

New England Solar Farm. Electricity security.

Electricity consumers expect only two things, affordable electricity which is available when required. To the humble customer, security means the power is there when you turn on the switch. Various supporting reports like to complicate the matter of availability by splitting this simple requirement into two, security (power characteristics such as voltage and frequency which we consumers take for granted) and reliability (is the power available).

The Department of Planning, in its May 2018 document “Electricity System Security and Reliability Requirement – Public FAQs” got it right in the first question:

What does energy security mean?

Energy security is about the ability of the energy system to meet the needs of consumers. It involves the energy system having enough supply to meet demand and being able to operate within defined technical parameters (e.g. voltage and frequency levels) to avoid disruptions to power supply.

From now on my references to ‘security’ will align with this departmental definition.

The New England Solar Farm (NESF) Application should be rejected until the proponent properly addresses this key section of the SEARs.

The NESF SEARs state that the EIS “must include”:

- a detailed consideration of the capability of the project to contribute to the security and reliability of the electricity system in the National Electricity Market, having regard to local system conditions and the Department’s guidance on the matter.

The proponent has included a feeble answer in EIS Section 3.1.2.

In 2013, the NSW Government released its Renewable Energy Action Plan. The then Parliamentary Secretary for Renewable Energy, Rob Stokes, told us the Government’s vision was “for a secure¹, affordable and clean energy future for NSW”. That vision is unattainable, as for many NSW residents, electricity has already become anything but affordable.

In 2016, a few of us made submissions to a number of the burgeoning large scale solar farm applications on the subject of security² and affordability. Typical of the Department of Planning, these submissions were brushed off.

However, a little while later, Professor Finkel released a report called the: “Independent Review into the Future Security³ of the National Electricity Market” Instead of showing consistency and brushing the Finkel panel’s report aside, the NSW Department of Planning concluded that electricity security was indeed an issue after all.

The Department’s vision statement was then modified with a three word addendum:

¹ In line with the department’s broader definition of “secure”

² In line with the department’s broader definition of “security”

³ In line with the department’s broader definition of “security”

“To enrich the lives of people in NSW through our work on high quality planning, housing delivery, great design, culture, clean environments, wildlife protection and energy security⁴” (Emphasis mine).

The Finkel Review led to the inclusion of the Secretary’s Environmental Assessment Requirement quoted above, and repeated:

a detailed consideration of the capability of the project to contribute to the security and reliability of the electricity system in the National Electricity Market, having regard to local system conditions and the Department’s guidance on the matter.

The “Department’s guidance on the matter” refers to their May 2018 document: *Electricity System Security and Reliability Environmental Assessment Requirement*

This document leads off with:

“The NSW Government is working towards a reliable⁵, affordable and modern energy future for NSW households and businesses.”

(From then on no reference is made to affordability)

To summarise this May, 2018 document in my words:

It is appropriate for Proponents to consider electricity security at the planning stage. It encourages developers to support electricity security through capabilities that proponents could consider and could include at the planning stage.

It encourages upfront consideration of the electricity security capabilities that a proponent could include in their project design.

Even though the SEARs nominate a consideration of electricity security, no standards are set nor detailed technical analysis required for approval nor even any security capabilities or outcomes prescribed. After all, we are told, electricity security is an overarching concept.

What, in the Finkel Report was the key issue, becomes a consideration for the future in the Department’s eyes. What should be a key component of the initial construction of any future wind or solar farm, eg battery or pumped storage backup, becomes a future concept with no requirement to deliver. We know why. There is no subsidy for security solutions such as batteries or pumped storage. Developers are hoping that some future State or Federal government will oblige when electricity security comes under even more severe pressure.

(Which leads me to a conclusion. Having made a study of the evolution of departmental renewable policy documents over the last 5 years, it is highly likely that this document has undergone revisions and additions following review by the renewables industry prior to publication. The department can prove me wrong by publishing the version that was initially seen by the Clean Energy Council together with the relevant correspondence. The same goes for the wording of the SEA Requirement.)

⁴ In line with the department’s broader definition of “security”

⁵ To be fair, “reliability” should also be expanded in line with the department’s broader definition of “security”

Now, given the SEARs guidance, how did the NESF EIS address the electricity security issue. After waffling on about some irrelevancy called “security of supply”, which we are told will happen just because the NESF is built, they advise in the first sentence of section 3.1.2.iii.b (Enhancing system security and reliability through storage):

“The Finkel Report and subsequently AEMO in its latest ESOO also highlighted the need for enhancing system reliability by complementing utility-scale renewable energy generation with storage, which is consistent with the proposed project.”

That would be a true statement if the proponent planned to include storage in the solar farm as constructed, or even at all, but there is no such plan or commitment.

In the very next line they say:

“The project may include incorporation of a BESS⁶...”

They start the very next paragraph with:

“**If constructed**, a BESS of the size contemplated...” (emphasis added)

If the NSW Government, through the applicable departments, is truly committed to implementation of all relevant recommendations of the Finkel Report, then it must start with the issue of energy security.

- The NESF application must be rejected until the issue is addressed properly in the EIS.
- Having chosen to address the security issue by the inclusion of battery storage, the EIS must contain a commitment to include the BESS from the start.
- The determining body must include a condition of approval such that the operation of the solar farm cannot commence without the BESS.

Should the determining body be the Independent Planning Commission, a member of the Finkel panel and co-author of the report was Professor Mary O’Kane. Professor O’Kane is currently head of the Independent Planning Commission, who, if consistent, will expect Energy Security to be a key issue covered in the departmental Assessment.

⁶ Battery Energy Storage Systems