

From: Section 22
To: [Duggan, Simon](#); Section 22; [Williams, Neil](#)
Subject: FW: South Australian Power Outage [~~DLM-For Official Use Only~~]
Date: Wednesday, 28 September 2016 7:45:23 PM
Attachments: [28092016_AEMO media statement - South Australia.pdf](#)
[ATT00001.htm](#)

~~For Official Use Only~~

From: Section 22
Sent: Wednesday, 28 September 2016 7:41 PM
To: Section 22; McKinnon, Allan; Bryant, Kylie
Cc: Section 22; Crisis Management; simon.duggan@pmc.gov.au; Section 22
Subject: Fwd: South Australian Power Outage [SEC=UNCLASSIFIED]

Section 22 an update and some background on South Australia. Will advise as soon as we hear the outcomes of the National Electricity Forum Emergency meeting occurring at 1930.

Regards,
PMC Duty Officer

Sent from my iPhone

Begin forwarded message:

From: Section 22 <Section22@environment.gov.au>
Date: 28 September 2016 at 7:17:36 PM AEST
To: "'Kelly.Pearce@pmc.gov.au'" <Kelly.Pearce@pmc.gov.au>, Section 22
 [Redacted]
Cc: "de Brouwer, Gordon" <Gordon.deBrouwer@environment.gov.au>, "Heferen, Rob" <Rob.Heferen@environment.gov.au>, Section 22
 [Redacted], "Bennett, Helen" <Helen.Bennett@environment.gov.au>, "Cameron, Robert" <Robert.Cameron@ag.gov.au>, "Chard, Samantha" <Samantha.Chard@ag.gov.au>, "Kiley, Andrew" <Andrew.Kiley@ag.gov.au>
Subject: South Australian Power Outage [SEC=UNCLASSIFIED]

Colleagues

Current situation with regards to the South Australian blackout.

The AEMO media release is attached for your information

There is another teleconference of the National Electricity Market Emergency Management Forum at 1930 and we will provide a further update following this.

Issue

- At 1618 AEST, all of South Australia suffered a blackout, most likely triggered by strong winds which have brought down transmission lines and pylons and lightning strikes. The electricity market in SA has been suspended. There are currently no other regions being impacted by the SA blackout.
- The Australian Energy Market Operator and the South Australian government, with assistance from other State electricity operators are working closely with electricity generators and providers in South Australia to fix this situation.
- For example Queensland's [AEMO](#) control room is solely focussing on the SA restart.
- The South Australian Energy Minister, Tom Koutsantonis has informed Minister Frydenberg that backup power is currently in place for emergency services and hospitals.
- Bureau of Meteorology has contingency plans to continue providing weather services for SA.

What is the Commonwealth's role?

- When a significant electricity emergency occurs, such as this blackout in South Australia, the Australian Energy Market Operator (AEMO) convenes a meeting of National Electricity Market Emergency Management Forum, which comprises State, Territory and Commonwealth governments, and industry representatives.
- The Forum is set up under the National Electricity Law to manage power system security.
- The AEMO power system emergency management plan establishes 5 levels of severity of a power system incident – the SA blackout is a level 3 ie only one jurisdiction impacted, but severely.
- The National Electricity Market Emergency Management Forum convened at 1730 and officials have been briefed. Essentially the system restart procedure has commenced utilising the gas fired Quarantine Power Station near Port Adelaide and the Heywood interconnector from Victoria. Full restoration time is unknown.
- The Australian Government has the option of convening the Australian Government Crisis Coordination Centre but at this stage, given the impact is localised to South Australia, we are maintaining a watching brief.
- Responsible Commonwealth officials from the Department of the Environment and Energy and other agencies are closely monitoring this situation.
- The next National Electricity Market Emergency Management Forum meeting is scheduled at 1930 AEST tonight.

Regards

Section 22

Acting Manager

Australian Energy Security

Energy Security Office

Department of the Environment and Energy

John Gorton Building

King Edward Terrace, Parkes ACT 2600

Work: Section 22

Mobile: Section 22

Email: Section 22



MEDIA STATEMENT

Wednesday 28 September 2016

The Australian Energy Market Operator (AEMO) can confirm that as at 16:18 AEDT on 28 September 2016, the South Australian electricity market disconnected from Victoria, resulting in a state-wide power outage in South Australia.

AEMO has declared the spot market suspended in the South Australian region.

AEMO is working closely with transmission network service provider ElectraNet to identify and understand the severity of the fault, as well as determine a power restoration time.

It is AEMO's understanding that this issue has not caused any supply interruptions in Victoria.

Further details will be supplied following further investigation.

For information on the restoration of supply, please contact ElectraNet on 08 8404 7436.

ENDS

For AEMO media enquiries, please contact:

[AEMO](#) media enquiries

0409 382 121

AEMO.Media@aemo.com.au



From: Section 22
To: [REDACTED]
Cc: [REDACTED]
Subject: FW: South Australian Power Outage [SEC=UNCLASSIFIED]
Date: Wednesday, 28 September 2016 7:53:27 PM
Attachments: [28092016_AEMO media statement - South Australia.pdf](#)
[ATT00001.htm](#)

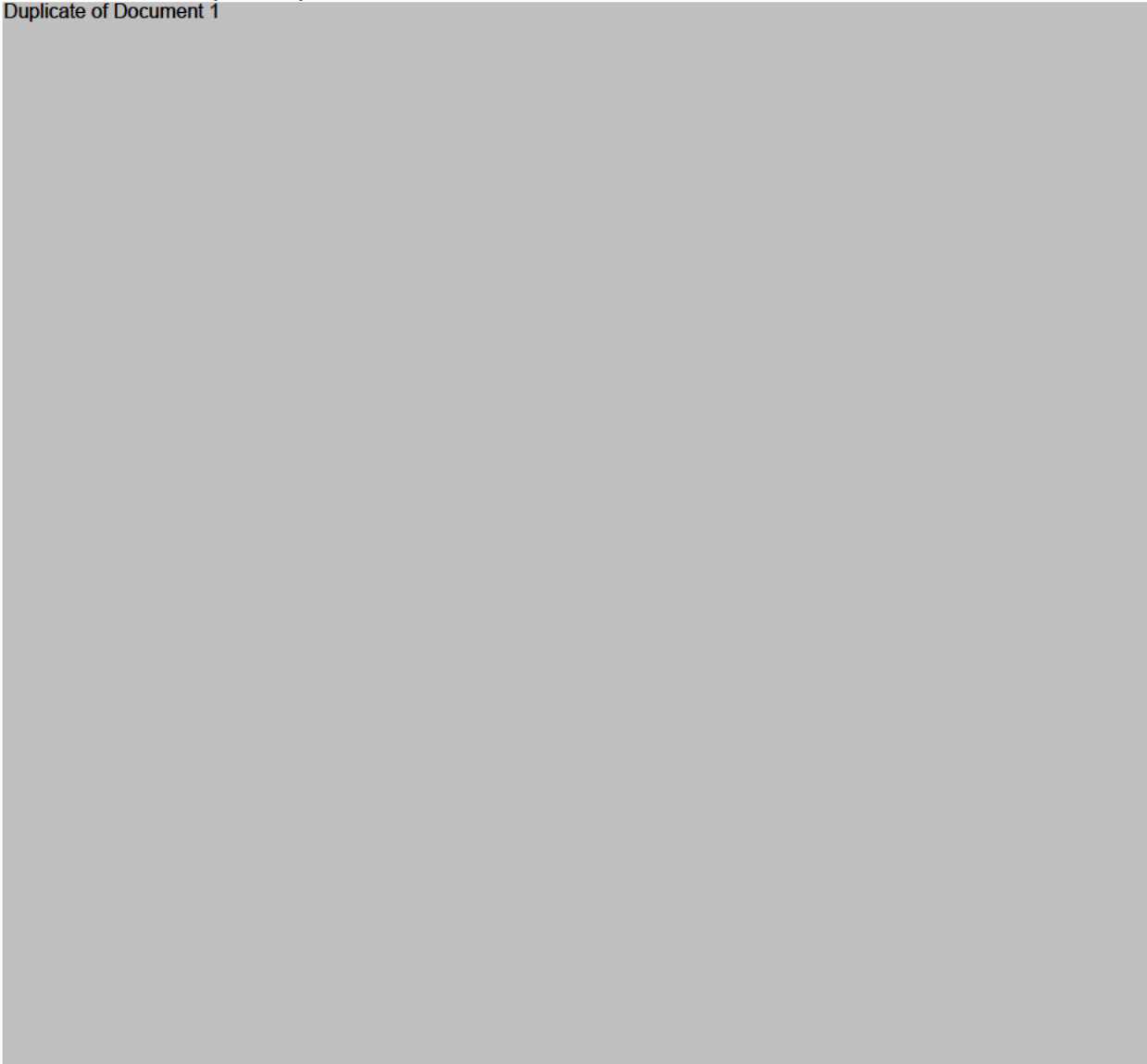
UNCLASSIFIED

Section 22 I've just received Section 22 out of office on the SA energy situation – I'll forward these and any further updates on to you as we receive information. If you need more detail, or anything else, please do let me know.

Kind regards,

Section 22
PM&C Duty Officer
Section 22

From: Section 22
Sent: Wednesday, 28 September 2016 7:41 PM
Duplicate of Document 1



From: Section 22
To: Section 22
Cc: [Bryant, Kylie](#); [Crisis Management](#); [McKinnon, Allan](#); Section 22; [Duggan, Simon](#); Section 22
Section 22; [Bryant, Kylie](#); [Williams, Neil](#); Section 22
Subject: FW: South Australian Power Outage [DLM=For Official Use Only]
Date: Wednesday, 28 September 2016 8:28:10 PM
Attachments: [28092016_AEMO_media_statement_-_South_Australia.pdf](#)
[ATT00001.htm](#)

~~For Official Use Only~~

Section 22 ,

Section 47C

Please advise if you would like more detail or further information at any stage.

Regards,
Section 22 (PM&C Duty Officer)

Section 22
Advisor
Crisis Management | National Security Division
Department of the Prime Minister and Cabinet
p. Section 22
e Section 22
PO Box 6500 CANBERRA ACT 2600

The Department acknowledges the traditional owners of country throughout Australia and their continuing connection to land, sea and community. We pay our respects to them and their cultures and to their elders both past and present.

From: Section 22
Sent: Wednesday, 28 September 2016 7:41 PM

From: Section 22
To: Section 22; [McKinnon, Allan](#); Section 22; [Bryant, Kylie](#); [Crisis Management](#)
Subject: Fwd: South Australian Power Outage [SEC=UNCLASSIFIED]
Date: Thursday, 29 September 2016 7:39:48 AM

Hi [Section 22](#) - just forwarding the below points in case you haven't received them through other channels.

Thanks
 Section 22

Sent from my iPhone

Begin forwarded message:

From: "Sewell, Margaret" <Margaret.Sewell@environment.gov.au>
Date: 29 September 2016 at 7:20:03 AM AEST
To: "kelly.pearce@pmc.gov.au" <kelly.pearce@pmc.gov.au>, [Section 22](#), [Section 22](#), [Section 22](#), [Section 22](#),
 "'Cameron, Robert'" <Robert.Cameron@ag.gov.au>, "'Chard, Samantha'" <Samantha.Chard@ag.gov.au>, "'Kiley, Andrew'" <Andrew.Kiley@ag.gov.au>, [Section 22](#),
[Section 22](#), [Section 22](#), "'kylie.bryant@pmc.gov.au'" <kylie.bryant@pmc.gov.au>
Cc: [Section 22](#), "de Brouwer, Gordon" <Gordon.deBrouwer@environment.gov.au>, "Heferen, Rob" <Rob.Heferen@environment.gov.au>, "Bennett, Helen" <Helen.Bennett@environment.gov.au>, [Section 22](#),
[Section 22](#), "O'Toole, James" <James.O'Toole@environment.gov.au>
Subject: RE: South Australian Power Outage [SEC=UNCLASSIFIED]

Colleagues

Here is a status report from an update from a teleconference at 5am involving PMO, Minister Frydenberg's Office and Environment and Energy officials. A similar note (not as long) has gone to the PMO.

Regards
 Margaret

Section 22

The Status in SA now:

<!--[if !supportLists]-->• <!--[endif]-->Most of the state has had power restored, although parts of the state north of Adelaide are still without

power, due to the damage to transmission lines and towers.

- There are still around 70 to 80 thousand customers without power, including three large customers, out of a total of 850,000 customers.
- Three large customers have not yet been re-connected:
 - BHP Olympic Dam
 - Port Pirie Smelter
 - Whyalla Steel.
- Both interconnectors – Heywood and Murraylink – are in full operation.
 - Heywood brought online at 1am
 - Murraylink brought online at 2am.
- The Heywood interconnector was used to successfully restart the system.
- All generation south of the cut off transmission lines is in operation, this includes some wind generation in the south east of SA.
- It is likely that due to localised storm damage, some customers in other parts of the state may still be without power.
- At this stage it is not clear when power will be restored, as the downed transmission lines will need to be assessed for the extent of the damage this morning and there is another severe weather event which could make it difficult for this to happen.
- No other state or territory in the National Electricity Market has been affected. However as the storm front moves through eastern Australia we could expect other damage eg there is some lost distribution network issues currently in the Victorian Riverina area.
- It is important not to speculate on how this happened. There are processes in place which support a proper investigation by the Australian Energy Market Operator.

Cause:

- Yesterday at 4:18pm EST, South Australia experienced a state-wide blackout. When this happened AEMO moved immediately to initiate the agreed system restart procedures and the power system emergency response plan. Normally this would involve gas fired power but for unknown reasons both Quarantine and Mintaro stations were not available so the restart relied on the Heywood interconnect.
- It is too early to be definitive about the cause, but we do know that a massive storm passing over South Australia knocked out four major transmission lines, including more than 20 towers (pylons) cutting off around 1000MW of generation.
- At the time there was 505MW flowing into SA through the Heywood interconnect and 105 MW through the

Murraylink interconnect. There was also 1000MW of wind power flowing into the system most of which was lost when the transmission lines were knocked out.

- Based on preliminary information the cause of yesterday's blackout was a cascading event. The initial event was the loss of four major transmission lines, caused by high wind conditions.
- This was followed by the Torrens Island gas power station shutting down shortly afterwards – the biggest local power station on line at the time. This may have been caused by a lightning strike on the switchyard &/or an automatic shutdown to protect generation assets after the loss of 1000MW of generation on the Eyre peninsula.
- The two interconnectors then shut down to protect the network.
- There has been unprecedented damage to the network (ie bigger than any other event in Australia), with 20+ steel transmission towers down in the north of the State due to wind damage (between Adelaide and Port Augusta).
- The electricity network was unable to cope with such a sudden and large loss of generation at once.
- AEMOs advice is that the generation mix (ie renewable or fossil fuel) was not to blame for yesterday's events – it was the loss of 1000 MW of power in such a short space of time as transmission lines fell over.

Immediate next steps for restoring power

- There is now 1000 MW being produced in SA and the Heywood interconnect is moving 200 MW currently – this will change rapidly to respond to market needs - and Murraylink (30MW – not being used to the maximum so it can provide back up services as necessary) are moving power. There is some wind power on line.
- The owner and operator of the transmission lines, ElectraNet, will visually inspect damage to transmission lines by helicopter as soon as weather permits – could be 100s of kilometres.
- Subject to the extent of the damage and weather conditions, it may take days to fully restore power in the affected region.
- There are temporary transmission towers available in Australia but not the number required.

