



2022/23 River Murray Flood - Cost Pass Through Application

30/11/2023 – Version Final



Empowering South Australia

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Document Control

| Version | Date | Author | Notes |
|----------------|-------------|---------------|---|
| Draft v 1.0 | 1/11/2023 | G Cox | Draft for comment |
| Draft v 1.1 | 20/11/2023 | | Includes comments from D Voltz |
| Draft v 1.1 | 20/11/2023 | | Includes comments from R Sibly |
| Draft v 1.2 | 22/11/2023 | | Includes comments from P Makinson |
| Final | 29/11/2023 | | Updated to include comments from AER staff. |

1 Introduction

This application seeks approval from the Australian Energy Regulator (AER) to pass through to customers the increase in the costs of providing direct control services that have been incurred by SA Power Networks arising from the 2022-23 River Murray Flood Event (the Flood Event).

South Australia experienced a significant flood event of the River Murray between November 2022 and February 2023, resulting from heavy rain and flood events interstate. This Flood Event was the largest since 1956, and the third highest flood ever recorded in South Australia, with an unprecedented number of impacted homes, shacks, businesses and infrastructure.

This event was described by the South Australian Emergency Services Minister Joe Szakacs as ‘economically the worst natural disaster in South Australian history’. The prolonged Flood Event caused extensive damage to townships on the river, destroyed or damaged hundreds of properties, with approximately 4,000 hectares of agricultural land and 3,500 private residences affected over the course of the event.

The slow-moving nature of the Flood Event, presented unique circumstances compared to other natural disaster events, requiring a significant number of resources over a long period of time. This included preparing for the event to minimise the expected impact on SA Power Networks’ infrastructure and our customers, managing our network during the event and recovery once the flood waters had finally receded.

1.1 State emergency declaration

On 21 November 2022, the State Coordinator of the South Australian Government declared a Major Emergency¹ in respect of the Flood Event. The state emergency declaration was rescinded on 9 February 2023. The Flood Event impacted SA Power Networks’ electricity distribution network and resulted in materially higher costs for the provision of our direct control services. While the Major Emergency declaration was rescinded on 9 February 2023, we continued to incur costs directly attributed to the Flood Event up until September 2023. Any costs incurred after September 2023, are expected to be less material and will be absorbed in normal operations.

1.2 Additional costs incurred

In responding to the Flood Event, SA Power Networks incurred \$9.82 million (\$ 2020) in additional costs that were not allowed for in SA Power Networks’ 2020-25 Distribution Determination. These unforeseen additional costs are material for SA Power Networks. Therefore, SA Power Networks seeks recovery of these additional costs via the cost pass through provisions of the National Electricity Rules (NER)².

¹ The Major Emergency was declared pursuant to section 23 of the South Australian Emergency Management Act 2004

² See National Electricity Rules (NER) clause 6.6.1

SA Power Networks requests that the AER approves the positive pass through amount of \$9.82 million (\$ 2020³) on the basis that:

- the November 2022–September 2023 Flood Event meets the requirements to qualify as a natural disaster pass through event approved by the AER as a nominated pass through event in SA Power Networks’ 2020-25 Distribution Determination;
- the costs incurred as a result of the November 2022–September 2023 Flood Event exceed the one per cent materiality threshold in the NER for the pass through event to be a positive change event⁴. The total Flood Event expenditure in the 2022-23 regulatory year was equivalent to 1.3% of our annual revenue requirement;
- this application addresses each of the relevant requirements outlined in clause 6.6.1 (c) of the NER; and
- this application is submitted prior to 30 November 2023, being the date of the extension granted by the AER on 14 April 2023 in accordance with clause 6.6.1 (k).

SA Power Networks has incurred a total of \$9.82 million (June 2020) in increased capital and operating expenditure during the 2020-25 regulatory control period in order to respond to the Flood Event. The Table below provides the capital and operating expenditure by regulatory year.

| Regulatory Year | Capital | Operating |
|-----------------|--------------------|--------------------|
| | (\$,000 June 2020) | (\$,000 June 2020) |
| 2022-23 | 917 | 8,420 |
| 2023-24 | 155 | 329 |
| Total | 1,072 | 8,749 |

The capital expenditure is categorised as replacement expenditure (repex) and pertains to the replacement of power lines and transformers that were damaged during the Flood Event and needed to be replaced to enable electricity supply to be maintained or restored to riverside communities. These assets have an average regulatory life of 50 years.

1.3 Recovery of costs

SA Power Networks proposes to commence recovery of these costs over the last year of the current *regulatory control period* through an increased revenue allowance of approximately \$9.23 million (\$ 2020) in 2024-25. This will increase the average annual residential bill by approximately 0.7% or \$7.20 per annum.

³ Equivalent to \$11.10m for regulatory year 2024-25 based on RBA forecast CPI to 2024-25.

⁴ NER Chapter 10, definition of ‘materiality’.

2 The Flood Event

2.1 Introduction

South Australia experienced its third largest flood event ever recorded of the River Murray between November 2022 and February 2023. This was a prolonged flood event, with flood waters moving slowly down the River Murray following significant rain events interstate.

A state major emergency declaration was made on 21 November 2022, which remained in place until 9 February 2023. The flow rate at the South Australian/Victoria border peaked at 186 Giga Litres (GL) per day on 22 December 2022, with a water level rise of 2.78 m. However, based on our modelling the water heights resembled a peak flow rate of 233 GL per day.

SA Power Networks incurred additional costs in preparing for the Flood Event, this included making safe and disconnecting customers affected by the floods. Electric shock due to flood inundation of electricity infrastructure was a key risk to the community, emergency services personnel and SA Power Networks employees. Decisions were made to disconnect affected infrastructure prior to water levels reaching critical levels across the various river communities. Those closest to the Victorian border were disconnected first, with those further down-stream disconnected as their water levels rose. The river peaked in the river communities of Mannum on 7 January 2023 and Murray Bridge on 9 January 2023.

SA Power Networks created a range of new safety procedures for employees; adopted Artificial Intelligence (AI) and LiDAR processing capabilities to help manage our response to the flood in real time. We also undertook extensive community and stakeholder engagement to inform and support the community during the Flood Event.

Not one electric shock was reported across many months of flooding and reconnection of supply to some customers was advanced by up to three weeks due to adoption of modern technology.

The impacts of the flooding in South Australia were:

- 4,000 properties were inundated with flood water,
- 120 roads were closed,
- 9 of the 13 ferries operating on the River Murray were closed, and
- 68 catastrophic flood water levees failed which required emergency response from the State Emergency Service (SES) and SA Power Networks.

