ENERGY RESPONSE linking demand with supply in the Australian energy market

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COMMENTS ON THE TOTAL ENVIRONMENT CENTRE'S PROPOSED RULE CHANGES, NOVEMBER 2007

Thank you for the opportunity to comment on the Total Environment Centre's (TEC's) proposed Rule Changes dated November 2007.

During the undertaking of our response to the TEC suggested rule changes, we noted the Ministerial Council on Energy 14th Meeting Communiqué, 14 December 2007, has the Honourable Ministers indicating the need for rule changes. I refer in particular to references of the Energy Market Reform, and Demand Side Response requirements to include 'consider non-network alternatives in developing capital and operating cost forecasts, service and efficiency incentive schemes, and etc'.

Energy Response is a Demand Side Response (DSR) Aggregation company and as such has a keen interest to see greater use of Demand Side alternatives in the NEM because they deliver:

- Substantial economic and enabling benefits to the market (estimated to be over $3bn per annum and growing annually to over $5bn per annum by 2020)
- Unique environmental benefits (including Greenhouse Gas abatement and water savings from reduced generation at peak times and from reduced line losses)
- Significant consumer benefits including lower prices for electricity than without DSR when all other factors point to significant increases in the price of electricity in the foreseeable future.

We congratulate TEC on the significant contribution they are making with their proposed Rule changes.

It is difficult to comment on each individual change as suggested by TEC because of the complexity of the rules and the considerable work involved, however indicatively Energy Response is very supportive of the proposed changes. We believe Energy Response can add value to the proposal by overlaying some of our own practical experience and feeding back useful comments from energy end users who participate in our programs. The Commission should also seriously consider the substantial information coming from North America supporting greater use of Demand Side programs. While our cost base is lower in Australia and therefore the benefits to end users are lower, costs are rising quickly here and all indications are for ever higher cost pressures in the near future.

Currently NSPs are required to consider non-network solutions and some incentive schemes are available through the various state based regulatory frameworks for DNSPs. However it is fair to say the resulting activity of Demand in the NEM is relatively small across all NSPs. When historical Demand Management programs are excluded (primarily water heating load) then Demand activity as part of non-network solutions is very low. This is a tragedy where environmental concerns are paramount and investment in electricity infrastructure spending is at record levels.

DSR is significantly less costly than any form of supply side peaking plant, which justifies TEC's arguments for the rule changes. However, Demand Side Response (DSR) is:

- hard to find,
- even harder to contract because the end user is generally more interested in their main line of business and not Demand programs,
- generally not useful unless it is aggregated to provide a portfolio of DSR that ensures firmness and in commercial quantities,
- considerably more expensive to recover from ever smaller loads.

Also, the existing NEM Rules inhibit the active participation of Demand and encourage supply-oriented programs.

As a consequence of these factors progressing Demand programs without the suggested rule changes is extremely difficult in the NEM. Whereas in several other markets, like the West Australia, New Zealand and several North American markets, there are mechanisms and incentives available for end user participation on an on-going basis to provide reserve, and/or frequency control, and/or for overcoming network constraints. Such participation can be individually, at the end user level, or as is more commonly becoming popular, through third party aggregators.

We also note strong government support for solar and wind programs, which is highly appropriate in these environmentally challenging times However, where is the government support for DSR, which is environmentally friendly and also reduces the overall cost of electricity to the consumer instead of increasing it? Such support can be as simple as governments showing leadership in making their own substantial DSR available to the market. If Australia is to remain competitive against the rest of the world we must be greener and our energy must be cheaper. Australia's remaining manufacturing base totally depends on keeping electricity prices as low as possible.

In NSW DNSPs are appropriately encouraged to seek non-network solutions and do so. However, generally NSPs are predisposed to "consider" the use of DSR, but rarely as these considerations materialised into actions. Therefore is a need for specific actions to dramatically increase DSR activity in the NEM (as detailed in the TEC's submission). We therefore recommend that consideration be given to the following:

1. A consistent economic model needs to be developed that is adopted by all NSPs with a known cost recovery mechanism through the regulatory framework. This must address the comparative value between the capex based network solutions and the opex based non-network (DSR) solutions.
2. NSPs and other utilities use a variety of tender documentation and methods to seek non-network solutions. These tenders are generally formatted on purchase agreements for generators and other infrastructure. None of the tenders that

Energy Response has responded to in the past three years are suitable for the provision of DSR aggregation services, and for Energy Response to bid (in almost all cases) we would be non-conforming. A standard template of documentation for NSPs and other utilities must be developed to make the process of contracting fair and equitable with other options.