AEMO review of incident

- AEMO will provide a statement later today on what it currently understands to be the cause of the failure, and what it will do in coming days and weeks to review the thoroughly incident.
- There will be hourly reports to the market.
- Under the market processes AEMO has up to 8 weeks to complete an investigation and given the scale of the

incident it could take this long [not sure – other refs to 2-3 months]
<!--[if !supportLists]-->• <!--[endif]-->The review will rely on data from market participants, including ElectraNet and generators, who are currently focussed on restore power to affected customers and repairing damage caused by the storm.

From: Sewell, Margaret

Sent: Wednesday, 28 September 2016 8:44 PM

To: 'kelly.pearce@pmc.gov.au' <kelly.pearce@pmc.gov.au>

Cc: Section 22

Section 22

Section 22

Section 22

Section 22

; de Brouwer, Gordon

<Gordon.deBrouwer@environment.gov.au>; Heferen, Rob

<Rob.Heferen@environment.gov.au>; Bennett, Helen

<Helen.Bennett@environment.gov.au>; 'Cameron, Robert'

<Robert.Cameron@ag.gov.au>; 'Chard, Samantha' <Samantha.Chard@ag.gov.au>;

'Kiley, Andrew' <Andrew.Kiley@ag.gov.au>; Section 22

'kylie.bryant@pmc.gov.au'

<kylie.bryant@pmc.gov.au>

Subject: RE: South Australian Power Outage [SEC=UNCLASSIFIED]

Hi Kelly

We'll get back to you on this question.

In the meantime here is the update from the 1930 teleconference of the National Electricity Market Emergency Management Forum with regards to the current SA blackout.

<!--[if !supportLists]-->• <!--[endif]-->The previous restart process involving the Quarantine Power Station (gas) failed for unknown reasons – this will be investigated after full restoration.

<!--[if !supportLists]-->• <!--[endif]-->The Heywood Interconnector has been restored and is operating at approximately 1/3 of its capacity as the SA grid is brought on line – the capacity is increasing rapidly to approx. 1/3 of the SA demand at the time of the blackout.

<!--[if !supportLists]-->• <!--[endif]-->High transmission lines (275 kV) from the Heywood Interconnector are functional – these supply to the South East of SA, and to Adelaide.

<!--[if !supportLists]-->• <!--[endif]-->Torrens Island Power Station (gas) near Adelaide is being restored – the three available generating units will be available from 2000, 2130 and 2330 respectively. As each unit is restored, they need to be synchronised with the system.

•

<!--[if !supportLists]--> <!--[endif]-->Another power generator, Pelican Point (gas) is also being restored but this will take four hours after receiving auxiliary power ie power to get going.

<!--[if !supportLists]-->• <!--[endif]-->AEMO advised that restoration is prioritising supply to essential services.

<!--[if !supportLists]-->• <!--[endif]-->AEMO stressed that they are progressing restoration in an orderly manner so as to not overload the Heywood Interconnector or other parts of the SA electricity grid during restoration.

<!--[if !supportLists]-->• <!--[endif]-->Due to downed high-voltage lines and pylons near Davenport in the Mid North of SA, there is uncertainty over the restoration of supply north of Adelaide. AEMO is working with Electranet to determine the status of these high-voltage lines.

<!--[if !supportLists]-->• <!--[endif]-->The Murraylink Interconnector is currently out of service (for unknown reasons) and cannot be returned to service tonight.

The next Emergency Management Forum teleconference will be at 2200.

We've just got off the phone to SA to see if we can find a comparison between the electricity that's flowing and numbers of households, and they tell us that lights are on across the southern suburbs of Adelaide, they expect the CBD and the rest of Adelaide to be restored by midnight.

Regards
Margaret

From: Pearce, Kelly [<mailto:Kelly.Pearce@pmc.gov.au>]

Sent: Wednesday, 28 September 2016 8:31 PM

To: Section 22

Cc: Section 22 Section 22

Section 22 de Brouwer, Gordon

<Gordon.deBrouwer@environment.gov.au>; Heferen, Rob

<Rob.Heferen@environment.gov.au>; Section 22

Section 22 Bennett, Helen

<Helen.Bennett@environment.gov.au>; Cameron, Robert

<Robert.Cameron@ag.gov.au>; Chard, Samantha <Samantha.Chard@ag.gov.au>;

Kiley, Andrew <Andrew.Kiley@ag.gov.au>; Section 22

Subject: Re: South Australian Power Outage [SEC=UNCLASSIFIED]

Thanks Section 22 helpful if we can have some information on the cause and why the system responds as it did,

I listened to the Premier who repeatedly indicated the outage is not generation related, but Some are suggesting related to renewables.

I'm concerned that if the reason is because the system shut down to protect itself and it is not a supply issue we do not repeat misinformation

Thanks
Kelly

Sent from my iPhone

On 28 Sep 2016, at 7:20 PM, Section 22 [@environment.gov.au](mailto:Section 22@environment.gov.au)> wrote:

Colleagues

Current situation with regards to the South Australian blackout.

The AEMO media release is attached for your information

There is another teleconference of the National Electricity Market Emergency Management Forum at 1930 and we will provide a further update following this.

Issue

<!--[if !supportLists]-->• <!--[endif]-->At 1618 AEST, all of South Australia suffered a blackout, most likely triggered by strong winds which have brought down transmission lines and pylons and lightning strikes. The electricity market in SA has been suspended. There are currently no other regions being impacted by the SA blackout.

<!--[if !supportLists]-->• <!--[endif]-->The Australian Energy Market Operator and the South Australian government, with assistance from other State electricity operators are working closely with electricity generators and providers in South Australia to fix this situation.

<!--[if !supportLists]-->• <!--[endif]-->For example Queensland's [AEMO](#) control room is solely focussing on the SA restart.

<!--[if !supportLists]-->• <!--[endif]-->The South Australian Energy Minister, Tom Koutsantonis has informed Minister Frydenberg that backup power is currently in place for emergency services and hospitals.

<!--[if !supportLists]-->• <!--[endif]-->Bureau of Meteorology has contingency plans to continue providing weather services for SA.

What is the Commonwealth's role?

<!--[if !supportLists]-->• <!--[endif]-->When a significant electricity emergency occurs, such as this blackout in South

Australia, the Australian Energy Market Operator (AEMO) convenes a meeting of National Electricity Market Emergency Management Forum, which comprises State, Territory and Commonwealth governments, and industry representatives.

<!--[if !supportLists]-->• <!--[endif]-->The Forum is set up under the National Electricity Law to manage power system security.

<!--[if !supportLists]-->• <!--[endif]-->The AEMO power system emergency management plan establishes 5 levels of severity of a power system incident – the SA blackout is a level 3 ie only one jurisdiction impacted, but severely.

<!--[if !supportLists]-->• <!--[endif]-->The National Electricity Market Emergency Management Forum convened at 1730 and officials have been briefed. Essentially the system restart procedure has commenced utilising the gas fired Quarantine Power Station near Port Adelaide and the Heywood interconnector from Victoria. Full restoration time is unknown.

<!--[if !supportLists]-->• <!--[endif]-->The Australian Government has the option of convening the Australian Government Crisis Coordination Centre but at this stage, given the impact is localised to South Australia, we are maintaining a watching brief.

<!--[if !supportLists]-->• <!--[endif]-->Responsible Commonwealth officials from the Department of the Environment and Energy and other agencies are closely monitoring this situation.

<!--[if !supportLists]-->• <!--[endif]-->The next National Electricity Market Emergency Management Forum meeting is scheduled at 1930 AEST tonight.

Regards

Section 22

Section 22

Acting Manager
Australian Energy Security
Energy Security Office
Department of the Environment and Energy
John Gorton Building
King Edward Terrace, Parkes ACT 2600

Work: Section 22

Mobile: Section 22

Email: Section 22

<28092016_AEMO media statement - South Australia.pdf>

IMPORTANT: This message, and any attachments to it, contains information that is confidential and may also be the subject of legal professional or other privilege. If you are not the intended recipient of this message, you must not review, copy, disseminate or disclose its contents to any other party or take action in reliance of any material contained within it. If you have received this message in error, please notify the sender immediately by return email informing them of the mistake and delete all copies of the message from your computer system.

From: Section 22
To: Section 22
Cc: Section 22; [Bryant, Kylie](#); [Crisis Management](#); [McKinnon, Allan](#); Section 22; [Duggan, Simon](#); Section 22; [Williams, Neil](#); Section 22
Subject: Re: South Australian Power Outage [DLM-For-Official-Use-Only]
Date: Thursday, 29 September 2016 7:45:48 AM


Thanks very much Section 22. As may know by now, Section 22 is leading on this in the PMO. Grateful if all updates can be sent to Section 22 copying Section 22 and myself.

Many thanks
Section 22

Sent from my iPhone

On 28 Sep 2016, at 8:28 PM, Section 22 wrote:

Duplicate of Document 3



From: Section 22
To: Section 22
Subject: FW: SA power outage talking points ~~[SEC-PROTECTED]~~
Date: Wednesday, 14 December 2016 12:14:41 PM

~~PROTECTED~~

From: Section 22
Sent: Thursday, 29 September 2016 3:01 PM
To: Section 22
Cc: Williams, Neil; Duggan, Simon; Pearce, Kelly; Section 22
Subject: SA power outage talking points ~~[SEC-PROTECTED]~~

~~PROTECTED~~


Hi Section 22

Further to your earlier conversation with Kelly, below are proposed whole of government talking points on the South Australian power outage. These have been tested with DEE and they are comfortable.

Section 22

Section 22 | Senior Advisor
Climate, Energy and Resources Section
Industry, Infrastructure and Environment Division | Department of the Prime Minister and Cabinet
p. Section 22 | e. Section 22
PO Box 6500 CANBERRA ACT 2600

Section 47C



Background

- At 16:18 AEST on 28 September 2016, a severe storm damaged transmission and distribution electricity assets within South Australia, leading to a state-wide power outage in South Australia.
 - The storm knocked out four major transmission lines, including more than 20 towers (pylons) cutting off around 1000MW of generation.
 - The considerable impact to important electricity infrastructure triggered the automatic disconnection of generation supply as part of the network's safety protection mechanism.
 - The investigation will rely on data from market participants, including ElectraNet and generators, who are currently focussed on restoring power to affected customers and repairing damage caused by the storm.
- The weather conditions in South Australia today are hampering restoration efforts in the state's north.

From: [Pearce, Kelly](#)
To: Section 22
Cc: Section 22; [Duggan, Simon](#); [Williams, Neil](#);
 Section 22
Subject: FYI Updated: South Australian Power Outage [SEC=UNCLASSIFIED]
Date: Thursday, 29 September 2016 6:24:25 PM

UNCLASSIFIED

Section 22

FYI

Regards

Kelly

From: Section 22 @environment.gov.au]
Sent: Thursday, 29 September 2016 5:44 PM
To: Pearce, Kelly; Section 22; Section 22; Section 22
Cc: de Brouwer, Gordon; Heferen, Rob; Section 22; Bennett, Helen; 'Cameron, Robert'; 'Chard, Samantha'; 'Kiley, Andrew'; Section 22; 'helen.bennett@industry.gov.au'; Section 22
Subject: RE: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]

Colleagues

Here is the update from the 1600 Thursday teleconference of the National Electricity Market Emergency Management Forum with regards to the current SA blackout.

- At 1630 AEMO are reviewing the suspension of the electricity market and the black system status for SA. AEMO will liaise with SA Government before issuing a market notice.
- Additional generation is being returned to service in SA – predominantly gas-fired though additional wind farms have also increased local generation:
 - Murray Link and Heywood Interconnectors are being limited by AEMO to assist help system frequency and as a contingency for failure of a major generator or transmission line.
 - AEMO are also limiting the maximum generation from a generator (at 200MW) to minimise any consequence of a generator failing.
- Generation from some SA wind farms is being limited to 10% of total SA generation until the black system status is removed.
 - The limit is due to maintaining the frequency and voltage within the SA power system.
- One high voltage line to Davenport has been reenergised as has a line to Bungama (near Port Pirie) – next steps is to restore line to Cultana (near Whyalla).
- The Davenport to Robertstown line is likely to be out of service for 2-3 days.
- AEMO updated on the Longford Gas Facility status – a gas leak on Wednesday 28 September is currently being repaired – other suppliers have increased production to meet increased demand for gas-powered generation in SA. AEMO has advised the

companies involved (EPIC and South-East Australian Gas) that it is reviewing the market over the next 4-12 hours and there may be reduced gas flows in 6-12 hours if the market is reinstated.

- All Transmission Network Service Providers in other jurisdictions are in contact with Electranet with offers of assistance.

The next Emergency Management Forum teleconference will be at 0900 Friday 30 September and barring any significant incident will be held daily.

Continued very poor weather is forecast for SA on Thursday afternoon and evening with a BOM severe weather warning issued at 1632.

Should you require further information please call me on Section 22

Regards

Section 22

Section 22

Assistant Manager
Australian Energy Security
Energy Security Office
Department of the Environment and Energy
John Gorton Building
King Edward Terrace, Parkes ACT 2600

Work Section 22

Mobile: Section 22

Email Section 22

From: Section 22

Sent: Thursday, 29 September 2016 11:54 AM

To: 'Kelly.Pearce@pmc.gov.au' <Kelly.Pearce@pmc.gov.au>; Section 22

Section 22

Section 22

Cc: de Brouwer, Gordon <Gordon.deBrouwer@environment.gov.au>; Heferen, Rob

<Rob.Heferen@environment.gov.au>; Section 22

Bennett, Helen <Helen.Bennett@environment.gov.au>; 'Cameron, Robert'

<Robert.Cameron@ag.gov.au>; 'Chard, Samantha' <Samantha.Chard@ag.gov.au>; 'Kiley,

Andrew' <Andrew.Kiley@ag.gov.au>; Section 22

helen.bennett@industry.gov.au'

<helen.bennett@industry.gov.au>; Section 22

Subject: RE: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]

Colleagues

Here is the update from the 0900 teleconference of the National Electricity Market Emergency Management Forum with regards to the current SA blackout.

- Due to the very poor weather forecast for SA on Thursday and some load restoration still to occur, AEMO will continue to suspend the electricity market and remain in a black system status for SA.
- Continued poor weather has grounded line inspection by helicopters in the Mid North of SA. Ground-based inspections are continuing.
- All generation and transmission that can be restored has been restored – there are some local issues at distribution level.
- Generation is being restored - the following generation is now available:
 - Total SA generators – 1100MW
 - Heywood Interconnector – 200 MW – contingency held back for any increase in demand or the failure of a major generating or transmission line. There are also some frequency and voltage issues near the Interconnector which AEMO are examining.
 - Murray Link Interconnector returned to service at 0200 – 183MW.
 - Current generation and interconnectors are meeting current demand which is 200-250Mw lower than yesterday – due to major industrials north of Adelaide i.e. Olympic Dam, Port Pirie Smelter,
- Generation from some SA wind farms is being limited to 10% of total SA generation until the black system status is removed.
 - The limit is due to maintaining the frequency and voltage within the SA power system
 - Lake Bonney Wind Farm is generating 138MW.
 - Some wind farms have reported turbine damage (AEMO is seeking further information) and AEMO is also restricting wind generation to prevent further damage due to high winds
- Previous supply to Port Lincoln lost overnight. Eyre Peninsular, Mid North and Northern areas are without power. AEMO and Electranet are exploring alternative lines to supply Davenport area (Mid North)
- AEMO are reviewing planned maintenance outage for the Heywood Interconnector in the next week – likely to be delayed.
- Transmission providers in other jurisdictions are mobilising their mobile repair units and will proceed if requested by SA. Interjurisdictional co-operation is very strong.
- AEMO current (as at 1030 today) media release is attached.