The impacts on SA Power Networks electricity infrastructure were:

- 3,368 homes, business, shacks, pumps and shed were disconnected for safety reasons,
- 1,600 transformer areas were affected, with part of the area inundated with flood waters,
- 400kms of powerlines were operated (remaining energised) over flood waters,
- 4,000 Stobie poles had part of the pole submerged in flood waters; and

- One ‘at risk’ zone substation⁵.

SA Power Networks’ objectives during the Flood Event were to:

- Keep the community and our people safe,
- Continue to supply power to premises for as long as possible, and be able to restore supply after unplanned outages,
- Comply with all regulations, and negotiate relaxation of some regulations where safe to do so,
- Continually communicate with stakeholders and customers, and
- Recover and restore electricity supply to premises quickly and easily by minimising the damage to our electricity infrastructure from the event.

2.2 Preparations for the Flood Event

Unlike other natural disasters, due to the slow-moving nature of the River Murray flood waters, SA Power Networks and the community had time to prepare for the Flood Event. While we knew the flood was going to occur, we needed to continue to revise our plans to incorporate updated flow predictions and assess the impact on our distribution network. Initial predictions were 135 GL, 38% below the actual peak recorded during the event.

SA Power Networks preparations focussed on protecting critical components of the distribution network to enable supply continuity to our customers for as long as possible, prior to and during the Flood Event.

2.2.1 Minimising future disconnections

- In an effort to maintain supply to our customers for as long as possible during the Flood Event, SA Power Networks:
- worked with irrigators and business customers to develop alternative supply options, e.g.
 - SA Water wastewater pumps, Mannum;
 - Pretoria Hotel, Mannum;
 - Individual solutions for 50+ irrigators, e.g. relocated supply points; and
 - Constructed levee at Mypolonga Substation to maintain power to Central Irrigation Trust and SA Water.
- re-routed power via alternative routes, e.g. Kingston Estate Wines and 212 other customers.

⁵ SA Power Networks installed a levee around this zone substation inside the substation fence line. The SA Government installed an additional levee outside the fence further protecting the zone substation.

- designed/built short sections of powerlines to maintain supply, e.g. near Qualco and near Cadell.
- installed bunding around the Renmark zone substation to prevent water ingress.

2.3 Customers disconnected

While SA Power Networks attempted to maintain supply where possible, disconnections were necessary to maintain safety for the community and our people during the Flood Event. The following scenarios triggered the need for customers' premises to be disconnected, for safety reasons:

- an emergency due to flood water inundation,
- an emergency due to a breach of the required electrical clearances between our electricity conductors and the surface of flood water, and
- as a precautionary measure due to imminent inundation of customers electrical installation.

Network Inspectors and Field Services personnel were conducting ongoing assessments about the safety of our electricity infrastructure and also the safety for our crews. We worked closely with the community and individual customers to provide as much notice as possible of disconnections.

The graph below shows the number of properties disconnected over the course of the Flood Event due to flood water inundation to the properties, or where there was insufficient clearance for overhead lines to remain energised to supply customers. It highlights that the maximum number of properties disconnected peaked at 3,368 on 26 December 2022. Many of these premises remained without supply for many months, waiting for it to be safe to reconnect supply. We acknowledge there remained 1,364 properties⁶ in a disconnected status on 30 September 2023. These premises had extensive damage or issues with contamination, and some are negotiating with insurance companies. Electricity supply is available once these customers request a reconnection. Where a customer requires a reconnection, they will need to supply an Electrical Certificate of Compliance to ensure that premises is safe to reconnect. Some premises may never be reconnected as they require demolition and rebuilding. Where they are reconnected, these will follow the normal connection process.

⁶ These 1,364 premises had extensive damage and required major repairs and consequently it is appropriate for those premises to go through the new or alterations to premises connection process, where an electrical certificate of compliance (ie safe to reconnect) is received for the premises prior to the premises being connected to the distribution network.

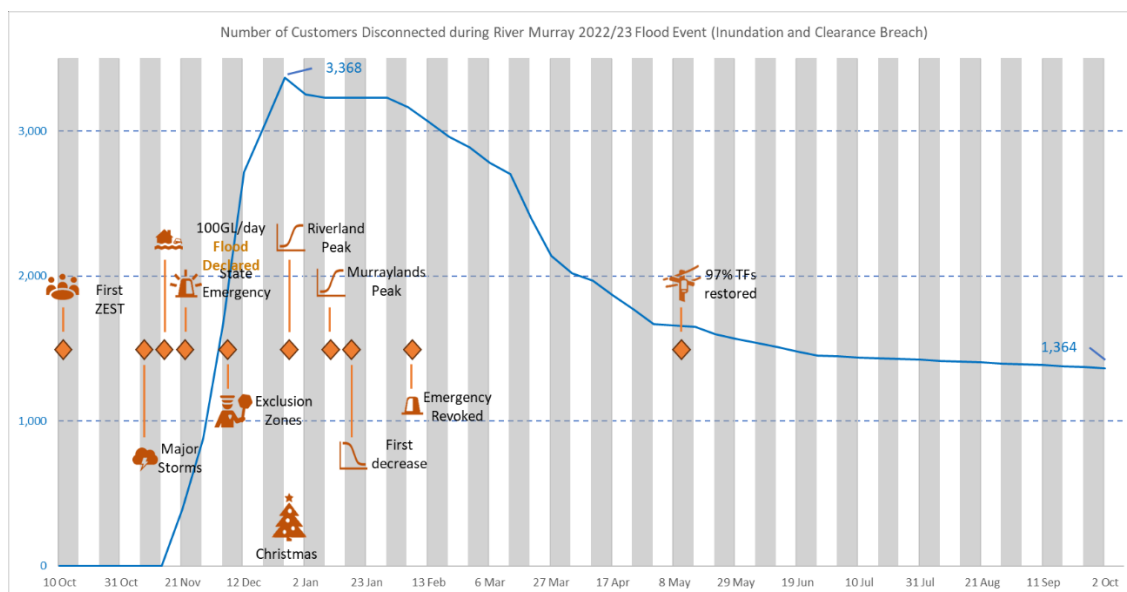


Figure 1 – Flood event premises disconnection and other major events

The figure shows a plot of the number of premises disconnected and highlights the rapid rise of the flood water. It highlights that the number of disconnections commenced in early November and peaked in late December at 3,368 premises, with 1,364 premises remaining disconnected by the end of September 2023. As the waters started slowly receding, we were able to commence reconnecting customers where safe to do so. As at 20 April 2023, 97% of our distribution transformers had been reenergised.

The Government’s State Emergency Services Zone Emergency Support Teams (ZEST) first convened in early October. By mid-November, the same week as major storms in South Australia, the water flow reached the flooding threshold (ie 100 GL per day).

