

# MINUTES

**MEETING:** CROWG – Control Room Operations Working Group

**DATE:** Thursday, 27 July 2023

**TIME:** 9.30am – 12.30pm

**LOCATION:** Remote via Microsoft Teams

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Meeting ID: 491 736 214 877

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## ATTENDEES = 58:

NAME	INITIALS	ORGANISATION
Mario Rositano	MR	AEMO (Chair)
Alexis Bowman	AB	AEMO
Bhavin Sanghavi	BS	AEMO
Caroline Ferres	CF	AEMO
Daniel Lavis	DL	AEMO
Darren Spoor	DS	AEMO
Dave Bradley	DB	AEMO
Garry Little	GL	AEMO
James Ruff	JR	AEMO
Peter Sanderson	PS	AEMO
Rick Dolling	RD	AEMO
Sachin Rajapakse	SR	AEMO
Adam Budzynski	ADB	AGL
Alan Jenkinson	AJ	AGL
Clydie Cox	CC	AGL
Dylan Reynolds	DR	AGL
Gary Paterson	GP	AGL
Luke Shortal	LS	AGL
Paul Clark	PC	AGL
Thien Lim	TL	AGL
Joo Ean Prasad	JEP	Ausgrid
Matthew Ansell-Laurendet	ML	Ausgrid
Phil Gay	PG	AusNet
Simon Bolt	SB	Delta Electricity
Duane Brooks	DBR	Electranet
Steve Cursaro	SC	Electranet

NAME	INITIALS	ORGANISATION
Robert Armstrong	RA	Endeavour Energy
Wyatt Leung	WL	Endeavour Energy
Russell Gordon	RG	Energy Queensland
David Marshall	DM	ENGIE
Simon Ahrens	SA	ENGIE
Warren Wood	WW	EVOenergy
Jacky Han	JH	Fulcrum3D
Philip Vegh	PV	Goldwind Australia
Tony Saker	TS	Goldwind Australia
Jordan Maxwell	JM	Iberdrola
Jarryd Doran	JD	LGI Limited
Matthew Tapp	MT	LGI Limited
Chris Van der Zalm	CZ	Loy Yang B
Hal Jorgensen	HJ	Neoen
Les Ayres	LA	Origin Energy
Mike Griffiths	MG	Origin Energy
Ellise Janetzki	EJ	Overwatch Energy
Duncan Griffin	DG	Power & Water Corporation
Robert McCann	RM	Power & Water Corporation
Sam Parisi	SP	Power & Water Corporation
Andrew Bell	ANB	Snowy Hydro
Adrian Pang	AP	Squadron Energy (CWP)
Brad Patton	BP	Stanwell
Derick Boonzaaier	DBO	Stanwell
Graham Pincott	GPI	Stanwell
Mark Vella	MV	Stanwell

NAME	INITIALS	ORGANISATION
Ben Barker	BB	Endeavour Energy
Ray Robinson	RR	Endeavour Energy

NAME	INITIALS	ORGANISATION
Tony Beresford	TB	Stanwell
Trevor Johnson	TJ	Stanwell
Fabian Spescha	FS	Total Eren
Geoff Cook	GC	TransGrid

## 1 Welcome and Introduction | Mario Rositano

- 1.1 Roll Call taken via MS Teams.
- 1.2 Welcomed members, reviewed the agenda and discussed purpose of the meeting, including continued discussions on topics tabled at the last meeting.
- 1.3 Introduced presenters for SCADA, WA Power System and Biogas & the NEM.

