

26 May 2017



Energy Security Target
Stakeholder Consultation
Government of South Australia

By online submission
DPC.ESTRegulations@sa.gov.au

DP Energy Australia Pty Ltd
4 Marshall Road, Lake Barrine
Queensland 4884 Australia
T: +61 (0)7 4095 2877
F: +61 (0)7 4095 2977
E: australia@dpenergy.com

Re: DP Energy's response to the draft *Electricity (General) (Electricity Security Target) Variation Regulations 2017.*

Summary

DPE is concerned to note that the EST draft regulation, rather than providing an engineering solution to the engineering problem of electrical system security and the provision of inertia, has instead applied a prescriptive market solution. In addition, there are no measurable outcomes applied to the achievement of inertia.

DPE recognises the need for inertia in the South Australian electricity market, but believes the regulation as drafted is limited in that it does not allow for the range of ancillary equipment that could be utilised to provide inertia services.

The regulation as drafted is counter to the Australian Energy Market Operator's and the Australian Energy Market Commission's views as to what needs to be provided in the electricity market for energy security, and the way in which that should be provided.

The EST is likely to raise prices and decrease competition as currently drafted, and there are no periods of review specified to allow for future proofing.

Despite the fact that the EST represents a significant market intervention, there has been no modelling provided, little information given, and little time to respond to the tabling of this regulation.

Background

DP Energy Australia (DPE) is part of the DP Energy Group of companies active in utility-scale renewable energy development in Ireland, the United Kingdom, Canada and Australia. The company develops a range of technologies including onshore wind, solar PV, pumped hydro and tidal.

The DP Energy companies have substantial experience in developing renewable projects with some 11 wind energy projects consented and developed; over 262MW built, and a further 529 MW either in build or ready to build. The Group through its various daughter companies is also in the advanced stages of progressing 500 MW+ of wind and solar capacity in Ireland, United Kingdom, Canada, and Australia, and 339 MW of tidal stream capacity in Northern Ireland, Scotland and Canada.

Stated Objectives of Scheme

Energy System Stability

ENGINEERING SOLUTION TO INERTIA

- The Electricity Security Target (EST) presupposes a way to achieve the outcome of inertia in the South Australian electricity market. DPE recognises the need for kinetic energy inertia (real inertia) in the market but the scheme should allow for other engineering solutions that can also produce inertia in the market, rather than effectively supporting only gas generation.
- It is noted that pumped hydro and solar thermal technologies are also envisaged by the regulation, however solar thermal technologies are still a number of years away, and intrinsically, pumped hydro does not produce any new energy and requires fundamental ancillary services market reform in order to be economically viable. Wind and solar generation plant with batteries and/or synchronous condensers, which are available today, dispatchable and can provide real kinetic inertia, however, are currently prohibited by the regulation as drafted.
- In a State which promulgates innovation, the reliance on gas only to achieve the outcome of inertia as well as being unnecessary seems a retrograde step. Gas price of course remains a significant risk and this will exacerbate the price risk to consumers.
- The AEMO and AEMC have identified the engineering outcome for energy security purposes being the provision of minimum baselines of fault level or mechanical inertia at all times, while allowing scope for the introduction of new technologies like energy storage or wind turbines to provide fast frequency response (FFR). The EST as drafted fails to provide any comparable outcome for South Australian customers.
- The Port Augusta Renewable Energy Park is intended, with the addition of Stage 2, to include both battery storage (synthetic inertia), and spinning mechanical inertia in the form of synchronous condensers to achieve dispatchability, but even this is disallowed in the draft regulation.

Recommendation 1: The scheme be amended to promote competitive market outcomes by allowing all forms of generation that, combined with ancillary equipment, can provide inertia irrespective of generator registration category.

AEMC – CHALLENGES IF IN ENERGY MARKET

- The draft regulation runs counter to the Australian Energy Market Operator's and the Australian Energy Market Commission's national policy which highlights significant issues with using the wholesale generation market for inertia services.
- The AEMC in their System Security Market Frameworks in the NEM Review, Directions Paper, 2016¹ concluded that providing fault level or inertial services through the wholesale market would present potentially insurmountable challenges including:
 - Failing to provide investment certainty;
 - Complexities in the dispatch process, as the extra requirements for inertia at any point would require a day's notice rather than using the current 5 minute dispatch model of the generation market; and

¹ AEMC 2016, *System Security Market Frameworks in the NEM Review, Directions Paper*, online. Available: <http://www.aemc.gov.au/getattachment/5a04b185-23f8-4690-9ad3-2a59b6010772/Directions-paper.aspx>

- The relative inflexibility of the generation market to provide inertial services has the potential to affect price outcomes.
- The conclusion of the AEMC is to separate the functions of power system security services from energy dispatch and instead place an obligation on transmission businesses to deliver these services.

Recommendation 2: The South Australian Government release detailed modelling including an engineering assessment of the target to demonstrate how the EST delivers the appropriate level of energy security, as reasonable cost, whilst addressing the issues raised by the AEMC.

Increased Competition

- The scheme gives market power to gas, and in the initial stages, incumbents. At a time when the Government is concerned with increasing competition, this strategy seems to run counter to that principle.
- Experience in the South Australian FCAS market has illustrated that competition is ineffective in delivering frequency control to South Australian customers at a reasonable price. By preferencing incumbents through this regulation, it is probable that market power will increase for some participants who have ageing assets.