SA Power Networks commenced switching off inundated or threatened electrical services/premises in the first week of November. On 2 December 2023, the Office of the Technical Regulator revised the minimum clearances in flood affected areas providing for 50m exclusion zones, allowing for powerlines in floodwaters to remain energised.

After the Riverland and Murraylands peaks, we were observing some of the first signs of flood water receding.

2.4 Customer engagement

2.4.1 Stakeholder and customer engagement pre-Flood Event

SA Power Networks’ personnel attended and participated in many State Emergency Services (SES) coordinated public meetings in major regional centres along the River Murray and in Adelaide. Speakers at the public meeting were generally SES, Department of the Environment and Water (DEW), Local Council EOs, SA Water, Department of Primary Industries and Regions (PIRSA), Department of Housing and SA Power Networks.

SA Power Networks’ emphasis during these meetings was on informing the community on our flood preparations and our expectations regarding supply disconnections as the

flood progressed and the recovery phase, including reconnection processes after waters had receded.



Figure 2 - SA Power Networks personnel addressing community meetings.

We also consulted with individual business customers regarding preparations, flood avoidance and disconnection advice and how this may impact on their specific operations.

2.4.2 Stakeholder and customer engagement during the Flood Event

SA Power Networks not only recognised physical safety as an issue, but also community wellbeing. During the Flood Event we:

- communicated directly with customers along the river and sent out weekly updates via SMS (34,000 messages), to greater than 90% of affected customers to keep them informed. These customers had either previously signed up to SMS services (our Power@MyPlace) or signed up as a result of the community meetings;
- continued to attend and present at SES coordinated public meetings and then later with DPC at community flood recovery meetings, with about 40 meetings in total held before, during and after the Flood Event;
- set up fortnightly community hubs at six key regional centres of Renmark, Loxton, Waikerie, Morgan, Mannum and Murray Bridge. Later we included Blanchetown in the community hub cycle as along with Mannum and Morgan, as these localities

encountered a high volume of disconnections. The community hubs commenced in late November and ceased in late March, with a short three-week break over Christmas. We had a total of 38 community hubs across the flood affected regional centres;

- hosted 11 stakeholder engagement meetings attended by regional MPs, local councils and heads of peak bodies/industry associations;
- engaged with retailers to ensure customers would not be charged for supply for the period they were disconnected;
- waived network charges for reconnection of affected customers;
- participated in a range of Government-led daily and weekly emergency management and communications meetings; and
- prepared information sheets and flyers which were provided at community meetings, community hubs and online via SA Power Networks' website and social media channels. Figure 3 below highlights the types of flyers produced.



Figure 3 - Sample of Information sheets and flyers produced.

2.5 Flood related activities

2.5.1 Adoption of new technologies and approaches

The most innovative aspect of our approach to safety in this flood emergency was adoption of Artificial Intelligence (AI) and Light Detection and Ranging (LiDAR) technology to speed up and improve decision making in managing risk. Initially, SA Power Networks integrated flood maps and flowrate forecasts with our geographical asset data to target the dispatch of asset inspectors and field crews to at-risk locations to monitor the impact of water levels, their encroachment on safe clearances to powerlines and electricity assets so as to implement optimal site-specific controls. As flood-level predictions escalated and the scale of the event became more apparent, there was a critical need to utilise state-of-the-art technology to help inform and speed decision making.

We engaged Neara with its AI and LiDAR processing capabilities to assist us. LiDAR is a process that employs laser beams to measure distances and create 3D maps of the earth's surface and objects. This was deployed quickly to develop a comprehensive 3D map of

the entire River Murray region including SA Power Networks’ electrical assets and the associated environment. See Figure 4 below showing an image of the LiDAR output available.

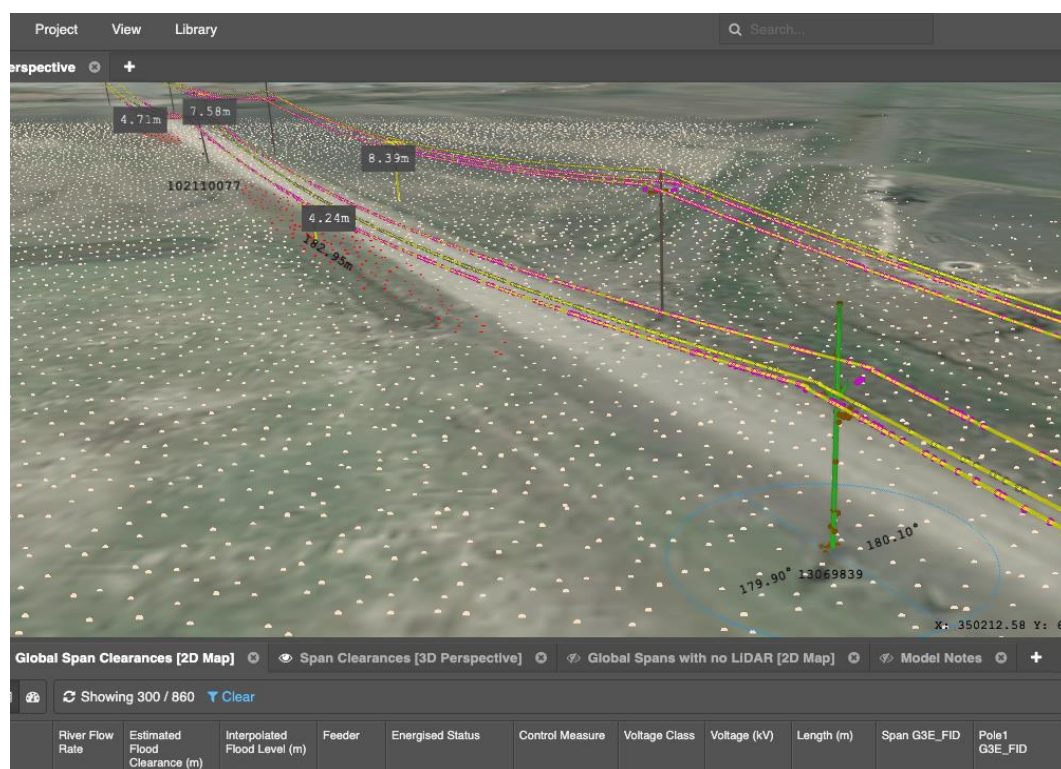


Figure 4 - LiDAR mapping of powerlines and ground

This approach was significant in that it marked the first time SA Power Networks deployed LiDAR-related, AI-powered technologies in response to an extended extreme weather-related event.