The next Emergency Management Forum teleconference will be at 1600 Thursday 29 September.

Should you require further information please call me on **Section 22**

Regards

Section 22

Section 22

Assistant Manager
Australian Energy Security
Energy Security Office
Department of the Environment and Energy
John Gorton Building
King Edward Terrace, Parkes ACT 2600

Work: Section 22

Mobile: Section 22

Email: Section 22

From: S
Sent: Thursday, 29 September 2016 2:47 AM
To: 'Kelly.Pearce@pmc.gov.au' <Kelly.Pearce@pmc.gov.au>; Section 22
Section 22
Section 22
Cc: de Brouwer, Gordon <Gordon.deBrouwer@environment.gov.au>; Heferen, Rob
<Rob.Heferen@environment.gov.au>; Section 22
Bennett, Helen <Helen.Bennett@environment.gov.au>; 'Cameron, Robert'
<Robert.Cameron@ag.gov.au>; 'Chard, Samantha' <Samantha.Chard@ag.gov.au>; 'Kiley,
Andrew' <Andrew.Kiley@ag.gov.au>; Section 22
'helen.bennett@industry.gov.au'
<helen.bennett@industry.gov.au>
Subject: RE: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]

Colleagues

Here is the update from the 0200 teleconference of the National Electricity Market Emergency Management Forum with regards to the current SA blackout.

- Due to the very poor weather forecast for SA on Thursday and some load restoration still to occur, AEMO will continue to suspend the electricity market and remain in a black system status for SA.
- Generation is being restored - the following generation is now available:
 - Total SA generators – 720MW – Torrens Island A and Torrens Island B1 returned to service, some delay in remaining Torrens Island B4 generator
 - Heywood Interconnector – 202 MW
 - Murray Link Interconnector returned to service at 0200 – minimal (2MW) initially.
- Further generation from some SA wind farms has now been approved but will be limited to 10% of generation until the black system status is removed.
 - The limit is due to maintaining the frequency and voltage within the SA power system
 - Lake Bonney Wind Farm will be able to generate up to 100MW.

- The anticipated hot water spike in demand at 2330 was managed – spike was 110MW as opposed to normally 250MW
- Most areas of SA have been restored other than the Mid North, Northern area and Eyre Peninsular.
- There are 300km of high-voltage transmission lines to inspected – this, weather permitting, will occur at first light by Electranet.
- AEMO will not be updating their 2200 Media Release (attached) until the morning.
- Tasmania will liaise with SA with regards to the diesel generators utilised during the Basslink outage earlier this year – SA advised that there are significant loads in northern SA that may require assistance if outage lasts more than the next day or so.
- After line inspection completed, other jurisdictions will probably offer assistance with repairs.

The next Emergency Management Forum teleconference will be at 0900 Thursday 29 September.

Should you require further information, please contact me on Section 22 .

Regards

Section 22

Section 22

Acting Manager
Australian Energy Security
Energy Security Office
Department of the Environment and Energy
John Gorton Building
King Edward Terrace, Parkes ACT 2600

Work: Section 22

Mobile: Section 22

Email: Section 22

From: Section 22

Sent: Wednesday, 28 September 2016 11:12 PM

To: 'Kelly.Pearce@pmc.gov.au' <Kelly.Pearce@pmc.gov.au>; Section 22
Section 22

Cc: de Brouwer, Gordon <Gordon.deBrouwer@environment.gov.au>; Heferen, Rob <Rob.Heferen@environment.gov.au>; Section 22
Bennett, Helen <Helen.Bennett@environment.gov.au>; 'Cameron, Robert' <Robert.Cameron@ag.gov.au>; 'Chard, Samantha' <Samantha.Chard@ag.gov.au>; 'Kiley, Andrew' <Andrew.Kiley@ag.gov.au>

Subject: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]

Colleagues

Here is the update from the 2200 teleconference of the National Electricity Market Emergency Management Forum with regards to the current SA blackout.

- Generation is slowly being restored - the following generation is now available:
 - Torrens Island A2 – 109MW
 - Torrens Island A4 - 10MW
 - Quarantine – 4 units totalling 93 MW
 - Heywood – 425 MW
- Further generation from Torrens Island B units has been delayed until 2240 and 0100.
- AEMO is still carefully managing system security and frequency while restoring the load. AEMO has a contingency in place for the anticipated hot water spike in demand at 2330 (due to off-peak hot water).
- There is ongoing uncertainty over the restoration of supply north of Adelaide. AEMO is working with Electranet to determine the status of high-voltage transmission lines in the Mid-North– 19 towers are down but Electranet will need to wait until first light to allow a helicopter to fully assess the situation.
- The weather front is moving north of Melbourne but with reduced intensity and is not expected to impact Victorian generation (there may be some isolated impacts from the weather to power consumers).
- A further weather front is expected in South Australia on Thursday.

The next Emergency Management Forum teleconference will be at 0200.

From: S [redacted]
Sent: Wednesday, 28 September 2016 8:41 PM
To: 'Kelly.Pearce@pmc.gov.au' <Kelly.Pearce@pmc.gov.au>; Section 22 [redacted]
Section 22 [redacted] Section 22 [redacted]
[redacted]
[redacted] <Gordon.deBrouwer@environment.gov.au>; Heferen, Rob
<Rob.Heferen@environment.gov.au>; Section 22 [redacted]
Bennett, Helen <Helen.Bennett@environment.gov.au>; 'Cameron, Robert'
<Robert.Cameron@ag.gov.au>; 'Chard, Samantha' <Samantha.Chard@ag.gov.au>; 'Kiley,
Andrew' <Andrew.Kiley@ag.gov.au>
Subject: RE: South Australian Power Outage [SEC=UNCLASSIFIED]

Colleagues

As discussed briefly, here is the update from the 1930 teleconference of the National Electricity Market Emergency Management Forum with regards to the current SA blackout.

- The previous restart process involving the Quarantine Power Station (gas) failed for unknown reasons – this will be investigated after full restoration.
- The Heywood Interconnector has been restored and is operating at approximately 1/3

of its capacity as the SA grid is brought on line – the capacity is increasing rapidly to approx. 1/3 of the SA demand at the time of the blackout.

- High transmission lines (275 kV) from the Heywood Interconnector are functional – these supply to the South East of SA, and to Adelaide.
- Torrens Island Power Station (gas) near Adelaide is being restored – the three available generating units will be available from 2000, 2130 and 2330 respectively. As each unit is restored, they need to be synchronised with the system.
- Another power generator, Pelican Point (gas) is also being restored but this will take four hours after receiving auxiliary power ie power to get going.
- AEMO advised that restoration is prioritising supply to essential services.
- AEMO stressed that they are progressing restoration in an orderly manner so as to not overload the Heywood Interconnector or other parts of the SA electricity grid during restoration.
- Due to downed high-voltage lines and pylons near Davenport in the Mid North of SA, there is uncertainty over the restoration of supply north of Adelaide. AEMO is working with Electranet to determine the status of these high-voltage lines.
- The Murraylink Interconnector is currently out of service (for unknown reasons) and cannot be returned to service tonight.

The next Emergency Management Forum teleconference will be at 2200.

We've just got off the phone to SA to see if we can find a comparison between the electricity that's flowing and numbers of households, and they tell us that lights are on across the southern suburbs of Adelaide, they expect the CBD and the rest of Adelaide to be restored by midnight. So maybe better to stick with this info than extrapolate kV to households when there is a range of variables which makes it hard to correlate this.

Regards

Section 22

Section 22

Acting Manager
Australian Energy Security
Energy Security Office
Department of the Environment and Energy
John Gorton Building
King Edward Terrace, Parkes ACT 2600

Work: Section 22

Mobile: Section 22

Email: Section 22

From: Section 22

From: Section 22
To: [DLO](#)
Subject: Handling advice required [SEC=UNCLASSIFIED]
Date: Friday, 30 September 2016 10:11:28 AM
Importance: High

UNCLASSIFIED

Hi guys

We are receiving a fair few emails re: the PMs comments on the renewable energy. Examples below.

Normally, if corro is of a political nature we send to EO – we will continue to do this.

We will NFA ones that are derogatory to the PM (or would you like us to send these to the EO for their information)?

Sensible, non-political ones, would you like us to send to IIE or another department such as Environment or SA gov (if appropriate).

Ive copied and pasted some examples below.

Section 22

Example 1

SA Storms

Dear Prime Minister,
I am totally disgusted that you are conflating the damage done by the storms in South Australia and renewable energy targets, despicable from someone who should know better. Your performance could not be more disappointing.

Example 2

SA Blackout

I was disgusted to hear you blame the SA blackout on policies to increase the use of renewable energy rather than the severe damage to the transmission infrastructure. This is dishonest politics.

We need to increase the renewable energy mix. A decentralised renewable energy system with battery storage backed up by rapid start peaking generators would have probably reduced the extent of the blackout.

What happened to 'innovation'?

Example 3

The power crisis in South Australia

Mr Turnbull - I am disgusted that you and your government have used a significant weather event to spruce the issue of Renewable energy - and your obvious opposition to it - This crisis occurred because of climate change - helped along SIGNIFICANTLY by our own continued arrogant use of fossil fuels such as coal. Events such as these will become more common as we continue to destroy our own atmosphere - for the sake of the stock market and profit and our governments ignorant insistence that coal fired power is not impacting on our atmosphere - Do you still believe in Father Christmas and the tooth fairy Mr Turnbull - because clearly you and your government live in a fairy tale world the rest of us don't see.

Example 4

SA Power Loss

Honesty PM, are you stooping so low and so "Trump-style" as to run the Liberal Party's and your Government's historical and embedded disdain for renewable energy as a mask for what was obviously the result of a combination of extreme weather and structural engineering failure? You astound me, really. You came to the leadership giving me some optimism, that you were a reasoned, sound leader who could see all sides and act in our interests. You have been a disappointment. Lead us for God's sake, lead us. To say that renewables had something to do with steel transmission power poles bending over in a major storm is plain daft and shows the underlying motive for your comments.

Your comments and those of Josh Frydenberg were such a disappointment. My 15 year old nephew even realised the cause of the power failure!

Same goes for that hip-shooter Barnaby Joyce and his ridiculous comments about the cause of the SA power loss. What stupid comments!

Please embed some maturity in your cabinet, get rid of the agendas and wake up man! You are our leader, not some patsy.

Section 47F

Renewable energy

Dear Mr Turnbull

I am astounded to hear that you have attacked the renewable energy market and encouraged the country to slow down on developing this technology and infrastructure. I am not traditionally a liberal voter but did so at the last election as I felt your credentials and views supported the increase of renewable energy (amongst other policies).

Obviously I was wrong and as a result I am now reassessing my views on your strengths and abilities to not only shape and guide the country into the future but more importantly to influence the Liberal Party to adopt strategies and make changes that the rest of the country feel are necessary (same old same old is not a long term strategy).

The powerbrokers in your party are rich and influential and given your latest comments it appears that they don't give a stuff about the rest of us and have the perception that them and their big business buddies are more important.

I know its difficult to please all the masses but when something as important and critical as energy supply (and the environment) is used to fill the coffers of coal owners while denigrating renewable energy then I felt enough is enough and decided to convey my disappointment to you personally (if this message manages to get that far).

Please show some leadership and courage on this issue and steer the Liberals in the direction of sustainable and technological changes that will benefit our country and more critically our children into the future.

Yours disappointingly

Section 47F

From: Section 22
To: [Bryant, Kylie](#); Section 22 ; [McKinnon, Allan](#); Section 22
Subject: Fwd: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]
Date: Saturday, 1 October 2016 11:11:50 AM

All

Update from this mornings 0900 teleconference of the National Electricity Market Emergency Management Forum (NEMEMF).

Section 22

Duty Officer

Sent from my iPhone

Begin forwarded message:

From: Section 22 [@environment.gov.au](#)
Date: 1 October 2016 at 11:06:49 AM AEST
To: Section 22
 "'[Kelly Pearce@pmc.gov.au](#)'" <[Kelly Pearce@pmc.gov.au](#)>,
 Section 22 Section 22
 Section 22
Cc: "de Brouwer, Gordon" <[Gordon.deBrouwer@environment.gov.au](#)>,
 "Heferen, Rob" <[Rob.Heferen@environment.gov.au](#)>, "Bennett, Helen"
 <[Helen.Bennett@environment.gov.au](#)>, "Cameron, Robert"
 <[Robert.Cameron@ag.gov.au](#)>, "Chard, Samantha"
 <[Samantha.Chard@ag.gov.au](#)>, "Kiley, Andrew"
 <[Andrew.Kiley@ag.gov.au](#)>, "[helen.bennett@industry.gov.au](#)"
 <[helen.bennett@industry.gov.au](#)>, Section 22
 Section 22
 Sewell, Margaret"
 <[Margaret.Sewell@environment.gov.au](#)>, "Section 22
 Section 22
Subject: RE: Updated: South Australian Power Outage
[SEC=UNCLASSIFIED]

Good morning.

Update from this morning's 0900 teleconference of the National Electricity Market Emergency Management Forum (NEMEMF).

- Olympic Dam has been resupplied through 132 kV network 10 MW supplied, with an additional 10 MW allocated. Approximately 10 MW of local generation has been installed on site. Note: sufficient for critical services, not production.
- The 132 kV transmission line to Port Lincoln has been restored
- The only transmission substation which has not had connection restored is Mt Lock. ElectraNet are patrolling the Canowie-Mt Lock 275 kV line and will return it to service if they can.
- 275 kV lines that remain out of service due to damage are:
 - Davenport-Mt Lock

- Davenport-Belalie
- Davenport-Brinkworth

Market update

AEMO issued an Operational Strategy at 1740 hrs on Friday, 30 September 2016.

- The Operational strategy was developed to manage the SA network while the market is suspended.
 - The priority is to ensure that the system remains secure and stable
- All scheduled generation is on min load to allow the wind generators to return where possible
 - Constraints are currently being used to manage the network
 - Economic dispatch process is using participant bids to manage generation to meet demand.
 - FCAS does not apply to SA while the markets are suspended
- The Heywood and Murray Link Interconnector flows are currently being limited
 - This is managed by using the limit of the interconnector by subtracting the largest generation load in SA.

The *Operational Strategy for generation dispatch during South Australian market suspension* is copied below and can be found at the following link:

<http://aemo.com.au/Media-Centre/Operational-Strategy-for-generation-dispatch-during-South-Australian-market-suspension>

Longford trip

The Longford gas plant tripped to 0 flows at 0500 hrs (market time) on Saturday, 1 October 2016.

Longford remains at 0 flows.

- A Threat to System Security has been declared by AEMO in order to manage as supply on Victoria and the Neighbouring states.
 - Partial supplies are expected to return at Longford by 1100 hrs (market time) today and then ramp up to full flows later today.
- There is currently no Gas Powered Generation (GPG) scheduled in Victoria until Longford returns to service.
 - SA will continue to be supplied for gas through alternative pipelines to support GPG were possible.
- At this stage, no issues in the system are expected unless Longford does not return to service this afternoon.

General

The power system emergency response level under the PSEMP remains at level 3. This will continue to be reassessed.

The next RO teleconference will be convened at 0900 hrs (market time) on Sunday, 02 October 2016.

Regards

Section 22

Section 22

Director, Australian Energy Security
Energy Security Office

Department of the Environment and Energy

John Gorton Building, King Edward Terrace, Parkes ACT 2600

T: Section 22 | E: Section 22

AEMO OPERATIONAL STRATEGY FOR GENERATION DISPATCH DURING SOUTH AUSTRALIAN MARKET SUSPENSION

AEMO has received a Ministerial direction issued under the Essential Services Act 1981 (SA) to suspend the National Electricity spot and ancillary services markets in the South Australia region. In accordance with National Electricity Rule 3.14.3(a)(2), the spot and ancillary services markets are suspended.

