From:	Ewan Chandler
To:	IPCN Submissions Mailbox; Chandler family
Subject:	additional comments
Date:	Wednesday, 20 December 2023 9:49:05 AM
Attachments:	IPC response.docx

Hi IPC, my additional comments are attached.

Kind regards, Ewan Chandler

Setbacks and Buffers

Given that this site directly impacts neighbours, any consideration of buffers should be prudent and future proofed. It should also be noted that buffers do not extinguish risk or impacts, just reduce them. It would therefore be prudent to recommend larger buffers than the minimum. A better solution would be to locate solar plants on large properties where risk and reward are better matched and risk management and farming practices can be integrated. Better still, solar plants should be located in a REZ where neighbouring activities and risks are also better matched. The NSW Government in establishing REZs also implying an acknowledgement of social licence and risk.

For example, the current guidance from NSWRFS on a 10m APZ for solar is theoretical, as this is yet to be tested operationally and legally (note an APZ is separate to a Fuel Reduced Buffer Zone, and these together will not fully mitigate fire risks). At some stage an actual fire will burn a solar plant, and NSWRFS will no doubt expand their APZ. Site plans should be approved on the basis that buffer zones are flexible during the life of a project, so as that plants continue to operate under best practice during their life, and additional risk and impacts are not borne by neighbours.

Heat Island effect

Elgin's assumption that our land is used for grazing is incorrect and not evidence based. Whilst we allowed Elgin's contractors on our land in good faith, this was solely for the purpose of facilitating their visual impacts study. At this visit there was no discussion of cropping activities. In fact, neither Elgin or DPE has consulted or engaged us on our past, present or future cropping activities. A reasonable person would have asked these simple questions, additionally, its logical if the development site is used for cropping, then neighbouring farms would likely have the same land use, especially given the existence of grain silos and silage bunkers. It is very disappointing the DPE accepted Elgin's assumptions without evidence, validation or consultation with impacted neighbours.

I note that DPE is now suggesting a Heat Island setback of a least 30m, this continues to be unsatisfactory given

- An at least 30 setback is yet to be scientifically proven as a full mitigation of Heat Island effects.
- DPE has failed to mention in their response that a 30m setback is only potentially effective when employed with a visually dense vegetation buffer higher than the top of the PV array at its highest point.
- In his report to the Greater City of Shepparton, Mr Ken Guthrie states in point 95, "In my opinion a dense vegetation buffer will effectively stop heat transmission to neighbouring properties. There will be minimal effect on temperatures more than 100m from the outside of the vegetation." Whilst there **may be** some linkage between this statement and Fthenakis and Yu, given the study was done without a visually dense vegetation buffer and temperatures in the study did decline the most at 100m, Mr Guthrie has not provided a rationale, linkage or evidence between Fthenakis and Yu, his point 95, and his later recommendation in point 101 for a setback approximately 30 metres from the boundary. Minimal effect on temperatures more than 100m from the outside of the vegetation, also does not mean that the Heat Island effect is fully mitigated at 100m.
- Elgin is proposing linear tree planting of tube stock. I understand that this is to break up the visual impacts and not mitigate visual impacts. Their proposal does not include a visually

dense vegetation buffer higher than the top of the PV array at its highest point, its watering and maintenance.

- Elgin should not be allowed to claim our land in their buffer as this contravenes the NSW Agriculture Commissioner 'Agent of Change Principle", where all impacts need to be fully mitigated with the development site. Elgin have claimed our land without consultation or compensation, they also have not outlined any restraints or obligations which would be imposed upon us or provided a supporting legal opinion.
- I consider that Heat Island Effect would also impact livestock and pasture, for example Phalaris pasture will grow to 1 to 2 m tall at maturity. DPE has not provided any evidence as to why the Heat Island effect impacts are limited to just horticulture and cropping.
- Elgin's design should be risk adverse and prudent to ensure that they fully mitigate the Heat Island effect and not damage neighbouring farming activities. Given that a visually dense vegetation buffer higher than the top of the PV array at its highest point will not exist at site commissioning, and in fact will take many years to be effective, the site design should be approved in 2 stages.
    - Initial phase at site commissioning with an 800m buffer from the panels
    - Once the hedge is effective, based on a scientific study the buffer can be reduced to an evidence based and scientifically proven buffer (perhaps > 100m)

TABLE I

DIFFERENCE OF AIR TEMPERATURE (@2.5 M HEIGHTS) BETWEEN THE LISTED WEATHER AND HAWK STATIONS AND THE AMBIENT

Met Station	WS2	WS7	HK1	HK2	HK3	HK4	HK5	HK9
Temp Difference from H6 (°C)	1.878	1.468	0.488	1.292	0.292	0.609	0.664	0.289
Distance to solar farm perimeter (m)	-440	-100	100	10	450	210	20	300