Over five weeks, a light aircraft flying at an altitude of 1,200 to 1,400 feet was employed to capture LiDAR data (trillions of LiDAR data points at a resolution of 20 points per square metre). Neara’s technology then classified the LiDAR data including poles, conductors, buildings and terrain, and merged this information with additional data sources to create a sophisticated 3D model of the network.

This allowed the SA Power Networks team to model water levels both in real-time and at the flow rates forecast by the Government and meteorology experts and target engineering and administrative controls as needed, while minimising workers’ exposure to environmental hazards.

Reports analysing 21,000 powerline spans within a 314GL per day flood area (the 1956 flood area⁷) were completed in fifteen minutes. Without advanced AI and LiDAR capabilities, this process would have taken many weeks to complete through manual business systems and resources. These digital insights created visibility of areas of the network that posed a risk to the public (that breach exclusion zones) and enabled a prudent response through engineering controls.

⁷ Worst River Murray Flood on record.

The complete River Murray 3D model allowed SA Power Networks to model different impact scenarios on electricity distribution network assets at various flood levels, predicting where and when power lines may each clearances or be inundated requiring electricity disconnection. See Figure 5 below for a flood map produced from LiDAR and an actual photo of the flooding.

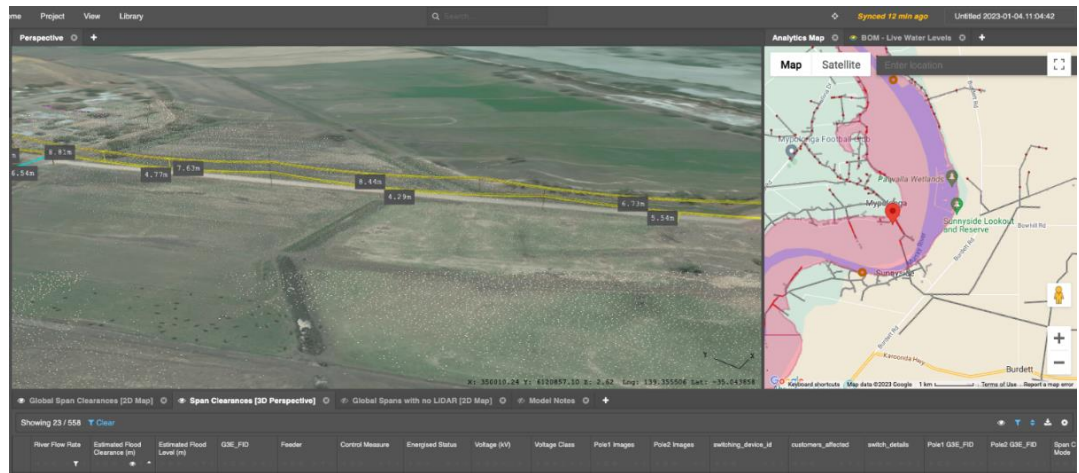


Figure 5 – Shows a flood map and the photo of the actual flooding highlighted in the map.

Figure 6 below shows the flooding predicted by the model and the actual flooding of the area. Noting that there was a discrepancy between the actual flow rate and that predicted by the model. For example, the peak flow rate was 186 GL but the flooding resembled a flow rate of 233 GL per day.

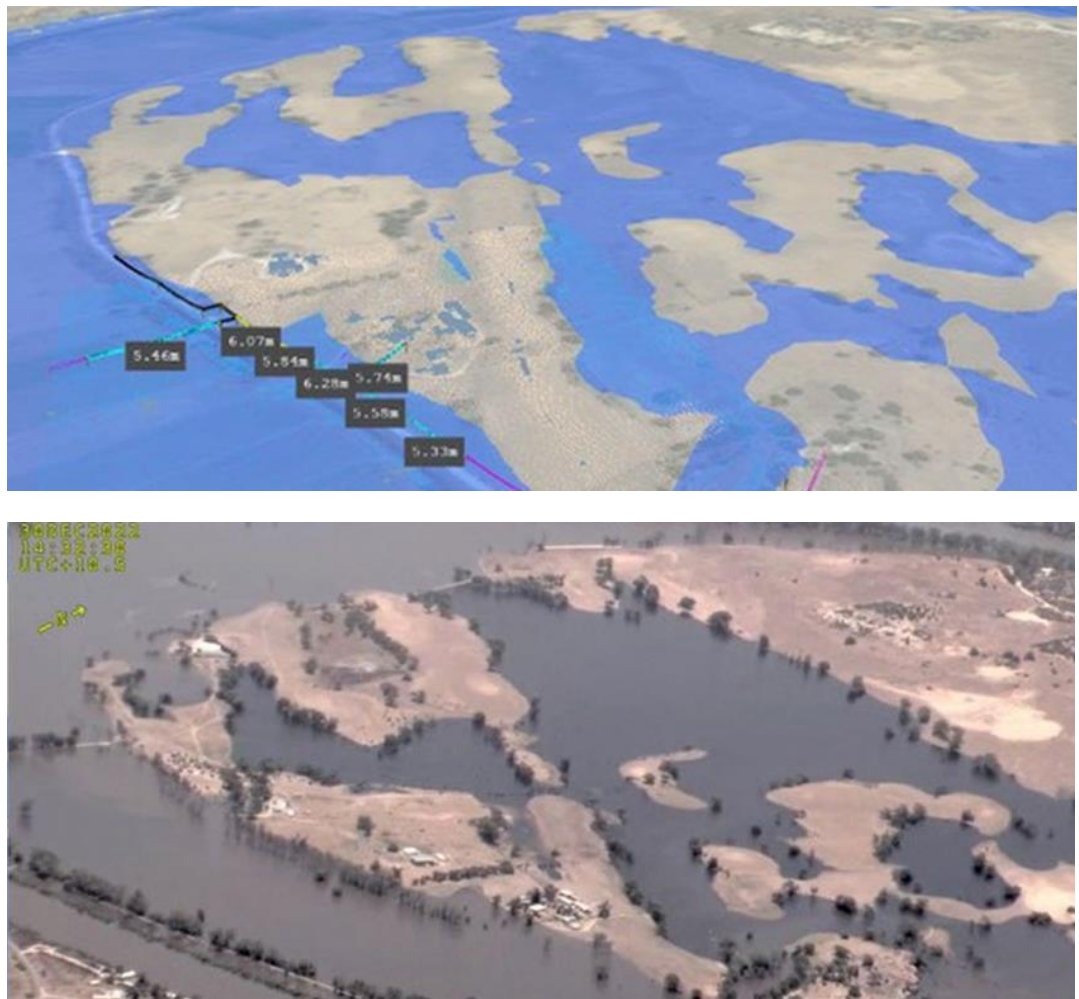


Figure 6 - Pictures of the flooding predicted by the model and the actual flooding.

