

MINUTES

MEETING: Power System Operations Working Group (PSOWG) – Meeting 4
 DATE: Thursday, 27 June 2019
 TIME: 9.00am – 12.30pm
 LOCATION: Level 45, Central Park Tower, 152-158 St Georges Tce, Perth.

ATTENDEES:

NAME	COMPANY / DEPARTMENT
Clayton James	AEMO
David Weinholz	AEMO
Greg Ruthven	AEMO
Jas Bhandal	AEMO
Kaye Anderson	AEMO
Leon Kwek	AEMO
Matthew Fairclough	AEMO
Natalia Kostecki	AEMO
Kirk Reeve	Alinta Energy
Scott Davis	Australian Energy Council
Elizabeth Walters	Economic Regulation Authority
Julian Fairhall	Economic Regulation Authority
Aden Barker	Energy Transformation Implementation Unit
Aditi Varma	Energy Transformation Implementation Unit
Peter Hawken	Energy Transformation Implementation Unit
Mena Gilchrist	Energy Transformation Implementation Unit
Rebecca White	Energy Transformation Implementation Unit
Wendy Ng	ERM Power
Liz Aitken	Perth Energy
Marc Hettler	Perth Energy
Jenny Laidlaw	Rule Change Panel
Stephen Eliot	Rule Change Panel
Brad Huppatz	Synergy
Jason Froud	Synergy
Glen Carruthers	Western Power
Huuson Nguyen	Western Power
Margaret Pырchla	Western Power
Sabina Roshan	Western Power
Noel Schubert	

Welcome and Reform Update

Clayton James (AEMO) welcomed attendees and provided an overview of the agenda, noting that some of the presentations would be presented by ETIU, and some by AEMO.

Participants were informed that the session was being recorded for the purposes of minute taking. No objections were received.

Mr James provided an overview of the elements of the Energy Transformation Strategy (ETS), being led by the Energy Transformation Implementation Unit (ETIU), and the importance of consultation through the PSOWG and Market Design and Operations Working Group (MDOWG) to the reform process.

Revisions to the Terms of Reference for the PSOWG have recently been proposed by Rule Change Panel Support to refer to the Energy Transformation Taskforce and the ETIU. Stephen Eliot (RCP) confirmed that draft PSOWG Terms of Reference were distributed to the MAC distribution list on 26 June, with request for comment by 4 July. Revised Terms of Reference would be posted on the RCP website late next week.

Mr James advised that the structure, scope and intent of the PSOWG remains the same: to seek feedback from Market Participants, test assumptions, and test and validate design decisions.

Aden Barker (ETIU) reiterated that working groups such as PSOWG and MDOWG will be the primary means of communicating and receiving information from stakeholders. Doors are also open to anyone who wants to talk to the ETIU on a one-to-one basis on matters of detail.

- Following PSOWG and MDOWG meetings (usually in the next month), ETIU will be putting recommendations to the Taskforce. The Taskforce is expected to meet approximately the last Friday of the month, or more frequently if required.
- Following Taskforce meetings, the ETIU intends to publish recommendations papers with supporting information regarding what has been agreed by the Taskforce and the rationale.
- A Design Decisions Register will be maintained on the ETIU website (<https://www.treasury.wa.gov.au/Energy-Transformation/Implementation-Unit/>) to catalogue and communicate decisions, with hyperlinks to relevant Taskforce papers and any MDOWG or PSOWG related papers that preceded the decision.
- Where there is regulatory or rule drafting following the Taskforce decision, this will also be published on the website as soon as possible and available for comment.

As well as consultation through the working groups, one-on-one meetings and consultation on draft rules, it is anticipated that some market reforms will require larger, consolidated rule changes for which extensive consultation will be conducted. Other regulatory changes typically have their own mandatory consultation requirements, which will be tracked through the ETIU website.

Confirmation of Previous Minutes

Mr James noted that the previous minutes had been distributed some time ago, and that no feedback had been received. No comments were raised in the meeting, so the minutes will be taken as accepted and published on the [PSOWG website](#).

Action	Responsible	Due
Copy of previous minutes to be redistributed with slide-pack to provide final opportunity for comment prior to posting.	Kaye	28/6/19
Minutes from previous meeting to be posted to website.	Kaye	2/7/19

Regulatory Framework for Power System Security and Reliability (PSSR)

Mena Gilchrist (ETIU) provided an introduction to the aspects of the PSSR project stream within the ETS. She also explained the purpose and scope of the PSSR Regulatory Framework project, which is to make improvements to the regulatory framework to support the safe and reliable operation of the South West Interconnected System (SWIS) into the future, recognising the transition to a constrained network access model.