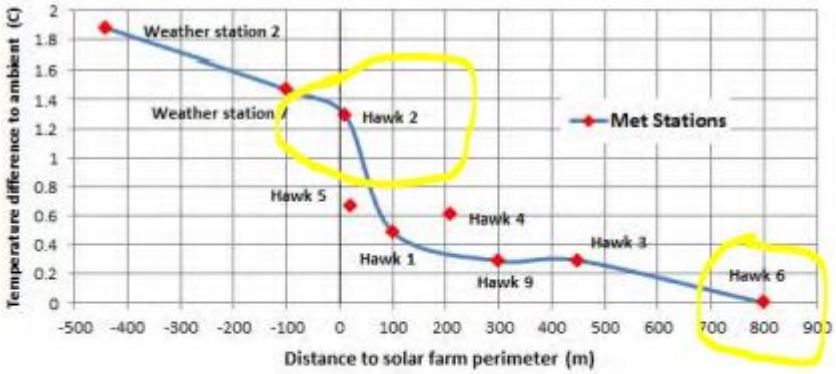

Fig. 8. Air temperature difference as a function of distance from the perimeter of the solar farm. Negative distances indicate locations within the solar farm.

Agricultural Land

- LSE class 3 land requires a detailed assessment (p 41 from DPE Large Scale Solar Energy Guideline Aug 2022) , ie

3.3 Level 3 assessment – detailed

A level 3 assessment is required where solar energy projects are proposed on land verified as LSC classes 1–3 or BSAL. This land is the state's most productive land and has the least limitations for sustaining various land uses.

Siting of solar energy infrastructure on important agricultural land, including land mapped as LSC classes 1–3 or BSAL, should generally be avoided if possible. Where it is not possible to avoid this land, the applicant must prepare a comprehensive assessment that addresses the requirements of both level 1 and level 2 assessments and includes::

- a detailed assessment of whether the project would significantly impact the local or regional agricultural industry, including production and supply chains
- justification for the project considering other alternatives which would have lesser impacts on agricultural land. Applicants must demonstrate that other project sites and siting options have been considered and state the reasons why the site and layout was chosen over alternative options
- an analysis of whether site design could be amended to reduce impacts.

My view is that this detailed Level 3 assessment has not be adequately prepared by Elgin or reviewed by DPE. The assessment undertaken appears to be a formality at best, and the issue of avoidance or alternative management of Class 1, 2 and 3 land has not been explored thoroughly. Elgin's commentary appears to be glib and superficial, ie (page 65 from Minesoils report)

In consideration of whether the site design could be amended to further reduce impacts, this report notes that the substation, the only project element considered likely to be required after decommissioning, is shown in the indicative layout as avoiding the verified LSC Class 3 areas which is considered appropriate and should be considered as much as possible in developing the final layout.

No further design amendments to mitigate agricultural impacts are recommended.

There is no practical reason as to why all LSE Class 3 land can't be avoided, especially given the risk of disturbance. Mr David Harbison in his 24 November report commented:

5. Understanding the future risk of soil dispersion and soil erosion is critical to such a site. With the known soil sodicity issues at depth from many sources, disturbing that soil layer has significant environmental risk. Dr. David McKenzie in his letter to the Dept. of Planning and Environment agrees on the importance of soil dispersion management at the Glanmire site. There can be no guarantee that when the proposed trenches are to be dug, that mixing of soil layers will not occur.

6. As a consequence of point 5 above, it would be assumed that there will be some sodic material placed at a different level in the soil profile to that where it naturally occurs at the moment. Further, water infiltration rates in the trenched areas will be altered. Soil bulk density will be changed. This could lead to faster, or slower, infiltration, with consequences of faster, or slower, water movement. Faster would lead to potential greater dispersion and erosive forces within the soil profile, slower could mean greater overland flow as less infiltrates. Both can have environmental consequences for the immediate site, and potentially 'down stream' where the water flows. Either outcome has consequential erosion issues and will degrade any LSC further, deeming future land use at a lower capability than currently exists.

- Given the high value of LSE Class 3 land, I recommend the IPC should consult with Dr David McKenzie on whether Minesoils' detailed assessment is satisfactory and whether all LSE Class 3 land should be avoided.

Flooding

We understand that this report is clearly flawed and has not been critically and independently reviewed.

