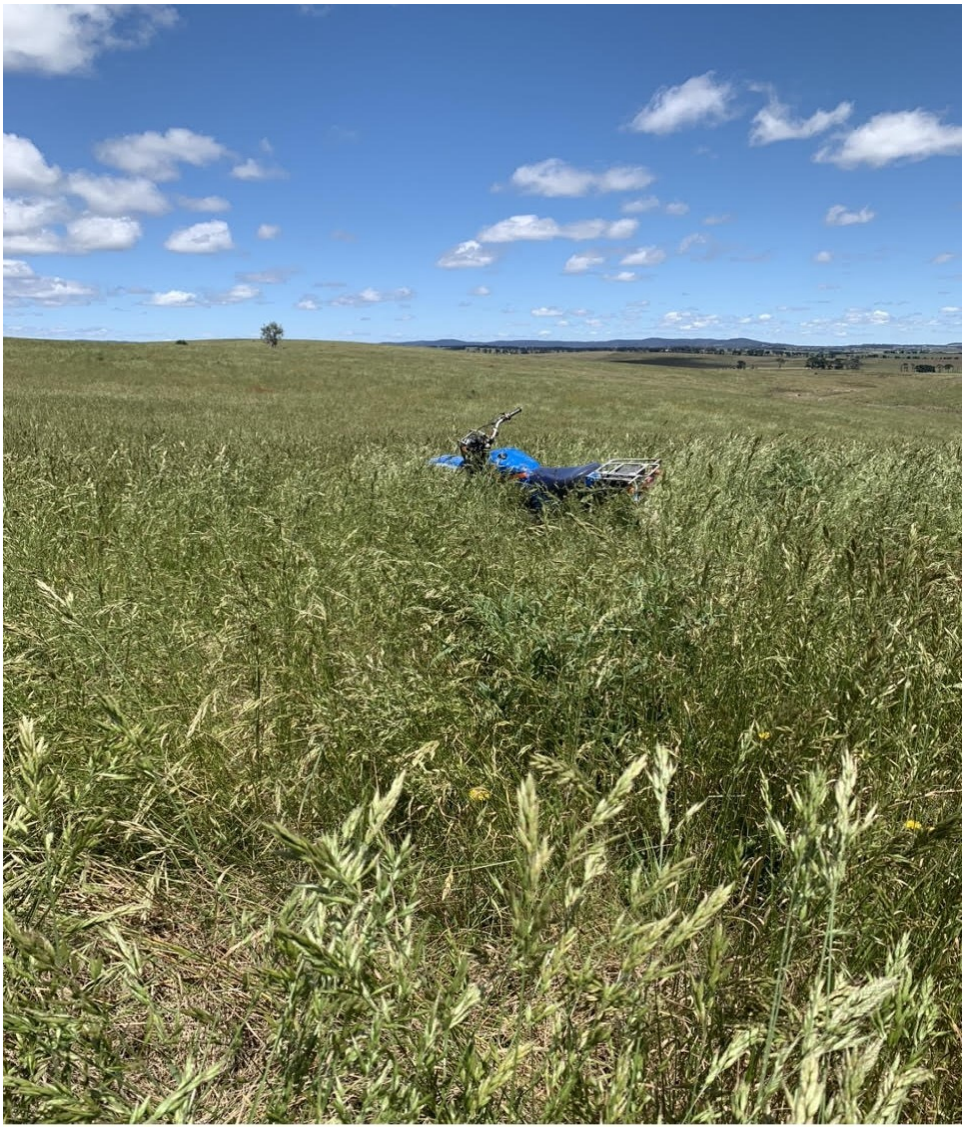
Appendix 17
Bushfire threat Assessment

7.0 Bush Fire Assessment

In regard to the bush fire, the threat at this site is considered low. All the land over the site and surrounds is grazed, reducing grassland fuel loads and fire potential.

- The bush fire threat is not low.

Grazing on surrounding properties does not mean that there will not be a fire danger. The major growing seasons in Goulburn are in spring and autumn, during good seasons excessive pasture growth caries over into summer. The hot, dry and windy conditions during summer cure the paddocks and the fire danger increases. There are times during summers when our ratings may go from extreme to catastrophic.