Ms Gilchrist explained that this presentation covered early proposals from the project on which the ETIU was seeking feedback, prior to presentation to the Taskforce in July. After discussion of problems with the current framework, she explained the proposals to:

1. Move the frequency operating standards and select generator performance standards from the Technical Rules to the WEM Rules and introduce a role for AEMO, in its role as system manager, to contribute to negotiation of connection standards;
2. Increase the membership of the Rule Change Panel, partially to support the increased scope of the WEM Rules, with amendments to eligibility and conflict of interest provisions; and
3. Conduct a regulatory 'tidy-up' to improve alignment between regulatory instruments and clarify roles and responsibilities. It was noted that the regulatory instruments that sit below the level of the *Electricity Industry Act 2004* were designed very differently, do not speak to each other well, are owned by different parties and have different change management processes so have evolved quite separately.

Ms Gilchrist emphasised that changes to primary legislation were not within the scope of the project as this would introduce risk for managing the project timeframes and outcomes. All changes would be targeted towards instruments that sit below the level of the Act.

Ms Gilchrist explained that some of the current issues result from the incomplete reforms from the Electricity Market Review. The transfer of system management functions to AEMO was done with minimal changes to the regulatory framework, with the intention to adopt relevant chapters of the National Electricity Rules to substantially replace the Technical Rules. She also cited examples where the heads of power for specific instruments limited their scope: network access instruments are unable to provide a role for AEMO in negotiation of connection standards; the Network Quality and Reliability of Supply (NQRS) Code only applies to licensees but extends beyond the SWIS.

Ms Gilchrist noted that Western Power has consulted on its generator performance guidelines, in recognition that the current guidelines are out-dated and do not reflect the changing nature of the power system. She also indicated that the current monitoring and compliance framework for performance standards provides minimal compliance options for generators.

- Liz Aitken (Perth Energy) queried what was meant by minimal compliance options. Ms Gilchrist explained that compliance options differ between the regulatory instruments. For the *Electricity Networks Access Code* and subordinate instruments (including the Technical Rules), Western Power’s only real option for non-compliance of generators is to disconnect. For the WEM regulatory instruments, there is a greater variety of more appropriate compliance options available.
- Ms Aitken queried if there would be efforts to focus rules on outcomes rather than referring to specific technology types. Glen Carruthers (Western Power) confirmed that this was the intent.

Ms Aitken raised an issue discussed at the recent Market Advisory Committee (MAC) meeting, whereby new generators connected under the Generator Interim Access (GIA) arrangement are expected to create an issue for Spinning Reserve. She stated that this should form part of the problem statement for the PSSR project as it is vital that someone should have responsibility at the connection agreement phase for the assessment of the impact of plant on the security and reliability of the system.

- Mr Carruthers acknowledged that this was a gap in the current standards and rules, which would be assessed in the reliability part of the work, as this is a reliability issue. Ms Aitken acknowledged that it is a reliability issue but noted that there was a broader framework question to decide how the responsibility should be allocated and where it should sit. She noted that it is important to identify potential issues before there is an approval or a connection.
- Mr James responded that this was being considered within the Essential System Services workstream, including how it impacts the allocation of spinning reserve and the quantum required, and other areas of the reform program. Aditi Varma (ETIU) confirmed that this was within the scope of the Foundation and Regulatory Framework pillar of the ETS, with some matters being dealt with in the PSSR workstream and other matters within the Essential System Services framework, which will be discussed at the MDOWG next week.
- Ms Aitken expressed concern with the problem being divided between workstreams, with the risk of disparate parts failing to provide a comprehensive and complete solution. This issue had not yet appeared to be acknowledged by the Taskforce, and the Public Utilities Office (PUO) at the recent MAC meeting indicated that it wasn’t their problem and they did not have the time to deal with it.
- Ms Gilchrist noted that although the work of the ETS was being chunked up to make it manageable, all the work is presented to one Taskforce and the teams within the ETIU are working closely together. Mr Barker noted that whilst PSOWG and MDOWG were separately chaired and convened, it is still the same group of people who are working together on an ongoing basis for a total solution.
- Ms Aitken restated the desire to see the issue referenced specifically in the problem statement so that it doesn’t get lost. Ms Gilchrist agreed to consider this request.

Action:	Responsible
<i>Consider inclusion of impact of connection of new generators on Spinning Reserve and assessment of new plant on the security and reliability into problem statement.</i>	ETIU

On **Proposal 1** (transfer the frequency operating standards and select generator performance standards from the Technical Rules to the WEM Rules):

Ms Aitken queried why only some generator performance standards are being considered for transfer.

- Ms Gilchrist explained that there was a need to limit changes to items relating to ongoing performance standards, rather than connection standards due to the limitations of heads of power. She also expressed the opinion that the Technical Rules was a better home for matters that affect the network.

Ms Aitken responded that although Western Power may be the appropriate entity for connection, the question is whether the section of the ERA that looks after the access arrangement and the Technical Rules is the appropriate part of the ERA to have this responsibility. There is no ability for the MAC to provide guidance, therefore there is minimal independent contribution to the technical standards on an ongoing basis.

