Director-General's Requirements

Section 75F of the *Environmental Planning and Assessment Act 1979*

Project	Construction and operation of a 100MW Solar Farm (including an 8km 132kV transmission line) on a project site of approximately 385 hectares split into two different sections (approximately 205ha for the northern section, and 180ha for the southern section), located on either side of the Barrier Highway, Nyngan, and the Nyngan Cobar Railway within four lots. The site is located 7.6km southwest of the Nyngan township within the Bogan Shire Local Government Area. The solar module arrays would be connected in strings and connected together in parallel at the inverter input. The solar farm will be two geographically separate sites interconnected by an approximately 1.6km 33 kV underground transmission line. The solar farm would be connected to the Nyngan 132 kV substation by an 8km 132kV transmission line mounted on poles. The approximate location of the transmission line would traverse 11 properties of private rural land and seven land parcels designated as road.
Site	Lot 2 DP751328, Lot 3 DP751328 and Lot 24 DP751328 for the northern section, and Lot 36 DP752891 for the southern section, 7.6km southwest of the Nyngan township.
Proponent	AGL Energy Limited
Date of Issue	18 November 2010
Date of Expiration	18 November 2012
General Requirements	The Environmental Assessment (EA) must include: • an **executive summary**; • a **detailed description** of the project for both the solar farm and transmission line including: → a site plan at an adequate scale and dimensions, showing the exact location, orientation, site coverage, and including all access roads and entrances to public roads; → construction, operation and decommissioning details; → the location and dimensions of all project components including the solar module array, underground and above ground cabling, electrical substation and transmission line linking the north and south sections and the solar farm to the substation, fencing and landscaping around the solar farm, on-site office, operations and maintenance buildings, temporary construction infrastructure and compounds, and access roads/road upgrades (including access tracks); → a timeline identifying the project's proposed construction and operation components, their envisaged lifespan and arrangements for decommissioning and staging; → 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) and the location/ siting of the project (including associated infrastructure) in the context of this existing environment; and → resourcing requirements (including, but not limited to, water supply and gravel). • consideration of any **relevant statutory provisions** including the consistency of the project with the objects of the *Environmental Planning and Assessment Act 1979* and any relevant land use strategy and development control plans; • an **assessment of the key issues** outlined below, during construction, operation and decommissioning (as relevant). The Environmental Assessment must assess the worst case as well as representative impact for all key issues considering cumulative impacts, as applicable; • a **draft Statement of Commitments** detailing measures for environmental mitigation, management and monitoring for the project; • a **conclusion justifying the project** taking into consideration the environmental, social and economic impacts of the project; the suitability of the site; and the

	public interest; and **certification by the author** of the EA that the information contained in the Assessment is neither false nor misleading.
Key Assessment Requirements	The EA must include assessment of the following key issues for the solar farm: • **Strategic Justification** - the EA must: → include a strategic assessment of the need, scale, scope and location for the project 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; → include 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; → include an analysis of the suitability of the project with respect to potential land use conflicts with existing and future surrounding land uses (including rural residential development, land of significant scenic or visual value, land of high agricultural value, mineral reserves including existing mineral exploration operations within the proximity of the subject area, forestry and conservation areas), taking into account local and strategic land use objectives including the potential loss of agricultural land and the impact on the local community; and → describe the alternatives considered (location and/or design) for all project components, and provide justification for the preferred project demonstrating its benefits including community benefits (for example community enhancement programmes) on a local and strategic scale and how it achieves stated objectives. • **Visual Impacts** - the EA 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. 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; → include a full assessment of the visual impacts associated with the solar farm, including identification and documentation of all key viewing points and corridors particularly from identified sensitive lands. This should also include the associated transmission line. Alternative pole designs should be presented and assessed and the potential for undergrounding in sensitive locations should also be assessed; → include photomontages of the project taken from potentially affected residences (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 solar farm; → provide an assessment of the feasibility, effectiveness and reliability of proposed mitigation measures and any residual impacts after these measures have been implemented. → provide an assessment of the potential for reflectivity from the panels and associated infrastructure, and any safety impacts for motorists or aircraft. • **Noise Impacts** - the EA must: → include a comprehensive noise assessment of all phases and components of the project including, but not limited to changes to the operation of the electrical substation, construction noise (focusing on high noise-generating activities and any works proposed 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 (eg. tonality, impulsiveness etc.) generated by noise sources, noise/vibration criteria, modelling assumptions and worst case and representative noise/vibration

impacts;

→ include monitoring to ensure that there is adequate 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 if there are noise generating activities at night; and

→ clearly outline the noise mitigation, monitoring and management measures that would be applied to the project. This must include an assessment of the feasibility, effectiveness and reliability of proposed measures and any residual impacts after these measures have been incorporated

The assessment must be undertaken consistent with the following guidelines:

→ Substation – *NSW Industrial Noise Policy* (EPA, 2000);

→ Site Establishment and Construction – *Interim Construction Noise Guidelines* (DECC, 2009);

→ Traffic Noise – *Environmental Criteria for Road Traffic Noise* (NSW EPA, 1999); and

→ Vibration – *Assessing Vibration: A Technical Guideline* (DECC, 2006).