30 September 2016

Operational Strategy for generation dispatch during South Australian market suspension

AEMO has received a Ministerial direction issued under the Essential Services Act 1981 (SA) to suspend the National Electricity spot and ancillary services markets in the South Australia region. In accordance with National Electricity Rule 3.14.3(a)(2), the spot and ancillary services markets are suspended.

This suspension is in place until AEMO declares that spot market operation is to resume in accordance with National Electricity Rule 3.14.4. AEMO intends to do this once the Ministerial direction is revoked and AEMO determines that all other conditions for resumption of the spot market are met. Updates on this situation will continue via market notices.

During the period of market suspension as far as reasonably practicable in the circumstances, AEMO intends to follow the process for generation dispatch below:

- <!--[if !supportLists]-->• <!--[endif]-->AEMO intends to move towards a situation where the central dispatch system is more reflective of how the system is being operated and generation is dispatched.
- <!--[if !supportLists]-->• <!--[endif]-->This will assist in an orderly transition to normal market operations, once the Market suspension is lifted
- <!--[if !supportLists]-->• <!--[endif]-->AEMO's first priority in the dispatch of generation is to ensuring system security and stability
- <!--[if !supportLists]-->• <!--[endif]-->AEMO will dispatch all available scheduled generation at its minimum load.
- <!--[if !supportLists]-->• <!--[endif]-->Generation required above scheduled generation minimum load to meet the South Australian current demand will be met with semi- and non-scheduled wind generation.
- <!--[if !supportLists]-->• <!--[endif]-->If the wind generation is inadequate to make up this difference, scheduled generation will be further utilised.

AEMO will also consider the following factors in the dispatch of generation:

- <!--[if !supportLists]-->• <!--[endif]-->Generator location, considering the

known condition of the local network

- <!--[if !supportLists]-->• <!--[endif]-->SA unit minimum generation levels
- <!--[if !supportLists]-->• <!--[endif]-->Other power station local limitations
- <!--[if !supportLists]-->• <!--[endif]-->Indicative costing based on latest bids
- <!--[if !supportLists]-->• <!--[endif]-->Start-up timing (i.e. if units are required out of service)
- <!--[if !supportLists]-->• <!--[endif]-->Transmission limits

In addition to the above considerations the following will also be assessed when dispatching wind generation:

- <!--[if !supportLists]-->• <!--[endif]-->Current and forecast wind speeds
- <!--[if !supportLists]-->• <!--[endif]-->Potential for cut-out at high wind levels
- <!--[if !supportLists]-->• <!--[endif]-->Ability to operate at the required output, if limited to provide a certain output.
- <!--[if !supportLists]-->• <!--[endif]-->The requirement to maintain minimum load on scheduled generators

AEMO will manage semi-scheduled wind targets through constraint equations, and non-scheduled wind targets through verbal communication.

AEMO GEN DISPATCH DURING SUSPENDED MARKET FINAL PAGE 2 OF 2

AEMO will not dispatch FCAS in South Australia during the market suspension. Wind generators will receive targets via the market systems.

In addition to the above, AEMO will utilise constraint equations where possible to manage system security.

Interconnector Management

The Heywood interconnector is being utilised as the reserve for the loss of the largest generator or the Murraylink interconnector in the South Australian region. This interconnector is therefore run at no more than the interconnector limit minus the largest generator in the South Australian region.

The Heywood interconnector and South Australian generation will respond to load and generator contingencies. The Murraylink interconnector will then be utilised to manage the Heywood interconnector back to its limit until generation can be adjusted to the desired levels.

ends

From: Section 22

Sent: Friday, 30 September 2016 11:47 AM

To: Section 22

'Kelly.Pearce@pmc.gov.au' <Kelly.Pearce@pmc.gov.au>; Section 22

Section 22

Section 22

Cc: de Brouwer, Gordon <Gordon.deBrouwer@environment.gov.au>; Heferen, Rob <Rob.Heferen@environment.gov.au>; Bennett, Helen <Helen.Bennett@environment.gov.au>; 'Cameron, Robert'

<Robert.Cameron@ag.gov.au>; 'Chard, Samantha' <Samantha.Chard@ag.gov.au>;
'Kiley, Andrew' <Andrew.Kiley@ag.gov.au>; 'helen.bennett@industry.gov.au'
<helen.bennett@industry.gov.au>; Section 22
Sewell, Margaret
<Margaret.Sewell@environment.gov.au>

Subject: RE: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]

Good morning

Here is the update from this morning's teleconference of the National Electricity Market Emergency Management Forum with regards to the current SA blackout held at 0900 hrs (market time).

- <!--[if !supportLists]-->• <!--[endif]-->Generation that was up yesterday remains on today.
- <!--[if !supportLists]-->• <!--[endif]-->The network has been re energised to Davenport and Cultana
 - <!--[if !supportLists]-->○ <!--[endif]-->Two lines between Davenport and Cultana were returned to service, however one has since been taken out due to voltage control. Currently looking at returning the line back in service
 - <!--[if !supportLists]-->○ <!--[endif]-->Cultana down to Yadnarie, with Yadnarie to Port Lincoln also being worked on
- <!--[if !supportLists]-->• <!--[endif]-->Some wind being used to help with voltage control, reviewing what wind and how much can be brought back online.
- <!--[if !supportLists]-->• <!--[endif]-->Supply and Demand
 - <!--[if !supportLists]-->○ <!--[endif]-->Not known when Olympic Dam will be back online
 - <!--[if !supportLists]-->○ <!--[endif]-->Have increased interconnector support
 - <!--[if !supportLists]-->■ <!--[endif]-->Murray Link is currently transferring 150 MW to SA, keeping headroom for load balancing
 - <!--[if !supportLists]-->■ <!--[endif]-->Heywood has increased to 350 MW

Market update:

- <!--[if !supportLists]-->• <!--[endif]-->The market is still suspended
 - <!--[if !supportLists]-->○ <!--[endif]-->After discussion with ElectraNet yesterday afternoon, AEMO decided that the Market Suspension should remain, a market notice was issued last night to that effect

<!--[if !supportLists]-->○ <!--[endif]--> Shortly after, SA issued a direction to AEMO to keep the Market Suspension in place, this will be reviewed with the SA Govt but it is anticipated that the Market Suspension will remain in place to at least Monday

Reporting:

<!--[if !supportLists]-->• <!--[endif]--> AEMO working on an interim internal report on the black system, which should be ready Monday for Federal Govt, ElectraNet and AEMO. There was some discussion around ensuring that there is no misinformation in the public domain.

<!--[if !supportLists]-->• <!--[endif]--> AEMO has confirmed that it will share what information it can, when it can and if it cannot share the information, will be transparent in why.

General:

<!--[if !supportLists]-->• <!--[endif]--> An Industry Conference is being held with SA generators at 1130 hrs today

<!--[if !supportLists]-->• <!--[endif]--> COAG Energy Ministers meeting next Friday.

<!--[if !supportLists]-->• <!--[endif]--> Further information will be shared in regards to Olympic Dam at the next RO teleconference (tomorrow)

The Power system emergency response Level 3 under the Power System Emergency Management Plan (PSEMP) that was invoked by AEMO remains in place.

The next RO teleconference will be held at 0900 hrs (market time) tomorrow 01/10/2016.

Regards

Section 22

Section 22

A/g Assistant Secretary
Energy Security Policy Branch
Energy Security Office

Department of Environment & Energy

John Gorton Building
King Edward Terrace
PARKES ACT 2600
GPO Box 787
Canberra ACT 2601

Phone Section 22

Section 22

From: [Pearce, Kelly](#)
To: Section 22
Cc: Section 22 ; [Duggan, Simon](#); Section 22 ; [Williams, Neil](#)
Subject: Fwd: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]
Date: Saturday, 1 October 2016 11:46:39 AM

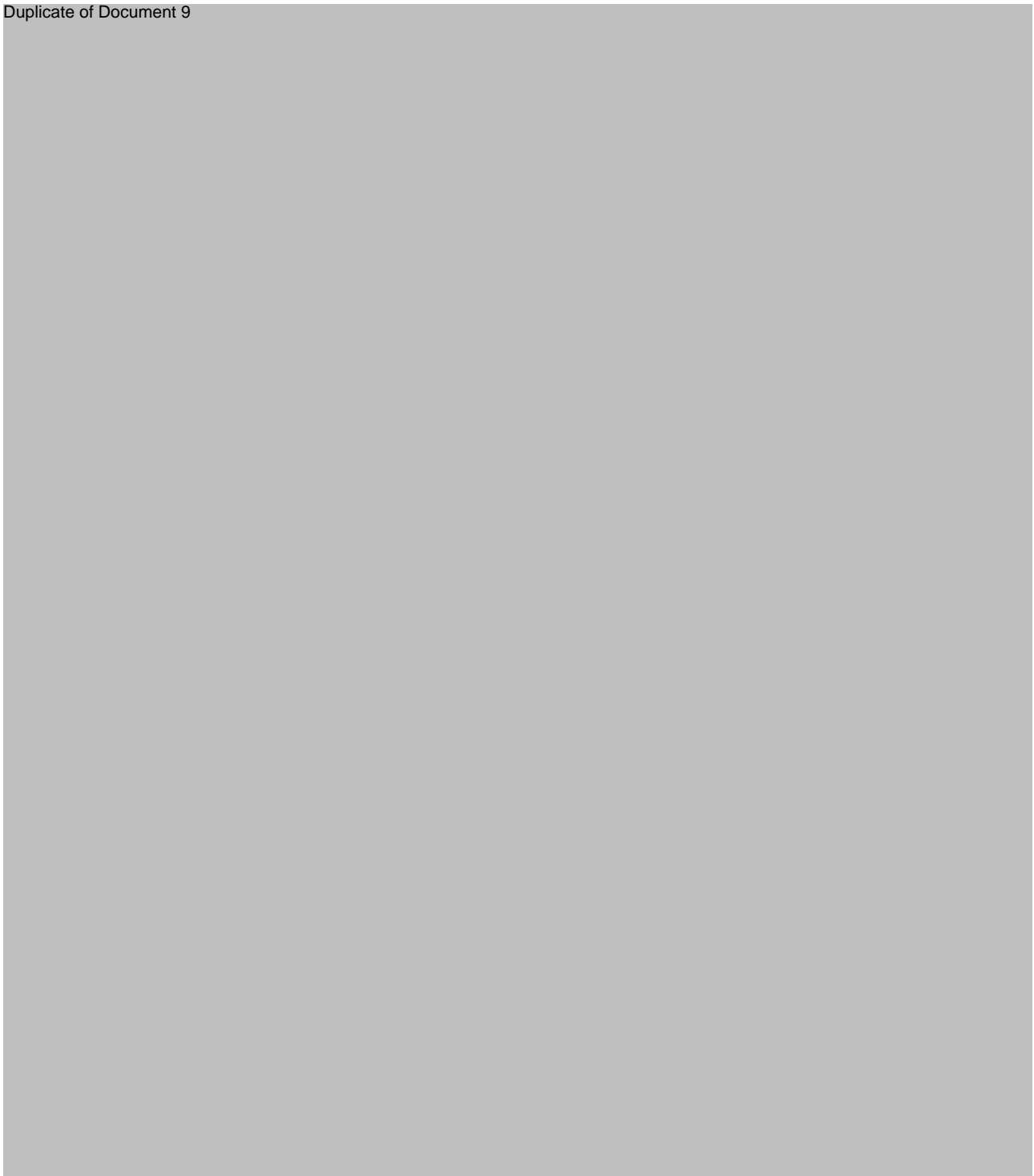
FYI

Sent from my iPhone

Begin forwarded message:

From: Section 22 [@environment.gov.au](mailto:Section 22@environment.gov.au)>
Date: 1 October 2016 at 11:06:49 AM AEST

Duplicate of Document 9



From: Section 22
To: Section 22; [Bryant, Kylie](#); Section 22; [McKinnon, Allan](#)
Subject: Fwd: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]
Date: Sunday, 2 October 2016 12:43:56 PM

All

Please find below an update from the SA black out RO teleconference held [at 0900 hrs](#) today.

Kind Regards

Section 22
 Duty Officer

Sent from my iPhone

Begin forwarded message:

From: Section 22 <[@environment.gov.au](#)>
Date: 2 October 2016 at 12:20:32 PM AEDT
To: Section 22
 "Kelly.Pearce@pmc.gov.au" <[Kelly.Pearce@pmc.gov.au](#)>, Section 22
 Section 22
 Section 22
Cc: "de Brouwer, Gordon" <[Gordon.deBrouwer@environment.gov.au](#)>, "Heferen, Rob" <[Rob.Heferen@environment.gov.au](#)>, "Bennett, Helen" <[Helen.Bennett@environment.gov.au](#)>, "Cameron, Robert" <[Robert.Cameron@ag.gov.au](#)>, "Chard, Samantha" <[Samantha.Chard@ag.gov.au](#)>, "Kiley, Andrew" <[Andrew.Kiley@ag.gov.au](#)>, "helen.bennett@industry.gov.au" <[helen.bennett@industry.gov.au](#)>, Section 22
 "Sewell, Margaret" <[Margaret.Sewell@environment.gov.au](#)>, Section 22
Subject: RE: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]

Colleagues

Update from the SA black out RO teleconference held at 0900 hrs (market time) on Sunday, 2 October 2016.

-
Status of the SA Network
 -

Following from yesterday's update:

- The Mt Lock-Canowie 275 kV transmission line has been returned to service and last and final transmission substation at Mt Lock is energised.
- The Heywood and Interconnector flows are currently still being limited

to 350MW, spare capacity is used for contingency reserve.

- Murraylink Interconnector flow is still being limited to 150MW, spare capacity is used for load balancing.
- Thermal generation online: 3 Torrens B units, 2 Torrens A units, and Pelican Point.
- 275 kV line to Olympic Dam that is used to supply the bulk load to the mine site is still out of service. Olympic Dam still has limited supply from the 132 kV network and local generation on site.
- The South Australian market remains suspended at this stage. The operational strategy issued on Friday continues.

Update on the Longford trip

- The Longford gas plant has returned to operation.
- The Threat to System Security has been lifted by AEMO.

General

- The power system emergency response level under the PSEMP remains at level 3. This will continue to be reassessed.
- An update on the interim report will be provided at tomorrow's teleconference.
- The next RO teleconference will be convened at 0900 hrs (market time) on Monday, 03 October 2016.

Regards

Section 22

Section 22

Director, Australian Energy Security
Energy Security Office

Department of the Environment and Energy

John Gorton Building, King Edward Terrace, Parkes ACT 2600

T: Section 22 | E: Section 22

From: Section 22

Sent: Saturday, 1 October 2016 11:07 AM

Duplicate of Document 9

From: Section 22
To: [Bryant, Kylie](#); Section 22
Subject: Fwd: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]
Date: Sunday, 2 October 2016 1:50:44 PM

Please see below for an overview of the damage and power situation in South Australia currently.

Regards

Section 22

PMC Duty Officer

Sent from my iPhone

Begin forwarded message:

From: "Cameron, Robert" <Robert.Cameron@ag.gov.au>
Date: 2 October 2016 at 1:31:23 PM AEDT
To: Section 22
Cc: "Section 22"
 "Kelly.Pearce@pmc.gov.au" <Kelly.Pearce@pmc.gov.au>, Section 22
 Section 22
 Section 22
 "de Brouwer, Gordon" <Gordon.deBrouwer@environment.gov.au>, "Heferen, Rob" <Rob.Heferen@environment.gov.au>, "Bennett, Helen" <Helen.Bennett@environment.gov.au>, "Chard, Samantha" <Samantha.Chard@ag.gov.au>, Section 22
 Section 22
 "Sewell, Margaret" <Margaret.Sewell@environment.gov.au>
Subject: RE: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]

And this time with text appended:

Good morning,

Here's an overview of the damage and power situation in South Australia.

