Project Summer – facilitating a Battery Energy Storage System – Draft Report

July 2024

ElectraNet

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Executive summary

South Australia is at the forefront of the global energy transformation. This transformation is bringing with it a range of challenges as renewable energy sources such as solar, wind and storage and distributed energy resources in homes and businesses continue to displace traditional generation and drive two-way power flows across the network.

ElectraNet is playing an essential role in helping to manage an increasingly complex power system by responding to challenges arising from the changing mix of generation and the increasing need for dispatchable storage capacity. For example, ElectraNet is responsible for providing system strength and inertia services to support the growth of renewable generation and manage the impact of retiring dispatchable large scale generation units. ElectraNet is also facilitating new connections, as renewable generators and storage projects respond to new market opportunities.

Summerfield Battery Energy Storage System (**BESS**) (the **Project**) is an important initiative in the context of the energy transition in South Australia. The Project is being undertaken by Copenhagen Infrastructure V SCSp (**CI V**) and involves the connection of a new BESS to ElectraNet's transmission network. The Project will provide a total capacity of 240 MW, split into two 120 MW, 240 MWh connections at Tepko, South Australia which is approximately 60km east of Adelaide. The Project is strategically positioned adjacent to ElectraNet's proposed 275 kV South East transmission line expansion between Tungkillo and Tailem Bend substations, which will facilitate the connection of new renewable generation from the South East Renewable Energy Zone (**REZ**).

ElectraNet's Project Summer is proposed to support the connection of the Project to ElectraNet's transmission network. This includes augmenting the transmission network as follows:

- populating a diameter at Tungkillo substation, and
- stringing the vacant side of the 275 kV towers between Tungkillo and the BESS site.

ElectraNet has also been engaged by CI V to undertake both the non-contestable and contestable identified user shared asset (**IUSA**) work at Tepko to facilitate two 275 kV exits for each of the two BESS connections.

Under the National Electricity Rules (**NER**) a Transmission Network Service Provider (**TNSP**) is not required to undertake a Regulatory Test for Transmission (**RIT-T**) for funded augmentation works because those costs are not recovered from electricity consumers. As such, ElectraNet has not undertaken a RIT-T for Project Summer.

The NER require that the party undertaking the funded augmentation work make available to all Registered Participants and the Australian Energy Market Operator (**AEMO**), a Notice which sets out:

- a detailed description of the proposed funded augmentation;
- all relevant technical details concerning the proposed funded augmentation;
- the impact of the funded augmentation on the relevant transmission network's Transmission Network Users;
- the construction timetable and commissioning date for the funded augmentation; and
- an explanation that the funded augmentation would not result in a material change in power transfer capability between South Australia and neighbouring transmission networks.

In accordance with this requirement, ElectraNet published a Notice and consultation paper on 4 April 2024, which provided the above information to Registered Participants and AEMO and invited written submissions by 8 May 2024. ElectraNet did not receive any written submissions.

This Draft Report is the next stage of the consultation process in accordance with the requirements of clause 5.18 and the consultation procedures in clause 8.9 of the NER.

Submissions on any matters in this Draft Report should be emailed to: consultation@electranet.com.au.

The closing date for submission is close of business **Monday 5 August 2024**

Submissions will be published unless a proponent marks their submission (or part of it) as confidential at the time of the submission.

Project description and construction timeframes

Description and details of proposed funded augmentation

The Project is being undertaken by CI V, which is a global energy fund managed by Copenhagen Infrastructure Partners. The Project involves the connection of a large-scale BESS to ElectraNet's transmission network.

