

Minutes

MEETING: CROWG – Control Room Operations Working Group

DATE: Tuesday, 19 July 2022

TIME: 9.30am – 12.30pm

LOCATION: Remote via Microsoft Teams

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Attendees:

Name	Initials	Organisation
Mario Rositano	MR	AEMO (Chair)
Alexis Bowman	AB	AEMO
Darren Spoor	DS	AEMO
Daniel Lavis	DL	AEMO
Lance Frater	LF	AEMO
Jason Smith	JS	AEMO
Ken Harper	KH	AEMO
Juan Duque	JDU	AEMO
Brian Nelson	BN	AEMO
Lewis Mitchell	LM	AEMO
Malcolm McNicol	MM	AEMO
Pearse Courtney	PC	AEMO
Aidan Roberts	AR	Energy Queensland
Adam Budzynski	ABU	AGL
Adrian Pang	AP	CWP Renewables
Alan Jenkinson	AJ	AGL Loy Yang
Aren Sears	AS	SA Power Networks
Chitresh Mukherjee	CM	ACCIONA Energia
Christopher Migocki	CMI	AusGrid
David Rawsthorne	DR	Energy Australia
Derek Dymond	DD	BayWa r.e. Australia
Doug Deans	DDE	ElectraNet
Dr Colin Bonner	CB	Fulcrum3D
Duane Brooks	DB	ElectraNet

Name	Initials	Organisation
Ed Sellwood	ES	PowerLink
Eoin Kim	EK	
Fraser Scott	FS	RES Group
Hal Jorgensen	HJ	NEOEN
Jason Causer	JC	Endeavour Energy
Joel Mcerlane	JM	Infrastructure Capital
Jonathon Dyson	JD	Overwatch Energy
Leanne Maurice	LM	PowerLink
Mark Thorsby	MT	RES Group
Matt Corney	MC	PowerLink
Phil Gay	PG	AusNet
Philip Vegh	PV	Goldwind Australia
Phillip Taylor	PT	ENGIE
Ragu Rajagopalan	RR	Goldwind Australia
Rod Joyce	RJ	Endeavour Energy
Russell Gordon	RG	Energy Queensland
Sam Gard	SG	RES Group
Shane Corney	SC	Energy Australia
Simon Ahrens	SA	ENGIE
Simon Bolt	SB	Delta Electricity
Stephen O'Callaghan	SO	AGL Energy
Tony Saker	TS	Goldwind Australia
Vernon Lee	VL	NT PowerWater
Zac Thompson	ZT	Infrastructure Capital
Zonglin Li	ZL	RES Group

Guests:

Name	Company Department
Warren Mumme	Western Power
Wai Loong	Western Power
Ryan Pike	Energy Queensland
Ellise Janetzki	Overwatch Energy

Apologies:

Adam Kew	Western Power
Russell Gordon	Energy Queensland
Jeremy Sheather	Energy Australia
Nikki Barbi	Energy Queensland
Leylann Hinch	EvoEnergy ACT

1 Welcome and Introduction | Mario Rositano – AEMO and Leanne Maurice - PowerLink

- 1.1 Roll Call taken via MS Teams.
- 1.2 Welcomed members and discussed purpose of the meeting.
 - Meeting facilitated / Chaired by Leanne Maurice from PowerLink
 - Focussed topics:
 - Rotating the CROWG “Chairing” duties and update of the CROWG TOR
 - Intermittent generation participants “Guest Membership”
 - Impact/review of June Market Suspension event
 - CROWG Member survey results

2 Minutes / Actions | Leanne Maurice - PowerLink

- 2.1 Minutes of the CROWG meeting 31 March 2022 – seconded by Phil Gay of AusNet Services.

3 Rotating CROWG “Chairing” Duty and Update of CROWG TOR | Mario Rositano - AEMO

- 3.1 Update on Rotating CROWG “Chairing” role:
 - As part of the rotating duties, thank you to Leanne Maurice for volunteering to chair the meeting.
 - Call for volunteers for the next meeting in November and future meetings.

ACTION: AB to include request for volunteers to facilitate future CROWG meetings, with meeting minutes.

- 3.2 Draft proposal of Changes to the TOR
 - Sought CROWG feedback, endorsement and approval of changes to enable submission to the PSSWG.
 - Confirmed that once the PSSWG has approved the changes, the TOR will be uploaded into the AEMO website, in the Forums and Working Groups section.
 - Any other relevant documents will also be uploaded to this section in the future e.g. restart terminology.

