



Minutes

Transformation Design and Operation Working Group – Meeting 6

Time: 9:30am-12:00pm
Date: 17/12/2019
Venue: AEMO offices

Attendees:

Name	Organisation	Name	Organisation
Aden Barker	Energy Policy WA	Neil Hay	None stated
Alex Cruickshank	Oakley Greenwood	Rebecca White	Energy Policy WA
Angeline Ong	Energy Policy WA	Robert Pullella	ERA WA
Ashwin Raj	Energy Policy WA	Sara O'Connor	ERA WA
Brad Huppertz	Synergy	Shannon Hewitt	BSC Solar
Bronwyn Gunn	Energy Policy WA	Simon Middleton	AEMO
Clayton James	AEMO	Steve Gould	Community Electricity
Danie Kurtz	Bluewater	Troy Santen	Stella
Dean Frost	Western Power	Wendy Ng	ERM Power
Dora Guzeleva	Energy Policy WA	Oscar Carlberg	Energy Policy WA
Elizabeth Walter	ERA WA	Dermot Costello	CEC
Geoff Glazier	Merz Consulting	Noel Schubert	ERA
Greg Ruthven	AEMO	Drew Harris	Simcoa
Greg Thorpe	Oakley Greenwood	Aditi Varma	Energy Policy WA
Jacinda Papps	Alinta	William Street	Alinta
Jason Froud	Synergy	Richard Beverley	Alinta
Jenny Laidlaw	RCP WA	Gina Dodd	Collgar Wind Farm
Jo-Anne Chan	Synergy	Ben Rose	Self employed
Kate Ryan	Energy Policy WA	Glen Carruthers	Western Power
Linda Thevenot	Lacour	Adam McHugh	EY
Martin Maticka	AEMO	Stephen Eliot	Rule Change Panel
Matthew Fairclough	AEMO	Patrick Peake	Perth Energy
		Ignatius Chin	EMCA

Item No.	Issue
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1.	Allocation of Capacity Credits in a Constrained Network – Update and Key Issues
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Ashwin Raj, Energy Transformation Implementation Unit (ETIU) introduced the presentation.

- The purpose of today's TDOWG is to provide stakeholders with a final opportunity as a group to raise any remaining concerns with the overall design, to discuss the key issues identified during the 1:1s, and ETIU's proposals on these issues.
- Stakeholders have further opportunities to schedule additional 1:1s with ETIU should they have any further concerns or questions regarding ETIU's proposal.

Key issues for discussion include:

- Transition (and initial allocation)
- Availability and performance of capacity resources
- Adjustments to Network Access Quantity
- Transfers

Ashwin Raj outlined ETIU's proposed approach to transitioning to the new process for the allocation of Capacity Credits.

- Transitional arrangements are required for the 2020 cycle because necessary systems and processes will not be ready in time.
- Deferral of the 2020 Capacity Cycle is not preferred.
- For 2020, Capacity Credits will be allocated based on the 'BAU' process. This is to provide certainty to participants both in 2020 and for Capacity Credit allocations in future years; and to avoid delays in publishing Reserve Capacity Price next year.
- NAQs which will apply for the 2021 cycle will then be allocated based on facilities' 2020 allocations.

Jacinda Papps, Alinta Energy asked what would happen if a facility's NAQs are less than its Capacity Credits in 2020.

Ashwin Raj responded that this shouldn't happen because a facility's NAQs will be allocated equal to its Capacity Credits in 2020.

Ashwin Raj outlined how each type of facility will receive NAQs in 2020.

Wendy NG, ERM Energy asked whether the NAQs allocated in 2020 will be enduring.

Ashwin Raj responded that yes, these NAQs will apply in the 2021 cycle and a facility's NAQs will endure as long as the facility maintains its Certified Reserve Capacity (CRC).

Ashwin Raj outlined the process for allocating Capacity Credits that will apply from the 2021 capacity cycle.

William Street, Alinta Energy asked if facilities will be able to be able to receive Capacity Credits and NAQs above their current DSOC in the 2020 capacity cycle.

Ashwin Raj responded that facilities will be able to receive NAQs up to their DSOC.

William Street responded that DSOC is hindering the current level of credits that facilities can receive, noting that Western Power has previously not allowed increases in network access citing uncertainty about the implementation date of constrained access.