3. NSPs who decide to undertake Demand related programs are faced with several problems:
    a. Generally NSPs require DSR in an area for a finite time (1-5 years) so any capex investment by the Network to better capture the end user's DSR capability (such as communications systems and remote control equipment) is stranded after that time. It is therefore far better to allow a third party, such as an aggregator, to provide these services who can on-sell the DSR to several other market participants.
    b. There is considerable awareness about Demand programs within NSPs but that has not translated into understanding about how to make them work or transformed them into active programs. More has to be done to educate the technical staff and senior management of the NSPs as well as making end users more aware of their benefits to them if they participate in these programs. Energy Response is developing a series of awareness programs and we hope to launch the first of these programs in March 2008 in Sydney.
    c. Several network company managers have stated that they are not convinced that regulators will treat DSR programs equitably. The Rules must be clear and encourage DSR use by Networks.
    d. Where the NSPs have contracted for DSR it has generally been only on a year by year basis. We note that DNSPs in NSW are starting to contract for multiple years but they are the exception. Our discussions with NSPs leads us to believe that they don't trust the regulatory process to approve an on-going program, particularly if that program goes beyond the current regulatory price reset period. Regulatory approval must include continuing into a new price reset period and incentives should encourage on-going programs where DSR has a clear commercial and technical advantage.
4. TEC advocates an incentive scheme and rule changes to force NSPs to undertake Demand related programs and Energy Response is strongly supportive.
5. In most cases where a non-network solution does not comply with all the requirements the NSP will reject the proposed non-network solution altogether. Instead we believe that where a non-network solution covers only part of the requirement, the NSP must consider a combined augmentation program that takes advantage of the non-network portion of the solution.

We believe there are other factors that are worthy of consideration at this time that go beyond the suggested rule changes but are nonetheless related:

6. NEMMCO is currently prohibited from trialling innovative solutions such as DSR programs for the provision of reserve all the time, for use in the FCAS market and/or to reduce network constraints in the market. However if NEMMCO is appropriately empowered and as the Independent Market Operator they would be in the best position to trial and fund innovative Demand Side arrangements.

Furthermore NEMMCO should be impartial but the Rules enforce a supply side orientation.

a. DSR should be used to replace at least 20% of the current reserve arrangements. End users have told us very clearly that they want to provide DSR for reserve all the time. This is also because DSR can provide reserve that is in the best position to secure the power in their area. Rather than making any immediate change to the market model we suggest that generators be encouraged to outsource 20% of their reserve requirement to DSR providers and/or aggregators. That would result in several immediate benefits, including; generators could then sell more energy from their existing plant, there would be no change to the market model and it would create a market for DSR.
b. The Rules should also support Demand Side programs to provide frequency control and other ancillary services. Some restricted Demand involvement occurs in this market by very large users, but it is highly limited and DSR Aggregators are prohibited from participating. We note that no such prohibition exists in the New Zealand market.
c. NEMMCO or the National Transmission Planning Body, once established, must consider DSR for the alleviation of network constraints particularly where they impact on electricity prices. NEMMCO's practice to constrain lines when there is DSR available must be discouraged. At any point in time there could be 8,000 constraints in the NEM.

7. The regulatory framework through the Rules should also encourage DSR to replace polluting peak generation, and where possible, to use DSR in favour of hydro during times of water shortages. While such environmental savings are small, each of us must do our part for the benefit of the environment.
8. The implementation of Advanced Metering Infrastructure (AMI) will herald a new era for utilities and the onset of ever greater challenges and opportunities for Demand Side Participation. Currently, there appears to be no opportunity for third party access to the proposed AMI communications infrastructure and as such DSR Aggregators will have to duplicate communications systems, metering infrastructure, monitoring and control devices, etc to be able to capture the DSR value from residential users. The limited access to AMI seems contrary to principles of encouraging competition on which the entire NEM has been founded. Some questions that must be addressed before Demand Side activities can flourish in an AMI framework are:
    a. If Retailers are to be made responsible for capturing the DSR value from Residentials, then how will they balance their compelling commercial incentive to sell more energy?
    b. Case 8 (a) above is made worse for Retailers that are in fact Gentailers, whose commercial priority is to promote higher electricity prices and sell more generation. Why would Gentailers have any interest in using DSR to reduce the cost of wholesale electricity prices or to dispatch DSR in preference to starting their peaking plant?
    c. Alternatively to making Retailers responsible for DSR via the AMI infrastructure, are we going to make NSPs our guardians of the DSR from Residential consumers? If so what is their commercial incentive and where is their competition? Historically NSPs have undertaken this role but in a disaggregated market such as the NEM, they are no longer in the best position to do so.

d. What role is there for the Independent Market Operator (NEMMCO) in an AMI enable electricity market? Is there a role for NEMMCO to develop and facilitate a market or markets in which Demand and Supply have equal rights?
e. What rights do DSR Aggregators have to metering data in the AMI enabled electricity market and how is that data made available to them such that it useful for the provision of DSR aggregation services?

We will make more specific responses against each of the proposed Rule changes through the Rule Change process.

Yours faithfully

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