Chapter 12 – Bushfire Risk Assessment

Where some inconvenient facts get in the way of ERM's theories

and then, after 40 pages of irrelevancies in the Bushfire Risk Assessment, ERM gravely insults this community, having just gone through or been threatened by a major bushfire, by copying, virtually word for word, the detailed section from the Biala Bushfire Risk Assessment, including identical Low to Moderate risk ratings

This summer we have had two major bushfires that have affected the Jupiter wind farm PA.
In December, 2016, the Boro Rd fire, whilst not starting in the Jupiter PA, would have left turbines 20, 82, 54, 72 and 83 islands in a blackened landscape. Worse than that, once in an operating wind farm, there is no guarantee that it could be stopped until it had emerged from the other side, if then. The Boro Rd fire was stopped by large scale aerial bombing, an option not available within or close to turbines.

On January 17, 2017, the Capital wind farm fire broke out, making a mockery of the Jupiter Bushfire Risk Assessment.
- This is a high risk bushfire area
- Fires do break out on wind farms
- That fire would not have broken out if the Capital wind farm had not been there.
- Staff on site, if any, were no help
- Any fire fighting equipment on-site was either not used or ineffective
- The Bushfire Management and Emergency Response Plan, if existing, was useless.
- The fact that the fire broke out and traveled in so-called Low or Medium fire risk zones made little difference
- Wind farm fires are unlikely to be contained
- The access tracks, a key supporting argument, were no help [1]
- Surrounding property and stock were severely impacted
- Low and Medium bushfire risk assessments are a joke
- In an emergency, non human fauna, threatened or otherwise, are ignored.
- Bushfires do not respect different species of vegetation

The Capital wind farm fire was stopped on its eastward march at the Braidwood Goulburn Rd at Branxton Park, a major Jupiter host. Once again, the Capital wind farm fire was stopped by large scale aerial bombing.

Vegetation mitigation.
Opposition to the Jupiter wind farm will be on many grounds, one significant one being the Visual Impact of the project on the many "lifestyle" residences in close proximity to the turbines. Many of these will suffer impacts that can only be described as extreme.

The developer has settled on a strategy that involves the use of screening the views of the turbines from impacted residences by the planting of vegetation. (and as one resident ironically pointed out, screening the view of the approaching fire)

[1] Access tracks are of little use in a bushfire. In the Capital wind farm fire, the front was well out of the area in a very short time. They might be useful in a mid-winter turbine or transformer fire. The Capital access tracks, being perpendicular to the wind direction may have some use as a line of resistance. However, that line was breached, as was the Bungendore-Tarago Rd, as was Hazeldell Rd.
Jupiter access tracks, connecting clumps of turbines rather than lines provide no line of resistance.

This strategy is absolutely key to the success of the application. If the Department of Planning does not accept it, the project must be rejected on Visual Impact grounds alone.

In its assessment, the Department will consider imposing screening requirements out to 4 or 5 kilometres. According to the developer, there are 240 non-associated residences between 1 and 5 kilometres from a Jupiter turbine.[2]

According to the LCVIA, the individual residences need to be screened by trees up to and over 25 metres tall.
Many of these residences could only be screened by dense tree plantings within metres of the residence. Are you getting a picture of the unique nature of the Jupiter wind farm and surrounds? Relatively large numbers of residences in a windy bushfire prone area.

This screening was not considered in the Bushfire Risk Assessment.

ERM knows that screening, as suggested, is a serious hazard. They agree that consideration must be given to the aims of the RFS publication Planning for Bushfire Protection 2006, specifically:

- provide for a defendable space to be located around buildings;
- provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition[3]

Epyc will adopt this sensible approach for its own assets. Why propose the reverse for ours?

This community has been given a timely reminder against the planting or vegetation, especially eucalypts and conifers near their residence.

It would be unwise for the Department to endorse this mitigation strategy**.**

A tale of two Bushfire Risk Assessments

ERM gravely insults this community by copying, virtually word for word, the Detailed Bushfire Risk Assessment section from the Biala EIS, including identical Low to Moderate matrix ratings.[4]
This lazy approach leads to statements such as these in the Jupiter risk assessment:

> "Residential assets in proximity to the Project are generally not vulnerable to bushfire due to their location in low hazard areas"

> "The design and layout of the wind farm will assist in reducing the risk of fire and isolating any issues"

(unlike Biala, the Jupiter wind farm must be considered as three separate wind farms for fire fighting purposes. It is likely that there will be no on-site staff in two of them at any point in time. There may be some contractors, but they are not paid to fight Epyc's fires)

> "There is a relatively low density of residential (farm house) and communities within and adjacent to the PA"

[2] Or in excess of 263 in the bushfire impact assessment (Page 23)
[3] Page 9. Bushfire Risk Assessment
[4] Compare table 7.5 (Biala) to table 6.5 (Jupiter)

(to put it politely – rubbish)

> "The risk that wind farm will cause a fire is minimal"

(demonstrably untrue)

> "the dominance of cleared grazing land and numerous roads (which act as fire breaks) would reduce the likelihood of a widespread fire."

(demonstrably untrue)

These statements, some of which could well be defendable in the Biala case do not survive transcription to the Jupiter wind farm.