Dean Frost, Western Power responded that facilities seeking increased levels of network access are progressed via the Competing Applications Group (CAG) process.

Jacinda Papps noted that ERA has found the current Relevant Level Methodology (RLM) is inaccurate and said that allocating NAQs based on the current RLM would 'lock-in' a level for intermittent generators that does not represent the value they provide to the system.

Ashwin Raj responded that NAQs can increase with increases in the relevant level.

Jacinda Papps said that intermittent generators face a significant risk that their RLM and NAQs will decrease temporarily and other generators prevent them from recovering their NAQs when their CRC increases.

Ashwin Raj responded that the approach will be to retain the RLM as an input into the Capacity Credit allocation process. It would be unlikely for a facility would locate in a part of the network that would prevent an incumbent intermittent generator recovering its NAQs because that part of the grid would be heavily congested.

Adam Mchugh, Ernst and Young requested that Ashwin Raj provide a numerical example for a facility that is allocated less CRC in 2021 compared to 2020 to demonstrate what the impact would be on the facility's NAQs.

Ashwin Raj provided an example demonstrating that a facility's NAQs would decrease with its CRC. If the facility's CRC increases, NAQs may also increase but subject to the network

analysis to determine whether there is enough network capacity to accommodate the increase.

Glen Carruthers, Western Power asked whether existing generators that have an improvement in their capacity would have priority in being allocated NAQs ahead of new entrant facilities.

Ashwin Raj responded that improvements in capacity would not receive priority relative to new entrant facilities.

Jacinda Papps asked how NAQs would be allocated where 3 intermittent generators all receive additional CRC under the RLM but there is insufficient network capacity to allocate them all NAQs up to their CRC.

Ashwin Raj responded that the facilities' allocation would be a function of the network model tool which would allocate NAQs based on maximising the quantity allocated. This would be based on facilities' relative constraint coefficients.

William Street raised a concern that the proposed method may favour thermal plant that can guarantee capacity year on year compared to intermittent generators.

Jenny Laidlaw said that Capacity Credits must be allocated based on the capacity facilities provide and that the RLM is the best measure for this.

Alex Cruickshank, Oakley Greenwood noted that the RLM is based on an average of historical output and that the issue is more a product of the RLM rather than the NAQ process.

Wendy NG asked if a facility's NAQs would be decreased as a result of a network outage.

Ashwin Raj responded that the modelling will be based on system normal which assumes all network assets are online. NAQs would not be adjusted for temporary outages. NAQs would only be adjusted for permanent changes in network capacity.

Glenn Carruthers asked if there is a degradation that decreases NAQs and subsequently an augmentation, would the de-rated facilities receive priority in being allocated NAQs.

Alex Cruickshank responded that is likely an edge case but one that the project team will work through.

Simon Middleton, AEMO asked how changes in demand would impact NAQs.

Ashwin Raj responded that the impact would depend on whether the changes are permanent or temporary and how material they are. If the demand changes cause a material impact on network capability, then this change will need to be accounted in the allocation of NAQs.

Jenny Laidlaw asked whether the facility's previous year's NAQs would be assessed in stage 3 of the process or whether the check would be based on the facility's potentially increased CRC.

Alex Cruickshank responded that the previous year's NAQ would be assessed because existing facilities' improvements in capacity and new entrant facilities would compete equally for NAQs and not receive a priority.

William Street asked if a portion of capacity is considered as a new facility for the purpose of allocating NAQs, would this portion then be subject to the floating price?

Jacinda Papps said that if this is the case, there is potentially a disconnect with the pricing reforms.

Kate Ryan responded that the facility would still receive the transitional price, consistent with the pricing reforms.

Ashwin Raj said the ETIU will present some worked examples to demonstrate how the prioritisation process would work for the cases discussed today.

Ashwin Raj outlined an assessment of how the current availability and performance requirements would work in the context of NAQs. For the most part, the current arrangements are suitable, but there are two potential issues that could be resolved:

- Generators can meet their obligations without committing their facilities by bidding at high prices.
- The rules do not specify criteria AEMO must consider when reducing CRC due to poor performance.