Fuel loads (spring) before the sun and wind dries the paddocks leading into summer.

In the summer of 1983-1984 our entire property was burnt out. It was a forty degree day, a strong westerly was blowing and the fuel load was high. The fire started to the west and crossed the plains in a very short period of time and ended up down the coast.

- We lost over 500 sheep and all the fencing.
- The property was completely burnt out in under an hour.
- During a good season there is always excess feed.

Post construction sock rates for the Project have not been determined/estimated. Decommissioning of the majority of dams on the property will obviously reduce the caring capacity of the project area and increase the fire risk.

1.1 Introduction pg 6

The project Area has been assessed as being part of a Bush Fire Prone Area (Figure 6) as mapped under the Bush Fire Prone Land Map, 2023

- From my experience this statement is correct.

When extreme weather conditions are predicted most country people stop all activities and prepare to put in place their fire management plan. They have already prepared their property as best they can, last minute decisions have to be made on how best to protect their livestock.

- In our case the family leaves early.

A fire next to my property (extreme fuel load) resulted in my neighbour getting 30 percent of his body burnt, he was lucky to survive. I can still remember him running through the flames towards my vehicle. Ideal conditions, very strong winds, extreme temperatures and a high fuel load have a major influence in the fire intensity on Gundary Plains. Under these conditions the RFS directs all there resources to protect homes and farm structures.

- Fires of this magnitude cannot be controlled.
- They travel large distances in a very short time.
- If there are multiple fire events on the same day resources will be stretched.
- Access to the area my be reduced due to other fire fronts.
- Fighting fires is always a dangerous activity.
- Embers travel large distance under extreme fire conditions

4.3.4 Increased Cost of Insurance for Adjacent Property Owners pg 81

Public Liability insurance linked to solar farms has been recently raised in the Parliament of Australia.
The NSW government has noted that further information and analysis is needed to respond appropriately and is undertaking further analysis in consultation with the Australian energy Infrastructure Commissioner and the CEC.

- The developers must cover any increase in insurance cost.
- This should be in writing prior to any approval.

Our front gate after the fire.

The lower branches of the pines were burnt and never recovered. The supposed screening on Windellama Road for the Gundary Solar Farm were also burnt during the fire. They offer little mitigation value when looking towards the substation and transformer structures.

- I have removed some of mine because they are dangerous to passing traffic.
- All the trees on the road of the development need removing and replanting.

2.1 Scope of Works

The project comprises:
Perimeter security fencing with emergency access points (via gates), a 10m Asset Protection Zone (APZ) and dedicated non-combustible water tanks.

All of these gates can only be accessed through neighbouring properties (paddocks). Locating these gates in good conditions would be difficult, under duress with fire and thick smoke it would be nearly impossible. A good understanding of the paddocks would be needed for individuals to make their way to the sealed roads.

- The gates are not visible from Windellama Rd or Kooringaroo Rd.
- With thick grass it is very difficult to travel through the paddocks.
- Gates lock/unlocked.
- The location of the water tanks needs to be improved.
- Is there a Ring Fire System where all the tanks are connected, providing a constant supply water from each tank.
- If a BESS fire starts, water will not put them out.

A 10m APZ is not going to stop a fire entering or leaving the Solar Facility under extreme conditions.

- Embers from a grass fire can easily travel a distance greater than 10 meters.
- Spot fires can be ahead of the fire front without warning.

- **There is no mention on how to fight/control a fire in the BESS, Substation and Solar Panels.**

2.2 Surrounding Land Use pg 17

The site is located in a rural area, which is grazed by cattle/sheep permanently both over the site and surrounds.

- This will not reduce the high fuel loads.
- Good spring growth creates extra feed.

Fuel loads are determined by pasture type, soil fertility, stocking rates and seasonal conditions. Sometimes farmers may increase their stock numbers to take advantage of the extra feed, but they will not leave the country bare. Cattle prefer to graze on feed above boot height.

2.4 Utilities/water Supply pg 17

There are many small dams over the site. Note most dams are to be decommissioned as they lie within the project footprint.

- A reduction in the amount of water means less stock, extra pasture growth.
- Reduced stock numbers is contradictory to the project proposal of Agri-solar.
- Reduced stocking rates means greater pasture growth.
- Reduce stock means that they will have to cut the grass regularly, adding to fire risk.