- Ms Gilchrist indicated that the following presentation on the Technical Rules change process may address some of these concerns.

Jenny Laidlaw (Rule Change Panel) asked who holds the obligation to satisfy the frequency operating standards, and whether there should be an obligation on Western Power to facilitate satisfaction of these standards through the connection process.

- Mr James answered that AEMO is ultimately responsible for satisfying the frequency operating standards and stated that by moving the standards into the WEM Rules, this would help to clarify the operating requirements.
- Ms Gilchrist noted that there is a recognition that there will need to be greater cohesion between the Technical Rules and the WEM Rules.

Ms Aitken suggested that the best was to achieve cohesion that would be to put all the Technical Rules and WEM Rules within the same document, which would overcome the issue of making the documents communicate effectively.

- Mr Barker acknowledged that this would be ideal but would require changes to primary legislation, which has been excluded from the project as it would pose a high risk to delivery timeframes. He indicated that the Taskforce has been given a broad remit for changes to subordinate regulatory instruments. However, this did not exclude legislation changes at a later date.

Natalia KostECKI (AEMO) stated that it was important to understand that there is a balancing of risk between getting things done in the specified timeframe and creating operational risk down the track, which is a risk that we face in trying to rely on the current suite of instruments which are not properly designed or scoped to do the types of things we want them to do. Ms Aitken supported this view, stating that if all the Technical Rules were moved across into the WEM Rules, then ultimately that would provide greater flexibility to respond to change via the rule change process.

- Ms Gilchrist noted that it was proposed to more closely align the change processes for the Technical Rules and the WEM Rules, but that the heads of power for the different rules do not allow for the transfer of all standards. A conscious decision has been made to focus on an achievable solution that is good enough rather than perfect, with an awareness that previous reform programs have failed because they wanted to come together in a 'big-bang' solution.
- Mr Barker indicated that the presentation of ETIU recommendations to the Taskforce would include recognition of the implications and alternatives, including those that

would require changes to Acts, although legislative change was unlikely to be pursued given the time constraints.

Scott Davis (Australian Energy Council) noted that reference had been made to risk analysis and asked Mr Barker if there was a risk register that could be shared with the group to better understand the identified risks.

- Mr Barker responded that there was no specific risk register that could be shared relating to this project, but that legislation was seen as a more global risk. Steve Edwell had referred to the risk posed by pursuing changes to primary legislation in the Industry Forum at which the Energy Minister spoke with regard to constrained network access implementation, stating that the Government was considering non-legislative routes due to the same concerns regarding timeframes.
- Mr Davis suggested that it would be beneficial for the group to have an understanding of what risks had been identified and to check for gaps. Mr Barker responded that the ETIU welcomed stakeholder feedback on potential gaps, and would facilitate this feedback through publication of recommendations papers, the decisions register and draft rule/regulation changes on the Taskforce website.

No specific comments were raised on **Proposal 2** (changes to the Rule Change Panel) or on **Proposal 3** (regulatory 'tidy-up'), Ms Gilchrist noted that the full range of changes will be scoped in Phase 2 of this project and that the ETIU would welcome any feedback on matters that should fall under the project.

Ms Gilchrist reiterated that the proposals will be presented to the Taskforce in late July, with the recommendations to be published in an information paper after that meeting (subject to Taskforce approval). Phase 2 of the Project, which includes more detailed design and drafting of rule changes is expected to be completed by the end of 2019.

Matthew Fairclough (AEMO) noted that the development of appropriate amendments to the reliability standards to accommodate constrained access had not been discussed.

- Ms Gilchrist explained that this would form part of the Reliability Framework project and will be presented to the PSOWG at a later date.

Stephen Elliot (Rule Change Panel) queried if the consultations being run include the changes to the Rule Change Panel regulations.

- Ms Gilchrist responded that this was being led by the PUO rather than bringing it into the ETIU. The ETIU will work with PUO colleagues on the changes but the consultation will be run by the PUO.

Noel Schubert queried whether consideration was being given to standards for generators less than ten megawatts, as the discussion had applied to registered generators. Industry was concerned that the Technical Rules don't get changed very much.

- Ms Gilchrist responded that non-registered generators and those connected to the distribution network will continue to be governed by the Technical Rules, with changes to the Technical Rules governance framework to be discussed in the next presentation. Mr Barker also noted that the DER Roadmap would consider the impacts of small generators.

Wendy Ng (ERM Power) requested clarification on whether changes to generator performance standards are intended to apply to all existing market participants and future market participants.

- Ms Gilchrist responded that it was intended to move the generator performance standards to the WEM Rules and for these to apply to new generators that are intending to connect to the network. However, changes to the compliance regime would apply to all generators.

Ms Aitken noted that stakeholders had previously provided feedback to Western Power as part of its work on its generator performance guidelines, but that Perth Energy has received no response to the feedback provided. She requested clarification on whether that work was now being folded in under this project.