- **Flora and Fauna** - the EA must:
  - → include an assessment of the impacts of all project components on flora and fauna (both terrestrial and aquatic, as relevant) and their habitat consistent with the *Draft Guidelines for Threatened Species Assessment* (DEC 2005) and taking into account the *Central West Catchment Action Plan* (Central West CMA 2007), including details on the existing site conditions and likelihood of disturbance (including quantifying the worst case extent of impact on the basis of vegetation type and total native vegetation disturbed);
  - → specifically consider impacts on threatened species and communities listed under both State and Commonwealth legislation that have been recorded on the site and surrounding land, impacts on riparian and/ or instream habitat in the case of disturbance of waterways, and on biodiversity corridors;
  - → include details of how flora and fauna impacts would be managed during construction and operation including adaptive management and maintenance protocols (including the mitigation and/or management of weeds); and
  - → include measures to avoid, mitigate or offset impacts consistent with "improve or maintain" principles. Sufficient details must be provided to demonstrate the availability of viable and achievable options to offset the impacts of the project.
- **Indigenous Heritage** - the EA must include an assessment that identifies all items of Aboriginal Cultural Heritage value (archaeological and cultural) and potential impact of the project. The EA must demonstrate effective consultation with indigenous stakeholders during the assessment and in developing mitigation options (including the final recommended measures) consistent with ***Guidelines for Aboriginal Cultural Impact Assessment and Community Consultation* (DEC, July 2005).**
- **Traffic and Transport** – the EA must assess the construction and operational traffic impacts of the project including:
  - → details of the nature of traffic generated, transport routes, traffic volumes and potential impacts on local and regional roads (including impacts on the structural integrity of the road network), bridges and intersections, including any proposed road upgrades and repairs;
  - → details of measures to mitigate and/or manage the potential impacts, including measures to control soil erosion and dust generated by traffic volumes;
  - → details of site access roads including how these would connect to the existing road network and any operational maintenance or handover requirements.
- **Hazard/Risks**– the EA must include an assessment of potential hazards and risks associated with electric and magnetic fields (EMFs) (with reference to Australian Radiation Protection and Nuclear Safety Agency standards) and bushfires. The EA should demonstrate the application of the Principles of Prudent Avoidance in

	relation to EMFs. The EA must also detail measures to contain any hazardous substances to prevent the contamination of pasture and dams. • **Water Supply, Water Quality, Waterways and Flooding** – The EA must outline water requirements for the project and whether an adequate and secure water supply is available for the life of the project including the statutory (licensing)/water sharing plan context of the water supply sources, and assess potential environmental impacts associated with the identified sources, including impacts on groundwater. Where the project would cross significant waterways, the EA must identify likely impacts to the waterways and measures to minimise impacts. Details of the design of waterway crossings where such crossings are to be located in third order or higher streams are to be provided. The EA must also address soil erosion issues and the potential for clearing to create salinity risks. The Environmental Assessment must include an appropriate assessment of potential flooding impacts, undertaken generally in accordance with the principles, processes and guidelines as outlined in the NSW Government *Floodplain Development Manual, 2005*. The study shall take into account detailed topographic information, the full range of potential flood events up to and including the Probable Maximum Flood (PMF) and any local floodplain risk management planning processes. • **General Environmental Risk Analysis** – notwithstanding the above key assessment requirements, the EA must include an environmental risk analysis to identify potential environmental impacts associated with the project, proposed mitigation measures and potentially significant residual environmental impacts after the application of proposed mitigation measures. Where additional key environmental impacts are identified through this environmental risk analysis, an appropriately detailed impact assessment of the additional key environmental impact(s) must be included in the EA.
Consultation Requirements	The Proponent must undertake a consultation program as part of the environmental assessment process, including consultation with, but not necessarily limited to, the following parties: • Bogan Shire Council; • Central West Catchment Management Authority; • Department of Environment, Climate Change and Water; • NSW Office of Water; • Industry and Investment NSW; • NSW Roads and Traffic Authority; • NSW Rural Fire Service; • Land and Property Management Authority; • TransGrid; • relevant minerals stakeholders (including exploration and mining title holders); and • the local community and landowners. The consultation process shall include measures for disseminating information to increase awareness of the project as well as methods for actively engaging stakeholders on issues that would be of interest/concern to them. The EA 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; → 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); and → describe the issues raised during consultation and how and where these have been addressed in the EA.

Relevant Guidelines - For Reference

General

Draft EIS Guideline "Network Electricity Systems and Related Facilities" (Planning NSW, February, 2002)

Powerlines Policy (Aerial Agricultural Association of Australia, December 2009)

Ecology

Cumulative Risk for Threatened and Migratory Species (Commonwealth Department of Environment and Heritage, March 2006).

Threatened Biodiversity Survey and Assessment – Guidelines for Developments and Activities (Working Document) (DEC, 2004).

Water Quality

National Water Quality Management Strategy: Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000).

The NSW State Groundwater Quality Protection Policy (DLWC, 1998).

The NSW State Groundwater Dependent Ecosystems Policy (DLWC, 2002).

Department of Water and Energy's Guidelines for Controlled Activities (February 2008):

- → Watercourse Crossings;
- → Instream Works;
- → Laying Pipes and Cables in Watercourses;
- → Outlet Structures; and
- → Riparian Corridors.

Managing Urban Stormwater: Soils and Construction, Volume 1, 4th edition (Landcom, 2004).

Managing Urban Stormwater: Soils and Construction, Volume 2C Unsealed roads (DECC).