Recommendation 3: The South Australian Government release detailed economic modelling of the EST to demonstrate how it increases competition in the South Australian electricity market.

Electricity Prices

- In responding to the draft regulation, there has not been sufficient time (less than two weeks) to model the impact on the consumer electricity price, but consumers are likely to incur higher costs under this scheme.
- The wholesale price in South Australia is dominated by three factors: wind generation, gas generation and imports from Victoria. At times of high wind generation, prices are low. At times of low wind generation, imports from Victoria increase. The EST scheme is designed to preference local gas and diesel generation over lower cost imports, which will place upward pressure on wholesale prices and ultimately increase electricity prices for consumers.

Recommendation 4: The South Australian Government release detailed modelling of the EST to demonstrate how it impacts electricity prices in the South Australian electricity market.

Additional Concerns

Jobs, Manufacturing and Investment

- Certainty is required for renewable energy investment and its associated jobs and manufacturing.
- This regulation injects uncertainty into the South Australian electricity market, as the outcomes are not defined, and the effect of this regulation on the performance of the South Australian generation market not modelled or known.
- In addition, and as cited by Dr Alan Finkel, *“The transition to a low carbon economy is underway and cannot be reversed...Policy stability and predictability is necessary to ensure that investors have confidence to build the assets that will deliver the required security and reliability of the electricity supply”*².
- The draft regulation does not allow for this transition, nor the certainty required to develop those technologies which will be contributing to the security and reliability of the electricity supply into the future.
- There are alternative technologies available today that can provide equivalent system security services. It is important to look beyond conventional generation technologies and focus on the necessary power system security outcomes.

Recommendation 5: That the regulation be designed to encompass the diverse mix of technology solutions for inertia, thereby supporting investment in a low carbon electricity future and creating certainty for the industry.

Review

- There is currently no mechanism in the regulation for periodic reviews.
- This is at a time when the electricity market is changing, new national rules are envisaged, and engineering solutions are rapidly advancing.

Recommendation 6: Inserting a yearly review mechanism into the regulation to ensure the proper functioning of the market and the regulation is future proofed.

Concern on Due Process

- There has only been a two-week consultation period for this Regulation, which is insufficient to consider a Regulation of major significance to the low carbon energy industry. Time is needed to consider and study the implications of this change in detail before a measured and fully considered response can be generated.
- Direct consultation on the regulation with the key renewables generators and developers would have been helpful. Even our industry trade body the Clean Energy Council noted that they came across the Regulation by accident.

Recommendation 7: A three-month period of wider consultation so we can undertake a more detailed study would be of benefit to both the wording of the Regulation and to consumers.

² Finkel, A. 2016, *Independent Review into the Future Security of the National Electricity Market, Preliminary Report*, online. Available: <https://www.environment.gov.au/system/files/resources/97a4f50c-24ac-4fe5-b3e5-5f93066543a4/files/independent-review-national-elec-market-prelim.pdf>

Modelling

- There is scant detail in the presentation given by the Department running the EST and little time (a week before submissions) in which to respond.

Recommendation 8: The release of the modelling underpinning the EST and further information from the Department to inform our view.

Summary of Recommendations

Recommendation 1: The scheme be amended to promote competitive market outcomes by allowing all forms of generation that combined with ancillary equipment can provide inertia irrespective of generator registration category.

Recommendation 2: The South Australian Government release detailed modelling including an engineering assessment of the target to demonstrate how the EST delivers the appropriate level of energy security while addressing the issues raised by the AEMC.

Recommendation 3: The South Australian Government release detailed economic modelling of the EST to demonstrate how it increases competition in the South Australian electricity market

Recommendation 4: The South Australian Government release detailed modelling of the EST to demonstrate how it impacts electricity prices in the South Australian electricity market.

Recommendation 5: That the regulation be designed to encompass the diverse mix of technology solutions for inertia, thereby supporting investment in a low carbon electricity future and creating certainty for the industry.

Recommendation 6: Inserting a review mechanism into the regulation to occur at regular intervals to ensure the proper functioning of the market and the regulation is future proofed.

Recommendation 7: A two-month period of wider consultation so we can undertake a more detailed study would be of benefit to both the wording of the Regulation and to consumers.

Recommendation 8: The release of the modelling underpinning the EST and further information from the Department to inform our view.

Addressing Specific Questions

Are there any changes to the draft Regulations you consider necessary to support the long term interests of South Australian electricity consumers?

1. 44EB(1) – include a new definition: ***“Fast Frequency Response*** means a controlled response from an asynchronous generator or device triggered in response to a rapidly changing frequency where AEMO has deemed that such a response can support real inertia.”
2. 44EC(1)(a) – amend to: “can demonstrate controllable output from a scheduled generator (within the meaning of the National Electricity Rules) or from an energy storage system deployed in conjunction with any other generator licenced by the Commission: and”. This will allow for increased competition from competitive renewable energy generators and energy

storage sources that can deliver on the objectives of the EST. It will also ensure the market operates to preference the cheapest option for consumers.

3. 44EC(1)(b) – amend to: “provides the following energy security services to the State’s power system: (i) fault current; and (ii) real inertia; or (iii) fast frequency response.” The clause as originally written is restrictive for the achievement of power system security. This amendment allows for innovation in including alternative solutions that, with AEMO’s support, will increase competition.
4. A new section is required to include annual reviews of the scheme to ensure the EST is future proofed.