of
Environment
& Heritage**

Your reference: 13/10745 Part 1
Our reference: DOC15/40364

Neville Osborne
Team Leader – Energy
Infrastructure Projects
Department of Planning and Environment

C/o: Tracy Bellamy: tracy.bellamy@planning.nsw.gov.au

Dear Mr Osborne

Re: Biala Wind Farm SSD 13_6039 Project Amendments

Thank you for requesting our input on 23 January 2015 for the revised environmental assessment requirements (EARs) that your Department intends to issue for the recently amended Biala wind farm proposal.

We have reviewed the 'applicant's amendment advice' (dated 19 December 2014), the original EARs (issued 12 August 2013) and Office of Environment and Heritage's (OEH) supporting letter detailing the specific Aboriginal Cultural Heritage (ACH) and Biodiversity survey requirements (dated 2 August 2013).

OEH has created new Secretary Environmental Assessment Requirements (SEARs) for this project that are aligned with the new NSW Government's Major Projects Offset Policy and the Framework for Biodiversity Assessment. These are detailed in Attachment A, B and C.

Concerning the proponent's separation of the transmission line from the state significant wind farm project proposal, we consider it crucial that the proponent assess the potential cumulative impacts to biodiversity and ACH for the whole project.

Furthermore, as it is now intended that the transmission line will be assessed under Part 5 of the *Environmental Planning and Assessment Act 1979*, there will be a legal requirement for the proponent to seek an Aboriginal Heritage Impact Permit from OEH under the *National Parks and Wildlife Act 1974* if any Aboriginal objects and places are likely to be impacted on. The transmission line has the potential to have large impacts on the local and regional biodiversity and ACH and must be thoroughly surveyed by the proponents as we have previously outlined.

If you wish to discuss these matters or have any questions, please contact Suzie Lamb on 6229 7117, or by email to susan.lamb@environment.nsw.gov.au

Yours sincerely

Date: 09/01/2015

ALLISON TREWEEK
Senior Team Leader Planning – South East
Regional Operations Group
Office of Environment & Heritage

Attachment A – Standard Environmental Assessment Requirements

Biodiversity 1. Biodiversity impacts related to the proposed Biala Wind Farm development are to be assessed and documented in accordance with the <u>Framework for Biodiversity Assessment</u>, unless otherwise agreed by OEH, by a person accredited in accordance with s142B(1)(c) of the <i>Threatened Species Conservation Act 1995</i>.
Aboriginal cultural heritage 2. The EIS must identify and describe the Aboriginal cultural heritage values that exist across the whole area that will be affected by the Biala Wind Farm development and document these in the EIS. This may include the need for surface survey and test excavation. The identification of cultural heritage values should be guided by the <u>Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECCW, 2011)</u> and consultation with OEH regional officers. 3. Where Aboriginal cultural heritage values are identified, consultation with Aboriginal people must be undertaken and documented in accordance with the <u>Aboriginal cultural heritage consultation requirements for proponents 2010 (DECCW)</u>. The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the EIS. 4. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the EIS. The EIS must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the EIS must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.
Historic heritage 5. The EIS must provide a heritage assessment including but not limited to an assessment of impacts to <i>State and local heritage</i> including conservation areas, natural heritage areas, places of Aboriginal heritage value, buildings, works, relics, gardens, landscapes, views, trees should be assessed. Where impacts to State or locally significant heritage items are identified, the assessment shall: - outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the mitigation measures) generally consistent with the NSW Heritage Manual (1996), - be undertaken by a suitably qualified heritage consultant(s) (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria), - include a statement of heritage impact for all heritage items (including significance assessment), - consider impacts including, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, landscape and vistas, and architectural noise treatment (as relevant), and - where potential archaeological impacts have been identified develop an appropriate

archaeological assessment methodology, including research design, to guide physical archaeological test excavations (terrestrial and maritime as relevant) and include the results of these test excavations.

Water and soils

6. The EIS must map the following features relevant to water and soils including:
 - a. Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map).
 - b. Rivers, streams, wetlands, estuaries (as described in Appendix 2 of the Framework for Biodiversity Assessment).
 - c. Groundwater.
 - d. Groundwater dependent ecosystems.
 - e. Proposed intake and discharge locations.
7. The EIS must describe background conditions for any water resource likely to be affected by the Biala Wind Farm development, including:
 - a. Existing surface and groundwater.
 - b. Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations.
 - c. Water Quality Objectives (as endorsed by the NSW Government <http://www.environment.nsw.gov.au/ieo/index.htm>) including groundwater as appropriate that represent the community's uses and values for the receiving waters.
 - d. Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government.
8. The EIS must assess the impacts of the Biala Wind Farm development on water quality, including:
 - a. The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the Biala Wind Farm development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction.
 - b. Identification of proposed monitoring of water quality.
9. The EIS must assess the impact of the Biala Wind Farm development on hydrology, including:
 - a. Water balance including quantity, quality and source.
 - b. Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.
 - c. Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.
 - d. Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (eg river benches).