- Ms Gilchrist responded that although the ETIU was working closely with Western Power, the focus of this project was the framework to create the space for the implementation of the generator performance guidelines.
- Mr Carruthers advised that Western Power was in the process of responding to feedback received. He noted that Western Power was currently incorporating some of the feedback through amendments to the draft guidelines, which would be issued shortly.
- Mr Barker and Margaret Pырchla (Western Power) noted that none of the work or consultation that had been started before the Taskforce was formed had been lost, and that this work would be incorporated into recommendations being presented to the Taskforce .

Technical Rules Change Management

Peter Hawken (ETIU) introduced himself and the Technical Rule Change Management project, aiming to identify and implement improvements to the change management process.

The Problem: The process for creating and amending the Technical Rules is contained in chapter 12 of the access code, and can only be amended with the approval of the ERA. Currently only Western Power can submit changes to the ERA, which the ETIU believes is not in the interests of the Industry, so looking to address this issue.

The existing rule change process isn't very dynamic, and is significantly behind in terms of the technical standards that need to be covered, and in its current form, cannot keep pace with the rate of change.

The TRC is an ad hoc committee, formed to deal with a specific issue and then disbanded or becomes dormant, which is inefficient especially when facing an increased rate of change. In addition, the ERA needs to be able to handle the anticipated increase in the number of applications.

Recommendations have been split into 3 proposals: continuing key arrangements; modified arrangements and new arrangements.

No comments were received on **Proposal 1: Continuing Key Arrangements**.

With regard to **Proposal 2: Modified Arrangements**, a number of comments were made relating to the broadening of the criteria on which an application can be approved or rejected to allow the ERA to consider a more balanced and wider range of benefits of proposed changes.

Ms Aitken suggested use of the WEM objectives, which although they are acknowledged as not being ideal, would create consistency.

- Ms Gilchrist responded that this suggestion would be taken on board, but that evaluation objectives were made for slightly different purposes. She identified that

main issue that needs to be addressed is that currently if a decision negatively affects 1 user it can't be approved, even if it benefits the vast majority.

- Elizabeth Walters (Economic Regulation Authority) suggested that the Access Code objectives need to be included in the evaluation criteria.

Mr Elliot requested clarification on whether the decision would remain only to approve or reject, or allow for approval in an amended form.

- Ms Gilchrist responded that the ERA can only accept or reject, it cannot accept on the basis of a recommended change.
- Many participants agreed that it would create greater efficiency if there was a process to review or amend proposals, or suggest modifications. Currently neither the ERA nor Industry can suggest better alternatives to a proposal.
- Mr Hawken acknowledged that in the drive to improve efficiency, a such a change may be worth considering.
- Mr Elliot expanded to say that in the time he has been at the Rule Change Panel, they have not been able to approve a single proposal without amendment.

Action:	Responsible
<i>Consider inclusion of change to enable approval of proposed changes in an amended form.</i>	<i>ETIU</i>

Natalia Kostecki (AEMO) commented that consideration also need to be given to the fact that with some generators under the WEM Rules and going through the WEM Rule change mechanism, and some smaller generators sitting within the Technical Rules and subject to the Technical Rule change mechanism, there is a potential for divergence over time. She expressed concern that the intention of closing the gaps and removing overlaps would be exacerbated by the approach of having generators under different instruments, rather than being remedied.

- Mr Schubert agreed, citing that the 9.9 megawatt generators are there because there is a big jump in obligations above that.
- Ms Gilchrist responded that this issue could occur as long as there is a separation in requirements based on size. She did not feel that the fact that the issue would occur over 2 instruments would pose a significantly greater issue, particularly with the proposed significant improvement in the change management process. Also need to remember that the proposed change is to apply to all 'registered' transmission connected generators, so may pick up some generators below the 9.9 megawatts.
- Ms Gilchrist went on to say that it was an outstanding question as to whether a technical committee could be formed under the Rule Change Panel, but regardless, they are able to obtain expert advice, even in the absence of a Technical Rules Committee.
- Ms Laidlaw suggested that a permanent committee formed under the MAC would be the obvious option to address issues relating to generator performance standards.

- Mr Elliot confirmed that the panel has the ability to engage additional resources and form working groups if required, and that there was no requirement for the working group participants to be MAC members.

Mr Caruthers queried whether the Rule Change Panel could enlist the support of the TRC formed under the Technical Rules.

- Mr James suggested that the challenge with this was whether or not the organisations that those people were working for would be able to recover their time for participating in those activities.
- Mr Elliot responded that the Rule Change Panel was not currently financed to be able to do this.

Proposal 3: New Arrangements

Ms Pырchla sought clarification to confirm if it was intended that Western Power would continue to fund the ERA with regard to Technical Rule changes, with the proposal that any party would be able to submit a change request, as this was likely to increase in volume of change requests.

