ARMIDALE
Regional Council

14 April 2021

Your ref:
Our ref: ARC21/4544

Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Dear Ms Patterson,

RE: State Significant Development 10346

Proposed location: Mostly Lot 5 DP 253346 (approx. 600 ha of operational footprint) and a smaller portion potentially to cover parts of Lot 2 DP 1206469 and Lot 6 DP 625427.

I refer to an Environmental Impact Statement (EIS) lodged with the Department by Oxley Solar Development Pty Ltd (Project Number 19-489) on or around the third week of March, 2021. The EIS Report provides information in relation to the proposed development of a 225 MW solar photovoltaic array and associated 50 MW battery bank to be located on the abovementioned property.

The proposed site is located approximately ten kilometers to the east of Armidale, off Waterfall Way, and comprises about 1048 hectares in total. Access to the proposed site(s) is proposed from Gara Road, which is located 3.5km south of Waterfall Way (State Route 78). Gara Road connects Armidale to Metz, situated approximately 18km to the east

Armidale Council representatives have met and corresponded with Oxley Solar representatives on a number of occasions over the past two years. More recently, Council officers have assisted community consultation events and meetings in relation to the Project. These include a recent event held by Oxley Solar in Armidale on the 31st March during the EIS viewing period to help inform public submissions in relation to the EIS.

Notwithstanding the widely acknowledged benefits of renewable energy investments for NSW and the regions in which they are located, over recent weeks I have been approached by constituents in the Armidale LGA who have concerns about some of the particulars of the proposed Oxley Solar development.

These concerns are summarized below for consideration by the Department and/or Secretary in its assessment and determinations about the Project.

1. **Visual Impacts**
   - The report notes (p.229) that approximately 84% of the proposed development footprint has a slope of between 10% and 33%.
   - One of the highest impact viewing points is less than a kilometer from the Armidale Region's iconic "Blue Hole" visiting site. This has been a cherished recreation zone for generations of locals. It is located on the southern end of the proposed Oxley development and forms part of the Oxley Rivers National Park

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and UNESCO World Heritage Rainforest network.

- EIS p.252 notes that *"the Gara River Hydro-Electric Scheme curtilage is directly adjacent to the southern border of the Project Area. This item is listed on the NSW State Heritage Register (00986), Armidale Regional Council Local Heritage Register and s.170 NSW State agency heritage register."*
- In addition to its significant Indigenous cultural and ecological features, the Blue Hole area provides visual evidence of this bygone era, and an easy bushwalk for all ages which offers stunning views of the gorge country, while following the former water-race of one of Australia's earliest hydro-electric schemes.
- The site is visited by more than 70,000 tourists and locals every year, and provides the closest points of access to the Oxley Rivers National Park network from Armidale. Under the proposed design, visitors travelling the last kilometer of road to "Blue Hole" will have direct line of sight with a wall of solar PV arrays stretching into the distance. Under current design proposals, these visual impacts will be experienced from parts of the walk and from the main public picnic area.
- The EIS Report notes (p.312) that *"Due to the locality of the Metz Solar Farm, Stringybark Solar Farm and Olive Grove Solar Farm adjacent to the Oxley Solar Farm, there is potential for cumulative visual impact for associated receivers surrounding these projects. Generally, adverse cumulative visual impacts are anticipated to be manageable due to the existing and retained vegetative screening and undulating nature of the site that blocks out the majority of views. Specifically, a landscape plan and screening has been proposed for Oxley Solar Farm to soften the views for the affected landowners and public places."*
- Armidale LGA constituents have noted however that with slopes of 10-30% for 100% of the proposed footprint (p.229), even the best vegetative screening and other line of site mitigations are unlikely to be effective. They propose that due to the steep topography of the site, it is likely that large tracts of solar PV arrays will be visible to tourists who visit the area, as well as many of the inhabitants of thirty or so dwellings situated in, and within two-kilometer's radius of the development.
- The Environmental Impact Statement (EIS) was prepared by NGH Consulting and submitted in March 2021. Concerned members of the public note that the current proposal has an estimated capacity of 320 MW. They also note that Oxley Solar publicized during the recent EIS viewing period that it had reduced the proposed footprint by 25%, in response to local concerns about the Project's detrimental visual impacts on the landscape.
- However these claims are questioned by locals, who note that the original size of the development proposal was 300MW, as described in the Secretary's Environmental Assessment Requirements (SEAR), lodged on 2nd August 2019. In this context they assert that the recent claims of the Company are untrue, and that the footprint has in fact increased since publication of the SEAR.