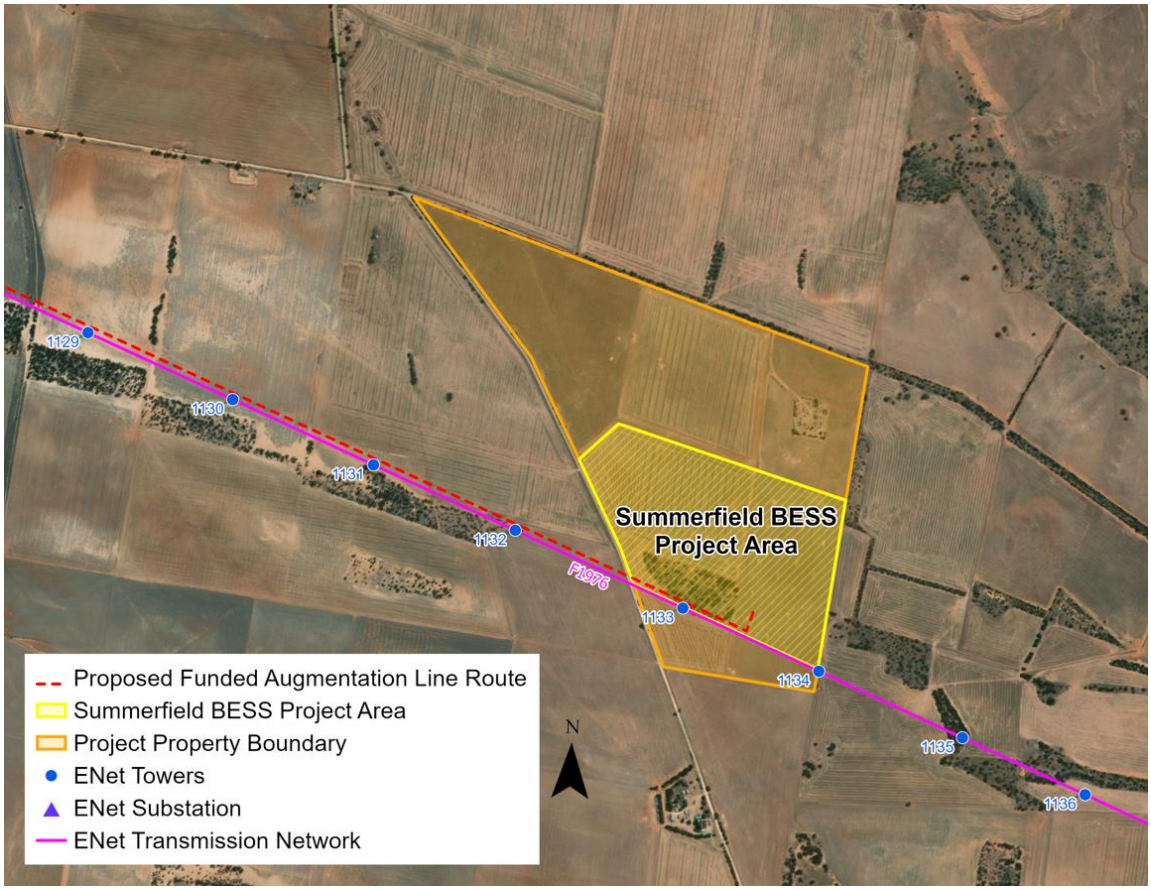
The Project is an important initiative in the context of the energy transition in South Australia, as traditional generation is replaced with renewable energy sources such as solar, wind and storage. The Project will provide total capacity of 240 MW, split into two 120 MW, 240 MWh connections at Tepko, South Australia which is about 60 km east of Adelaide. The Project will help to meet the needs of electricity consumers in South Australia and provide environmental benefits through its contribution to emission reductions.

The Project is strategically positioned adjacent to the proposed 275 kV South East transmission line expansion, which will bring in new renewable generation from the South East Renewable Energy Zone.

Figure 1 below is a map showing the transmission investment, which is referred to as Project Summer, required to support the Summerfield BESS.

Figure 1: Map depicting Project Summer

Figure 2: Map depicting Summerfield BESS Project Site



As indicated in the map above, Project Summer involves various elements, each of which is defined in accordance with the NER, as follows:

The augmentation of the existing 275 kV transmission line between Tungkillo and Tepko substations is proposed to be a funded augmentation. A funded augmentation is defined in the NER as follows:

> *A transmission network augmentation for which the Transmission Network Service Provider is not entitled to receive a charge pursuant to Chapter 6A and does not include an identified user shared asset or a designated network asset.*

The funded augmentation component of Project Summer involves extending the shared transmission network to Tepko by populating a diameter at Tungkillo substation and stringing the vacant side of the 275 kV towers between Tungkillo and the BESS site. As a funded augmentation, the RIT-T does not apply as the project costs are not recovered from electricity consumers.