2.5 Construction Standards pg 17

However, given the adjacent land is typically unoccupied (farmland) and the large separation distance from the control BESS.

The land is not unoccupied, the Solar Farm is surrounded by lifestyle blocks and some larger farming enterprises. The development has over 100 residences that will be impacted. To suggest that there is no activity on these properties is ridiculous.

- People may be working 200m from the solar farm.
- Children may be riding horses.
- Animals grazing on the property boundaries.
- Crops growing.

The PHA prepared for the Project identified a number of hazards events LIBs (lithium Ion Batteries) and electrical transformers with the potential for harm off-site impacts.

- PHA is not in the Terms and Abbreviation Appendix 17
- No information is available on how to control a fire in the BESS, Substation or solar panels.
- Does RFS have the training, capacity and equipment to fight a fire in this facility.

A FHA (fire hazard analysis) and FSS (fire safety studies) will be undertaken as the project design progresses towards completion to ensure the final project design adheres to the risk management measures outlined in the PHA and that the separation distances are appropriate for the specific battery cell type (i.e, chemistry and capacity) to be used at the project.

- The FHA and FSS should be completed prior to the project proceeding.

As a primary producer (550 meters down stream) I am very concerned about contamination from the project area.
Contamination from:

- Leaching from solar panels over time.
- Damage from a hail resulting in chemical runoff.
- Fire on the property, having gasses and chemicals escaping (BESS runaway).
- Runoff from fire fighting liquids (BESS/Substation fire).

2.6 Other Fire Protection measures/Emergency Evacuations pg 19

In regard to bushfire, the threat at this site is considered low, being limited to potential Grassland fires, and possible ember and smoke attack assuming the asset Protection Zone is maintained over the site surroundings. Therefore the safest place would be to stay within the Operations and Maintenance Building (O&M) as it will protect occupants from embers in the air and smoke if all windows and doors are shut, or to evacuate the site early.

From my experience with over 25 years as a volunteer fire fighter (RFS) in the district this advice is correct. Workers will have to make a decision to evacuate early as the Solar Farm has only a 500 meter road frontage on the western boundary. The predominant direction of fires on the plains is from the west.

- **A late decision would put lives in danger.**

The statement suggests that it is possible that a fire could start from an ember produced from a grass fire. There rating of low is not backed up by the information available.

- Project is located in a moderate fire zone.
- The surrounding environment cannot be controlled.
- Fires may start on neighbouring properties, roads, train line, airport, One race track or from individuals who do not understand the threat.
- Summer conditions at times are ideal for an extreme/catastrophic event in this region.

If all the employees evacuate who will fight the fire. Are the RFS willing to enter the property as Large Scale LIBESS fires pose an unacceptable risk to the safety to attending personal.

2.3 Access

Furthermore, an emergency access point via Kooringaroo Road is proposed on the east, with additional emergency access points (via gates) along the perimeter fencing to allow for emergency access.

There has been no information provided on the suitability or condition of Kooringaroo Road as an emergence access road. This road is in poor condition and not suitable for large amounts of traffic. It is very narrow, has poor shoulders and has three tight watercourse crossings. One of these is extremly narrow and only allows one vehicle to cross at a time. The initial part of the road is sealed and the rest is dirt. The condition of the dirt section depends on the weather and the public works schedule.

- Kooringaroo Road travels through bush fire prone land.
- It is a dead end.
- Only exit route for the residences, Kooringaroo Road.
- To evacuate residences will travel towards the approaching fire through thick smoke and possibly fire (fire usually comes from the west).
- The road is not suitable for large trucks and vehicles at the same time.
- This area is already at a high fire risk.

Fires starting from dry electrical storms is a major concern during summer. This could happen in the facility or on a neighbouring property.