As proven by the soil report prepared by SLR for both the Scoping and EIS stages, neither the DPE or the relevant government agency adequately reviewed the submitted consultancy report. Dr McKenzie comments that the SLR report failed to report the presence of 40.6 ha of LSC Class 3 land (requiring a 'Level 3' assessment rather than 'Level 2') because of a flawed soil sampling plan, ie. a very serious error.

The Department's response continues to emphasise that the Department has an irreconcilable conflict of interest, as the assessment body and the regulator making the Guidelines, and as an agency of government pursuing policy mix. The Department's responses, reflect an acceptance of Elgin's propositions and a justification that the proposal fits the Guidelines. This conflict also extends to government agency review of submitted reports, where again these agencies appear to be implementing policy, and limit their review assuming the project is approved, rather than perform a detailed and independent critique of the consultancy. This opinion is evidence based considering the acceptance of LSE's soil assessment and the fact that no agency has a follow up question on

consultancy reports. DPE also advised us to not engage independent consultants, rather to rely of their and agency review. If we had done so, then LSE's report would have been accepted by DPE as correct. This process is inflicting damage to agriculture in this state (as evidenced by Suntop solar), with potentially liability by the NSW Government, as the approving authority.

We appreciate that DPE are not qualified hydrologists but suggest that a reasonable person would understand that filling in dams along a watercourse, changing land use from framing to grazing, reducing stocking rates, concentrating water flows off panels, all without effective mitigation, would cause incremental water to flow from this site onto neighbouring properties.

I believe Elgin's comments that the "ground surface area underneath the solar panel available for infiltration is almost identical to that currently exists and therefore any increase in runoff from the site for the arrays would be negligible" to be simplistic and misleading. Whilst the surface area is similar, it is the change in the condition of the soil which will radically alter infiltration. The change in farming practice from cropping when the topsoil is 'softened' by tillage each year to 40 years of grazing, will lead to compaction, and a significant increase in runoff. Obviously, this assumption has not been included in Elgin's modelling. This change in farm practices will also not lead to an increase in roughness, and how this increase is achieved and maintained for 40 years is not substantiated, or validated by DPE. In addition the modelling indicating flooding levels, does not exclude the dams which are currently proposed to be filled in.

Elgin's claim that access roads "would be constructed at or near the existing level" is invalid, as all existing watercourses will require culverts and elevation, to prevent road erosion. This will funnel waterflows, compared to the current dispersion.

Similarly to the department engaging Dr McKenzie, the Commissioners should engage an independent industry expert to review the site's actual hydrology and the submitted modelling and report.

Insurance

DPE's view that "insurability for adjacent landowners is not able to be readily resolved through a condition of consent" provides evidence that this project should not be approved.

Elgin has failed to provide evidence of their interactions with the Insurance Council of Australia, ie neither evidence of the advice they sought or the response. Logically any commentary they received is dependent on the questions and background information provided. We have on many occasions requested Elgin provide detail on their questions to the Insurance Council of Australia, this has never been provided.

Elgin comments that the Insurance Council of Australia are "not aware of any increased risk profile for farming properties", indicate that Elgin did not fully brief the Insurance Council of Australia, as the inclusion of battery storage clearly changes land use and elevates risk. The Insurance Council of Australia would be aware of this given recent battery fires in Victoria.

It is also clear that this solar plant radically changes the land use profile for Glanmire, as it introduces an industrial plant into a rural setting. Currently, neighbours conduct farming enterprises, and as these employ agriculture practices similar risks exist, and standard $20m insurance policies are appropriate. A $150m plant plus business losses radically changes this risk profile, and no amount of buffer zones or operation practices can extinguish this risk. In fact, poor site selection and design,

abutted against neighbours and in a cropping, hay / silage making location creates a higher risk profile than what would exist if this plant was located elsewhere.

It should be reiterated that any mitigation can only be partial at best, and we strongly disagree with Mr Lalich's comments that buffer zones can "reduce the likelihood that insurance companies would increase premiums". This is not an evidence-based observation. If Elgin was looking to further improve mitigation, they would select a different site. In fact Elgin's mitigation plans are in conflict, with screen planting and pasture requirement for sheep grazing conflicting with those required for fire.

The proposed design is not best practice and should be reworked to at least match Victoria CFA's Design Guidelines and Model Requirements, Renewable Energy Facilities v4. To design and approve a project not employing best practice I believe will expose Elgin and DPE to claims of contributory negligence.

In summary, this site is poorly located and designed, ensuring risk and impacts are not fully mitigated. My understanding is also that the DPE's and agency roles are fundamentally conflicted, and many reports have not been appropriately reviewed, with comments and assumptions not evidenced based. The insurance issue alone remains unresolved and singularly provides grounds for project rejection.