- e. Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water.
- f. Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options.
- g. Identification of proposed monitoring of hydrological attributes.

Flooding and coastal erosion

10. The EIS must map the following features relevant to flooding as described in the Floodplain Biala Wind Farm development Manual 2005 (NSW Government 2005) including:
 - a. Flood prone land
 - b. Flood planning area, the area below the flood planning level.
 - c. Hydraulic categorisation (floodways and flood storage areas).
11. The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 1 in 10 year, 1 in 100 year flood levels and the probable maximum flood, or an equivalent extreme event.
12. The EIS must model the effect of the proposed Biala Wind Farm development (including fill) on the flood behaviour under the following scenarios:
 - a. Current flood behaviour for a range of design events as identified in 8) above. The 1 in 200 and 1 in 500 year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.
13. Modelling in the EIS must consider and document:
 - a. The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood.
 - b. Impacts of the Biala Wind Farm development on flood behaviour resulting in detrimental changes in potential flood affection of other Biala Wind Farm developments or land. This may include redirection of flow, flow velocities, flood levels, hazards and hydraulic categories.
 - c. Relevant provisions of the NSW Floodplain Biala Wind Farm development Manual 2005.
14. The EIS must assess the impacts on the proposed Biala Wind Farm development on flood behaviour, including:
 - a. Whether there will be detrimental increases in the potential flood affectation of other properties, assets and infrastructure.
 - b. Consistency with Council floodplain risk management plans.
 - c. Compatibility with the flood hazard of the land.
 - d. Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.
 - e. Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site.
 - f. Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.
 - g. Any impacts the Biala Wind Farm development may have upon existing community emergency

management arrangements for flooding. These matters are to be discussed with the SES and Council.

- h. Whether the proposal incorporates specific measures to manage risk to life from flood. These matters are to be discussed with the SES and Council.
- i. Emergency management, evacuation and access, and contingency measures for the Biala Wind Farm development considering the full range of flood risk (based upon the probable maximum flood or an equivalent extreme flood event). These matters are to be discussed with and have the support of Council and the SES.
- j. Any impacts the Biala Wind Farm development may have on the social and economic costs to the community as consequence of flooding.

Attachment B – Project specific Environmental Assessment Requirements

Biodiversity

15. Impacts on the following species and ecological communities will require further consideration and provision of the information specified in s9.2 of the Framework for Biodiversity Assessment:

Species:

- Eastern Bentwing-bat (*Miniopterus schreibersii oceanensis*)
- Eastern False Pipistrelle (*Falsistrellus tasmaniensis*)
- Greater Broad-nosed Bat (*Scoteanax rueppellii*)
- Southern Myotis (*Myotis macropus*)
- Glossy Black-Cockatoo (*Calyptorhynchus lathami*)
- Gang-gang Cockatoo (*Callocephalon fimbriatum*)
- Barking Owl (*Ninox connivens*)
- Powerful Owl (*Ninox strenua*)
- Little Eagle (*Hieraaetus morphnoides*)
- Little Lorikeet (*Glossopsitta pusilla*)
- Regent Honeyeater (*Anthochaera phrygia*)
- Painted Honeyeater (*Grantiella picta*)
- Black-chinned Honeyeater (eastern subsp) *Melithreptus gularis gularis*)
- Brown Treecreeper (eastern subspecies) *Climacteris picumnus victoriae*)
- Hooded Robin (south-eastern form) *Melanodryas cucullata cucullata*)
- Speckled Warbler (*Chthonicola sagittata*)
- Diamond Firetail (*Stagonopleura guttata*)
- White-fronted Chat (*Epthianura albifrons*)
- Scarlet Robin (*Petroica boodang*)
- Varied Sittella (*Daphoenositta chrysoptera*)
- Superb Parrot (*Polytelis swainsonii*)
- Flame Robin (*Petroica phoenicea*)
- Australasian Bittern (*Botaurus poiciloptilus*)

Endangered Ecological Communities

- White Box Yellow Box Blakely's Red Gum Woodland
- Tableland Basalt Forest in the Sydney Basin and South Eastern Highlands Bioregions
- Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland in the South Eastern Highlands, Sydney Basin, South East Corner and NSW South Western Slopes Bioregions

A. The EIS must identify:

- a. The suite of aerial and migratory species (listed or otherwise) likely to use habitat within [1000m] of the project area or fly over the area.
- b. Actual or likely flight paths of those species, identified in (a), in the vicinity of the project