Through enhanced digital capabilities, areas of the state were reconnected to electricity supply ahead of predicted timeframes. In some cases, regions were re-energised within five days compared with a projected three-week timeframe using traditional extreme weather event processes.

These digital insights also played an essential role in helping keep the community, SA Power Networks people and emergency services responders safe throughout the floods. It also contributed to community wellbeing, allowing much more accurate information to be provided to customers, emergency agencies, state and local government, and earlier reconnection of supply than might otherwise have been expected.

SA Power Networks also supplied flood impact mapping against the electricity infrastructure and Geographic Information System (GIS) Layers to SA Government Department and Emergency Services, Councils and Industry Associations, to assist in their response to the Flood Event.

2.5.2 Activities in responding to the Flood Event

The following activities were undertaken in response to the Flood Event:

Safe Clearances to Overhead Powerlines

There are regulated height clearances to our powerlines that we must maintain by law.

Our Disconnection Policy has been endorsed by the Office of the Technical Regulator (OTR) who enforce the clearances to powerlines legislation. In preparation for the extensive flooding, the OTR reviewed its clearances in flood affected areas, as detailed below.

- Revised Minimum Clearances in Flood affected areas was released by the OTR on 2 December 2023.
- SA Government announced 50m exclusion zone to powerlines in floodwaters.
- We regularly inspected the powerline spans with drones and using accurate measuring equipment (LiDAR) to measure the height of the powerline at mid-span to the water to ensure clearances were not breached during the flood event. Once clearances were breached, the supply had to be disconnected.

Figure 7 below, demonstrates an employee inspecting and taking accurate measurement of the clearance of conductor from the water surface by boat, to determine if the powerline can remain energised supplying customers or disconnected if clearances have been breached.



Figure 7 - Measuring clearance of conductors to surface of flood waters.

Electricity Network Integrity

To maintain integrity of the electricity distribution network during the Flood Event:

- SA Power Networks' Asset Inspectors conducted ongoing assessments of Electrical Infrastructure, including by boat, helicopter and fixed wing aircraft.

- Network Inspectors and Field Services personnel carried out ongoing assessments about the safety of our electricity infrastructure and also the safety for our crews. We also worked with customers to give them as much notice as possible of disconnections.
- We undertook desktop assessments, identifying 200+ sites for possible future proofing the network against flood damage. and
- We identified and removed about 20 above ground level transformers & HV switchgear prior to water damage, noting lead time for delivery of new transformers and switchgear is 20 – 26 weeks.

Figure 8 below shows the impact of flood waters on footings of power poles and consequently requirement for stabilisation, to prevent the pole from failing. These images were taken one day apart, indicating how quickly the conditions can change as the flood waters rise.



Figure 8 - Impact of flood water on pole footing.

Where required, measures were implemented to stabilise poles, enabling supply to be maintained to customers during the Flood Event (refer to Figure 9 below).



Figure 9 - Pole with temporary support to prevent failure.

Irrigators and Business impact/communication

SA Power Networks also held fortnightly meetings with Councils, Irrigators and Industry Associations to discuss flood response activities. 160 contacts were made with Irrigators and businesses to assess flood impacts. We also worked with Irrigators to discuss alternative supply solutions for any of their pumps that were likely to be disconnected due to flooding.

2.5.3 Installing bunding around Zone Substation

Due to its location and assessed risk of flooding during the Flood Event, SA Power Networks installed a bund/levee around our Renmark substation for a predicted peak flow rate of 200 GL per day. Photos of the location of the substation (Figure 10 red circle) and the two bunds (Figure 11) the first installed (closest to the substation) by SA Power Networks and the second by the Department for Infrastructure and Transport (DIT):



Figure 10 - Renmark zone substation and flooding adjacent.



Figure 11 – photo of the two bunds/levees protecting Renmark zone substation.

Bunding was installed in other locations as well. For example, the Mypolonga transformer station see Figure 12 below.



Figure 12 - Bunding around the Mypolonga transformer station, which supplies the pumping station.

2.5.4 Process used to disconnect customers

While SA Power Networks attempted to maintain supply where possible, disconnections were necessary to maintain safety for the community and our people during the Flood Event. The following process was used to assess the need for disconnection for safety reasons. The steps taken were:

1. A desktop review was undertaken based on flood modelling/mapping, to assess the likelihood of flooding. Figure 13 below, provides an image of the flood modelling available for the desktop review.
2. Where flooding was predicted, notification of pending disconnection was provided to customers. We aimed to provide 1 weeks notice prior to disconnection where possible.
3. A field visit and assessment was also conducted by SA Power Networks' staff to confirm the desktop review of modelling outcomes.
4. Where it is determined that it is no longer safe for the installation to remain energised, a disconnection was completed.
5. This process continued as the water levels rose across the river communities.

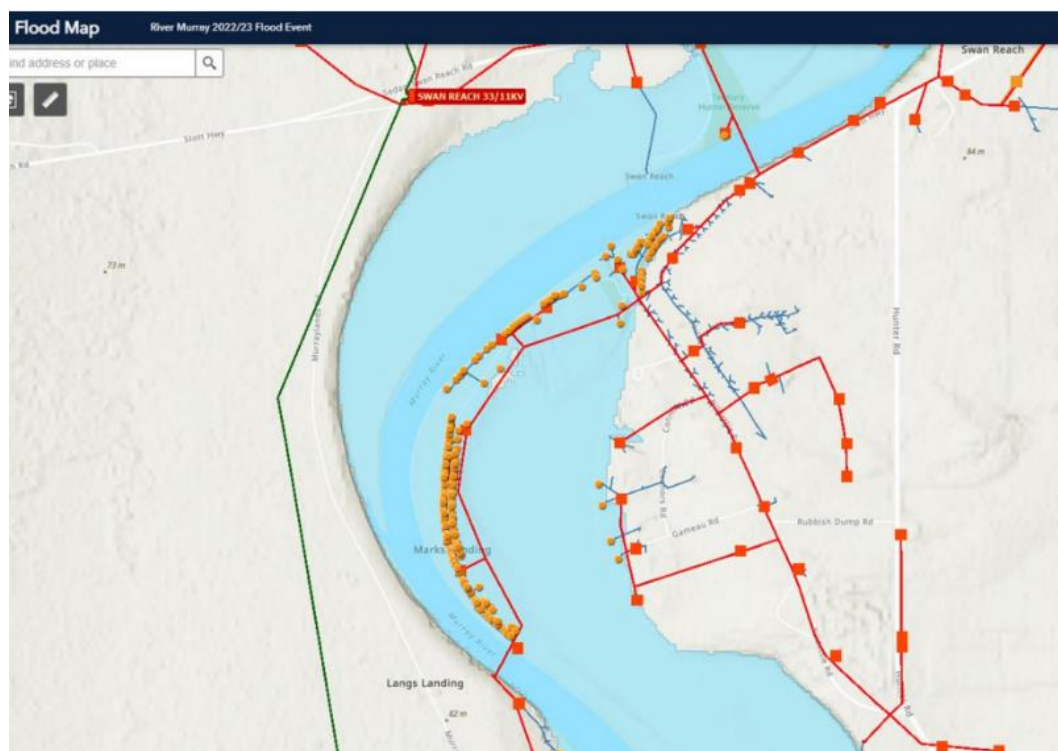


Figure 13 - Flood map of indicating potential premises that require disconnection (premises shown in orange squares).