4 Impact / Review of June Market Suspension Event | Brian Nelson - AEMO

- 4.1 Overview from Brian Nelson on the June event - NEM Market Suspension – first triggered 12 June 2022
 - APC – Administered Price Cap
 - Why the suspension action had to occur
 - Changes resulting from the market suspension
 - APC Rule Change
 - Learnings and Issues:
 - Sufficiency of the Administered Price Cap
 - Cumulative Price threshold calculated after market suspension price schedule but before APC

Ask for Brian’s presentation to include with the minutes

- Complexity, scope and administration of different compensation regimes:
 - Suspension compensation uses ISP generation costs which doesn't account for dual-fuel operation
- MNSPs:
 - Application of price scaling
 - Bidding effectively as a regulated interconnector
 - Operation while under receivership
- Complicated by some practical issues that were beyond the scope of the software design
- Participants proceeded to discuss the event and what learnings and issues were experienced within their organisations

Noted Member Questions and Discussion

- ZC – Regarding the Market suspension pricing schedule of \$300, could that have been changed on the spot, rather than needing to go through the rule change process?
 - BN – It is not available to AEMO to make the price cap change on the spot, as the rules incorporate reliability settings, governed by the Reliability Panel.
- SA – Is it correct that the Reliability Panel or the AEMC have considered possible movements in the APC and then decided on a number of occasions that it did not need changing?
 - BN – Yes, the Reliability Panel go through a regular review of the reliability settings, with a public consultation. The price cap is indexed using CPI, however they do not have APC in that index process. They have not been in favour of changing the price previously.
- SB – Had good frequency events for most of the lead up this year, however that particular week there were a lot of issues with frequency control. What was the cause of that?
 - MR – We were at the limits of the power system and the response from a number of generators was not as expected. The way we worked around that was to place more range on the generators – with multiple generators called and asked to keep a bit of range, for their raised reg particularly and that seemed to settle the frequency issues .

5 Presentations

5.1 Cyber Security in Control Rooms | Jason Smith, Manager Cyber Risk Solutions & Assurance Team - AEMO

- Cyber Security Environment
- Regulatory Response
- Sector activities
 - Australian Energy Sector Cyber Incident Response Plan
 - GridEx VI
- Actions to take away
 - Control Room Operations are high value targets
 - Reach out to your Cyber Security Team, so the first time you meet them is not during an incident
 - Keep an eye out for opportunities to exercise jurisdictionally and with AEMO

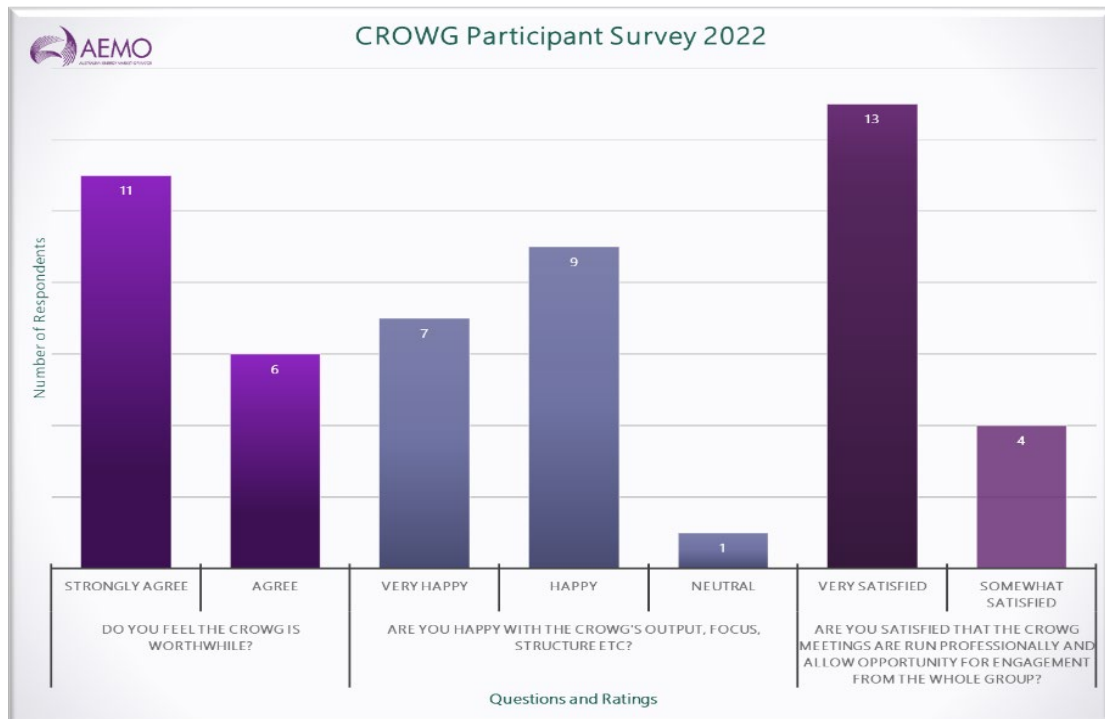
Ask for Jason's presentation to include with the minutes