- c. An assessment of potential direct impacts on those species identified in (a), including bat/bird strike and barotrauma from low air pressure zones at blade tips.
- d. An assessment of potential indirect impacts on those species identified in (a) including changes to movement patterns and impacts on use of adjacent habitat as a result of the project
- e. An assessment on impacts on the use of hollow-bearing trees within 200m of the project.
- f. An assessment of the cumulative impacts of multiple wind farms on aerial species and migratory species mortality rates and movement patterns.
- g. An assessment on impacts of the potential foraging and/or breeding resources within the project area for species listed in (a)
- h. Measures proposed to avoid, minimise and manage the direct and indirect impacts identified in (d) - (g) including an evaluation of the effectiveness and reliability of the proposed measures
- i. Residual impacts on the species identified in (a).

Attachment C – Guidance material

Title	Web address
<u>Relevant Legislation</u>	
<i>Coastal Protection Act 1979</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+13+1979+cd+0+N
<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>	http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/
<i>Environmental Planning and Assessment Act 1979</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N
<i>Fisheries Management Act 1994</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N
<i>Marine Parks Act 1997</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+64+1997+cd+0+N
<i>National Parks and Wildlife Act 1974</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N
<i>Protection of the Environment Operations Act 1997</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N
<i>Threatened Species Conservation Act 1995</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+101+1995+cd+0+N
<i>Water Management Act 2000</i>	http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N
<i>Wilderness Act 1987</i>	http://www.legislation.nsw.gov.au/viewtop/inforce/act+196+1987+FIRST+0+N
<u>Biodiversity</u>	
NSW Biodiversity Offsets Policy for	http://www.environment.nsw.gov.au/resources/biodiversity/1

Title	Web address
Major Projects (OEH, 2013)	40672biopolicy.pdf
Framework for Biodiversity Assessment (OEH, 2013)	http://www.environment.nsw.gov.au/resources/biodiversity/140675fba.pdf
Fisheries NSW policies and guidelines	http://www.dpi.nsw.gov.au/fisheries/habitat/publications/policies,-guidelines-and-manuals/fish-habitat-conservation
List of national parks	http://www.environment.nsw.gov.au/NationalParks/parksearchatoz.aspx
Revocation, recategorisation and road adjustment policy (OEH, 2012)	http://www.environment.nsw.gov.au/policies/RevocationOfLandandPolicy.htm
Guidelines for Biala Wind Farm developments adjoining land and water managed by the Department of Environment, Climate Change and Water (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/parks/policyRevocations.pdf
<u>Heritage</u>	
The Burra Charter (The Australia ICOMOS charter for places of cultural significance)	http://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf
Statements of Heritage Impact 2002 (HO & DUAP)	http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/hmstatementsofhi.pdf
NSW Heritage Manual (DUAP) (scroll through alphabetical list to 'N')	http://www.environment.nsw.gov.au/Heritage/publications/index.htm#M-O
<u>Aboriginal Cultural Heritage</u>	
Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf
Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)	http://www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf
Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011)	http://www.environment.nsw.gov.au/resources/cultureheritage/20110263ACHguide.pdf
Aboriginal Site Recording Form	http://www.environment.nsw.gov.au/resources/parks/SiteCardMainV1_1.pdf
Aboriginal Site Impact Recording Form	http://www.environment.nsw.gov.au/resources/cultureheritage/120558asirf.pdf
Aboriginal Heritage Information Management System (AHIMS) Registrar	http://www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm
Care Agreement Application form	http://www.environment.nsw.gov.au/resources/cultureheritage/20110914TransferObject.pdf
<u>Water and Soils</u>	
Acid sulphate soils	
Acid Sulfate Soils Planning Maps via 'The NSW Natural Resource Atlas'	www.nratlas.nsw.gov.au/

Title	Web address
Acid Sulfate Soils Manual (Stone et al. 1998)	Manual available for purchase from: http://www.landcom.com.au/whats-new/the-blue-book.aspx Chapters 1 and 2 are on DPI's Guidelines Register at: Chapter 1 Acid Sulfate Soils Planning Guidelines: http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Planning%20Guidelines.pdf Chapter 2 Acid Sulfate Soils Assessment Guidelines: http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Assessment%20Guidelines.pdf
Acid Sulfate Soils Laboratory Methods Guidelines (Ahern et al. 2004)	http://www.advancedenvironmentalmanagement.com/Reports/Savannah/Appendix%2015.pdf This replaces Chapter 4 of the Acid Sulfate Soils Manual above.
Flooding and Coastal Erosion	
Reforms to coastal erosion management	http://www.environment.nsw.gov.au/coasts/coastalerosionmgmt.htm
Floodplain Biala Wind Farm development manual	http://www.environment.nsw.gov.au/floodplains/manual.htm
Guidelines for Preparing Coastal Zone Management Plans	Guidelines for Preparing Coastal Zone Management Plans http://www.environment.nsw.gov.au/resources/coasts/130224CZMPGuide.pdf
NSW Climate Impact Profile	NSW Climate Impact Profile
Climate Change Impacts and Risk Management	Climate Change Impacts and Risk Management: A Guide for Business and Government, AGIC Guidelines for Climate Change Adaptation
Water	
Water Quality Objectives	http://www.environment.nsw.gov.au/ieo/index.htm
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	www.environment.gov.au/water/publications/quality/australia-n-and-new-zealand-guidelines-fresh-marine-water-quality-volume-1
Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones	http://deccnet/water/resources/AWQGuidance7.pdf
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf

7 November, 2014

Tracy Belamy
NSW Department of Planning and Environment
23-33 Bridge St
SYDNEY NSW 2000
AUSTRALIA

Our Reference: 0178462L01 BIALA WIND FARM_REVISED
PA_07.11.2014.DOCX

Attention: Tracy Belamy

Dear Tracy,



RE: REVISED PROJECT AREA - BIALA WIND FARM

Environmental Resources Management Australia (ERM), on behalf of Newtricity, wishes to advise the Department of Planning and Environment (DP&E) of the recent amendment to the Project Area boundary pertaining to the proposed Biala Wind Farm (Application Number SSD 13_6039).

The former Project Area comprised 29 rural agricultural lots, which formed part of two separate privately owned land holdings (refer *Figure 1*). The revised Project Area forms a single wind farm precinct now including 9 additional lots located between the former two Project Area components (refer *Figure 2*). This revised Project Area was established through engagement with the landholder located between the former two Project Area components, who is now actively involved in the Project. A summary of the lots comprising the revised Project Area is provided in *Table 1*.

Table 1 Summary of the lots comprising the revised Project Area

Lot Numbers	DP Number
10, 11, 12	1117737
20, 114, 217, 255, 258, 286, 287, 301, 302, 329, 334, 335, 336, 340, 350, 351, 151, 192, 256, 257, 259, 299, 131, 7	754126
17,18	878997
352, 319, 345, 347, 348	754126,
1,2	1115746
1, 2	878594

Please note that all the technical studies completed to date for the environmental assessment have taken the additional lots into consideration and applied the Director General Requirements (DGRs), received on 12/8/13.

The additional lots are characterised by predominantly cleared agricultural land, similar to the other allotments across the Project Area. Given this, ERM believe there are no additional environmental issues that would constitute the requirement for additional DGRs. ERM are therefore seeking confirmation from the DP&E that no further DGRs are required to be sought for the Project.

We look forward to your response on this matter. Should you have any queries, please contact me on (02) 8586 8722 or Sumaya.Osman@erm.com