## 2 Minutes / Actions | Mario Rositano

- 2.1 Minutes of the CROWG meeting 18 April 2023 – accepted by Mike Griffiths from Origin Energy.  
[18 April 2023 - CROWG Minutes](#)
- 2.2 Actions of the CROWG meeting 18 April 2023 - reviewed  
[18 April 2023 – CROWG Actions Register](#)

## 3 CROWG Meeting Administration | Mario Rositano

- 3.1 Rotating CROWG “Chairing” role:
  - Call for volunteers for November 2023 meeting – members can volunteer for this role as a once only if preferred. Mario and AEMO will provide all required support and guidance before and during the CROWG meeting. MR will reach out to members again via email.
- 3.2 CROWG Web Page
  - Created on the AEMO Website – [Forums and Working Groups section > List of Industry Forums and Working Groups > CROWG page](#).
  - The [CROWG ToR](#), Reference Papers and Records from meetings will be published to this page, along with any other relevant documents will also be uploaded to this section in the future e.g. Restart Terminology.
- 3.3 CROWG Mailbox
  - New email account for Control Room Operations Working Group communications - [CROWG@aemo.com.au](mailto:CROWG@aemo.com.au).
- 3.4 Next CROWG Meeting – Face to Face Brisbane – Full Day Event?
  - Members were asked for their interest in attending the November CROWG meeting face to face in Brisbane. A full day event. The meeting will also be held via MS Teams, for members who are unable to meet face to face. Mario will provide further details closer to the date.
  - RG – commented that the [ACRNA](#) – Australian Control Room Network Association is holding a their [two-day 2023 Conference](#) at the Gabba in Brisbane 24-25 October 2023.

**ACTION:** MR – Send email to CROWG Members seeking assistance with Chairing duties for November 2023 meeting – reminding members that everyone is eligible for the role, they will be supported and guided before and during the meeting by Mario and AEMO and they can volunteer for one-time only, if preferred.

## 4 Power System Events since Last Meeting | All Participants

- 4.1 Update from members
  - This presentation will be carried over to the November CROWG meeting.

## 5 Presentations, Addresses and Suggested viewing material

## 5.1 SCADA – Collaborative Presentation

### Goldwind SCADA Presentation

- Tony Saker – Goldwind Australia, Grid Schedule Manager
- Philip Vegh - Goldwind Australia, SCADA Manager
  - Goldwind SCADA overview and screenshots
  - Experiences / Non-Conformance Scenarios
  - Ongoing Challenges, Suggested Solution Sets

### AGL SCADA Presentation

- Adam Budzynski – AGL, Renewables Production Leader
  - AGL Dispatch Centre Overview
  - Integration – what happens when systems fail – Layers of control, influence and concern
  - Discussion points and questions for networking sessions

### Origin Energy SCADA Presentation

- Les Airs – Origin Energy, SCADA Specialist
  - MSC Team and Operations
  - Origin MSC Overview – SCADA Infrastructure
  - Discussion points

### AEMO SCADA Presentation

- James Ruff – AEMO, Senior Engineer Grid Systems
- Mario Rositano – AEMO, NEM RTO PSO Specialist North
  - What is SCADA used for at AEMO
  - Testing, configuration and monitoring
  - Impacts and what can go wrong
  - Future SCADA challenges

### 5.1.1 Member Questions and Discussion

- Member Questions and Discussion – SCADA Presentation by Goldwind

GL sought feedback from TS Goldwind regarding whether Generators want more specific information about what AEMO cannot see? Should AEMO be more detailed in their conversations with Generators?

TS advised that it does not happen too often. It indicates to Goldwind to investigate what has happened, but in general there has not been too much information.

AP – Regarding AEMO Controllers advising that they are not able to see a particular windfarm, best practice is to ask AEMO for detail around the SCADA points that are missing and inform the site managers that AEMO cannot see the wind farms.

Discussions continued about the runback signal and windfarms prioritising the runback. Part of the Active Management Platform.

Further to being unable to see the windfarm – Squadron asked AEMO if they could see the windfarm output from a nearby substation instead and hand dress the data. Is that a standard thing in AEMO?