6 CROWG Participant Survey 2022 | Alexis Bowman

6.1 Discussed the results of the CROWG Participant Survey 2022:

- The survey remains open and members are encouraged to respond

- 17 Respondents to date
- Summary results:



7 Hold Point Testing

7.1 Discussion on the process's organisations use to manage Hold Point Testing

- Lance Frater, Principal Engineer for Onboarding and Connections at AEMO, attended the Hold Point Testing discussion. Lance leads the Victorian team as part of Connections and coordinates all commissioning activities of registered generators (all technology types) across TNSPs and DNSPs.
- Juan Duque from the AEMO planning team was in attendance for the discussion. Juan is part of the AEMO planning team and a prime contact for testing and new connections.
- Participants discussed what they have experienced within their control rooms and the processes they undertake relating to hold point testing.

8 Power System Operator Training Framework

8.1 Daniel Lavis, Manager of Operations Training delivered an update on the status of the Power System Operator Training Framework that is being developed in collaboration with Industry Control Room staff and nominated RTO's

- Status update for module development
- Engaging Registered Training Organisations (RTO's) to develop fundamental level modules
- Consultation with ENA IRC and AIS, to ensure the training framework supports current nationally accredited Power Industry training packages and potentially provides pathways to accredited qualifications
- Next Steps – Update will be provided at the next CROWG meeting

[Power System Operator Training Framework Matrix](#)

[Nationally Accredited Power Industry Training Packages considered and supported by the framework](#)

ACTION: DL to provide update on module development at the next CROWG meeting.

9 Shift Work

9.1 Fatigue Management Discussion | Mario Rositano - AEMO

- Paul Clark – AGL (Loy Yang) provided an overview of the fatigue calculator they use for Control Room operators.
- Group discussion around:
 - What is fatigue?
 - Why is fatigue a problem?
 - Work Fatigue Management Policy – do you have one?
 - Your responsibility as a worker
 - Roster design – why it is so important
 - Lots of Information publicly available – a great forum here on what specifically works.
 - Sleep – the recurring theme (dream...)
 - Shift work disorder – also known as shift work sleep disorder
 - Available fatigue Calculators
 - Bottom line – shift workers have shorter life expectancies (10 years). We can do something about it.
- Participants were asked “What are your biggest concern relating to shift work and fatigue management?”
 - Travel – particularly at the end of a 12-hour shift.
 - Life span of a Control Room Operator (statistically is reduced by on average 10 years).
 - In smaller units with only one worker on shift, fatigue with back-up operators becomes a big issue.
 - Lone workers often do not have anyone to collaborate and discuss things, leading to additional fatigue. There are technical measures in place to overcome this, however the human-factor is lacking.
- Participants discussed management strategies to address and combat fatigue
 - Online resources – calculators.
 - Safe Work Australia ‘**Guide for Managing the Risk of Fatigue at Work**’.
 - Sanctioned napping on-shift. AEMO has previously consulted with the aviation industry on 45-minute sanctioned napping strategy. This cannot happen when there is only one person on-shift .
 - ABU – AGL have installed a couch in the Control Room
 - Operators can use for sanctioned napping if required.
 - AGL has fatigue guidelines and the question was raised on whether other organisations have guidelines around managing fatigue.
- Interested in seeing if there are any standards we can work towards and what other organisations do.
- Discussion around 8-hour vs 12-hour shifts and the fatigue management protocols for 12-hour shifts.
- Members asked to be open and speak to someone if they are experiencing issues with fatigue management.

ACTION: MR to schedule a meeting for Fatigue Management.