Damage

- There is no one area that has sustained widespread major damage, it has been littered across several towns.
- Approx 20 houses impacted at Bowmans.
- Four homes in the North of the state near the Spencer Highway.
- Approx 25 houses inundated at Stockport.
- Inundation has occurred at Port Wakefield which is still being assessed.

Power

- Mains power has been restored to all but 1047 customers across SA.
- The section of the power network that supplies the north and west of the

state is still tenuous. It is usually fed by four separate power inputs to ensure a continuous supply. At the moment, this is running on one input due to damage from the storms to the other three inputs.

· Power to the rest of the state is stable.

Regards

Section 22

Robert Cameron
Assistant Secretary
Crisis Management Branch
Attorney-General's Department
Tel: Section 22

From: Cameron, Robert

Sent: Sunday, 2 October 2016 1:30:47 PM

To: Section 22

Cc:

Section 22; de Brouwer, Gordon; Heferen, Rob; Bennett, Helen; Chard, Samantha; Section 22; Sewell, Margaret

Subject: RE: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]

Hello all,

Re numbers still without power. The text below is copied from this morning's 1000 hrs state emergency services briefing which the EMA Liaison Officer deployed to SA attended. We don't have visibility of percentages.

Rob

Robert Cameron
Assistant Secretary
Crisis Management Branch
Attorney-General's Department
Tel: Section 22

From: Section 22

Sent: Sunday, 2 October 2016 1:25:56 PM

To: Section 22

Cc: Section 22; Kelly.Pearce@pmc.gov.au; Section 22

Section 22; de Brouwer, Gordon; Heferen, Rob; Bennett, Helen; Cameron, Robert; Chard, Samantha; Section 22; Sewell, Margaret

Subject: Re: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]

Thanks Section 22 Is there a summary stat of the amount of the State that is

still without power? ie x% of households, or x thousand customers/homes.

Thanks,
Section 22

Sent from my iPhone

On 2 Oct. 2016, at 12:20 pm, Section 22
<Section 22@environment.gov.au> wrote:

Duplicate of Document 11



From: Section 22
To: Section 22
Subject: Re: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]
Date: Sunday, 2 October 2016 2:40:57 PM

Will do Section 22. Thanks.

Section 22

Sent from my iPhone

On 2 Oct 2016, at 2:12 PM, Section 22 <[@pm.gov.au](mailto:Section 22@pm.gov.au)> wrote:

Hi Section 22


Can you please copy these updates to Section 22 <[@pm.gov.au](mailto:Section 22@pm.gov.au)> as well? Section 22 is our energy adviser so is leading on that aspect.

Thanks
Section 22

Sent from my iPhone

On 2 Oct 2016, at 1:50 PM, Section 22 wrote:

Duplicate of Document 12



From: Section 22
To: Section 22
Subject: Fwd: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]
Date: Sunday, 2 October 2016 2:42:33 PM

Hi Section 22

FYI, an overview of the damage and power situation in South Australia.

Regards

Section 22

PMC Duty Officer


Sent from my iPhone

Begin forwarded message:

From: "Cameron, Robert" <Robert.Cameron@ag.gov.au>

Date: 2 October 2016 at 1:31:23 PM AEDT

Duplicate of Document 12



From: Section 22
To: [Bryant, Kylie](#); Section 22; [McKinnon, Allan](#)
Subject: Fwd: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]
Date: Monday, 3 October 2016 11:01:34 AM

All,

Please find below an update from the SA black out NEM teleconference held [at 1000 hrs](#) (AEDT) today.

There has been no additional restoration from yesterday.

Regards

Section 22

PMC Duty Officer

Sent from my iPhone

Begin forwarded message:

From: Section 22 <[@environment.gov.au](#)>
Date: 3 October 2016 at 10:52:13 AM AEDT
To: "Section 22"
 ""[Kelly.Pearce@pmc.gov.au](#)"" <[Kelly.Pearce@pmc.gov.au](#)>, Section 22
 Section 22
 Section 22
Cc: "de Brouwer, Gordon" <[Gordon.deBrouwer@environment.gov.au](#)>, "Heferen, Rob" <[Rob.Heferen@environment.gov.au](#)>, "Bennett, Helen" <[Helen.Bennett@environment.gov.au](#)>, "Cameron, Robert" <[Robert.Cameron@ag.gov.au](#)>, "Chard, Samantha" <[Samantha.Chard@ag.gov.au](#)>, "Kiley, Andrew" <[Andrew.Kiley@ag.gov.au](#)>, Section 22
 Section 22
 "Sewell, Margaret" <[Margaret.Sewell@environment.gov.au](#)>, Section 22
 Section 22
 "O'Toole, James" <[James.O'Toole@environment.gov.au](#)>, Media <[Media@environment.gov.au](#)>, "Codina, Martin" <[Martin.Codina@environment.gov.au](#)>
Subject: RE: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]

Colleagues

Update from the SA black out NEM teleconference held at 1000 hrs (AEDT) on Monday, 3 October 2016.

Status of the SA Network

- No additional restoration from yesterday

- There is still a single 275Kv line servicing north to Davenport (near Port Augusta)
- The 132Kv line to Far North is intact
- A 2nd 275Kv line to Davenport should be restored by next weekend (8-9 October)

Market suspension

• AEMO is currently reviewing its market operating strategy

In the next 24 hours, AEMO is working to ensure it is satisfied with the following:

- That it can manage the issues in the North of SA
- That there are sufficient System Restart Ancillary Services resources
- That it understands the cascading events that occurred leading to the Black System event

Once AEMO mitigates any risks and is comfortable with the above, it will provide advice to SA on lifting the Market Suspension

General

• AEMO will endeavour to make a report available for a wider audience sometime this week – exact timings and audience to be confirmed

• The power system emergency response level under the Power System Emergency Management Plan (PSEMP) remains at level 3

• The PSEMP level and need for daily RO teleconferences will be reviewed at the next RO teleconference

The next RO teleconference will be convened at 0900 hrs market time (1000hrs AEDT) on Tuesday, 04 October 2016.

Should you require further information, please contact me on **Section 22**

Regards

Section 22

Section 22

Acting Manager
Australian Energy Security
Energy Security Office

Department of the Environment and Energy

John Gorton Building

King Edward Terrace, Parkes ACT 2600

Work: Section 22

Mobile: Section 22

Email: Section 22

From: Section 22

Sent: Sunday, 2 October 2016 12:21 PM

Duplicate of Document 11



From: [Pearce, Kelly](#)
To: Section 22
Cc: [Gruen, David](#); [Williams, Neil](#); Section 22; [Wallace, Andrew](#); [Owens, Helen](#)
Subject: AEMO preliminary report into power outage [SEC=UNCLASSIFIED]
Date: Wednesday, 5 October 2016 3:01:00 PM

UNCLASSIFIED

Hi Section 22

I'm sure Minister Frydenberg's office is keeping you informed – but in case not, summary of AEMO's preliminary report below and link to the report.

Regards

Kelly

From: Section 22
Sent: Wednesday, 5 October 2016 10:29 AM
Subject: AEMO preliminary report into power outage [SEC=UNCLASSIFIED]

Hi Kelly and Section 22

AEMO released a preliminary report into SA's power outage at 9am this morning. Here: <https://www.aemo.com.au/Media-Centre/Media-Statement-South-Australia-Interim-Report>. Nothing we don't already know, but it may get some press today.

Key points:

- Extreme weather resulted in multiple transmission faults including, in the space of 12 seconds, the loss of three major 275 kV transmission lines north of Adelaide.
- Generation initially continued, but following multiple faults, 315 MW wind generation disconnected in North Adelaide. This caused the Heywood interconnector to overload. To avoid damage, it tripped. This caused the rest of SA to go black.
- Restoration of electricity started in Adelaide at 7pm. By midnight, 80-90% of electricity that could be restored, was restored. The remaining could not be restored as the loss of three transmission lines effectively cut the SA grid in two. Physical inspection was required before these lines could be re-energised. This occurred at 12.15pm on Thursday, allowing some electricity to be restored.
- Supply to three large industrial sites remains constrained.

AEMO will provide a further update on 19 October.

Cheers

Section 22

From: [Pearce, Kelly](#)
To: [DLO](#)
Cc: [Section 22](#); [Williams, Neil](#); [Yeaman, Luke](#); [Gruen, David](#); [Section 22](#)
Subject: RE: Quick PMO query [SEC=UNCLASSIFIED]
Date: Wednesday, 12 October 2016 12:11:00 PM

UNCLASSIFIED

Please see answers to request below.

Power

Question: Is it still the case that the following smelters/foundries are without power? [*And do we know what this is costing the SA economy per day?*]

- Prominent Hill
- Nystar
- Arrium
- Olympic Dam

Answer: All of these sites have some power for at least a week, but have been constrained because there had been only one line going into the area.

[Advice](#) from Electranet at 3.45pm 11 October is that additional load was made available to industrial customers yesterday. But full load levels not yet reached. Restoration was expected earlier, but bad weather over the weekend caused delays. Extract below:

- “One of the damaged (transmission lines) circuits near Melrose (Mid North) was re-energised yesterday, and network strengthening repair works near Blyth, were also successfully completed. The restoration of these lines has provided extra stability across the network and facilitated additional load being made available to industrial customers. ElectraNet will continue to work closely with its customers to increase supply to full load levels as soon as possible. Crews continue to work at the Melrose site, with the aim of getting another circuit back up and energised this week, provided weather conditions remain stable.”

BHP made a [statement](#) yesterday on Olympic Dam, saying it is now receiving some power from the grid.

Economic costs

We don't have information on how much this is costing the SA economy per day. But there have been recent media reports of the following:

- Arrium: ongoing outage is costing \$4 million per day – [we understand this has been reduced as more power restored](#). Other reports the damage could cost \$10 million.
- Nyrstar's lead smelter will be out of action for up to two weeks – at a cost of up to \$7.3 million.

See [here](#), [here](#), [here](#) and [here](#).

Regards
Kelly

Kelly Pearce | Assistant Secretary
Environment, Energy and Climate
Industry, Infrastructure & Environment Division | Department of the Prime Minister and Cabinet
p. **Section 22** | m. **Section 22** |
e. kelly.pearce@pmc.gov.au / unfccctaskforce@pmc.gov.au | www.dpmc.gov.au
PO Box 6500 CANBERRA ACT 4001

From: DLO
Sent: Tuesday, 11 October 2016 5:52 PM
To: **Section 22**
Cc: Pearce, Kelly; **Section 22**; Williams, Neil; PMO-DLO
Subject: Quick PMO query [SEC=UNCLASSIFIED]
Importance: High

UNCLASSIFIED

Hi **Section 22**

PMO have asked for a quick fact check:

Is it still the case that the following smelters/foundries are without power? [*And do we know what this is costing the SA economy per day?*]

- Prominent Hill
- Nystar
- Arrium
- Olympic Dam

I imagine this is not something that is easy to answer, so feel free to give me a call to discuss and I'll try and manage on this end.

Section 22
Departmental Liaison Officer
Office of the Prime Minister
Department of the Prime Minister and Cabinet
p. **Section 22** | m. **Section 22**

dlo@pm.gov.au

IMPORTANT: This message, and any attachments to it, contains information

that is confidential and may also be the subject of legal professional or other privilege. If you are not the intended recipient of this message, you must not review, copy, disseminate or disclose its contents to any other party or take action in reliance of any material contained within it. If you have received this message in error, please notify the sender immediately by return email informing them of the mistake and delete all copies of the message from your computer system.

From: [Pearce, Kelly](#)
To: Section 22
Cc: [Gruen, David](#); [Williams, Neil](#); [Yeaman, Luke](#); Section 22
Subject: FYI Updated: South Australian Power Outage [SEC=UNCLASSIFIED]
Date: Thursday, 13 October 2016 9:20:56 AM

UNCLASSIFIED

FYI - Full supply to major industrial users should now be restored though it is unknown whether individual users are in a position to draw on the full supply of electricity.

Regards

Kelly

From: Section 22 @environment.gov.au]
Sent: Thursday, 13 October 2016 8:41 AM
To: S ; Pearce, Kelly; Section 22 Section 22 Section 22
Cc: de Brouwer, Gordon; Heferen, Rob; Bennett, Helen; 'Cameron, Robert'; 'Chard, Samantha'; 'Kiley, Andrew'; 'helen.bennett@industry.gov.au'; Section 22 Sewell, Margaret; Section 22
 O'Toole, James; Media; Codina, Martin; Perrett, Paula
Subject: RE: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]

Colleagues

An update (the last) as at 0800 Thursday 13 October on the SA blackout is below:

SA Electricity Network Update

- Restoration of two transmission lines in the mid-north, damaged in the storm, have been restored as of Wed 12 Oct
- The third line was restored late Wed/early Thurs 13 Oct.
- Full supply to major industrial users should now be restored though it is unknown whether individual users are in a position to draw on the full supply of electricity.

General

- The suspension of the SA market was lifted at 2230 Tuesday 11 October following the lifting on one of the two SA Government directions under the Essential Services Act
- The emergency declaration ended on Wednesday 12 Oct.
- One SA Government direction regarding AEMO managing the rate of frequency change in the SA network will likely become permanent.
- Constraints on some SA windfarms are being lifted once AEMO is satisfied that corrections are made to rectify identified issues in each wind farm – one issue is the ability to 'ride through' a series of single faults – other issues have not been advised to the NEM Emergency Management Forum
- AEMO will be writing to NEM Responsible Officers shortly to advise that the issues identified in SA windfarms is not a risk to other jurisdictions.

No further NEMEMF teleconferences are planned on the SA blackout.

AEMO will be updating their preliminary report on Wednesday 19 October.

Should you require any clarification on the above information, please contact me on Section 22

Regards

Section 22

Section 22

Assistant Director
Australian Energy Security
Energy Security Office
Department of the Environment and Energy
John Gorton Building
King Edward Terrace, Parkes ACT 2600

Work: Section 22

Mobile Section 22

Email Section 22

From: Section 22

Sent: Thursday, 6 October 2016 8:46 AM

To: Section 22

'Kelly.Pearce@pmc.gov.au' <Kelly.Pearce@pmc.gov.au>; Section 22 Section 22 ;
Section 22 Section 22

Cc: de Brouwer, Gordon <Gordon.deBrouwer@environment.gov.au>; Heferen, Rob
<Rob.Heferen@environment.gov.au>; Bennett, Helen <Helen.Bennett@environment.gov.au>;
'Cameron, Robert' <Robert.Cameron@ag.gov.au>; 'Chard, Samantha'
<Samantha.Chard@ag.gov.au>; 'Kiley, Andrew' <Andrew.Kiley@ag.gov.au>;
'helen.bennett@industry.gov.au' <helen.bennett@industry.gov.au>; Section 22

Section 22 Sewell, Margaret <Margaret.Sewell@environment.gov.au>;
Section 22

Section 22 O'Toole, James <James.O'Toole@environment.gov.au>;
Media <Media@environment.gov.au>; Codina, Martin <Martin.Codina@environment.gov.au>

Subject: RE: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]

Colleagues

An update as at 0800 Thursday 6 October on the SA blackout is below.