- Mr Hawken indicated this would continue to be the case, however that any party who wanted to make a submission for a new technical rule would need to fund themselves.
- Ms Gilchrist suggested that the ERA may develop a defined process and justification for proposed changes to ensure that change proposals were well considered.
- Mr Hawken also identified that by enhancing the criteria on which the ERA could accept or reject requests, this would assist in streamlining the decision process.

Ms Ng requested clarification on why there was a separate break out to ensure that AEMO can cost-recover for change proposals that it makes.

- Mr James responded that this was simply to ensure that AEMO had the ability to recover costs for performing its functions, as aligned with the WEM Rules.

Ms Laidlaw enquired if this would operate similar to the WEM Rules whereby AEMO must consult with the MAC when proposing rule changes. She also queried if the functions of AEMO would be expanded under the Market Rules to allow them to recover costs for proposing changes to the Technical Rules through the Allowable Revenue process.

- Ms Gilchrist indicated that this was a level of detail that would need to be worked through in Phase 2 of this project, but that it was recognised that there may be a need to change some regulations to allow AEMO to cost recover.
- Mr James noted that there may be value in including provisions around the scope of changes that AEMO may put forward and the involvement of MAC in the process.

Action:	Responsible
<i>Consider inclusion of provisions around the scope of changes that AEMO may put forward, and the involvement of MAC in the process.</i>	ETIU

Mr Hawken identified that the above proposals would be put forward to the Energy Transformation Taskforce at the end of July, and that resulting papers will be published where applicable, and the process for Phase 2 would be as previously outlined.

Mr Schubert enquired if there was still a broader 'changes to the Access Code' workstream given that it was written back in 2004/5 and that a couple of attempts have since been made to address required changes which have not delivered results.

- Ms Gilchrist responded that the ETIU would be making changes through the Technical Rules Change Process and Regulatory Framework project will be almost exclusively to chapter 12, Ms White has at least one change, and then the wider PUO are also working on a number of changes to the Access Code.
- Mr James pointed out that the Constrained Access project would also be making changes to the Access Code.

Ms Aitken queried what working group would have the ability to feed into the constrained access work.

- Mr James identified that the updated terms of reference for both the PSOWG and the MDOWG include 'Improving Access to the SWIS'.
- Ms Gilchrist also identified that all access changes also go to a minimum 30 day consultation period.
- Ms Aitken expressed concern that regardless of the consultation requirement, given the tight timeframes, there may be a tendency that regardless of consultation feedback there would be a reluctance to make changes to proposals, it would therefore be preferred to be able to provide input before the final version of Access Code changes going up, rather than waiting for the 30 day consultation period, because it is unlikely that anything will be changed at that point, due to the tight timeframes to get legislation in.
- Mr Barker responded that the PUO was not required to undertake these changes in the same timeframe as the ETIU is working to.

Operational Planning

Jas Bhandal (AEMO) made an introduction to pre-dispatch and its purpose. Currently there are no requirements in the WEM Rules for pre-dispatch. This presentation was based on how pre-dispatch could work for the WEM based on a single node, hub and spoke design, utilising constraint equations. The intent of this presentation was to gain input on 'how often' 'how much information to publish' and 'what assumptions or sensitivities to use'.

Ms Aitken noted that this looks very similar to the NEMDE currently used on the East Coast, and asked if the assumption was that we would be using the NEMDE engine, and that this was the pre-dispatch model that is associated with the NEMDE engine.

- Mr James responded that it would be using the same logic that the NEMDE dispatch engine would use.

Ms Aitken stated that the short term issue was the most significant problem now, let alone going forward, and asked if the WEMDE version of the dispatch engine would have 5 minute dispatch and clearing.

- Mr James confirmed that it would.

Ms Aitken then went on to ask what the gate closure window would be in WEMDE.

- Ms Varma noted that when this had been discussed at the March MDOWG, the decision had been 'zero', but with a proposed a trial at 15 minutes for market go-live, and reduce this to 'zero' in about six months' time, testing the impact of the change.

Ms Aitken indicated that if there was a 5 minute settlement solution then the short-term schedule option of '2 hours ahead, 5 minute resolution, updated every 5 minutes' seemed reasonable.

- Ms Varma responded that the 5 minute settlement question was still being explored to establish if 5 minute settlement is possible in the way desired.
- Ms Aitken noted that the resolution of the settlement question needed to be understood as it would affect the required granularity of the short-term schedule, with the need for bidding to be the same as the settlement outcome. Currently operate with dispatch instructions every 10 minutes but with a 30 minute settlement schedule, which is an issue. Whatever the settlement decision this needs to be consistent with dispatch instructions.

Ms Laidlaw commented on that in relation to the mid-term schedule, and depending on what happens with STEM, offers may be a bit meaningless until people have got their net contract position. You could start it a bit later, or have it so that it doesn't have a lot of obligation on the participant, as it won't be right or accurate until those results are through.

Ms Aitken noted that because people won't finalise their bilateral position until STEM has closed, you need to include STEM as part of pre-dispatch to meet WA requirements for the Mid-Term and for the Market Outlook schedule.