ACTION: MR to facilitate discussions between Vernon Lee and the AEMO Roster Admin team, to discuss fatigue management protocols relating to 12-hour shifts.

10 Communications

10.1 Security in communications update

Update on NEM Guideline on The Requirements for Operational Communication – Establish of a set of guidelines for ‘Best Practice for Control Room Communications’ | Darren Spoor - AEMO

- Primary operational contacts should be established via direct connections through a PSTN.
- The use of mobiles as a primary contact may only be considered for participants that are not covered by the requirements of the system restart communications protocol and where there is a dedicated 1300/1800

number which automatically connects to a prioritised list of recipients. If so, caller IDs must be correctly relayed such that correct call-back details are maintained. This requirement also ensures that caller authentication can be maintained. The call connectivity must also be robust.

- Backup operational contacts should also be established via direct connections through a PSTN, but can include mobile phones if the phone is located in an area of reliable coverage to more than one carrier cell tower, and is on a different network to the primary number
- Call menu options are not appropriate for operational communication and points of operational contact should be established via a direct number to the relevant operator or controller.
- The operators or controllers in the NEM must be able to speak English.
- The physical voice communications channel must have low distortion and noise, such that the communication is intelligible.
- Operators / Controllers in the NEM must comply with agreed phraseology list defined by the CROWG in 2021.
- The objective is to answer any incoming call within 30 seconds. At the very least, incoming calls must be answered within no more than 5 min. The recipient of a call should also initiate a response in the network within 15 mins for any system security related requests, instructions or directions, in accordance with Clause 4.2.6.
- Call system annunciators are commonly used to advise callers that the call is being recorded. When used, the length and complexity of these annunciator messages should be minimised. For example, the following annunciator message is deemed appropriate: "This call is being recorded".

Noted Member Questions and Discussion

- DS - Where would members like to see this information published and hosted?
 - JD – All of the information is critical at the registration stage, it is also important for ongoing operation in the NEM. Is there a System Operating Procedure where it can have its own section, as then it becomes a source of truth and can be a guideline that can be updated as required.
 - DD – Agree that this information is critical and needed during the registration stage. Is it possible to be an appendix of the Data Communication Standard as well?
 - DS – The challenge is the Data Communication Standard excludes voice, so is not suitable.
 - SC – Referring back to the bushfires in 2019-2020 and the backup contact stated, "Can include mobile phones if the phone is located in an area where the mobile has coverage of more than one carrier cell tower and is on a different network to the primary number" That is on the presumption that there is more than one carrier in the area.
 - DS – That is correct and this information needs to be considered as "Industry Best Practice" and exemptions would be considered on a case-by-case basis.
- The information has been endorsed by the CROWG and DS will provide an update on the hosting location during the next CROWG meeting.

ACTION: DS to provide an update on the hosting location for Industry Best Practice for Control Room Communications information, at the next CROWG meeting.

11 Electricity Industry Terminology and Phraseology

11.1 System Restart Document Update

- To be uploaded on the AEMO website with the TOR update.

11.2 Emergency and Time Critical Document Update

- Updated spreadsheet sent to the EITP subgroup for feedback - still finalising. Will be distributed with the minutes in a draft, for approval. Again to be uploaded on AEMO website in the working group section.

12 Control Room Technology and Ergonomics

- 12.1 What are the latest upgrades, ideas, proposals, projects, etc.
- 12.2 What currently works and what issues have been experienced

13 COVID-19 & Flu Season

- 13.1 Update from members – Control Set-ups, issues, etc.

14 Other Business

- 14.1 Updated TOR sent to the group for review and comment. Updates include:
 - Meeting Facilitation role can be carried out by other members.
 - Instead of using intermittent generators – use the term Market Participants and remove the guest membership component.
- 14.2 CROWG members endorsed updates to the TOR
- 14.3 The updated TOR will be submitted to the PSSWG for approval .
- 14.4 Restart document updated and will be published on the AEMO website with the updated TOR.
- 14.5 Time critical and emergency communication will be distributed with the minutes for review.
- 14.6 Ergonomics and Flu season discussion will be tabled at the next meeting.

15 Next Meeting

- 15.1 The next meeting is scheduled for 08 November 2022 – invitations will be sent to members.
- 15.2 Nominations for a TNSP to take on the facilitation role for the next meeting will be sent with the minutes.

16 Meeting Close

- 16.1 Meeting was closed at 12.38pm.