MR advised that it is one of the checks that is carried out and would happen for any failed SCADA at the other end of the line, particularly if it is feeding into a constraint. If the unit has a suspect value on it, or AEMO think it may be frozen, they look at the other end of the line to make sure that is ok. There are also things that can be done to make sure that the value going into NEMDE is correct or as good as it could be.

Energy QLD asked a question about how do AEMO qualify or authorise SCADA techs and what path is there for them to manage secondary systems compared to operators and the authorities they have to meet in order to operate primary systems? Further to that, what process methods are used to control secondary system changes?

WW – There is no authorisation for the secondary systems techs. Work on secondary systems is not considered an outage and is not robustly recorded.

TS – Agreed they do not have a formalised process for internal authorisations on secondary or SCADA systems. Their techs are focused on the wind turbines and maintenance as it is a critical asset risk. They do not have dedicated SCADA technicians on site, they have SCADA Engineers that support the technicians and train them, but nothing formal.

DB – Asked a question around power quality metering in these systems. Is there an internal way of looking at that?

TS – Advised that they have calibration of their meters to ensure the data is accurate – particularly for Generator Performance Standards. They are still developing the maintenance and monitoring systems for those. They currently have someone looking at their metering systems and data – backup, storage, access etc. Ownership and accountability of meters is another layered issue.

JM – Would be interested in seeing exactly what kind of monitoring is going on at the TNSPs and how they are visualising power quality – alarm based?

MR – advised members that they should note these questions and email to Mario, so they can be collated and discussed at a future meeting.

PV – Clarified the definition of power quality versus live data that SCADA transmits to AEMO. They are not the same thing. From wind farms a typical SCADA system would transmit live data to AEMO – power quality is captured on their side into a PQ Sapphire system – high resolution data is captured and stored. Is this discussion about the resolution of captured data versus the live data feed. The live data feed, what the meters are reading, is what is transmitted to AEMO.

DS – Clarified that DB's question is around the telemetry of SCADA that comes through with a general latency of between 4 and 8 seconds. From an AEMO or NSP perspective, they cannot see power quality issues. DB's question was regarding whether participants can see and manage their own power quality implications?

- **Member Questions and Discussion – SCADA Presentation by AGL**

JM – Regarding the factory view talk at the top of AGL's SCADA, is that a consolidated view?

ADB – confirmed that it is a customised visualisation and they have standardised what they need to see to ensure there is consistency among the screen for the individual sites.

AP – AEMO recently distributed an email about power system oscillations – recommending generators monitor their own power system quality. This is something that is quite new and not currently monitored. Does AGL monitor their own power system quality and if so how do they monitor it?

ADB – Advised that AGL monitor power system quality with their best assets, but potentially not as well with their wind farm assets. However, it is foreseen that this something that all participants will have to do within the next 3-5 years.

RG – What is the capacity of the BESS units? - ADB – Torrens Island is 250MWh. Broken Hill is 50MWh

- **Member Questions and Discussion – SCADA Presentation by ORIGIN**

DS – How would SVADA telemetry be provided if we had a regional state-wide black / system restart?

LA – Yes, ORIGIN used cloud-based systems that have regional failover. As long as there is a cloud in Sydney/Melbourne/Brisbane, then yes ORIGIN has their market systems available. The ORIGIN scanner is in South Australia and Queensland, so they need whatever that regional problem is to hit both SA and Queensland at the same time. ORIGIN provided system restart services in 2016 for the SA Black incident, which was a good test for their resiliency.

*Links to Standards provided by Darren Spoor:*

[SRAS Communication Protocol](https://aemo.com.au/sras-communication-protocol) (aemo.com.au)

[AEMO Standard for Power System Data Communications](#)

[AEMO | Power System Operating Procedures](#)

- **Member Questions and Discussion – SCADA Presentation by AEMO**

MR screen shared and provided a demonstration of AEMO's SCADA Network and how it appears when SCADA fails.

MR asked members to email through any further questions relating to SCADA.