- Ms Ng expressed the opinion that this could not be done.
- Ms Aitken responded that this was the point, as you could almost guarantee that the mid-term schedule would be completely meaningless without some form of information from STEM.
- Mr James indicated the system would use active bids, so you could put a standing offer in, however participants expressed the opinion that this would not be very informative, due to the frequency with which STEM offers were changed.

Mr James sought clarification on what would be considered useful.

- Ms Aitken responded that the Short Term schedule was critical, and that this could be stretched to be one day ahead, but even at a day ahead participants may not have their STEM clearance, resulting in questionable data.

Ms Aitken expressed the opinion that STEM needs to change regardless, but wasn't sure what was happening at MDOWG with regard to this, as only being able to cover outages 1 day ahead makes it of questionable value. She suggested that broader thought about how STEM works was required, with the suggestion that if the STEM was an ongoing rolling weekly thing, where you could start buying for a day up to a week ahead, then the Mid-Term and Market Outlook schedules may become more realistic and firmer.

Brad Huppatz (Synergy) queried as to whether consideration had been given to the provision of ancillary services in this market vs the NEMDE. In the NEM, generally the plant that is on is capable of providing the required ancillary services, in the SWIS most of the plant that is put on for ancillary services is constrained on. Need to consider how well the WEMDE would deal with that, and the implications of this for the accuracy of the Mid-Term schedules.

- Mr James responded that all of the Essential System Service constraints are included in pre-dispatch as well. To the extent that these are binding on a particular facility,

that will appear. You will see that you have been cleared for this facility to provide this particular essential service.

Ms Aitken noted that WEMDE would be able to take into account minimum generation as part of the dispatch engine – which they can't do at the moment.

- Mr James indicated that they would need to follow up on how Fast Start could work in the pre-dispatch timeframes, but that the general principal was that if the unit was off-line you would still see the signal to start in dispatch, and the dispatch engine would follow the fast start inflexibility profile (which would include catering for minimum generation, start-up times, etc).

Mr Bhandal noted that the output result format for information to be published was still to be determined for the WEM.

- Ms Aitken expressed the assumption that this would be the same as for NEMDE.
- Mr James responded that although we were taking on the same type of technology, we still have the choice of what we want to make public, when, and what format this should appear in can be designed based on requirements. AEMO is looking to market participants to inform what they want to see, how they want to see it and when they want to see it.

Greg Ruthven (AEMO) queried if each generator would see every other generator's scheduled quantities.

- Mr Bhandal confirmed that this was the intent and was the position put to MDOWG, we are now validating that and seeking any further feedback.

Mr Carruthers queried how it was intended to demonstrate constraint data.

- Mr James responded that there were some examples that would be shown towards the end of the presentation.
- Huuson Nguyen (Western Power) noted that there were limitations, for example if there is a forced outage then everything would be different.
- Mr James confirmed that there are forecast limitations, and that the forecast can only be based on what is known at the time.

Ms Laidlaw noted that there was an Outage rule change underway relating to how much notice of coming back online was reasonable, and that this might affect results. There may be differences for a network outage and a generator outage.

- Mr James responded that for a network outage the system would look at the planned start and end times and apply a constraint, and if the actual time differs from the planned time then the application of that constraint would differ between what was shown in pre-dispatch and dispatch due to differences in timing.
- Ms Laidlaw commented that similarly when there was a consequential outage and you have generators constrained due to a network outage.

Ms Aitken expressed the belief that in the future design, there shouldn't be any such thing as a consequential outage.

- Ms Laidlaw suggested that having a 200MW of generator reappearing when you have just bid in could be an issue.

- Ms Aitken countered that if you have 5 minute dispatch and no gate closure then you could just bid yourself back out again. This would result in a proper market driven response, rather than the quasi-market response that we currently have.
- Mr James acknowledged that consequential outages are something that will need to be worked through, to understand when and if they will be used, and if so, how. This is another part of the work that Jas will be doing.

Ms Aitken queried if the line ratings used in the constraint equations would be temperature dependent.

- Mr James responded that these would be based on summer/winter ratings. Dynamic ratings may be an option dependent on the forecast period (and whether Western Power could provide these), but because this is a forecast, the equation has to be based on an estimate, and this is a potential source of error.

Mr Bhandal emphasised the importance of including detailed requirements in the market documentation to facilitate the build.

Mr Schubert queried how outages of SCADA are handled.

- Mr James responded that we have the ability to estimate SCADA data which is what we would typically do in dispatch, or in the worst case the controller can make an estimate and manually override it based on feedback from site.

With regard to the slide comparing current market forecasts with other jurisdictions, a question was raised regarding why the comparison had been restricted to Australia, New Zealand and Singapore.

- Mr James responded that this was primarily due to availability of public data. Mr Schubert suggested that European and United States markets may have information available. Mr James indicated that they may not run a public pre-dispatch market but happy to look at other jurisdictions where relevant.