2.5.5 Reconnecting customer’s premises

SA Power Networks appointed a Restoration Coordinator to manage the significant volume of reconnection activity, with 3,368 customers disconnected during the Flood Event. Priority reconnections were provided to life support customers, commercial operations (eg irrigation pumps) and permanent residences. Early communications were provided to customers about upcoming reconnections in their area. The following steps were taken in reconnecting customers electricity supply, where their supply had been disconnected due to the Flood Event:

1. Assess flood water levels to determine if safe access is now available as the water has subsided.
2. Was any part of the installation inundated by flood water or is the customer’s installation damaged?
 - a. No: reconnect.
 - b. Yes: customer’s electrician to repair and certify the installation is safe to reconnect.
3. SA Power Networks performed reconnections free of charge.

2.5.6 Additional resources deployed

Responses centre were set up at Barmera, Murray Bridge and Angaston Depots, with additional powerline and electrical trade staff mobilised to those Response centres. Thirty additional Trade Skill Works Electrical (TWSE) were required to perform disconnection and reconnections of premises/customer electrical installations. Eight technical staff relocated to Barmera Office to consult with Irrigators and Business Customers.

A SA Power Networks liaison person was also stationed at the SES Loxton headquarters.

Table 1 below details the additional 108 staff deployed across the Barmera (Riverland) and Murry Bridge (Murraylands) Depots during the Flood Event.

Table 1 - Additional resources deployed for the Flood Event

| | Normal staff levels | Additional Staff Deployed |
|--------------------------|---------------------|---------------------------|
| Powerline Tradesperson | 33 | 71 |
| Electrical Trades person | 2 | 12 |
| Powerline inspector | 2 | 14 |
| Technical & Support | 3 | 11 |
| Total | 40 | 108 |

3 Regulatory framework and requirements

3.1 Introduction

Clause 6.6.1 of the NER sets out the mechanism for a *Distribution Network Service Provider (DNSP)* to seek the approval of the AER to pass through to *Distribution Network Users* certain increases in costs related to the provision of *direct control services* and resulting from the occurrence of a *pass through event*. A pass through event occurs if the requirements for:

- a nominated pass through event specified in a distribution determination; or
- one of the four pass through events listed in clause 6.6.1(a1) of the NER,

are satisfied.

SA Power Networks Distribution Determination for the 2020-25 period contains a nominated pass through event for a natural disaster, which includes a flood. For SA Power Networks to then be entitled to recover the increased costs incurred, and/or to be incurred, because of the occurrence of that *service standard event*, the *service standard event* must also meet the requirements for a *positive change event*.

Each of the above matters and requirements are briefly addressed in this section. If each of the above requirements are met, then the amount that SA Power Networks may pass through to *Distribution Network Users*, once approved by the AER, is the *positive pass through amount* in respect of the *positive change event*. This is addressed in section 4 below.

3.2 Natural disaster event

3.2.1 Definition

A *natural disaster event* is defined in SA Power Networks' distribution determination for

the 2020-25 Regulatory Control period as:

‘Natural disaster event means any natural disaster including but not limited to cyclone, fire, flood or earthquake that occurs during the 2020–25 regulatory control period that increases the costs to SA Power Networks in providing direct control services, provided the fire, flood or other event was:

- a consequence of an act or omission that was necessary for the service provider to comply with a regulatory obligation or requirement or with an applicable regulatory instrument; or
- not a consequence of any other act or omission of the service provider.

Note: In assessing a natural disaster event pass through application, the AER will have regard to, amongst other things:

- whether SA Power Networks has insurance against the event,
- the level of insurance that an efficient and prudent NSP would obtain in respect of the event.

3.2.2 Natural Disaster Event definition includes a flood

SA Power Networks submits that the River Murray Flood Event satisfies the definition of a natural disaster event. It is a flood and was defined as a natural disaster by the SA Government (see comment in section 1.1 above).

3.2.3 Insurance for damage to infrastructure due to a flood

Consistent with most other network businesses, we do not insure our poles, wires and related network infrastructure due to prohibitively high costs for the limited coverage options commercially available. The premiums required to eliminate risks to poles and wires would result in higher customer charges inconsistent with efficient network operation. Consequently, SA Power Networks takes a stepped approach to managing the cost implications of major damage incurred to these assets as indicated below:

- We treat repair and replacement of these network assets as part of our normal business process where damage is contained to a manageable level; and
- We seek to recover costs from network charges through a pass-through application where the materiality threshold for a specific event is exceeded.

This approach provides a balance to protect our customers from ongoing inflated costs driven by high insurance premiums while enabling SA Power Networks to recover costs for extraordinary events when necessary.

3.3 Occurrence of a positive change event

As discussed above, SA Power Networks considers the Flood Event satisfies the definition of a Natural disaster event. However, to be entitled to pass through resulting costs to *Distribution Network Users*, the *natural disaster event* must also meet the requirements for a *positive change event*.

To be a positive change event, the natural disaster event must⁸:

- entail SA Power Networks incurring *materially* higher costs in providing *direct control services* than it would have incurred but for that event; and
- not include a *contingent project* or an associated *trigger event*.

These matters are addressed below, together with the date on which the *positive change event* occurred.

3.3.1 Materially higher costs but for the event

To meet the requirements for a *positive change event*, paragraph (a) of the definition of that term entails SA Power Networks incurring *materially* higher costs in providing *direct control services* than it would have incurred but for that event.

The term '*materially*' is defined by the NER as being (relevantly):

'For the purposes of the application of clause 6.6.1, an event results in a *Distribution Network Service Provider* incurring materially higher or materially lower costs if the change in costs (as opposed to the revenue impact) that the *Distribution Network Service Provider* has incurred and is likely to incur in any *regulatory year* of a *regulatory control period*, as a result of that event, exceeds 1% of the *annual revenue requirement* for the *Distribution Network Service Provider* for that *regulatory year*.'