SA Electricity Network update

- No change to yesterday's update
- Constraints on the Heywood Interconnector resulting in zero export from SA to Victoria
- Several thermal power stations (Torrens Island and Pelican Pt) are generating.
- The repair of a 275Kv to Davenport is expected to be completed by the end of this weekend (9 October).

Maintenance of Frequency control

- As per the latest SA Government direction under the Essential Services Act, AEMO are maintaining the market notice reclassifying as a credible contingency the drop-off of two or more wind farms
- AEMO are working with each wind farm on how the wind farms can move out of the credible contingency – expected to days-weeks, not weeks-months.
- They are also maintaining the 3hz variation for the non-credible contingency of the Heywood Interconnector tripping

Risks to other jurisdictions re wind farms

- AEMO are working through the characteristics of each wind farm on the NEM and the potential risks of two or more windfarms dropping off the network.
- At this stage, no risks have been identified but likely to complete their analysis this afternoon and will advise ROs accordingly
- AEMO advised that while examining wind farms at this stage, will likely examine all generation types in the coming days.

General

- AEMO plan to complete their analysis of the SA Blackout and report by 19 October
- Market is still suspended
- Emergency level remains at level 3 but will review if market suspension is lifted.

The next teleconference will be 0800 Thursday 13 October.

Should you require any further information, please contact me on **Section 22**

Regards

Section 22

Section 22

Acting Manager

Australian Energy Security

Energy Security Office

Department of the Environment and Energy

John Gorton Building

King Edward Terrace, Parkes ACT 2600

Work: **Section 22**

Mobile **Section 22**

Email **Section 22**

From: Section 22

Sent: Wednesday, 5 October 2016 10:33 AM

To: Section 22

'Kelly.Pearce@pmc.gov.au' <Kelly.Pearce@pmc.gov.au>; Section 22

Section 22

Section 22

Cc: de Brouwer, Gordon <Gordon.deBrouwer@environment.gov.au>; Heferen, Rob <Rob.Heferen@environment.gov.au>; Bennett, Helen <Helen.Bennett@environment.gov.au>; 'Cameron, Robert' <Robert.Cameron@ag.gov.au>; 'Chard, Samantha' <Samantha.Chard@ag.gov.au>; 'Kiley, Andrew' <Andrew.Kiley@ag.gov.au>; 'helen.bennett@industry.gov.au' <helen.bennett@industry.gov.au>; Section 22 >; Sewell, Margaret <Margaret.Sewell@environment.gov.au>; Section 22 >; O'Toole, James <James.O'Toole@environment.gov.au>; Media <Media@environment.gov.au>; Codina, Martin <Martin.Codina@environment.gov.au>
Subject: RE: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]

Colleagues

An update as at 1000 Wednesday 5 October on the SA blackout is below.

AEMO Interim Report

- AEMO released their interim report into the SA blackout this morning – this was previously released to jurisdictions and NEM transmissions service providers mid-afternoon Tuesday 4 October and discussed in a teleconference at 1800 4 October (please see below for summary of this teleconference)
- The Interim report, based on data as at 0900 Monday 3 October and to be updated following further information and analysis, outlines the sequence following the loss of three major transmission lines in the Mid-North of SA through to the overloading (above design limits) on the Heywood Interconnector from Victoria.
- The report also outlines the restoration process undertaken following the blackout – utilising the Heywood Interconnector to start the Torrens Island Power Stations following the re-energising of the transmission lines from Heywood to Adelaide.
- There is little change to the interim Report circulated on Tuesday afternoon.

NEM teleconference on draft Interim report

- Attendees were briefed on the release of the Initial Report conducted by AEMO that will be distributed tomorrow, 5 Oct at 9:00Am (Market Time).
- The group was advised that the Report was to be released tomorrow, 5 Oct at 9am (Market Time).
- A key issue for other jurisdictions is whether there is any flow-on impact for windfarms

in other jurisdictions – AEMO advised that further analysis is required though noting that 10 SA windfarms are constrained at the moment by a market notice.

Questions

- Was any load shed prior to system black?
 - As of yesterday morning, AEMO's analysis had identified little or no load shed prior to system black.
 - Information received and reported on is based on the facts collected by AEMO.
 - The report will continue to be reviewed and updated as further information is collected and confirmed.
- The report is based on information received by 9am, 3 Oct 16.
- More information has been provided since and the list of windfarms has been expanded. Additional analysis on information already received has also been carried out.
- It is too early to comment on the impact of other windfarms on the system within SA and/or windfarms in general across other jurisdictions.
- AEMO is investigating and will advise all jurisdictions on any advisable outcomes.
- As more information becomes available, AEMO will review the data and assess how it may apply across all jurisdictions.
- All jurisdictions are willing to support on any windfarm analysis or requirements to review their potential impact of any.
- Under frequency load shedding, AEMO confirmed that:
 - Once key triggers are activated then these trip the set blocks . Typically it trips under a frequency of 49Hz
 - The graph in figure 5 in the report suggests this happened
- It was asked whether the damage on the Davenport to Brinkworth occurred after the system black event?
 - AEMO advised that there was no definitive evidence currently that identified this.
 - It appears that this occurred post system black
- The attendees asked which windfarm went off first?
 - AEMO informed the group that this is not yet fully understood and is still being investigated.
- A question was asked with reference to no SA based Frequency Control Ancillary Services and the weather forecast and whether this was suitable.
 - AEMO advised that an assessment conference was conducted (at 0830 Wednesday 28 September) and that it was assessed that there was no evidence suggesting that there would be any issues on the system due to the weather.
- AEMO advised that AEMO received further direction from the South Australian government in accordance with the Essential Services Act directing AEMO taking all necessary action to manage a non-credible contingency for Heywood Interconnector and that the frequency is to be maintained at 3Hz/second.
- Jurisdictions asked when the system would be secure?
 - AEMO advised that it will recommend to the SA government that it can safely operate the system if required.
 - It is up to the SA government to advise AEMO on the raising of the market suspension. AEMO makes an assessment and advises government as per its processes.

Market Suspension

- AEMO recommended to the SA Government on Tuesday 4 October that in their view, AEMO were able to manage the SA power system securely. However, late Tuesday, the SA government issued another direction under the Essential Services Act to AEMO to maintain the SA system with tight frequency controls for the non-credible co-incident trip of both circuits of the Heywood interconnector. AEMO issued the attached market notice at 1900 Tuesday and the market remains suspended in SA.

The next NEM teleconference is scheduled for Thursday 6 October at 0900 AEDT.

Please let me know if you no longer require these updates.

Should you require any further information, please contact me on Section 22 .

Regards

Section 22

Section 22

Assistant Manager

Australian Energy Security

Energy Security Office

Department of the Environment and Energy

John Gorton Building

King Edward Terrace, Parkes ACT 2600

Work: Section 22

Mobile: Section 22

Email Section 22

From: Section 22

Sent: Tuesday, 4 October 2016 1:27 PM

To: Section 22

'Kelly.Pearce@pmc.gov.au' <Kelly.Pearce@pmc.gov.au>; Section 22

Section 22 Section 22

Cc: de Brouwer, Gordon <Gordon.deBrouwer@environment.gov.au>; Heferen, Rob <Rob.Heferen@environment.gov.au>; Bennett, Helen <Helen.Bennett@environment.gov.au>; 'Cameron, Robert' <Robert.Cameron@ag.gov.au>; 'Chard, Samantha' <Samantha.Chard@ag.gov.au>; 'Kiley, Andrew' <Andrew.Kiley@ag.gov.au>; 'helen.bennett@industry.gov.au' <helen.bennett@industry.gov.au>; Section 22

Section 22 Sewell, Margaret <Margaret.Sewell@environment.gov.au>;

Section 22

Section 22 O'Toole, James <James.O'Toole@environment.gov.au>;

Media <Media@environment.gov.au>; Codina, Martin <Martin.Codina@environment.gov.au>

Subject: RE: Updated: South Australian Power Outage [SEC=UNCLASSIFIED]

Colleagues

An update from the SA Blackout NEM teleconference held at 1000hrs (AEDT) on Tuesday 4 October 2016 is below.

Status of the South Australian Network

AEMO implemented a new operational strategy around midnight to manage generation and interconnector flow in South Australia. See Operating Strategy update below.

There is no change in network restoration from the previous meeting of 3 October 2016.

Operating Strategy

AEMO has identified 10 windfarms in South Australia which are considered as being at risk of tripping during a normal fault condition. As such, AEMO has reclassified the loss of these wind farms as a credible contingency (that is, under the National Electricity Rules, AEMO must mitigate against the risk to maintain system security). In response, and as a mitigation strategy, the combined output of these windfarms and the Heywood IC has been constrained to 600MW (total capacity of 950MW of generation).

All impacted wind farms have been briefed and a Market Notice has been issued.

AEMO continues to investigate the root cause of the system black.

Emergency Response Level

The power system emergency response level remains at **Emergency Response Level 3**.

Reporting

AEMO intends to provide ROs / Jurisdictions with an embargoed copy of the interim incident report today, 4 October 2016, circa 12:00 PM (this timing is however subject to change).

Next Meeting

An RO Teleconference will be held on **Tuesday, 4 October 2016 at 06:00 PM (AEDT) (05:00 PM Market Time)** ahead of the public release of the incident report tomorrow (5 October 2016) to discuss any issues for other jurisdictions contained in the interim report.

It is expected that the RO teleconferences will then be held every second day.

Should you require any further information, please contact me on **Section 22**.

Regards

Section
n 22

Section 22

Acting Manager

Australian Energy Security

Energy Security Office

Department of the Environment and Energy

John Gorton Building

King Edward Terrace, Parkes ACT 2600

Work: Section 22


Mobile: Section 22

Email Section 22

From: Section 22

Sent: Monday, 3 October 2016 10:52 AM

Duplicate of Document 15

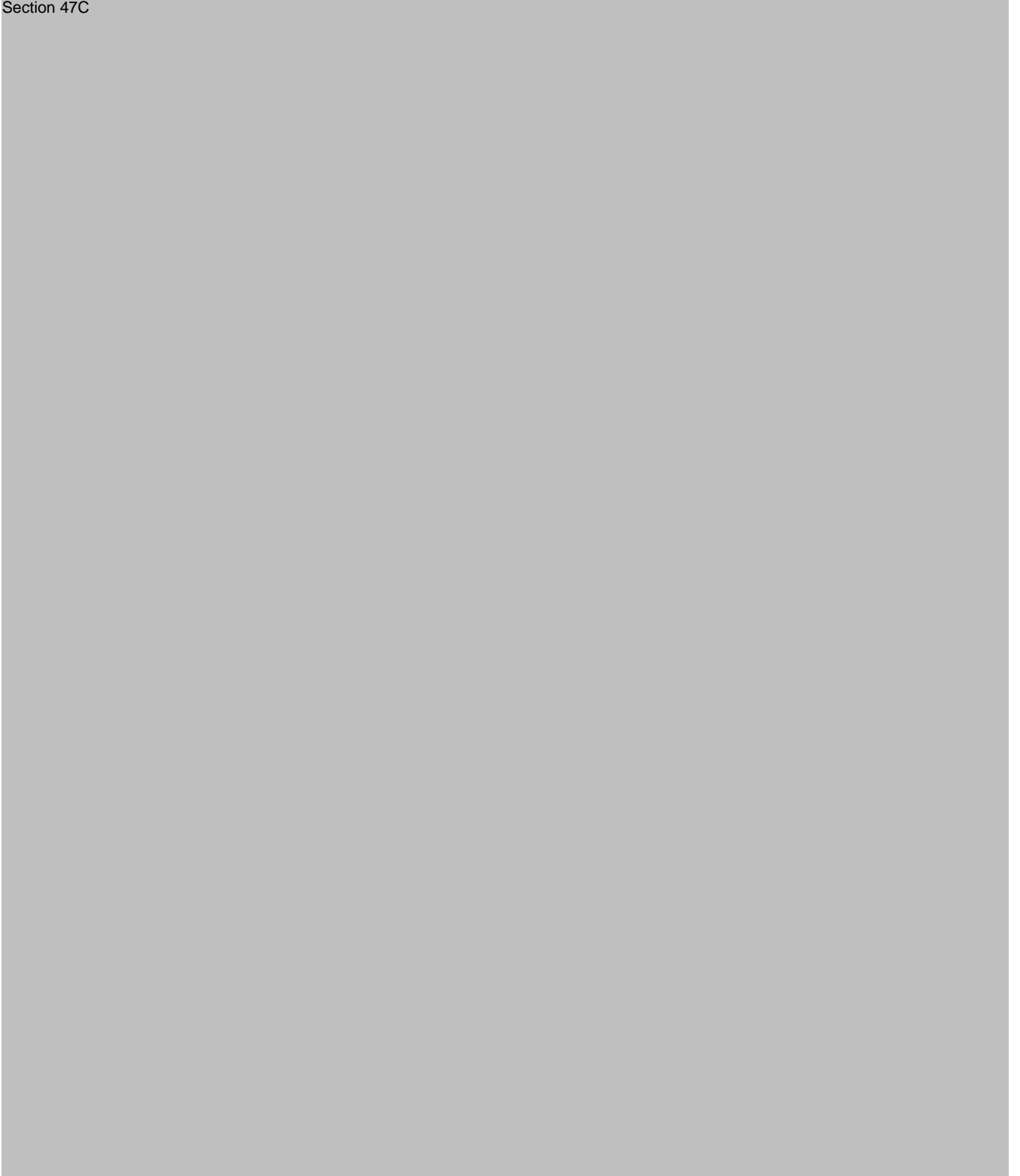


~~IN CONFIDENCE~~ *

PDR: QB16-000708

**QUESTION TIME BRIEF (QTB)
ENERGY SECURITY AND RENEWABLE ENERGY**

Section 47C



CONTACT: Section 22 PHONE: Section 22 DIVISION: II&E DATE: 4 October 2016
DEPARTMENTAL INPUT CLEARED BY: Neil Williams

