

1 December 2023

Stephane Jolly
A/Executive General Manager – Consumer, Policy, and Markets
Australian Energy Regulator
GPO Box 3131
Canberra, ACT, 2601

Dear Ms Jolly,

RE: SUBMISSION TO SOCIAL LICENCE FOR ELECTRICITY TRANSMISSION DIRECTIONS PAPER

Allthread Industries appreciates the opportunity to provide commentary on the Australian Energy Regulator's (AER) Social Licence for Transmission directions paper.

Allthread understands the importance of building social licence and the role it plays within transmission projects to ensure fair outcomes and a timely and efficient development. We believe in a collaborative and proactive approach which encourages community participation and engagement at all stages of development to provide local benefits, community support to create nation-building results.

This submission focuses on monopoles – an alternative transmission structure solution that will reduce the visual impacts of new transmission projects in NSW and help projects gain social licence. Transmission projects are often delayed due to community opposition to new transmission towers, resulting in increased project costs and lengthy delays. This submission also introduces Allthread Industries and outlines its capabilities and capacity to manufacture monopoles locally with recycled content to help aid social licence in current and future projects.

Allthread believes that engagement, although important, is not enough to gain social licence. The engagement has to be meaningful and provide outcomes for communities. This can be achieved by adopting a collaborative design approach, a flexible and adaptive design that meets local priorities and transparent communication to ensure the most appropriate design for each project is implemented. Monopoles provide an additional alternative to enable design flexibility and suitability to an individual community's needs.

ALLTHREAD INDUSTRIES

Allthread Industries is a leading Australian manufacturing company specializing in steel components production, often for renewable energy projects. We are national leaders in the fabrication of anchor cages for wind turbines, having successfully supplied more than 1,100 units in Australia with a significant pipeline of projects in progress.

With a legacy of 50 years, we have committed to supporting local steel manufacturing and local jobs from our base facility in Western Sydney. Our ethos prioritises local and recycled materials, alongside innovative measures that reduce environmental impact, encompassing landfill, transportation emissions, and more. Our locally sourced steel products mitigate project vulnerabilities linked to international supply chains, enhancing project resilience, and improving sovereign capabilities. Additionally, our local expertise can help gain social licence for projects as the economic benefits are contained domestically.

A COLLABORATIVE APPROACH FOR SOCIAL LICENCE

Allthread understands transmission projects often have limited options available for projects as alternatives such as undergrounding extensively increase costs and project timelines. This results in a lack of flexibility which can frustrate communities and lead to project delays.

Monopoles provide an alternative design to traditional lattice transmission structures which can be offered to communities to build trust and social licence. For community engagement to be meaningful there must be an opportunity for collaboration and a flexibility from the project to tailor its designs to the needs of the community. It's imperative for this to occur to provide alternative solutions, explore emerging technologies and to appreciate the priorities of the impacted communities.

The presence of alternative solutions within transmission projects can enable a more collaborative approach and present an opportunity for engagement to have a tangible outcome for the community. Allthread have outlined a number of case studies to support the use of monopoles to gain social licence for transmission projects overseas.

Monopoles can play a critical role by providing an alternative technology which may closely align with a community's priorities than a traditional lattice approach. They have a proven track-record of minimising the visual and land impacts of a project which are important for positive social licence. Section 3.1 of the directions report suggests that to promote collaboration between the developer and relevant community stakeholders it is crucial to communicate an array of credible options and Allthread identifies monopole technology as an opportunity to deliver upon this.

MONOPOLES AND SOCIAL LICENCE

Monopoles are an alternative transmission structure to the traditional lattice structure used across the existing network in New South Wales. Monopoles consist of a single main stem anchored to the ground. They are one of the least visually intrusive tower options and are relatively easy to erect. These qualities increase likelihood of obtaining community support and gaining social licence for a transmission project.

As well as reducing visual impact, monopoles have further benefits. For example, less land is needed per tower and there are fewer components, resulting in faster installation and lower costs. Monopoles also have greater reliability in extreme conditions and more flexibility in design. They are made from weathering steel alternatives which require less maintenance and repairs and can be made with local steel.