A query was raised regarding what was meant by synchronisation status with regard to possible sensitivities.

- Mr Bhandal responded that this was looking at different variations of generation for dispatch, varying what was intended to be synchronised.
- Mr James noted that the more sensitivities we include, the more they become branched, for instance do you use high forecast plus largest contingency, or low forecast plus biggest contingency plus an allowance for error on non-scheduled. The branching of possibilities creates a trade off between useful information and quantity of information.
- Ms Aitken suggested that getting to the bottom of the issue of how to manage STEM for Medium Term and Long Term would be vital for this, and suggested that in the immediate term it was just the Short-Term that would be useful, and taking this approach it would just be constraints and possibly synchronisation that would need to be considered. When looking at the Short-Term forecast, you would be operating within a window where the difference between high and low forecasts would be minimised. She expressed that there was a need to fundamentally review the usefulness of having the medium and longer-term options.
- Other working group members commented that the medium term would have some meaningful value once the STEM results were known, and people knew what their net contract position was.

- Mr James noted that the benefit of the medium and long term was that they would show when there was a network constraint. He acknowledged that there may be questions around the validity of some of the data for these periods, but queried if participants would rather have the information that was available.

There was a query from the working group if a potential network constraint would influence the way a participant may want to trade in STEM?

- Ms Aitken responded that it would depend on whether there were going to be multiple price points through the WEM. Currently we effectively have locationally different pricing, and if that stands, then it would make a difference. She also claimed that a generator would have a fairly good understanding of their constraints to the node. On this topic she requested clarification regarding the proposition that the node would be moving to Southern Terminal, which as she understood had not yet been confirmed. From a retailer perspective Ms Aitken suggested that the high/low forecast may change view in relation to STEM bids, but that the day before window for STEM was still of little value anyway as it doesn't provide sufficient time to manage position. In order for this to be usefully traded values need to be known a week or a month ahead, which would completely change the paradigm of the demand forecast. The tool provides some opportunities to be useful, but would be dependent on some key design changes.
- Ms Laidlaw asked if people would have visibility of the network constraints any other way.
- Mr James responded that there would be an option to publish a list of network outages.
- Mr Huppatz noted that for long lead generators, having the forward view with information for two days out does help to make informed decisions. As a market participant you take risks, but you want to be aware of information that can help to make better decisions.

Ms Ng queried if participants would be given access to the dispatch engine solver.

- Mr James responded that currently in the NEM they make available an off-line solver. He identified that if this was something that participants wanted, then we could look at incorporating it. Indication from participants was that this would be considered useful.

Constraints Governance

Rebecca White (ETIU) introduced the Constraints Governance Framework project and its key deliverables. Recommendations paper will be presented to the Taskforce at the end of July, after which drafting instructions for regulatory changes will commence, and development of initial set of constraint equations.

Mr Ruthven inquired with regard to the timeline, given that constraints would be input into the constrained network access implementation and capacity credit allocations mechanism, how does that work with the timeline.

- Ms White acknowledged that this would be a requirement for that process.
- Mr Ruthven emphasised that these would be required to be run 2 years ahead.
- Ms Varma responded that the current understanding was that the constraint equations that would be developed as part of this work will create the first set of

constraint equations to be applied to the capacity credit allocation process for 2020, as well as to SCED.

- Ms Ng requested clarification on whether the constraints library being developed for 2020 to provide allocations for 2022 would be discussed at MDOWG, PSOWG or anywhere else as to how this will occur.
- Mr Barker confirmed that the RCM allocation process would be discussed once some threshold questions had been answered by the Taskforce with regard to constrained network access and then RCM decision will follow this.
- Ms Ng sought clarification on what was meant by ‘threshold’.
- Mr Barker responded that although he was not going to discuss compensation as this point, that obviously there were decisions that needed to be made around this in the context of RCM allocation design and market design more generally. He clarified that the government needs to develop its view on this before they can consult on design, and that this work is being accelerated in recognition of other work with dependencies on that decision.

Ms Aitken stated that in relation STEM and bi-lateral contract implications, her organisation had some long term contracts in place that may be impacted by constrained dispatch, and she is uncertain how STEM is going to clear, or how people will bid into STEM if they don't know whether they are going to be constrained day ahead. She noted that there will be structural questions around how those two mechanisms will work in light of constraints. She suggested that these need to be considered in parallel with the development of the constraints so that there is not a last minute scramble to understand these.

Ms Ng noted that even if you can settle the issue of the day ahead STEM, there is the remaining 16 hours of the day where constraints could bind at any time, and for which there is no information available because they are unplanned. This could result in being unable to meet commitments.

- Ms Aitken expanded on this to say that there would be a need to change the basis for the commercial elements of STEM to take into account constraints.
- Ms Varma noted that this had been touched on at MDOWG, but that they would go back and have a look at consequential impacts on STEM from constraint equations.