2. Soil Erosion

- The EIS notes (p.229) that approximately all of the proposed footprint (100%) will be built on slopes of 10% or more. These slopes comprise soils which, according to OEH Land and Soil Class Definitions (2012, p.229) require "specialized land-management practices with a high level of knowledge, expertise, inputs, investment and technology." The report notes in particular that 84% (or 660 ha) of the proposed footprint needs to be "carefully managed to prevent long-term degradation", and that approximately 10% of the total footprint (90 ha) will require "careful management of soil limitations to prevent severe land and environmental degradation".
- Expert opinion has been sought by locals which similarly indicates that, while vegetative cover on the site is currently healthy following drought-breaking rains over the past year, the granite and trap soils which predominate the site are fragile and prone to erosion – a fact compounded by topography and slope within the proposed footprint.

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- Erosion concerns are accentuated by the possibility of increased silt depositions into the sensitive riparian zones of two river tributaries (Gara and Commissioner's Waters) which converge on the site before falling into the adjoining gorge country on the southern boundary.
- These rivers are noted for their thriving platypus and riparian habitats, and are likely to be threatened by the proposed development.
- Notably, these rivers also flow into the Oxley Wild Rivers National Park and Macleay River catchments. The EIS Report correctly observes (p25.) that Oxley Wild Rivers National Park is listed as an area of geological significance in the New England region of NSW and is part of the Gondwana Rainforests of Australia World Heritage Area.

3. Fire & Hazmat

- The EIS notes that the proposed Oxley Solar site borders two large "Red-Zone" fire areas (Vegetation Category 1) on the Southern and North-East boundaries of the proposed site. EIS notes (p.290) that these areas are "considered to be the highest risk for bush fire, has the highest combustibility and likelihood of forming fully de*veloped fires (NSW RFS, 2015a)."*
- These features, combined with the site's high elevation, high fuel loads and high evaporation levels increases the potential for spot-fires – particularly in association with wildfire scenarios. The EIS report notes (p.290) that the New England Bushfire Committee Management Area (NEBFMC) currently experiences an average of 12 major fires per annum. Reports in other literature indicate that the incidence of wildfire across all regions is likely to increase over coming decades, as the effects of climate change take hold.
- The site's location up-hill from areas of national park with high natural vegetation loads increases its vulnerability to wildfire, which are known to spread quickly when approaching from lower areas, and are often fanned by locally generated strong convection winds – particularly in gorge-country such as the neighboring Oxley River National Park.
- Locals report that during the recent wildfire season (2019-20), they were left to dowse local spot-fires and fend for themselves on the proposed Oxley Solar land, without assistance from RFS or government resources which were otherwise deployed or too thin on the ground to assist.
- The EIS notes that a bank of twenty-five lithium batteries will be located on the northern end of the development close to the Trans-Grid network, providing up to 50MW of battery storage on site.
- The report notes (p.295) that *"Fire risks Lithium-ion cells contain highly flammable electrolytes within a metal prismatic can or metalized pouch that have seals designed for a 10 to 20-year service life. The ambient operating temperature range for Lithium-ion systems can span -10 to 50 degrees Celsius but the cells inside the containers are kept within a smaller range, 10 to 30 degrees Celsius, through the enclosure's thermal management system that is sized to keep the cells Environmental Impact Statement Oxley Solar Farm NGH Pty Ltd | 19-489 - Final V2.1 | 264 within the recommended operating temperature range under normal conditions. Excessive overcharging leads to heating within cells that can initiate 'thermal runaway' triggering new chemical reactions through breakdown of the electrolyte, additional heat generation and ultimately the venting of gases containing carbon monoxide, carbon dioxide and hydrogen."*
- The EIS further notes that *"Lithium-ion fires require specific training, planning, storage, and extinguishing interventions, catering for both progressive burn-off or explosive events (Butler, 2013)."* However no specific mention is made of mitigation measures in relation to these risks the report (particularly within BF8 and BF13 on p.298)
- Further concerns have been raised by locals in relation to possible hail and fire damage of solar arrays which I understand can contain cadmium telluride (CdTe). While relatively inert and stable, these

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compounds are considered to be toxic and carcinogenic when inhaled or ingested, and can be released when burned or otherwise ground into fine dust.