To avoid situations where facilities that are not run very often are called on but are unavailable, the Market Rules could be amended to allow more targeted testing of facilities with limited warning.

To ensure that facilities are sufficiently exposed to the risk of losing Network Access Quantities, the Market Rules could be amended to provide more guidance in the Market Rules on the circumstances where:

- a failure(s) to make capacity available into the Balancing Market would disqualify a facility's Certified Reserve Capacity; and
- outages will be taken into account when AEMO assesses a facility's Certified Reserve Capacity in a subsequent Capacity Cycle.

Ashwin Raj outlined how NAQs would be adjusted for increases and decreases in CRC; and where capacity is retired.

Patrick Peake suggested that facilities should lose their NAQs after they announce a retirement regardless of whether they actually retire the facility, considering a new entrant could make an investment decision based on the retirement announcement and then have stranded asset if the facility does not actually retire.

Ashwin Raj outlined how replacements would be affect NAQs. If it is the same facility with the same CRC, the facility will continue to receive NAQs. This is to avoid discouraging efficient investments.

William Street asked whether facilities without CRC or NAQs would be accounted in the model to allocate NAQs.

Katelyn Ridgen, AEMO responded that these facilities would still be accounted in the dispatch scenarios used in the network model but not be allocated NAQs.

Linda Thevenot, Lacour Energy asked how will hybrid intermittent facilities would be treated.

Ashwin Raj responded that the question will be taken on notice as ETIU is developing how these facilities will be allocated Capacity Credits.

Ashwin Raj outlined that NAQs would only be adjusted for permanent changes in network capacity. In the case where the change is foreseeable, a 'Last In First Out' approach will be used.

Patrick Peake raised a concern that Western Power does not currently consider how their retirement decisions will impact generators, but they should.

Ashwin Raj responded that Western Power will need to account for whole of system and customer impacts in their planning decisions.

Glenn Carruthers responded that Western Power would consider whole of system impact before making any major retirement decision.

Patrick Peake said that whole of system impacts were not considered in the Generator Interim Access arrangements.

Ashwin Raj outlined that a NAQ trading mechanism will not be developed, considering the potential complexity is not warranted by benefits. This decision will be reviewed as part of the broader allocation method once there is more experience in the new operating environment.

Patrick Peake responded that this a positive decision.

Noel Schubert, ERA raised a concern that the proposed approach would create barriers to newer more flexible generators.

Drew Harris, Simcoa, said that there should be a time limit on NAQs to support competition.

Ashwin Raj responded that the proposal is based on allocating Capacity Credits to reflect facility's incremental contribution to reliability. Allowing new entrants to displace incumbents Capacity Credits would mean they are rewarded in excess of their contribution. Considering there is no benefit in churning capacity, there is no economic argument to exposing incumbents to this risk after an arbitrary time period.

Greg Thorpe, Oakley Greenwood, added that allowing efficient competition would require nodal pricing. Nodal pricing would signal to prospective investors not to locate in congested parts of the grid via low economic returns. Nodal pricing has been recognised as not currently fit for purpose. Stepping away from nodal pricing requires some judgement calls to approximate the value of capacity in congested parts of the grid – not to limit competition to protect incumbents.

Ashwin Raj outlined the next steps. The design proposal will be presented to Taskforce in January 2019 and the detailed design and drafting instructions will be completed early 2020.

Linda Thevenot asked whether treatment of storage or hybrid would be included as part of the Taskforce decision in January.

Ashwin Raj responded that no, these reforms would not be part of the Taskforce decision but that ETIU will consult on the issues for storage, particularly from the perspective of how storage and hybrid facilities would be accredited for capacity..

2. Outage Management – Core Design Principles

Jas Bhandal, AEMO, introduced the presentation.

- Proposals in relation to the following elements of outage management will be presented for discussion:
 - Consequential Outages
 - Outage Quantities
 - Outage Planning Process
 - Outage Submission Deadlines
 - Forced Outage timeline requirements

Jas Bhandal outlined the proposal to remove Consequential Outages.