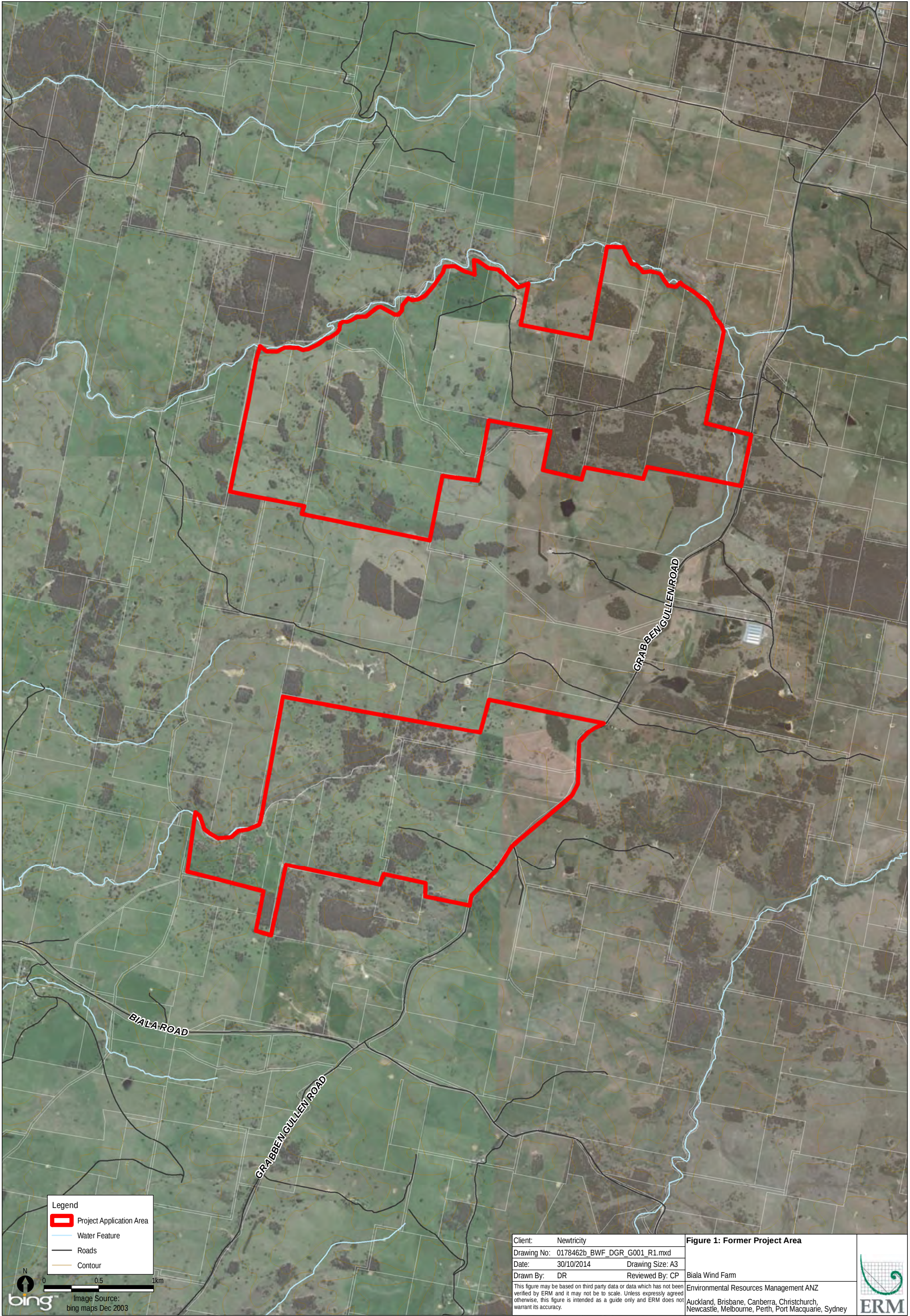
Yours sincerely,
for Environmental Resources Management Australia Pty Ltd

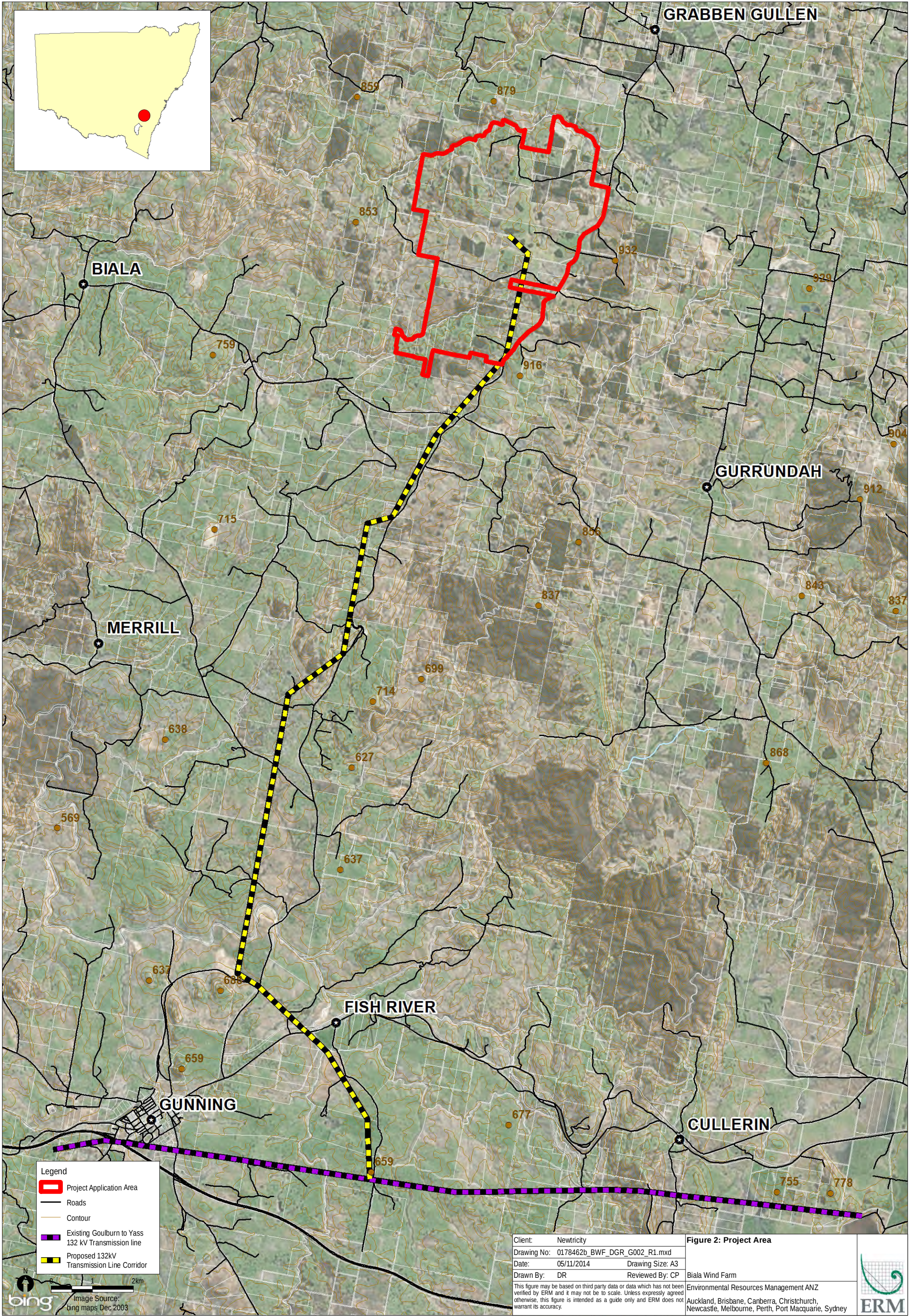
A handwritten signature in black ink, appearing to read 'Sumaya Osman', with a stylized flourish at the end.