~~*Not for tabling — For Official Use Only~~

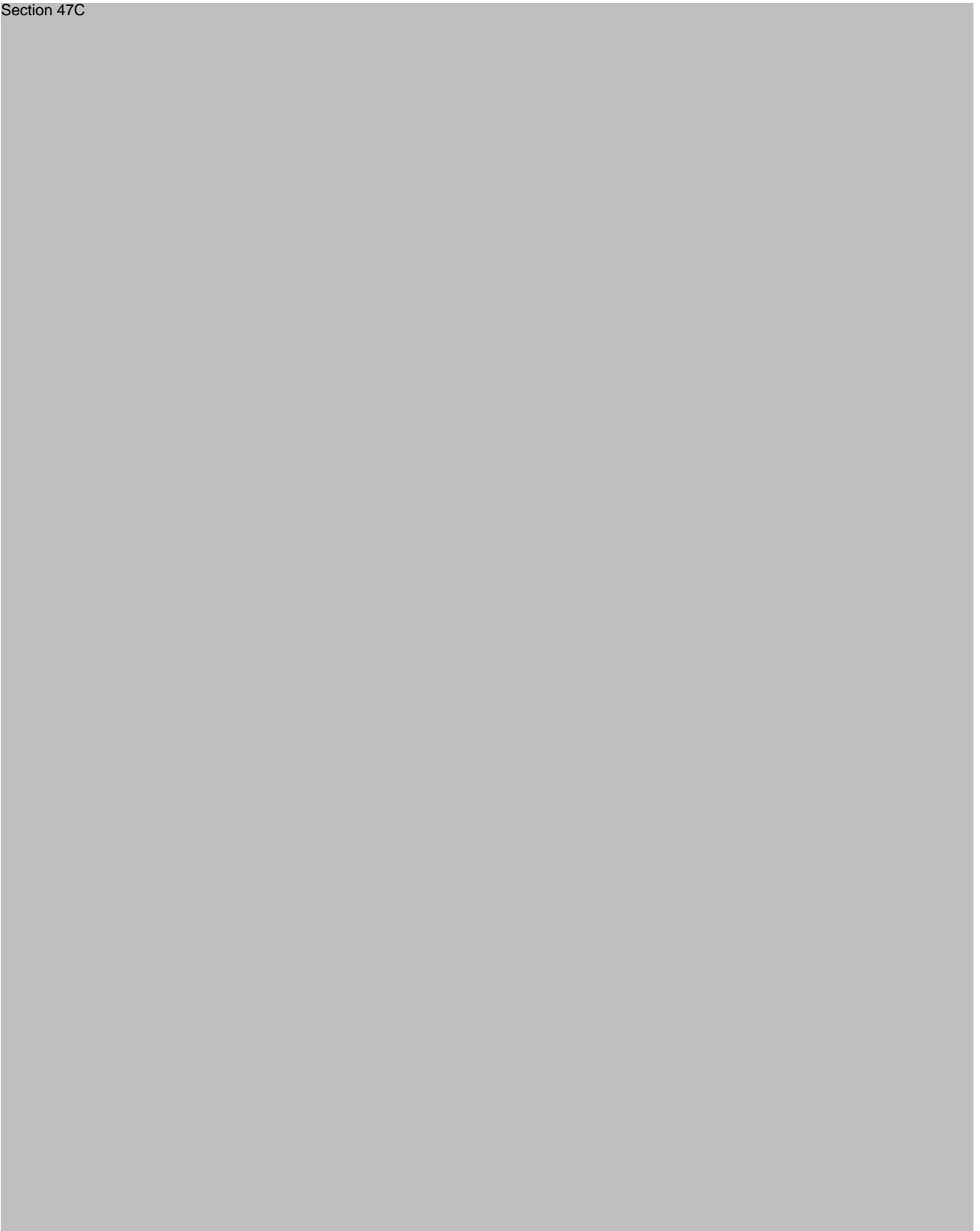
BACKGROUND:

On 28 September 2016, a severe storm damaged transmission and distribution electricity assets within South Australia, leading to a state-wide power outage in South Australia. The storm knocked out four major transmission lines, including more than 20 towers (pylons) cutting off around 1000MW of generation. This triggered the automatic disconnection of generation supply as part of the network's safety protection mechanism.

A special meeting of the COAG Energy Council has been convened on 7 October 2016 to discuss the events in South Australia and explore ways to improve system security.

**QUESTION TIME BRIEF (QTB)
ENERGY SECURITY AND RENEWABLE ENERGY**

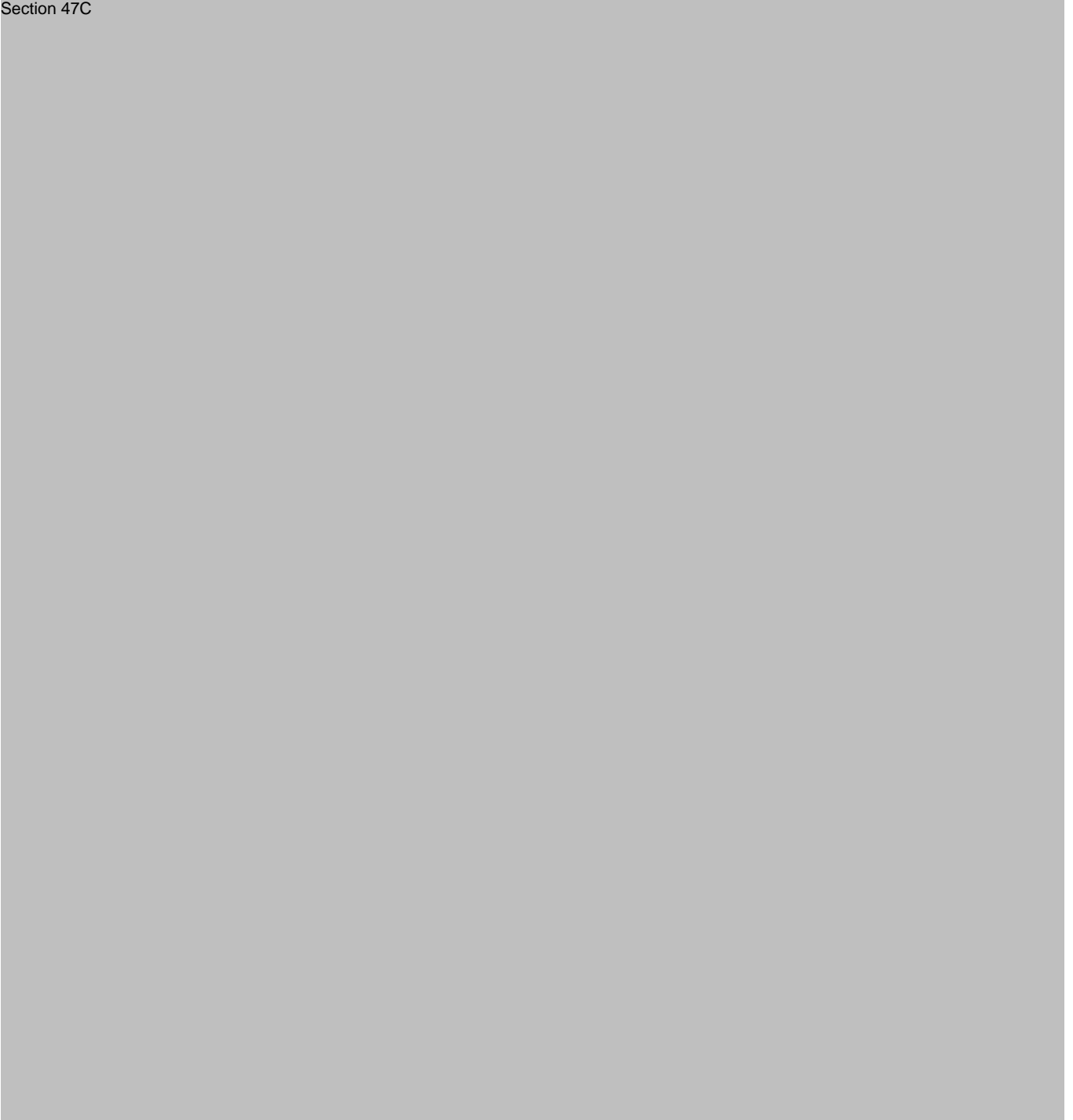
Section 47C



CONTACT: Section 22 PHONE: Section 22 DIVISION: II&E DATE: 7 October 2016
DEPARTMENTAL INPUT CLEARED BY: Neil Williams

~~*Not for tabling For Official Use Only~~

Section 47C



CONTACT: Section 22 PHONE: Section 22 DIVISION: II&E DATE: 7 October 2016
DEPARTMENTAL INPUT CLEARED BY: Neil Williams

~~*Not for tabling — For Official Use Only~~

BACKGROUND:

On 28 September 2016, a severe storm damaged transmission and distribution electricity assets within South Australia, leading to a state-wide power outage in South Australia. The storm knocked out four major transmission lines, including more than 20 towers (pylons) cutting off around 1000MW of generation.

This triggered the automatic disconnection of generation supply as part of the network's safety protection mechanism.

A special meeting of the COAG Energy Council was convened on 7 October 2016 to discuss the events in South Australia and explore ways to improve system security. Ministers agreed to commission an independent review to develop a national blueprint to maintain energy security and reliability in the National Electricity Market, for consideration by the Council of Australian Governments. The blueprint will outline national policy, legislative and rule changes required to maintain the security, reliability, affordability and sustainability of the NEM in light of the transitions taking place.

The Australian Chief Scientist, Dr Alan Finkel AO, will chair the review, with two deputies appointed by the Council. It is envisaged a preliminary report will be prepared for the COAG Leaders' Meeting in December with a final report early in 2017.

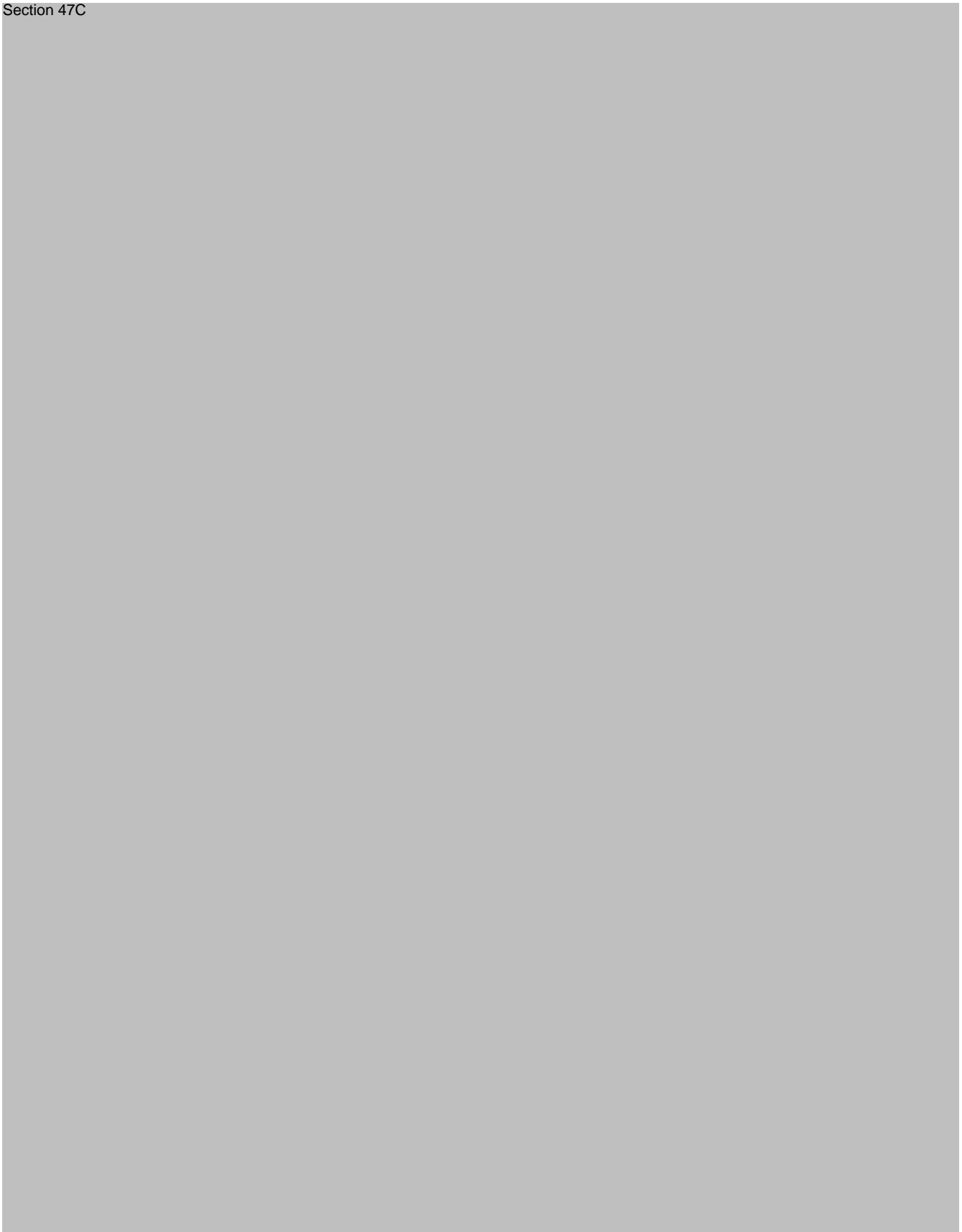
The COAG Energy Council also agreed that the Australian Energy Market Operator will provide six-monthly updates on the implications on security and reliability of current and proposed renewable investment in the national electricity market.

~~IN CONFIDENCE~~ *

PDR: QB16-000708

**QUESTION TIME BRIEF (QTB)
ENERGY SECURITY AND RENEWABLE ENERGY**

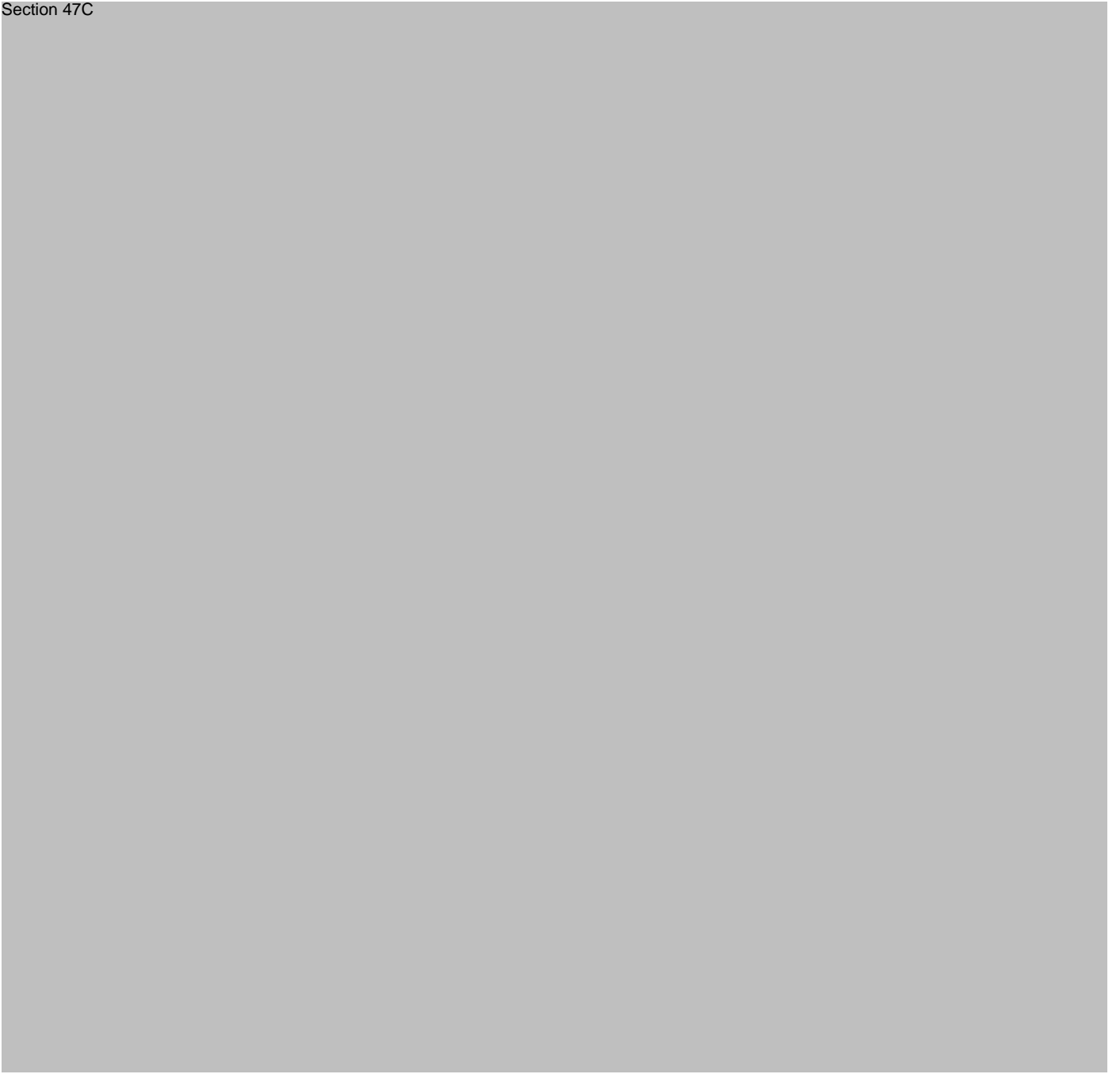
Section 47C



CONTACT: Section 22 PHONE: Section 22 DIVISION: II&E DATE: 17 October 2016
DEPARTMENTAL INPUT CLEARED BY: Neil Williams

~~*Not for tabling — For Official Use Only~~

Section 47C



CONTACT: Section 22 PHONE: Section 22 DIVISION: II&E DATE: 17 October 2016
DEPARTMENTAL INPUT CLEARED BY: Neil Williams

~~*Not for tabling — For Official Use Only~~

BACKGROUND:

South Australian blackout

On 28 September 2016, a severe storm damaged transmission and distribution electricity assets within South Australia, leading to a state-wide power outage in South Australia. The storm knocked out four major transmission lines, including more than 20 towers (pylons) cutting off around 1000MW of generation.