- The occurrence of damaging hail storms within the New England is not uncommon and, as with wildfires, these are likely to increase over coming decades under the influence of climate change, thereby increasing the risk of these CdTe carcinogens being released into the environment from the site.

4. Socio-Economic

- The EIS (p.252) comments that *"the Gara River Hydro-Electric Scheme curtilage is directly adjacent to the southern border of the Project Area. This item is listed on the NSW State Heritage Register (00986), Armidale Regional Council Local Heritage Register and s.170 NSW State Agency Heritage Register."*
- As previously mentioned, the "Blue Hole" area attracts approximately 70,000 visitors per annum and provides one of the most accessible nature and heritage-tourism sites within a short drive (ride/walk) from Armidale. The Armidale Region has for many years prided itself as a preferred destination for outdoor activities, sporting events, cultural heritage and nature tourism. Associated Regional branding and marketing activities over the past decade or more have aimed to attract new residents the Region who share in these ideals and commitments to maintenance of the 'pristine' New England High Country environment. While the New England Renewable Energy Zone (NE-REZ) aligns with these values, the visual impact of an industrial-scale solar-PV array situated beside a site listed under both the NSW State, and Armidale Council's Heritage Registers is somewhat inconsistent, and arguably works against these long-held strategic objectives for the Region.
- It is noted that to date, desk-top research undertaken for the EIS indicates that *"there are no known historic items or places occur on the site."* (p. 251) apart from two European places of potential heritage significance (p.284).
- It is further noted (pp.292-5) that while desk top studies have not revealed sites of Indigenous cultural significance, more work will be required to identify these areas and artifacts, and that the placement of PV arrays will require modification (at least) in accordance with the findings of ground and sub-surface surveys to be completed in collaboration with local Indigenous representatives.
- Local stakeholders have also flagged the need (more generally) for economically integrated and more locally derived investments into renewable energy generation, with a view to producing and retaining benefits of the renewable energy sector within the Armidale Regional economy.

5. Waste and End of Life Considerations

- The EIS notes that the Oxley Solar project will require, among other materials, 716,000 solar panels, cabling and up to 50MW of lithium-ion battery storage. The report notes that solar panels are likely to have a productive life of thirty years (the life of the investment), while lithium batteries will need to be replaced within fifteen years.
- The EIS notes (p. 302) that "Waste lithium-ion batteries are not currently regulated as a hazardous waste by state governments and hence transport within the state is not required to be tracked in hazardous waste tracking systems (Randell Consulting, 2016). The report also refers to The Australian Battery Recycling Initiative (ABRI) website which indicates four companies which provide a collection and recycling service for used lithium-ion batteries.
- The EIS however does not provide specific information about the manner in which batteries will be decommissioned and/or recycled, and the financial conditions which will enable these asset renewals.
- Locals have drawn attention to the seemingly 'hidden' nature of investors behind Oxley Solar, and note that the business case, along with the Project's capital investment value (CIV) is not included for public viewing within the EIS Report. As such, the capacity of the Company to warrant or otherwise publicly

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assure whole-of-life recycling costs, as well as the safe operation and maintenance of plant and responsible decommissioning of the site at Project Completion is not guaranteed. These issues are a cause for particular concern amongst locals in view of the environmental sensitivity of the proposed location and potential high clean-up costs of the site, in the event that the Company is wound up or otherwise sold to a less-responsible proponent over the next thirty years.

- It is noted (p.280) that a *"Waste Management Plan would include a requirement for separate waste receptors to be located on site during construction to receive recyclable and non-recyclable waste"*, and that *"recyclable waste is likely to be generated from packaging (cardboard, plastic, wood)."*. The Report lists Armidale Regional Council waste-management sites as possible receptors of waste and recycled materials. However, as with the Lithium-ion batteries, there is little detail in the report about proposed volumes and types of waste; methods of sorting; transport and types of recycling methods proposed by Oxley Solar.
- While the EIS in Section 8.4.3 (p.281) discusses decommissioning of assets, the particulars of how this will achieved; legal redress (if required), and the financial capacity of Oxley Solar (its subsidiaries or successors) to fund these expenses at the end of Project life remain unclear.