- **Member Questions and Discussion – LGI Presentation**

*Discussion included:*

Sites on the LGI portfolio that have not received waste for 20 years and they are still extracting enough volume and quality to produce power generation or to run a power generation site.

flaring contractually gaining carbon credits - when LGI are flaring the gas, they are still burning it and producing carbon dioxide and water vapour. However, the effect of the gas not going directly to the atmosphere, the methane itself means that you've mitigated that direct impact to the atmosphere. Methane is 28 times more harmful than CO<sub>2</sub>? A powerful global warming driver, so by destroying it and minimising what goes to the atmosphere, that's where the credits are then created. They do not get all the credits, there is an amount that are deducted out on the basis that it should have been done anyway. It says only what's above and beyond or additional to that assumption.

Issues experienced with making connection to the grid – It is difficult as LGI are not able to look at the network and find the best location based on system strength or capacity. LGI are bound by where there is a landfill.

## 5.2 WA Power System

- Warren Mumme – Western Power Senior Network Controller WA Representatives
- This presentation will be carried over to the November CROWG meeting.

## 5.3 Biogas and the NEM

### LGI Presentation

- Jarryd Dorrin – LGI Limited, Chief Operating Officer
  - Saving the planet one landfill at a time – state of waste in Aus
  - What we do at LGI
  - Current Portfolio
  - Results to Date
  - Optimising proven technology to abate carbon and produce energy on landfills
  - Time shifting gas reserves to ease market volatility
  - The role of biogas in the energy transition

## 6 Phone pre-recorded messaging

### 6.1 Update to discussion from last meeting on disabling the telephone pre-recorded messaging and being when calling control room to control room – update from Colin Sharp

- Colin Sharp – Real Time Operations Team Leader – TasNetworks
- Members are reminded that it is in the NER Section 4.11.
- This presentation will be carried over to the November CROWG meeting.

## 7 Familiarity with manual frequency control

### 7.1 Responses from generators to questions from last meeting.

- MR – Discussed a question from last meeting around FCAS under system separation and the timing.

## 8 Workplace Health, Safety and Environment in Power System Operations

### 8.1 Discussion on how WHSE applies to the Power System

- Carried over to the November CROWG meeting.

## 9 Training | Daniel Lavis

### 9.1 DL advised that in consideration of time, a training update will be emailed to members.

- Carried over to the November CROWG meeting.

- One point to note is that NSW System Restart training is commencing in October. Members can contact Dan or Operations Training for more information.

## 10 Shift Work | Mario Rositano

10.1 Update from members

10.2 Other Business

- Ongoing and carried over to the November CROWG meeting.

## 11 Communications | Darren Spoor

11.1 Security in communications update

- Ongoing and carried over to the November CROWG meeting.

## 12 Electricity Industry Terminology and Phraseology

12.1 System Restart Document Update

- Final version created and been used as part of System Restart Training. Available for members on the CROWG page in the AEMO website.

12.2 Time Critical and Emergency Document Update

- Members will be asked to read and review the document as it needs amendments and additions. Comments are welcome. A meeting of the subgroup will be scheduled to finalise the document and it is envisioned that process will be concluded prior to the July CROWG meeting.

## 13 Control Room Technology and Ergonomics | Mario Rositano

13.1 What are the latest upgrades, ideas, proposals, projects, etc.

- Ongoing and carried over to the July CROWG meeting.

## 14 COVID-19 & Flu Season

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

- Ongoing and carried over to the November CROWG meeting.

## 15 Other Business

15.1 Feedback Survey

15.2 VDS Update

- Ongoing and carried over to the November CROWG meeting.

## 16 Next Meeting

- The next meeting will be scheduled for Tuesday 21 November 2023. MR will send out meeting invitations.

## 17 Meeting Close

17.1 Meeting closed at 12.36pm (Market Time).

## Meeting Forward Plan

DATE	HOST	LOCATION
Tuesday, 21 November 2023	TBA	TBA