Sumaya Osman
Project Manager

Attachment A

FIGURES





19 December, 2014

Tracy Bellamy
Planning Officer
Infrastructure Projects
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2000

Via email: tracy.bellamy@planning.nsw.gov.au

Our Reference: 0178462L01 BIALA WIND FARM_TRANSMISSION LINE.DOCX



Dear Tracy,

**RE: BIALA WIND FARM - REVISED PROJECT AREA TO REMOVE
TRANSMISSION LINE CORRIDOR**

Environmental Resources Management Australia Pty Ltd (ERM) act on behalf of Newtricity (the Proponent) and write to advise the Department of Planning and Environment (DP&E) of the recent amendment to the Project Area boundary pertaining to the proposed Biala Wind Farm (Application Number SSD 13_6039).

We refer to recent discussions regarding the preferred transmission line corridor connecting the wind farm substation to an existing 132 kV transmission line, located approximately 30 km south of the proposed wind farm. Clarence Consultants have been commissioned by the Proponent to undertake the transmission corridor route selection and landowner negotiation process for the easement. Based on the preliminary assessments undertaken by Clarence Consultants, ERM understands that the corridor alignment is both technically and economically feasible.

The Proponent has discussed the transmission line corridor with Essential Energy, who has confirmed in writing that if the transmission line corridor is designed and constructed to its requirements and the easements are registered in their name, then Essential Electricity will take over the operation.

On this basis, the Proponent intends for the transmission line corridor to be assessed separately under Part 5 of the EP&A Act by way of a Review of Environmental Factors (REF). We therefore request that the transmission line corridor is withdrawn from the SSD Project Area and Director General's

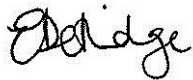
Environmental Assessment Requirements (DGRs). ERM believe there are no additional environmental issues associated with the removal of the corridor from the Project Area that would constitute the requirement for additional DGRs.

For your reference, *Figure 1* identifies the revised Project Area which will form the basis of the Environmental Impact Statement (EIS) and excludes the transmission line corridor. We have also enclosed *Figure 2*, which outlines the preferred transmission line corridor being considered by the Proponent.