6. Environmental Planning

- The EIS (p.283) notes that *"The Gondwana Rainforest of Australia is listed on the National Heritage List and World Heritage List. The Oxley Wild Rivers National Park forms part of the Hastings-Macleay group of the Gondwana Rainforests of Australia. Part of the Oxley Wild Rivers National Park begins at the southern boundary of the proposal site."*
- Locals have similarly identified with me, the proposed site's ecological fragility which is a function of its:
    - slope of land (>10%);
    - fragile soils;
    - topography and fire-proneness;
    - proximity to UNESCO World Heritage areas and Oxley Wild Rivers National Park;
    - line-of-site with popular tourism attractions;
    - confluence of two river tributaries before plunging into the adjoining Gorge Country;
    - endemic flora and fauna; and
    - still to be determined Indigenous cultural attributes.
- These and other concerns have been drawn to my attention over the past week or so and in my view behoove utmost scrutiny and application of Environmental Planning regulations, before (and if) the Oxley development is to proceed.
- It is noted in relation to environmental planning (p. 284) that *"all commitments and mitigation measures would be managed through the implementation of a Project Environmental Management Strategy (EMS). The EMS would comprise a Construction Environmental Management Plan (CEMP), an Operation Environmental Management Plan (OEMP) and a Decommissioning Environmental Management Plan (DEMP). These plans would be prepared sequentially, prior to each stage of works by the contractor (CEMP, DEMP) and proponent (OEMP)."*
- It has been further noted that the financial capacity of Oxley Solar, as well as the Company's previous experience and proven capability to plan, implement, and continuously improve environmental management plans is not referenced or made clear within the EIS. These credentials are similarly not provided within Oxley Solar websites and marketing collateral.

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7. Cumulative Effects

- LGA constituents have raised the need for independent and expert professional advice in relation to issues raised by the Oxley EIS and their cumulative impacts with similar investments in the Region. Other solar investments in the Region include Hillgrove, Stringybark, Metz, Tilbuster, Olive Grove and Salisbury Plains. In aggregate these have been estimated to cover more than 7000 ha area, providing 6,000 MW of renewable energy.
- Table 8-24 (p.309) usefully summarizes SSDs in the Region and makes reference to potential compounding and detrimental effects, impacting:
    - Biodiversity
    - Visual and landscape character
    - Noise
    - Traffic
    - Local facilities
    - Demand for goods and services; and
    - Land use/compatibility
- Local coordination and timing of both construction and operational phases of Regional Renewable Energy Projects is likely to mitigate some of these cumulative effects – particularly in relation to the resource-intensive construction phases.
- It is proposed that in over the next three months, Armidale Regional Council will be considering voluntary planning agreements (VPAs) and other policy settings in addition to Section 94A Developer Contribution Plans, as part of its future commitments toward mitigating detrimental cumulative effects – particularly during the construction phase of these developments.
- It is noted that Planning Agreement(s) will require approval via standard legislative procedures (ie. draft adopted by Council, public exhibition, report back to Council adopting the Planning Agreement) before taking effect.

To conclude, I would like to reiterate Council's commitment toward establishment of the New England Renewable Energy Zone (NE-REZ), and the benefits these investments will bring to the Armidale LGA, NSW and the National economy. Armidale Council stands ready to support well-considered investments in the renewable energy sector within the NE-REZ - particularly those which demonstrate clear social license to operate through integration with the local economy, and offering community benefits over the operational life of the project(s).

I would stress that plans for NE-REZ projects within the Armidale LGA will require rigorous and consistent application of planning regulations; strong community outcomes, and demonstrated responsiveness to community concerns such as those detailed above. I also note that many of these concerns raised will require further determinations by the planning authority to assess, mitigate or otherwise adapt proposals in the planning phase to optimize commercial and public good outcomes over the life of the project(s).

If you have any enquiries in this matter, please do not hesitate to myself or Will Winter (Principal Advisor, Economic Development) wwinter@armidale.nsw.gov.au.

Yours faithfully

Cr Ian Tiley
Mayor

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