This triggered the automatic disconnection of generation supply as part of the network's safety protection mechanism.

Finkel review of the National Electricity Market

A special meeting of the COAG Energy Council was convened on 7 October 2016 to discuss the events in South Australia and explore ways to improve system security. Ministers agreed to commission an independent review to develop a national blueprint to maintain energy security and reliability in the National Electricity Market, for consideration by the Council of Australian Governments. The blueprint will outline national policy, legislative and rule changes required to maintain the security, reliability, affordability and sustainability of the NEM in light of the transitions taking place.

The Australian Chief Scientist, Dr Alan Finkel AO, will chair the review, with two deputies appointed by the Council. It is envisaged a preliminary report will be prepared for the COAG Leaders' Meeting in December with a final report early in 2017.

The COAG Energy Council also agreed that the Australian Energy Market Operator will provide six-monthly updates on the implications on security and reliability of current and proposed renewable investment in the national electricity market.

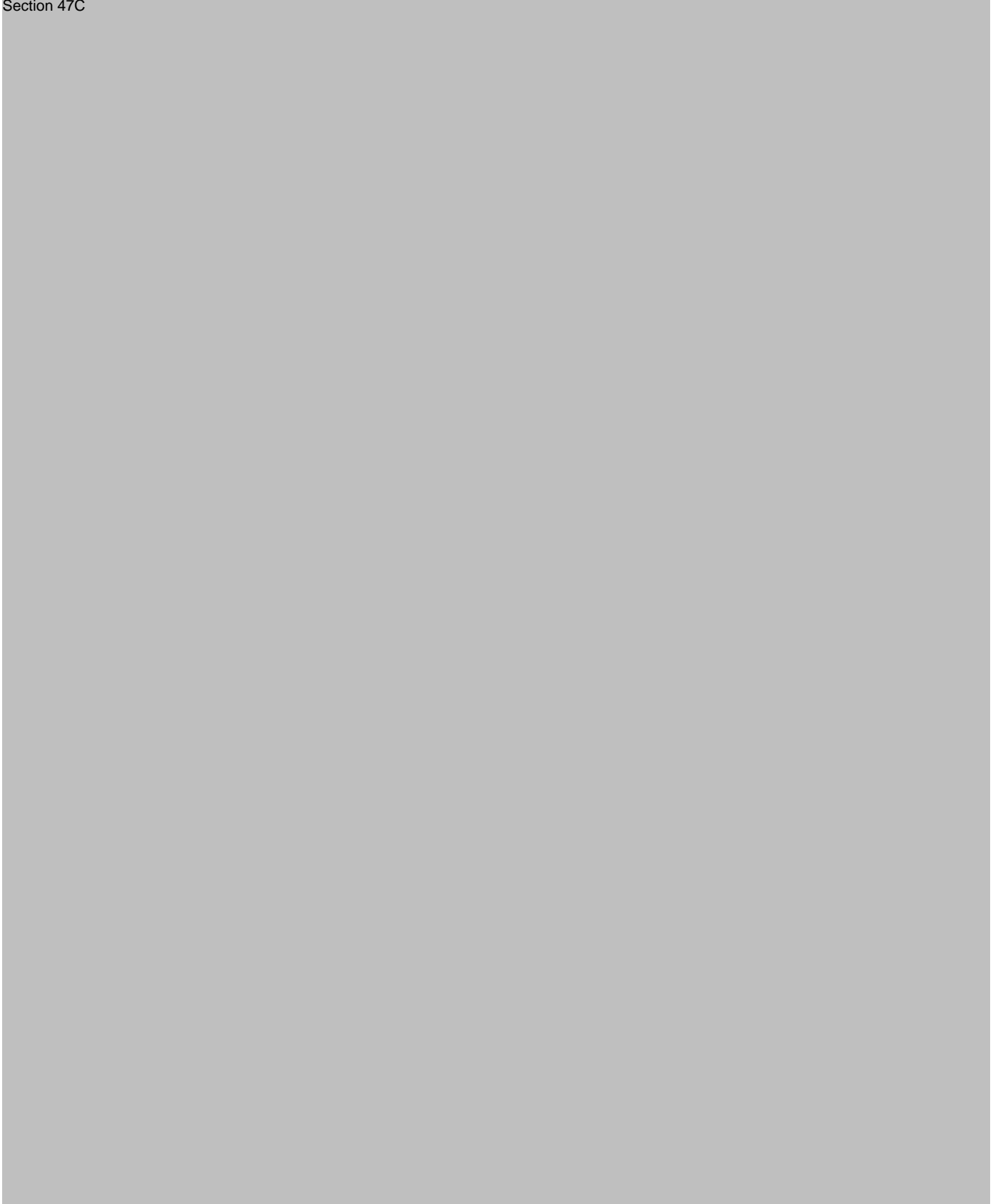
Section 22

~~IN CONFIDENCE~~ *

PDR: QB16-000708

**QUESTION TIME BRIEF (QTB)
ENERGY SECURITY AND RENEWABLE ENERGY**


Section 47C



CONTACT: Section 22 PHONE: Section 22 DIVISION: II&E DATE: 17 October 2016
DEPARTMENTAL INPUT CLEARED BY: Neil Williams

~~*Not for tabling For Official Use Only~~

Section 47C



CONTACT: Section 22 PHONE: Section 22 DIVISION: II&E DATE: 17 October 2016
DEPARTMENTAL INPUT CLEARED BY: Neil Williams

~~*Not for tabling For Official Use Only~~

BACKGROUND:

South Australian blackout

On 28 September 2016, a severe storm damaged transmission and distribution electricity assets within South Australia, leading to a state-wide power outage in South Australia. The storm knocked out four major transmission lines, including more than 20 towers (pylons) cutting off around 1000MW of generation.

This triggered the automatic disconnection of generation supply as part of the network's safety protection mechanism.

Finkel review of the National Electricity Market


A special meeting of the COAG Energy Council was convened on 7 October 2016 to discuss the events in South Australia and explore ways to improve system security. Ministers agreed to commission an independent review to develop a national blueprint to maintain energy security and reliability in the National Electricity Market, for consideration by the Council of Australian Governments. The blueprint will outline national policy, legislative and rule changes required to maintain the security, reliability, affordability and sustainability of the NEM in light of the transitions taking place.

The Australian Chief Scientist, Dr Alan Finkel AO, will chair the review, with two deputies appointed by the Council. It is envisaged a preliminary report will be prepared for the COAG Leaders' Meeting in December with a final report early in 2017.

The COAG Energy Council also agreed that the Australian Energy Market Operator will provide six-monthly updates on the implications on security and reliability of current and proposed renewable investment in the national electricity market.

Section 22

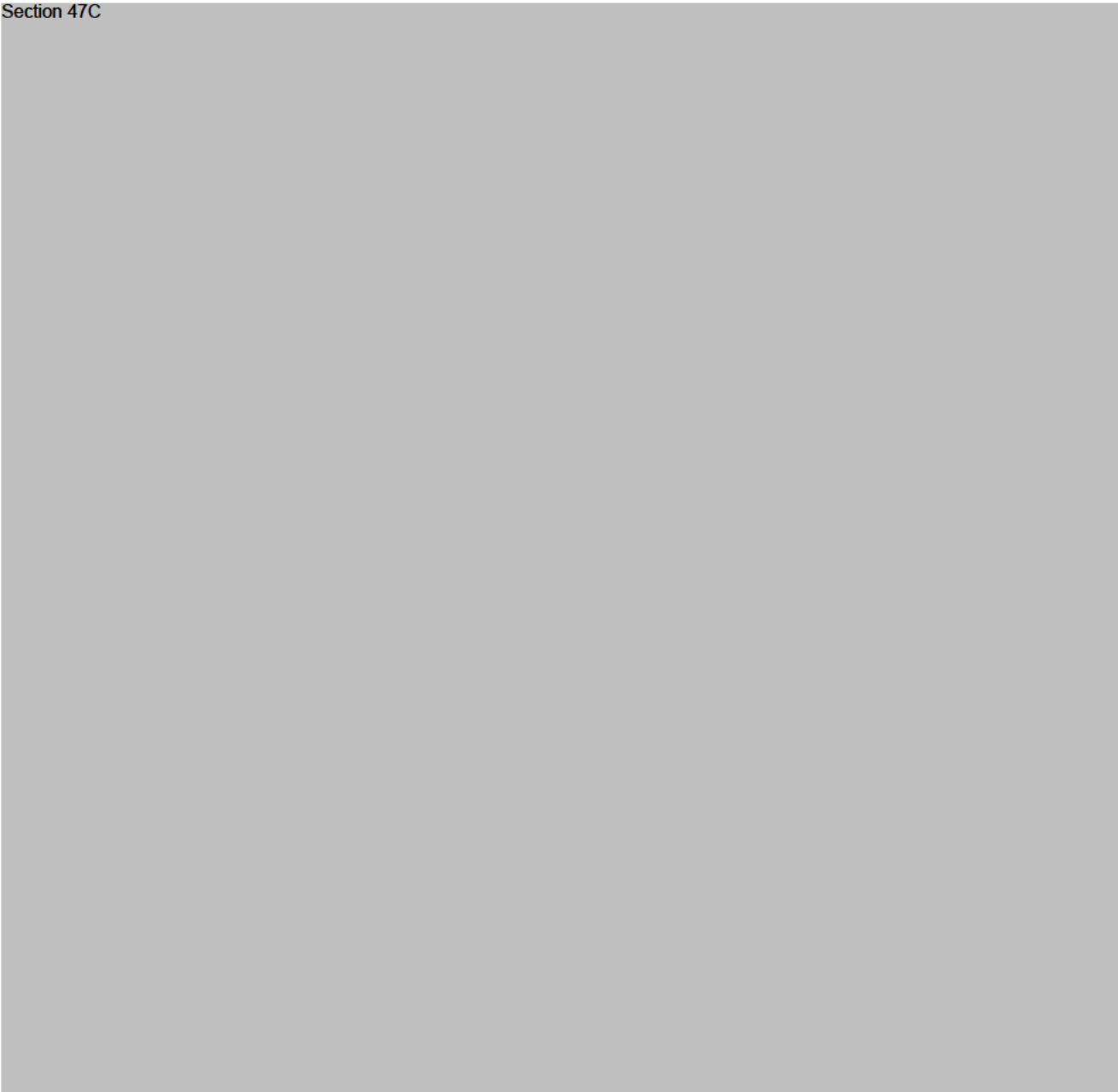
Section 22




CONTACT: Section 22 PHONE: Section 22 DIVISION: II&E DATE: 17 October 2016
DEPARTMENTAL INPUT CLEARED BY: Neil Williams

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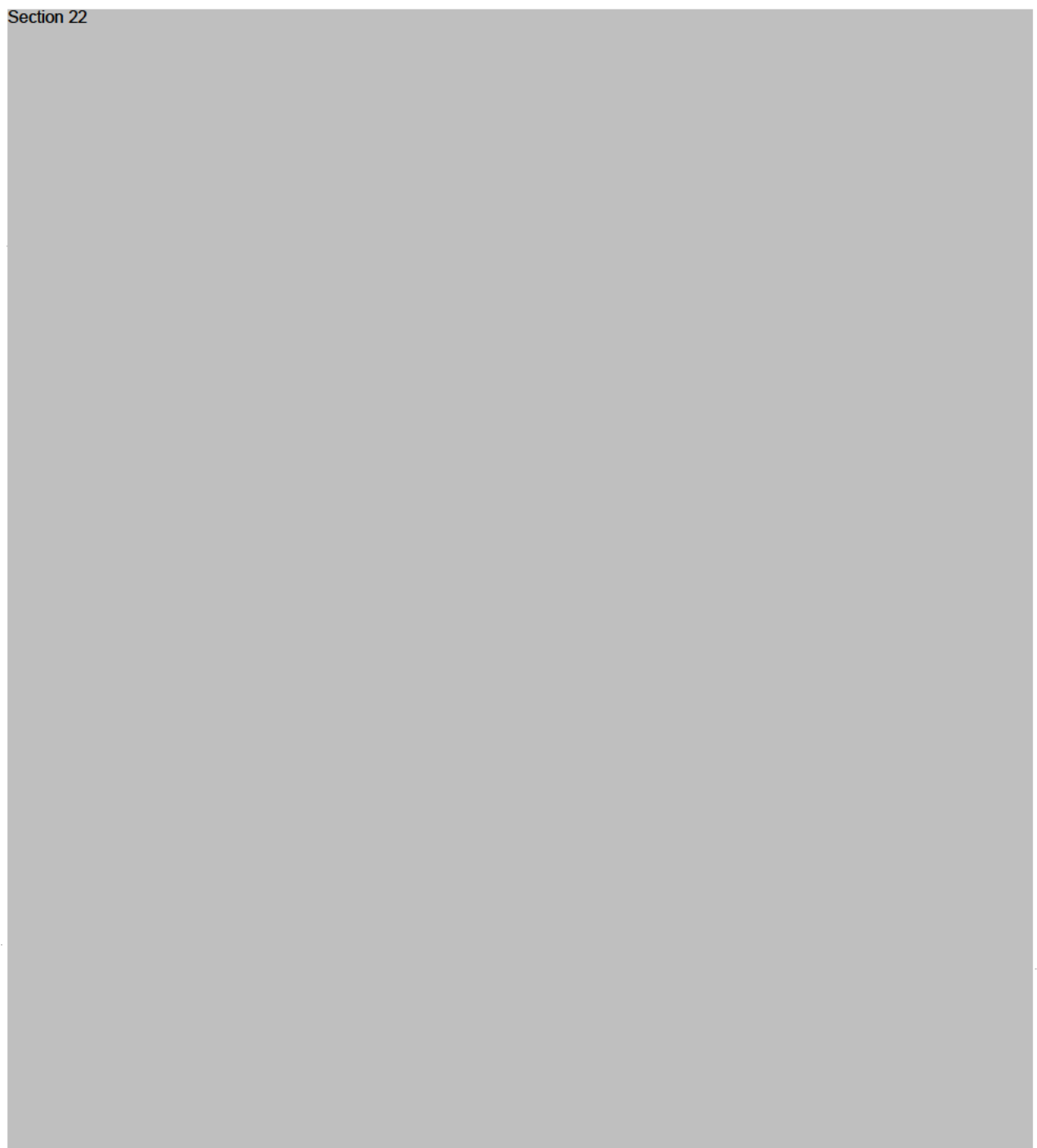


Section 22



Background

Section 22



Neil Williams A/g First Assistant Secretary	Industry, Infrastructure and Environment	Section 22	Section 22
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Section 22	Climate Change, Energy and Resources	Section 22	
Consultation	<Division>		