FIGURE 1: TRANSMISSION INFRASTRUCTURE, LATTICE VS MONOPOLES

Case Study – HEARTLAND TRANSMISSION PROJECT, ALBERTA CA

Monopoles have a strong track record of being a low-impact transmission structure solution, having been successfully implemented to mitigate the visual impacts of new transmission projects. The Heartland Transmission Project in Alberta (CA) made use of monopoles for this purpose and provides a strong example of community preference for monopoles.

The Heartland Transmission Project saw the construction of a new 65km double-circuit 500-kV transmission line through the city of Edmonton. Part of the new line was aligned through densely populated areas and green corridors, which resulted in high levels of public scrutiny. Businesses, homeowners, school boards, environmental lobbyists and other stakeholders voiced their concerns and contested the development. Extensive feedback was collected through public consultations and open houses held in the project vicinity, highlighting the community's desire to preserve visual amenity. Accordingly, a roughly 10km section of line was constructed with monopoles, rather than traditional lattice towers, to meet the community's expectations. This design choice was also able to satisfy the robust reliability and availability requirements of the network operator and survive the harsh seasonal conditions of the local environment. It also presented a tangible outcome for the community's concerns which enabled the project to build trust with its stakeholders.



FIGURE 2: MONOPOLES USED IN 10KM OF TRANSMISSION LINE TO GAIN COMMUNITY SUPPORT

CASE STUDY – DUQUESNE LIGHT COMPANY BRUNOT ISLAND-CRESCENT TRANSMISSION RELIABILITY PROJECT, PENNSYLVANIA, US

Monopoles have been used for the urban upgrade of transmission line in Pennsylvania. The project serves a number of townships including the city of Pittsburgh through a network of 138-kilovolt transmission lines. The choice to upgrade using monopoles was made to minimise their ground footprint and reduce maintenance costs. This minimises the impact upon neighbouring properties and surrounding vegetation which helps to establish community approval of the project.



EXISTING LATTICE TOWER STRUCTURE



NEW MONOPOLE STRUCTURE

FIGURE 3: EXISTING AND NEW TRANSMISSION STRUCTURE FOR THE BRUNOT ISLAND-CRESCENT TRANSMISSION RELIABILITY PROJECT

CASE STUDY – STUDY OF ELECTRIC TRANSMISSION VISIBILITY AND VISUAL CONTRAST THRESHOLD DISTANCES IN WESTERN LANDSCAPES

[LINK](#)

This study observed a number of different transmission towers including a 500kV lattice tower, 230kV H-Frame tower, a 230kV monopole tower and a 500kV monopole tower from different observation points and distances based in Idaho, Nevada and California to determine the visual impact of the three technologies.

Tower Technology Type:	Distance Visible to Unaided Eye:
230kV H-Frame	13km
230kV Monopole	6km
500kV Lattice Structure	27km
500kV Monopole	18km

The results showed a reduced visual impact for the monopole technology at both 230kV and 500kV compared to its alternatives. This would help to aid social licence by mitigating the number of citizens exposed to the visual impact of the transmission lines.

ALLTHREAD CAPABILITY TO DELIVER MONOPOLES

Allthread Industries plan to become Australia’s leading monopole producer. It is investing \$60 million to build a start-of-the-art manufacturing facility, able to support hundreds of kilometres of transmission lines annually. Located in Newcastle, it will be ideal for projects in both Queensland and New South Wales.

Throughout this transition, Allthread Industries will maintain its commitment to using local labour and steel and will continue to place a strong emphasis on incorporating recycled content. We firmly believe that this approach increases the likelihood of acceptance by communities and enables us to provide a sustainable cost structure for projects.

CONCLUSION

We are prepared to provide additional information, participate in public consultations, and work closely with regulatory authorities to ensure a transparent and accountable process. We look forward to the opportunity to discuss the submission further and address any questions or concerns you may have.

Thankyou for your time and consideration. We are eager to contribute to make transmission projects environmentally responsible and community friendly.

Kind regards,

Simon Preston

Group General Manager
Allthread Industries

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