Consistent with recent *cost pass through* determinations of the AER⁹, SA Power Networks submits that, 'costs' in the definition of '*materially*' is to be interpreted as being the sum of actual and forecast capital and operating expenditure incurred or expected to be incurred in relation to the relevant event.

On that basis, SA Power Networks has incurred, *materially* higher costs in responding to the Flood Event.

⁸ Chapter 10 (Glossary).

⁹ AusNet (September 2020); AusNet (November 2020); AusGrid (December 2020); Endeavour Energy (February 2021).

Details of those costs and their magnitude are set out in Attachments A1 and A2, and have been summarised in Table 2 below:

Table 2 - Flood Event actual capital and operating expenditure \$ million (real 2020)

| | 2022/23 | 2023/24 | Total |
|------------------------------|---------|---------|-------|
| Capital Expenditure | 0.917 | 0.155 | 1.072 |
| Operating Expenditure | 8.420 | 0.32 | 8.749 |
| Total expenditure | 9.336 | 0.485 | 9.821 |
| Smoothed revenue | 718.5 | 705.6 | |
| 1% threshold | 7.185 | 7.056 | |

Accordingly:

- the consequence of the *natural disaster event*, is that SA Power Networks has incurred costs in providing *direct control services* that it would not have incurred but for that natural disaster event (this is explained in more detail in section 2 above); and
- the magnitude of those costs are *material* (as shown in Table 2 above).

3.3.2 Does not include a contingent project or an associated trigger event

The definition of *positive change event* excludes from the definition of *pass through event* a *contingent project* or an associated *trigger event*. There are no *contingent projects* and associated *trigger event* under the current SA Power Networks distribution determination that relate to a natural disaster.

3.3.3 Date on which the positive change event occurred

The natural disaster event commenced when SA Power Networks disconnected approximately 20 premises in the Morgan area due to flooding in the week commencing 30 October 2022. On 21 November 2022, the State Coordinator of the South Australian Government declared a Major Emergency¹⁰ in respect of the River Murray High Flow and Flood situation (the Flood Event).

We proposed that the Flood Event start date be 1 November 2022 and the finish date be 30 September 2023.

¹⁰ The Major Emergency was declared pursuant to section 23 of the South Australian Emergency Management Act 2004

4 Eligible /Positive Pass Through Amounts

4.1 Eligible pass through amount

Clause 6.6.1(c)(3) of the NER requires SA Power Networks to specify the *eligible pass through amount* in respect of the *positive change event*.

4.1.1 Definition

The term '*eligible pass through amount*' is defined by the NER as being (relevantly):

'In respect of a positive change event for a Distribution Network Service Provider, the increase in costs in the provision of direct control services that, as a result of that positive change event, the Distribution Network Service Provider has incurred and is likely to incur (as opposed to the revenue impact of that event) until:

- a. unless paragraph (b) applies – the end of the *regulatory control period* in which the *positive change event* occurred; or
- b. if the distribution determination for the *regulatory control period* following that in which the *positive change event* occurred does not make any allowance for the recovery of that increase in costs (whether or not in the forecast operating expenditure or forecast capital expenditure accepted or substituted by the AER for that *regulatory control period*) – the end of the *regulatory control period* following that in which the *positive change event* occurred.

The *eligible pass through amount* refers to the increase in costs in the provision of *direct control services* as a result of the *pass through event*. It covers all expenditure incurred, including actual and forecast capital expenditure and operating expenditure.

4.1.2 Actual and likely increase in costs included in the eligible pass through amount

Clause 6.6.1(c)(6)(i) of the NER requires SA Power Networks to provide evidence of the actual and likely increase in costs included in the *eligible pass through amount*. Details of the *eligible pass through amount*, including the actual costs included in that *eligible pass through amount*, are set out in Attachment B and have been summarised below:

Table 3 – Flood Event eligible pass through amount (\$m June 2020)

| | 2022/23 | 2023/24 | TOTAL |
|------------------------------|---------|---------|-------|
| Capital expenditure | 0.917 | 0.155 | 1.072 |
| Operating expenditure | 8.420 | 0.329 | 8.749 |
| | | | 9.820 |

4.1.3 Evidence that the costs occur solely as a consequence of the positive change event

Clause 6.6.1(c)(6)(ii) of the NER requires SA Power Networks to provide evidence that the costs described above occur solely as a consequence of the *positive change event*. This evidence takes three forms:

- First, as a matter of fact, the costs were incurred solely as a consequence of the *positive change event*. The evidence for that is set out in Attachments A1 and A2.
- Secondly, as explained in paragraph 4.1.2 above and 4.2.4.2 below, the costs were incurred solely because of the *positive change event*.
- Thirdly, we engaged a third party (Deloitte) to undertake an external review¹¹ to provide limited assurance that the costs submitted resulted from the Flood Event (Attachment C for review report).

4.2 Positive pass through amount

Clause 6.6.1(c)(4) of the NER requires SA Power Networks to specify the *positive pass through amount* that it proposes in relation to the *positive change event*.

4.2.1 Definition

The *positive pass through amount* is defined by the NER as an amount not exceeding the *eligible pass through amount*.

4.2.2 Proposed positive pass through amount

SA Power Networks proposes a *positive pass through amount* of \$9.82 million (June 2020). Details of the how the positive pass through amount was determined is included in Attachment B.

4.2.3 Proposed positive pass through amount for each regulatory year

Clause 6.6.1(c)(5) of the NER requires SA Power Networks to specify the amount that it proposes to pass through to *Distribution Network Users* in the *regulatory year* in which, and in each *regulatory year* after that in which, the *positive change event* occurred. SA Power Networks proposes to recover the proposed *positive pass through amount* of \$9.23¹² million (\$ 2020) in the 2024/25 regulatory year. This will increase the average annual residential bill by approximately 0.7% or \$7.20 per annum.

4.2.4 Determination by the AER of the approved pass through amount

4.2.4.1 Clause 6.6.1(j)(3) of the NER

In making a determination under clause 6.6.1(d)(1) as to the *approved pass through amount* and the amount to be passed through to *Distribution Network*

¹¹ Specifically ASRE 2405 Review of Historical Financial Information review report.

¹² Equivalent to \$11.10m for regulatory year 2024-25 based on RBA forecast CPI to 2024-25.

Users in each *regulatory year*, clause 6.6.1(j)(3) of the NER requires the AER to take into account the efficiency of the decisions and actions of SA Power Networks in relation to the risk of the *positive change event*. That includes whether SA Power Networks has failed to take any action that could reasonably be taken to reduce the magnitude of the *eligible pass through amount* in respect of that *positive change event*, and whether SA Power Networks has taken or omitted to take any action where such action or omission has increased the magnitude of the amount in respect of that *positive change event*.