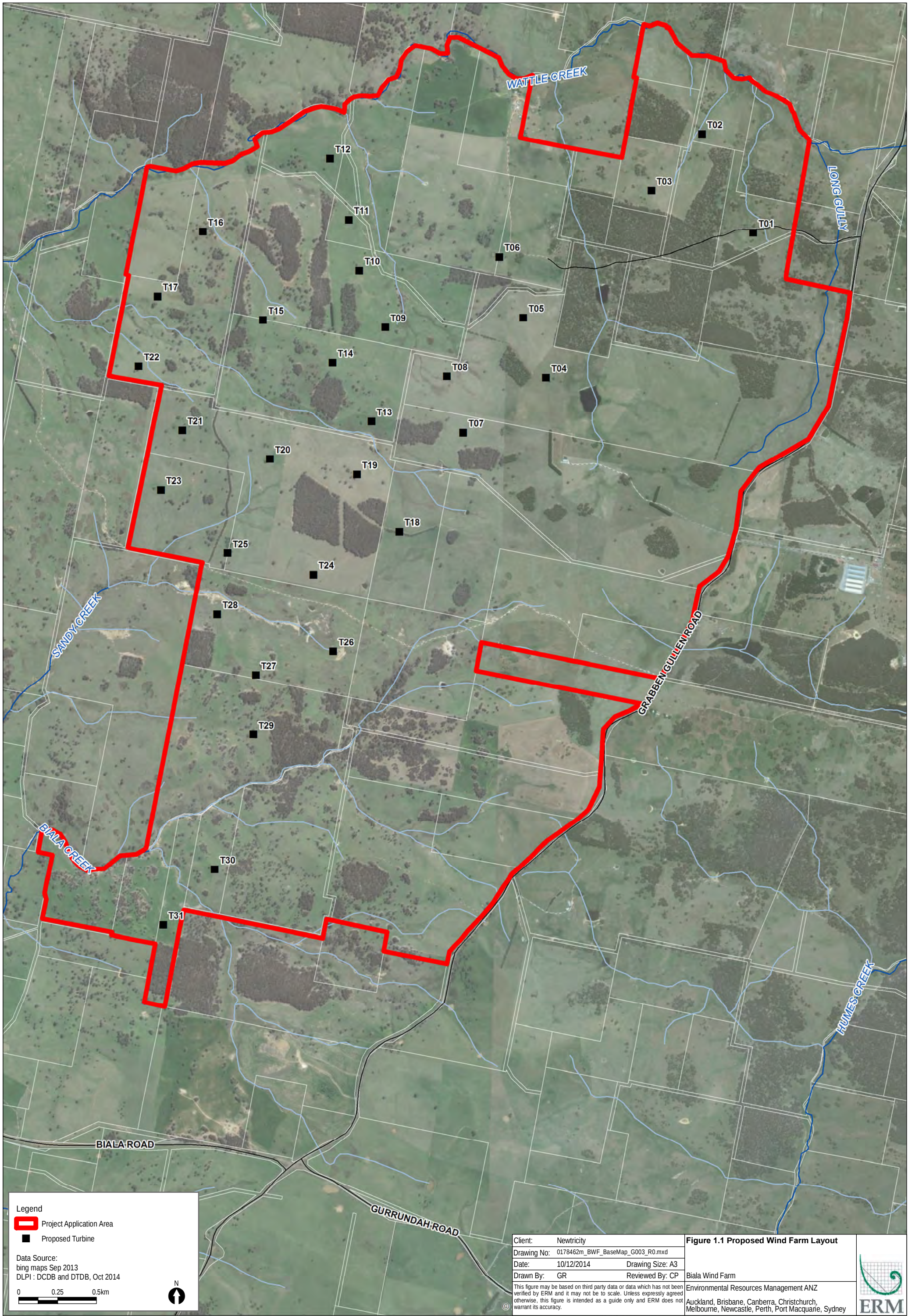
Should you have any queries please contact me on (02) 8584 8842 or erin.dethridge@erm.com