- There is no need to retain 'Consequential Outages' in the rules because market participants will not be exposed to refunds as a result of Consequential Outages. This is because:
 - dispatch will account for network outages via constraints; and
 - the proposed STEM design removes the obligation to offer based on adjustments for ESS and network outages.
- Energy Scheduling and Dispatch Information Paper (6 August 2019) stated the reform design will retain the obligation for Facilities holding Capacity Credits to offer at least that much capacity into the STEM and real-time energy market.
 - There is no need for participants to structure their offers to account for network constraints, as those will be automatically dealt with by the new SCED market clearing engine.
 - Each participant can offer its full capability at its local injection point.
- The slides also stated there will be two availability categories in offers to allow participants to signal availability without risking being dispatched with less notice than their minimum start-up time. These categories will be:
 - In-service capacity
 - Available capacity
- This changes the information required from Market Generators.

- Due to constraint equations in dispatch, for vast majority of cases, network issues will no longer be a reason for dispatch non-compliance;
 - Constraint equations will cover the bulk of impacts on facilities from network outages
 - Outage equations are enabled manually post contingency for forced network outages
- If Facility output is greater than Dispatch Instruction
 - Current Process unchanged
 - Market Participant to explain to AEMO
 - AEMO records and advises ERA
- If Facility output is less than Dispatch Instruction, AEMO will investigate:
 - If constraint equation binds in next Dispatch Interval, then the variation is assumed to be a result of network impacts.
- If Market Generator indicates network impact, AEMO will investigate. AEMO will either confirm the network impact (and develop a new constraint equation, if required); or, it will register a Forced Outage.

Jenny Laidlaw noted that currently, when a consequential outage is logged, intermittent generators receive an estimate for what their output would have been, if not for the outage, to prevent them receiving reduced CRC under the RLM. Jenny Laidlaw asked Ashwin Raj whether this approach will be retained in the proposed reforms to the RCM. I.e. Would intermittent generators receive estimates when they are constrained off. Jenny Laidlaw noted that intermittent generators may need to continue receiving estimates in these circumstances considering both the current RLM and proposed RLM aim to estimate the unconstrained capacity of intermittent generators.

Ashwin Raj said he will take this question on notice.

Clayton James responded that AEMO's starting assumption is that this mechanism to adjust intermittent generators' output will need to be retained in some form, regardless of the removal of Consequential Outages.

Jas Bhandal said AEMO will develop a report to regularly provide stakeholders with information on constraints and resulting network congestion. AEMO proposed to develop a report for the ERA to indicate unavailability by Facility by Dispatch interval as a result of constraint equation and AEMO's investigation including offer unavailability.

Jas Bhandal outlined how outage quantities are currently calculated and how they will be calculated under RC_2014_03

- Participants are currently required to submit outage quantities that reflect the quantity of "unavailable" capacity.
- Jas Bhandal compared the current outage process compared with the process under the rule change proposal RC_2014_03. Under the proposed approach:
 - There is no temperature adjustment, but temperature expectations may affect the outage quantity recorded.
 - RT outages will be published on Sent Out basis.
 - There will be new functionality to perform conversion for PASA/Outage Planning.
- Jas Bhandal outlined examples demonstrating how outage quantities will be submitted under RC_2014_03 for full outages, partial outages and outages for mixed fuel facilities. Available MW is calculated, and it is used to determine other quantities such as Planning Outage quantity, Unadjusted Outage quantity and Capacity Adjusted Outage quantity.

Jas Bhandal outlined how outage quantities will be calculated in the new market.

- Available capacity will be required in offers and used to calculate outage quantities (rather than unavailable capacity) to better align outage management with PASA, SCED and Pre-Dispatch and to improve transparency.

Jenny Laidlaw noted that as a result of RC_2013_15, 'available for service' does not mean 'available for dispatch', particularly where facilities that have less CCs than their maximum quantity. So, if a scheduled facility does not have Capacity Credits, and it has a partial outage, it may have capacity available for service, but this capacity may not be available for dispatch considering the facility has no obligation to offer it. Available for dispatch would be the result of their Capacity Credits minus their adjusted outage quantities.

Clayton James, AEMO, responded that regardless of its Capacity Credits, a facility will need to show whether its capacity is available for dispatch in its offer. The difference is that if a facility has Capacity Credits then it will be required to make that capacity available for dispatch (i.e. in service capacity and available capacity). Facilities without Capacity Credits will not need to make their capacity available for dispatch.