Action:	Responsible
<i>Review consequential impacts on STEM from constraint equations</i>	<i>ETIU</i>

- Mr Nguyen suggested the pre-dispatch process may be able to build in some network outage sensitivities to support participants in their STEM submissions (e.g. forced outages).
- Both Ms Ng and Ms Aitken stated that more information on the proposed amendments to STEM were required.

With regard to the slide on the regulatory regime, Mr Fairclough queried how rule participants could be non-compliant with constraint equations.

- Ms White responded that if a constraint is binding it will be communicated through a dispatch instruction, so it would be not different to current obligations to comply this dispatch instructions.

Mr Rutherford sought clarification that the audit requirements would sit within the WEM Rules and would be part of the ERA’s WEM functions and not their Access functions.

- Ms White confirmed that this would be an extension of the existing framework in the WEM Rules and Procedures.

David Weinholz (AEMO) queried if there would be an obligation on Western Power to provide forecast values of limit advice for years out in front relating to planned upgrades.

- Ms Varma suggested that this would be captured in the PSOP that would need to be developed and agreed, and that contained in that procedure would be identified the information that would be required to be provided by Western Power.

Ms Aitken requested the inclusion of a requirement that the methodology for the constraint formulation, associated procedures, and constraint generation infrastructure be subject to an external review every 3-5 years.

- Ms White agreed to put this down as a consideration.

Action:	Responsible
<i>Consider inclusion requirement for external independent assessment of constraint formulation, procedures and generation infrastructure on a 3-5 year basis.</i>	<i>ETIU</i>

- Mr Schubert recommended that this requirement also be applied to review information provided by Western Power, allowing for an independent assessment of the level of conservatism being applied.
- Mr Carruthers expressed doubt that there would be a third party available to make this evaluation.

Ms Varma referred back to the earlier point whereby it was proposed that the ERA be given the responsibility to conduct these reviews.

- Mr Schubert expressed the opinion that the ERA didn’t have the inhouse technical capability to conduct the type of review being requested.
- Ms Varma responded that the ERA could hire the required expertise, as it currently does, to perform its required functions. In addition, she noted that it was also proposed that market participants would have the capacity to request a review and independent assessment.

With regard to the recommended publication of constraint information by AEMO, clarification was sought to confirm if this would just be for Market Participants.

- Ms White responded that these should be available to the general public, to promote overall transparency.

Ms Ng noted that there was a recommendation to allow Western Power to recover its costs for constraints through access charges, and queried if this was to be applied to all customers.

- Ms White confirmed that this was the case.

Ms Aitken raised the point that under a constrained network the generator would be wearing the risk, but that Western Power would have no obligation to build out infrastructure to meet their requirements, and questions if this being the case should Western Power be charging them. Western Power's obligation is on those who receive energy (load related).

- Ms Varma suggested that she would need to check if this was being considered as part of any of the other workstreams.

Action:	Responsible
<i>Review workstream breakdown to see if included elsewhere.</i>	<i>ETIU</i>

A subsequent query was raised by Mr Davis regarding what powers the Whole of System Plan would have to direct Western Power to relieve network constraints.

- Mr Barker responded that the initial WOSP would have none, as this would be an information document, and would provide a model for future Whole of System Plans. This will need to be addressed in the 'Future WOSP' project.

Update on Essential System Services (ESS) Modelling

Leon Kwek (AEMO) invited any further comment on the 'Contingency Frequency Response in the SWIS' paper that was distributed following the last PSOWG. Some comments have been received, but any final comments are invited for incorporation prior to the end of the month, so that this paper could then be published onto the AEMO website. A copy of the final draft will be uploaded onto the [PSOWG website](#) along with today's presentations.

Action:	Responsible
<i>Review and provide comments on 'Contingency Frequency Response in the SWIS' paper by end of July.</i>	<i>Market Participants</i>

Moving forward a similar approach will be applied to the 'Regulation Response Framework' which will be the replacement for the load-following response that is in place currently.

Ms Aitken indicated that having access to the David Bones (GHD) report whilst reviewing this would be advantageous.

- Ms Varma responded that the GHD report should be going to the Taskforce at the end of July, and would be published following this.
- Mr James indicated that the work on contingency frequency response was more of an input into GHD's work rather than the other way around, and that they have validated the use of it through various forums.

Ms Varma supported that call to hold off on publishing the 'Contingency Frequency Response' paper until after the GHD report had been published.

Ms Aitken noted that she would prefer to have access to the GHD report prior to going forward with the LFAS discussion, as she anticipates LFAS being quite challenging. Ms

Aitken also suggested that the constraint equation information would also contribute to the LFAS discussion, so there would be a need to manage interdependencies, requiring multiple iterations to move from a conceptual level to a practical response.

Close: 12:30

Request was made that any feedback from participants should be sent through by the 5th July, to allow time to incorporate into material being presented to the Taskforce.

DRAFT