Hi Anna,

Regarding the question taken on notice:

The details of a gas pipeline north of White Cliffs is a question for the relevant gas transmission operator, AGL does not have access to the necessary details as a private generator and retailer.

Regards, Dave

David Bowly Operations Manager Battery Energy Storage Systems Integrated Energy



Dear Environment and Planning team,

Apologies for the response late on the final day. Please find responses to your supplementary questions below:

1. Can you please explain what network services the Broken Hill BESS system currently provides to the NEM generally and then more specifically the Far West network?

When operating normally (ie. with the X2 line in service), the Broken Hill BESS system provides the following services:

- Energy arbitrage (generally charging during periods of excess solar power in the middle of the day and discharging during the evening peak)
- Frequency droop (changing active power very quickly when grid frequency changes, helping to balance supply and demand)
- Voltage droop (changing reactive power very quickly when voltage changes, helping to stabilise network voltage)
- Synthetic inertia (changing active power near instantaneously in response to grid Rate of Change of Frequency (RoCoF), providing system strength)
- 2. How long could the Broken Hill BESS provide power to support the entire Far West grid if the network was disconnected from the NEM?

AGL does not have access to load information of the entire Far West grid network to provide an accurate answer to this question.

As described during the hearing, the role of a short-duration BESS is not to support a grid for extended periods, but instead to absorb rapid changes in load, allowing a baseload generator to operate stably. The BESS can deliver or absorb a maximum power of 50MW which we understand is more than sufficient to cover the instantaneous needs of the Far West grid.

The BESS can store 50MWh so as an example, if the Far West grid demand was 25MW, the BESS could supply this load for 2 hours (50MWh / 25 MW) before being fully depleted. However we would not anticipate ever operating the BESS in this mode being the only generator on the network.

3. Are you able to outline why, during the generator performance standard approval process for the Broken Hill BESS, it was decided that the BESS could not operate when islanded?

This question is most appropriately answered by TransGrid and AEMO as the approvers of the Broken Hill BESS Generator Performance Standard. The BESS was configured under Transgrid guidance to include an anti-islanding scheme as described below.

## 4. Did AGL have any involvement with Transgrid's RIT-T process for Broken Hill when it began in November 2019?

Yes. The following is an excerpt from AGL's System Strength Modelling Knowledge Sharing Report which is published on our website as part of our ARENA obligations and outlines AGL's involvement in the process:

> In 2019 AGL approached TransGrid with an offer to configure the battery to operate in island mode in conjunction with the Broken Hill solar farm, Silverton wind farm and the existing GTs which AGL had an option to purchase. Transgrid ran a RIT-T process to select its preferred provider of standby supply for Broken Hill and chose a compressed air storage alternative. As a consequence, and to avoid adverse interaction between the battery and the

compressed air system, the battery has been configured under Transgrid guidance to include an anti-islanding scheme.

Regards, David

David Bowly Senior Manager BESS Operations Integrated Energy