The asset to be built at Tepko is defined as an identified user shared asset (**IUSA**) in accordance with the NER as it comprises apparatus, equipment, plant and buildings that:[1]

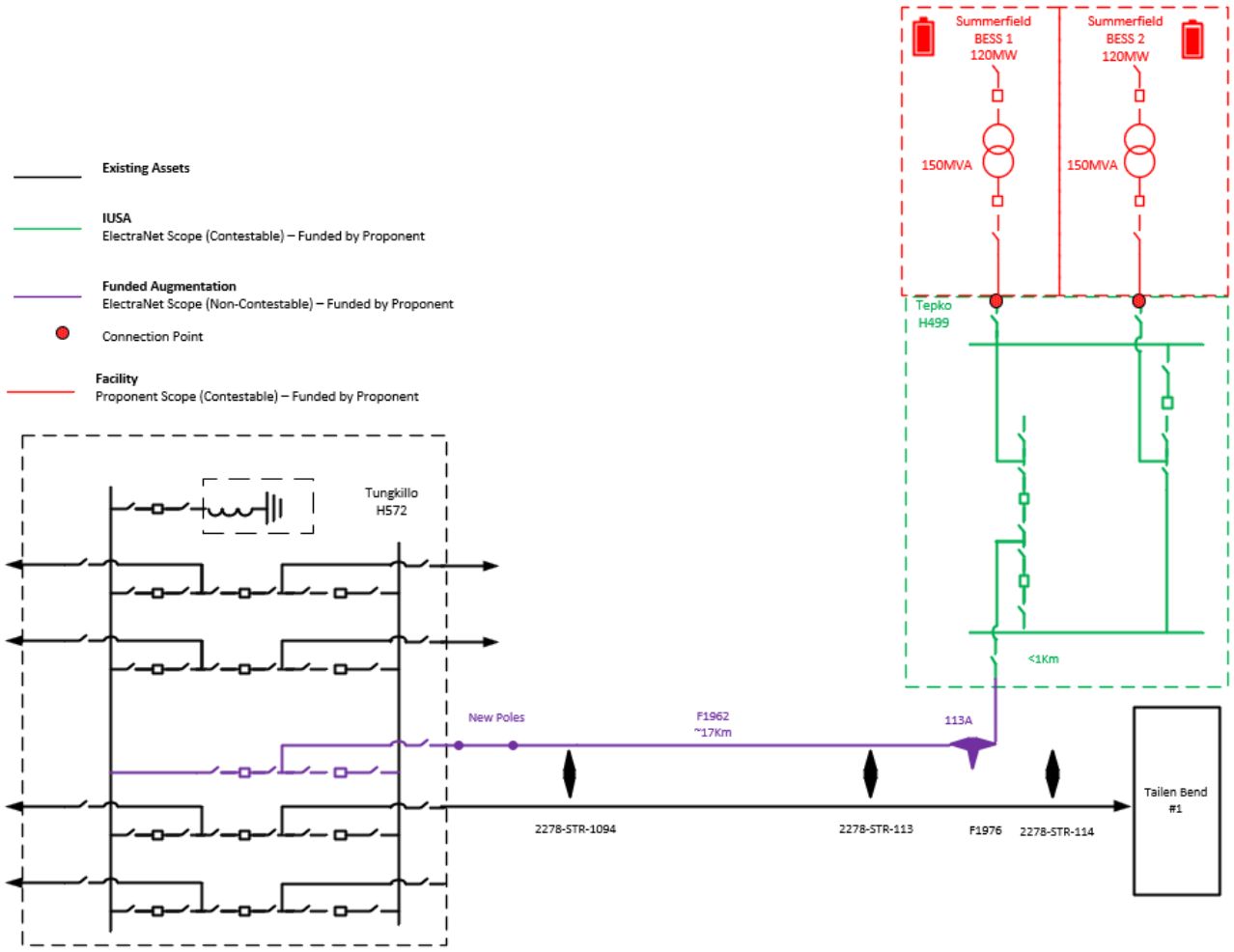
- are used for the purpose of connecting a person through a dedicated connection asset to a transmission network; and
- are not for the exclusive use by that person for a dedicated connection asset; and

[1] National Electricity Rules, Chapter 10 Glossary.