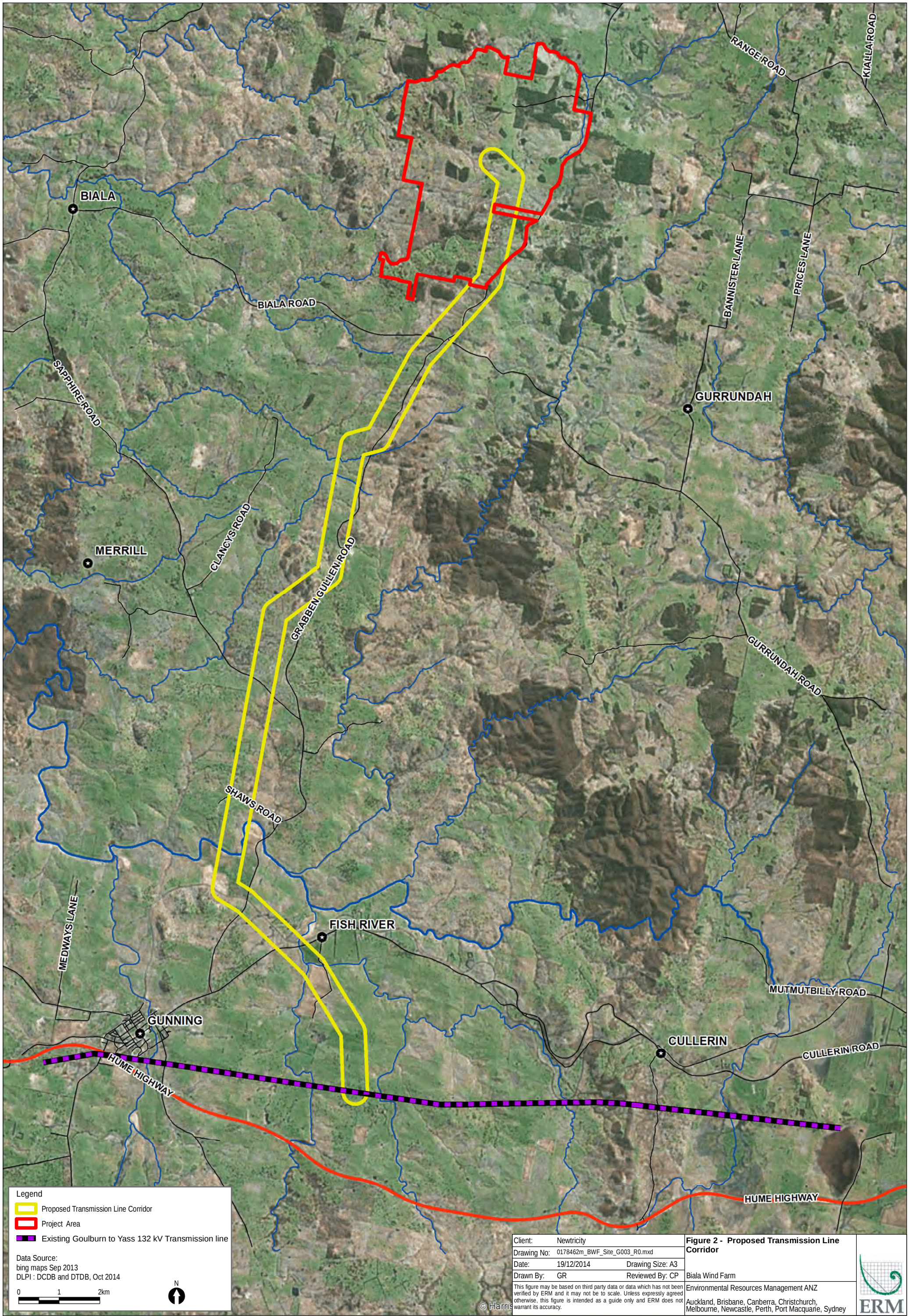
Yours sincerely,

for Environmental Resources Management Australia Pty Ltd



Erin Dethridge
Project Manager





Legend

- Proposed Transmission Line Corridor
- Project Area
- Existing Goulburn to Yass 132 kV Transmission line

Data Source:
bing maps Sep 2013
DLPI : DCDB and DTDB, Oct 2014

0 1 2km



Client: Newtricity
Drawing No: 0178462m_BWF_Site_G003_R0.mxd
Date: 19/12/2014 Drawing Size: A3
Drawn By: GR Reviewed By: CP

This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

Figure 2 - Proposed Transmission Line Corridor

Biala Wind Farm

Environmental Resources Management ANZ
Auckland, Brisbane, Canberra, Christchurch,
Melbourne, Newcastle, Perth, Port Macquarie, Sydney



15 June, 2015

Tracy Belamy
Planning Services
Department of Planning and Environment
23-33 Bridge St
SYDNEY NSW 2000

*Our Reference: 0178462L03 BIALA WIND FARM_REVISIED TURBINE
HEIGHT.DOCX*



Dear Tracy,

**RE: BIALA WIND FARM (SSD 13_6039)
REVISED TURBINE HEIGHT**

Environmental Resources Management Australia Pty Ltd (ERM) continues to act on behalf of Newtricity (the Proponent) in relation to the proposed Biala Wind Farm (Application Number SSD 13_6039).

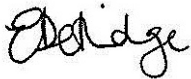
We refer to the revised Secretary's Environmental Assessment Requirements (SEARs) issued by the Department of Planning and Environment (DP&E) on 19 May 2015. It has come to our attention that the SEARs provide for the development of up to 31 turbines with an approximate maximum height of up to 150 metres above ground level (AGL).

As discussed recently, the wind turbine generator (WTG) model to be used for the Project is yet to be selected, with a range of models currently under consideration. The selected model will have a maximum generation capacity of up to 4 megawatts (MW), however the dimensions of the WTG components including blade length, and hub and blade tip heights will vary depending on the model selected. In order to provide flexibility in selecting the WTG model, the dimensions adopted for assessment as part of the environmental impact statement (EIS) for the Project are the largest of the model options being considered, including a WTG with a rotor diameter of up to 150 m (blade length of up to 75 m) giving an overall tip height of up to 185 m. On this basis, we write to advise you of the increase in the maximum height of the WTGs being considered for the Project.

Please note that all the technical studies prepared as part of the EIS have assessed the Project on the basis of the increased WTG height of 185 metres. In addition, all consultation undertaken with government and agency stakeholders as well as the community has been on the basis of the increased height of 185 metres.

Should you have any queries regarding this matter please contact me on (02) 8584 8842 or erin.dethridge@erm.com.

Yours sincerely,
for Environmental Resources Management Australia Pty Ltd

A handwritten signature in black ink, appearing to read 'Edethridge'.

Erin Dethridge
Project Manager