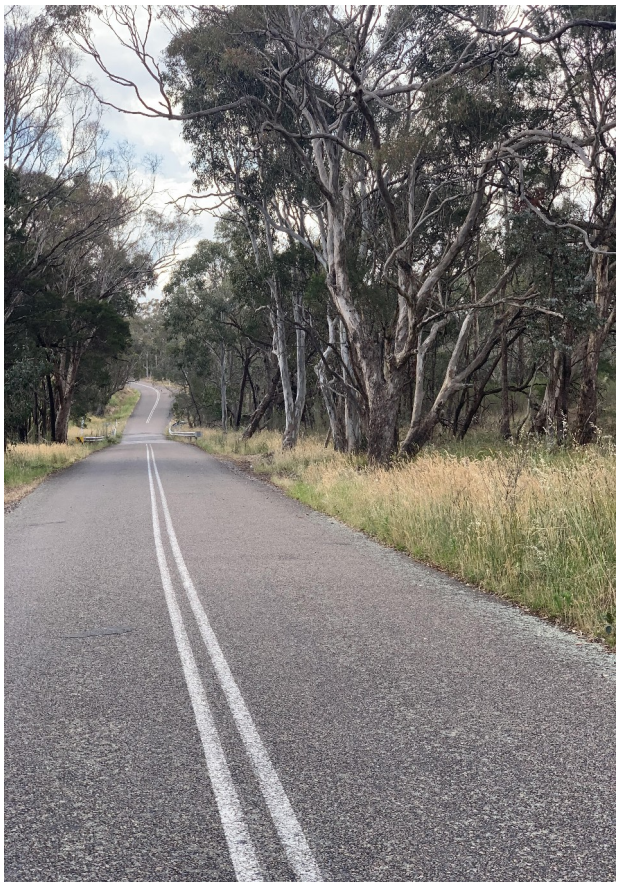
- This is a real threat to the solar farm.
- What is the result if a BESS is hit by lightening?

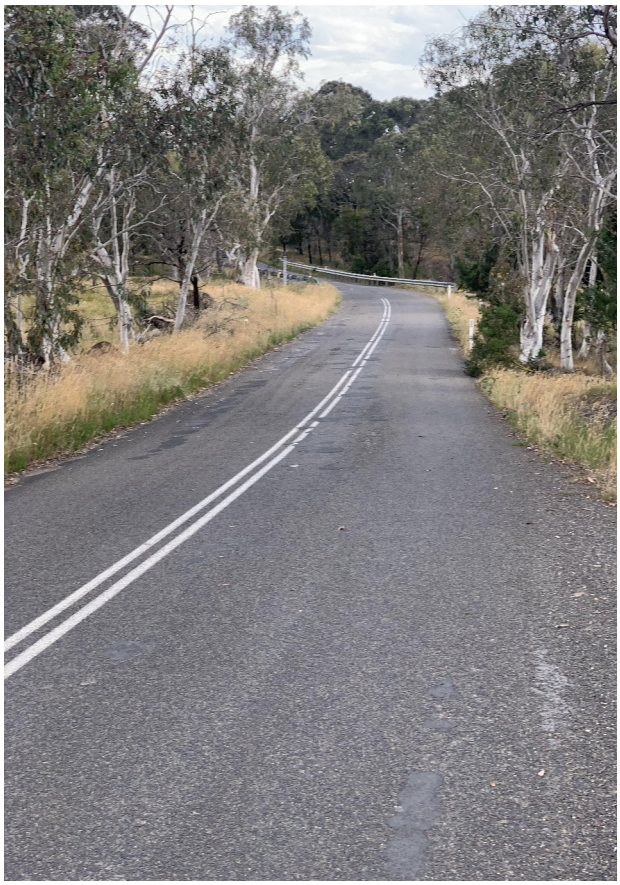
The development should not proceed.

- It has very limited access points to sealed roads.

When fighting a fire accessing to adjoining properties is usual accomplished by cutting through existing wire fences. This is simply done with wire cutters. Sometimes this has to be done quickly as fire fighters seek safe ground.

- With Perimeter Security fencing it will be difficult to cut
- How will the RFS enter/exit in emergencies with the proposed perimeter fencing?
- Emergency gates are not easily accessible due to there location (no road frontage).





Narrow road with only a single lane for crossings. This is the escape route for over thirty residence living on fire prone land east of the development.

My mother after the major fire.

- “**We have lost everything except the house, I don’t know if you father is alive or dead.”**

Fire is a major issue for people living in this area every summer. The local brigades are already under stress during fire season and if this development proceeds without huge investment in fire resources and personal there will unfortunately be property losses.

- **Hopefully not lives.**