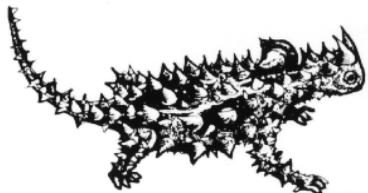


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## **Consultation Paper on the Form of Reliability Standards for the Northern Territory's Regulated Power Systems: ALEC Submission**

The Arid Lands Environment Centre (ALEC) is central Australia's peak environmental organisation that has been advocating for the protection of nature and ecologically sustainable development for the arid lands since 1980. ALEC is actively engaged in the development of energy policy to promote efficiency, equity and facilitate the transition towards a clean energy future.

The best available science demonstrates that significant emissions reductions are urgently needed through decarbonising electricity generation. These reductions are most effectively delivered through rapidly increasing renewable energy and developing demand management programs. The Roadmap to Renewables 2030 is therefore a target within broader grid and electricity market transitions beyond 2030. The inevitability of this transition and the realities of climate change should define the form and scope of the reliability standards.

From the outset it is important to note that ALEC supports a customer-focused reliability standard and that these comments are provided in relation to the Tenant Creek and Alice Springs grids.

### **Key recommendations and comments**

- As energy policy is highly technical and complicated, Department of Treasury needs to be more proactive in facilitating public participation in electricity market and grid reform. This will improve overall outcomes and increase the legitimacy of the reform program.
- The chosen form of the reliability standard needs to accommodate key variables: rapidly shifting grid dynamics owing to increasing solar penetration, demand management programs and fluctuations projected under increasing climate change volatility.
- That Department of Treasury and Finance hold a community education events in Alice Springs and Tenant Creek to explain the electricity market reform process and ways to easily participate.

### **Changing grid dynamics**

It is important to acknowledge in this process the limitations and weakness in the current grid and network control systems. While a reliability standard is supported, without identifying pre-existing issues that influence reliability then compliance with the standard could be undermined. The fact that there is no way of understanding the real time demand or supply of the grid limits how the standard could be implemented.

In addition to the appropriate form of the standard, there are other factors and developments that must also be considered to protect consumers and improve system performance.

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This includes improving the transparency of generator operations to allow for more information to influence market dynamics. In progressing the development of the reliability standard and future grid developments, there are some key questions that need to be considered. These include:

- How a reliability standard could influence price signals impacting on potential solar energy generation.
- Improving efficiency and demand management programs will impact future supply and generation curves of Alice Springs and Tenant Creek.
- Designing a standard that properly accounts for the benefits and grid support provided by FCAS.
- Costing the implementation of the reliability standard and the distribution of this cost between government, generators and consumers.
- Ensuring the chosen form considers the potential to encourage investment in FCAS, renewable energy and demand management strategies.

Climate change will continue to impact the dynamics of electricity supply and demand curves. The reliability standard therefore needs to accommodate for changing energy uses while ensuring that users are protected from the risk posed by climate change through interruptions. This could mean increasing the reliability standard in extreme temperature events. The demand and supply curves will become increasingly exaggerated as both more solar enters the grid and the frequency of extreme temperature events increases. This is not acknowledged in the consultation paper.

As the electricity market evolves it will need to accommodate changes in grid infrastructure and changes in demand patterns. Demand management is going to be an increasingly significant determinant of grid dynamics in Alice Springs. This transition should include the following factors that will improve the effectiveness of any reliability standard:

- Develop a process for incorporating real time roof-stop solar inverter data into the grid.
- Programs that actively focus on reducing peak demand through demand management practices and distributed private batteries.
- Transition away from synchronous spinning reserve to give way to artificial inertia supplemented by FCAS.

## **Conclusion**

ALEC appreciates the opportunity to contribute to the reform of the electricity market. As this process is highly technical and requires a certain degree of specialised knowledge, there needs to be a concerted effort to communicate the reforms to the broader public in a more accessible way. This education is critical as consumers are increasingly becoming generators in addition to performing FCAS functions for the grid. In the move away from traditional centralised electricity generation networks towards majority renewable generation and modern demand management programs, an informed network of generators and consumers is fundamental.

## **The questions**

5. Without having an in-depth appreciation of network engineering, it is difficult to comment on this. Notwithstanding this, it is important to reiterate that a reliability standard is ultimately only capable of achieving the desired outcomes provided that the aforementioned factors are also considered in this reform process.
6. The form chosen should be developed specifically to cater to the evolving demand and generation curves of Alice Springs and Tenant including the flexibility to incorporate climate change impacts.