Additionally, in that same table (6.5), nonsense statements abound eg:

> "pilots…..must not fly lower than 500 feet (152m) above the highest point of the terrain or any object on it"

(The author has obviously never seen the DC10 in action. Ample photographic evidence available)

> "Fire suppression aircraft only operate in areas where there is no smoke"

(I have clear memory of the "sky-crane" helicopter emerging from dense smoke during the Capital wind farm fire)

As the whole Bushfire Impact Assessment relies heavily on that written for Biala, you get other nonsense statement such as:

> "The majority of properties surrounding the PA are privately owned rural farming properties"

and

> "There is a relatively low density of residential (farm house) and communities within and adjacent to the PA."

(relative to what?)

The bushfire section of the Jupiter EIS, designed to be read in isolation, suffers from these untruths and deceptions primarily because it was written for another wind farm and therefore to substantially copy it is deliberately misleading.

There are many differences between the two wind farms. The risk to our 63 residences between 1 and 2 kilometres (and many other valuable assets in the same range or closer) compared to ZERO Biala residences in the same distance band surely would have an impact on areas of risk assessment such as aerial operations.

<u>Other considerations</u>.

An area of rural residential character is much harder to defend than open farmland where you would normally expect a wind farm to be. That is because each residence has to be defended by separate RFS units. Many Jupiter residences were saved in the Capital wind farm fire because units were on site next to the residence, but it took a lot of resource.

In transcribing from Biala to Jupiter, certain facts had to be changed.

> "The majority of the proposed WTGs are in areas identified as low bushfire hazard. Nine WTGs are in areas identified as high bushfire hazard"

Can the Department confirm that this occurrence is common? Has any other approved NSW wind farm sited 10% of its turbines in an area of high bushfire hazard, or is this another Jupiter unique?

We all believe, don't we, that climate change is going to radically increase the frequency and intensity of bushfires. Professor Flannery told us within a day that the Capital wind farm fire was the result of climate change. Add to this the predicted negative impact on rainfall in the South-eastern corner of Australia.

Annex A contains a map of fire prone vegetation in Goulburn Mulwaree and (the old) Palerang LGAs. These maps do not show the wind farm PA. Totally useless

We were extraordinarily lucky.

- It was not a catastrophic fire day
- The water resources were almost at their peak (they aren't now)
- There was still a lot of green vegetation around
- There was no other local fire. A fire endangering Tarago or Bungendore, would draw much of the fire fighting resource away.
- At dusk when the aerial resources had stopped for the day we had a very heavy short thunderstorm.
- Jupiter was not built.

The Department's Biala Assessment

The Department effectively dismissed the concerns of the local residents.
None of their recommendations would have been effective in stopping or controlling the Capital wind farm bushfire.
They summarized:

> · The Bushfire Hazard and Risk Assessment (see Annex Q of the EIS) concluded the bushfire risks of the project would be low given the wind turbines and associated infrastructure would be located in areas mapped as low fire hazard and the project would have advanced on-board control systems designed to mitigate any risk of fire.

The Capital wind farm fire demonstrates that fires do not respect the fire hazard zones mapped by desk bound experts.
Do the "advanced on-board control systems" help when the fire source is a wayward crow (the supposed source of the Capital wind farm fire)?

> · The Department agrees with this assessment.

What expertise did the Department bring to bear to form this opinion?

> · Further the RFS has provided a policy position (2014) that wind turbines are not expected to pose unacceptable risks and aerial fighting operations treat the risk of turbine towers as tall structures as part of routine procedures.

We agree with this heavily qualified statement. Routine procedures dictate that pilots don't go anywhere near turbines. Also, why would Infigen close down the Capital and Woodlawn wind farms if not to assist the RFS operations?

> · On this basis, the project is unlikely to restrict the aerial bushfire fighting capabilities of the region beyond the site; and any impacts on site would be mitigated by the provision of improved access tracks for fire-fighting equipment.

Recent experience shows otherwise.

The bushfire section of the Jupiter Assessment will be closely scrutinized by local RFS personnel.

The risk measurement matrix

It must have hurt ERM sorely to publish a matrix designed to measure risk with two options above the moderate/possible on each axis. This, of course is the correct methodology in contrast to the matrix measuring NON Visual Impact in the Clouston's LCVIA.

Likelihood	Consequence			
	Minor	Moderate	Major	Catastrophic
Almost Certain	High	Very High	Extreme	Extreme
Likely	Medium	High	Very High	Extreme
Possible	Low	Medium	High	Very High
Unlikely	Low	Low	Medium	High

1. NSW Rural Fire Service 2008

ERM is not fazed by this in its endeavours to place all its impacts in the minority Low/Medium categories.
It does this by brazenly declaring, without justification, that the Likelihood of a bushfire is minimal.

This is despite incontrovertible evidence to the contrary.

Having done that, there is ample flexibility in the Consequence categories to limit the choices to Major or below. Bingo, the only Risk ratings available are Low and Medium.

ERM is asking you to believe that it is not possible for a NSW wind farm to produce risk ratings of High or above.

No doubt, those local residents in the RFS who fought both recent fires will have a more authoritative opinion. From the view of this resident, the Biala Bushfire Risk Assessment, Version 2, should be added to that long list of reasons to reject the Jupiter DA.