SA Power Networks submits that it has acted efficiently in determining the actual cost for the required activities and has taken all possible steps that could reasonably be undertaken in the circumstances to reduce the magnitude of the *eligible pass through amount* in respect of this *positive change event*.

SA Power Networks developed new modelling methods to reduce the time taken to predict which electricity assets would be inundated with flood water and where it was cost effective to remove those assets that would be damaged by flood water, prior to them being inundated (e.g. padmount/ground mounted transformers). It employed experts to install safety signs and other devices to warn river users of the dangers of live powerlines. It worked with the South Australian Government to reduce clearance requirements between powerlines and flood water and for the Government to introduce 50m exclusions zones around powerlines. This reduced the requirement to reroute or install alternative supply routes to maintain supply to customers whose premises were 'dry' or communities that were dry.

SA Power Networks is the second most efficient distribution network service provider from an operating expenditure perspective from the AER's recent draft report on benchmarking outcomes.

SA Power Networks' decisions and actions were made on the basis of its objectives to minimise the:

- safety risk to the public, customers and our employees from flood water interacting with our powerlines,
- minimise the number of customers disconnected; and
- minimise the damage to our infrastructure to minimise the cost of the Flood Event.

4.2.4.2 Clause 6.6.1(j)(7) of the NER

In making a determination under clause 6.6.1(d)(1) as to the *approved pass through amount* and the amount to be passed through to *Distribution Network Users* in each *regulatory year*, clause 6.6.1(j)(7) of the NER requires the AER to take into account whether the costs of the *pass through event* have already been factored into the calculation of SA Power Networks' *annual revenue requirement* for the *regulatory control period* in which the *pass through event* occurred or will be factored into the calculation of SA Power Networks' *annual revenue requirement* for a subsequent *regulatory control period*.

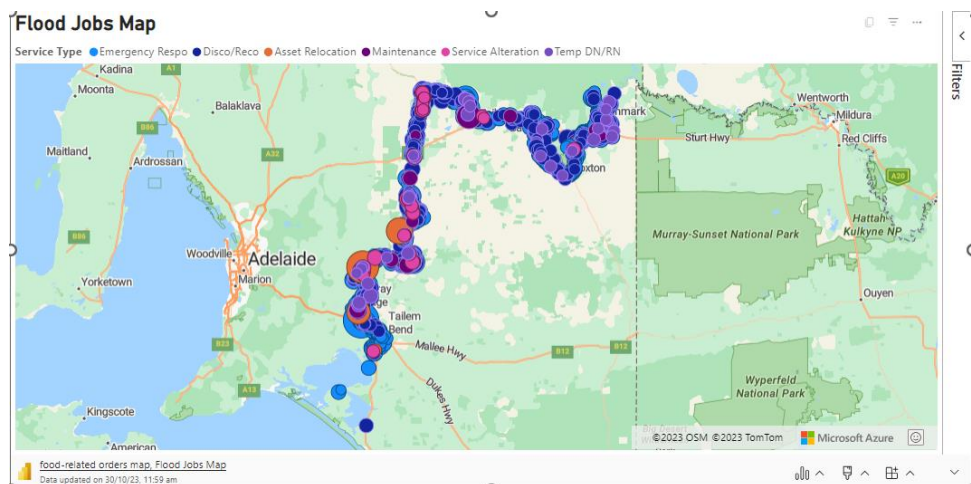
The costs of this *pass through event* have not been factored into the calculation of SA Power Networks' *annual revenue requirement* for the current *regulatory control period* because the Flood Event was unforeseen and unexpected. This is

supported by a flood being included as a pass through event.

In order to efficiently capture flood related costs that could not be allocated to a specific project, SA Power Networks established work orders to two field depots and one for ‘regional electrical services’. These costs were primarily for general electrical services, and travel and accommodation expenses for metropolitan field staff. The costs allocated to these work orders have had two management reviews to ensure that only costs associated with the Flood Event were allocated to these orders.

Any operational orders raised against depots located in the flood region, including Angaston, Barmera and Murray Bridge, or work orders raised for Emergency Response, temporary disconnection or reconnection of customers’ premises, asset relocation, maintenance or service relocation, were included in the flood costs but only where the order specified the word ‘flood’. The operational orders were then geospatially analysed (see Figure 14 below) to ensure its location was adjacent to the River Murray. Only the costs for operational orders meeting these criteria were included in the pass through application.

Figure 14 - Flood operational orders mapped to proximity to River Murray



Any order specifically raised to address a flood related issue were included in the costs and only capital projects specifically raised for Flood Event Projects have been included in the costs.

SA Power Networks has excluded any allocation of corporate overheads from the costs of the Flood Event. Also, the costs included in this pass through application have been internally reviewed to ensure that only costs directly associated with responding the Flood Event have been included. In addition, as highlighted above we engaged an external auditor (Deloitte) to provide limited assurance that the submitted costs resulted from the Flood Event.

5 Regulatory compliance

The table below provides a summary of the requirements imposed on SA Power Networks by the NER for the making of a cost pass through application, and where the relevant information is provided in this application.

| NER clause | Requirement | Where provided in application |
|----------------|--|-------------------------------|
| 6.6.1(a1) | Identify the relevant <i>pass through event</i> | Section 3.2 |
| 6.6.1(c)(1) | Specify details of the <i>positive change event</i> | Section 3.3 |
| 6.6.1(c)(2) | Specify the date on which the <i>positive change event</i> occurred | Section 3.3.3 |
| 6.6.1(c)(3) | Specify the eligible pass through amount in respect of the positive change event | Section 4.1.2 |
| 6.6.1(c)(4) | Specify the positive pass through amount proposed in relation to the positive change event | Section 4.2.2 |
| 6.6.1(c)(5) | Specify the amount of the <i>positive pass through amount</i> proposed to be passed through in the <i>regulatory year</i> in which, and each subsequent <i>regulatory year</i> in which, the <i>positive change event</i> occurred | Section 4.2.3 |
| 6.6.1(c)(6)(i) | Provide evidence of the actual and likely increase in costs referred to in clause 6.6.1(c)(3) | Section 4.1.2 |

| | | |
|-------------------------|---|--|
| 6.6.1(c)(6)(ii) | Provide evidence that the costs referred to in clause 6.6.1(c)(3) occur solely as a consequence of the <i>positive change event</i> | Section 4.1.3 |
| 6.6.1(c)(6)(iii) | Not applicable as this application does not relate to a <i>retailer insolvency event</i> | Not applicable |
| 6.6.1(c)(7) | Provide such other information as may be required under any relevant <i>regulatory information instrument</i> | Not applicable as no relevant regulatory information instruments |