- cannot be electrically isolated from the transmission network without affecting the provision of shared transmission services to other persons.

A line diagram for Project Summer is shown in Figure 3 below.

Figure 3: Project Summer line diagram



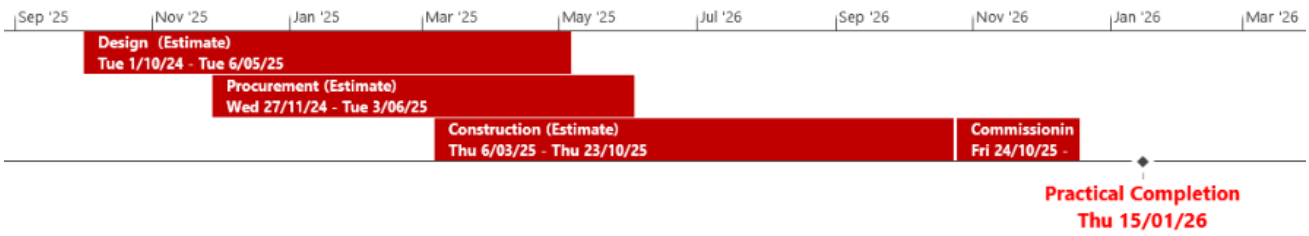
Impact of the funded augmentation on the relevant transmission network's Transmission Network Users

ElectraNet considers the proposed augmentation does not result in non-compliance with obligations in relation to other Transmission Network Users under the NER. It is anticipated that the proposed transmission network augmentation will deliver value to Transmission Network Users by facilitating the Project which will serve to reduce the variability in wholesale energy pricing in South Australia.

Construction timeframes

The overall timeframes for Project Summer are set out in Figure 4 below.

Figure 4: Timeframes for Project Summer



The construction timeframes for the funded augmentation component of the project are included within this timeline.

Inter-network impacts

Clause 5.18(b)(3) of the NER requires that ElectraNet, as the TNSP proposing to construct a funded augmentation, provides Registered Participants with an 'augmentation technical report' if the funded augmentation is reasonably likely to have a material inter-network impact. The augmentation technical report must be prepared by AEMO.

A 'material inter-network impact' is defined in the NER as:

> *A material impact on another Transmission Network Service Provider's network, which impact may include (without limitation):*
>
> - *the imposition of power transfer constraints within another Transmission Network Service Provider's network; or*
> - *an adverse impact on the quality of supply in another Transmission Network Service Provider's network.*

The funded augmentation relates only to the creation of a 275kV radial line. On this basis, ElectraNet has assessed that the proposed funded augmentation will not result in a material change in power transfer capability between South Australia and neighbouring transmission networks. Therefore, ElectraNet considers that there is no need for AEMO to prepare a technical report.

Feedback on the Notice and consultation paper

In accordance with the NER requirements, ElectraNet published a Notice and consultation paper in relation to Project Summer on 4 April 2024. No submissions were received by the closing date, which was 8 May 2024. In accordance with clause 8.9.1(f)(2) of the consultation procedures in the NER, there are no material issues to address in this Draft Report.

Consultation process and enquiries

Under the NER, ElectraNet is required to consult with any interested parties on this Draft Report, in accordance with the *Rules consultation procedures*.[2] In addition, ElectraNet must provide a copy of this Draft Report to AEMO for publication on AEMO's website.[3]

Table 1 shows the indicative consultation process and timeframes.

Table 1: Indicative timetable for the consultation process

Paper	Date
Publication of Notice - Consultation paper (completed)	4 April 2024
Closing date for submissions (closed)	8 May 2024
Draft Report (this document)	5 July 2024
Closing date for submissions on draft report	5 August 2024
Final Report	August 2024

Submissions should be emailed to consultation@electranet.com.au

Submissions will be published unless the submission (or part of it) is clearly marked as confidential at the time of the submission.

As noted above, submissions close at close of business on 5 August 2024.

Any enquiries relating to this document should be directed to:

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[2] National Electricity Rules, clause 5.18(d).

[3] National Electricity Rules, clause 8.9.1(h).

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