Patrick Peake stated that under the current rules, facilities register on outage for their entire accredited capacity for an interval, even where they are only short by a few MWhs. Patrick Peake stated that Synergy facilities will have the same problem once they move to facility (rather than portfolio) dispatch. This will create a large amount of work for people determining why facilities were not dispatched as required, particularly as output from intermittent generation continues to increase. Patrick Peake suggested that consideration be given to allowing facilities margins or tolerance bands.

Jenny Laidlaw responded that there's a good case for it to be deemed a manifest error where a facility is considered non-compliant under the rules because it does not dispatch exactly the number of MWhs required. Jenny Laidlaw stated that the Rule Change Panel support team has discussed this with Perth Energy.

Patrick Peake acknowledged this and said the issue should also be considered as part of the reform.

Clayton James responded that this issue about having to lodge a forced outage for dispatch non-compliance will be considered in the Market Compliance workstream but given these reforms won't be implemented until market start it may still be worth submitting a rule change proposal in the meantime.

- Jas Bhandal outlined examples demonstrating how outage quantities will be calculated in the new market for full outages, partial outages, mixed fuel facilities and overlapping outages.
- The AEMO website will show what capacity is available rather than what capacity is unavailable.
- Requiring available capacity rather than unavailable capacity in offers, better aligns with dispatch, pre-dispatch and PASA processes, considering these processes use available capacity.

Jenny Laidlaw agreed that this a more intuitive approach but cautioned the system implementation may be costly.

Grace Liu, AEMO asked whether facilities will be obliged to log outages regardless of whether they have Capacity Credits.

Clayton James responded that yes, facilities without Capacity Credits will be required to log outages but won't have an obligation to make that capacity available.

Jas Bhandal outlined the need for change to the outage process. Change is required to:

- Efficiently coordinate network and generator outages in a SCED world;
- Encourage forward planning;
- Reduce administrative burden for AEMO and registered participants;
- Improve transparency/timeline of processes and outage-related information; and
- Provide as much certainty as possible and as early as possible to system management and registered participants.

Jas Bhandal recapped the two options that were proposed to TDOWG on 9 September:

- Option 1: Move to a process similar to the NEM that provides early indications of whether an outage is likely or unlikely to proceed.
- Option 2: Applicable Participants submit their outage plan by a date in the year Y-1. AEMO will approve the annual outage plan yearly.
- AEMO's objectives are to ensure principles identified are maintained and to balance certainty and flexibility.

Jas Bhandal outlined the proposal to move to a one-stage outage approval process which will remove unnecessary steps.

- This is similar to the process in the NEM but with different terminology.
- Following AEMO's assessment the outage would either "Approved" or "At risk" based on the assessment criteria.
- This would provide as much certainty as possible and as early as possible to AEMO and registered participants.
- AEMO will continue to reassess outage plans (as is currently the case) and may move the status to "At risk".

Aditi Varma asked what it means for an outage to be "At risk".

Jas Bhandal responded that an outage would be put "At risk" if there is lack of reserve or black start capacity.

Jenny Laidlaw asked whether the outage is still considered approved.

Clayton James responded that the outage is still approved, For example an outage will be "At risk" where there has been a forced outage that endangers the viability of the approved outage and AEMO will put the outage "At risk" while it awaits further information on the forced outage which will help AEMO assess whether that outage can proceed. The intent is to provide more transparency to inform what market participants want to do.

Brad Huppatz, Synergy asked whether "At risk" is the equivalent to 'approved but with conditions'.

Clayton James agreed with this description. "At risk" is a sub-status of approved outages. Market Participants will be notified in real time if their outage is put "At risk". The market participant seeking an outage won't lose its place in the queue. The outage may still be cancelled if there is not enough margin. But the intent is to give participants more information than what they get currently. Currently an outage may be at risk of being cancelled but the market participant will not know this.

Jenny Laidlaw asked whether an outage that is still "At risk" at the deadline, is it cancelled?

Clayton James responded that the project team will consider this issue. Intuitively, there will need to be a deadline for the decision.

Patrick Peake asked if there will be tighter criteria on whether an approved outage is cancelled. For example, how much is security compromised before AEMO cancels an outage, considering cancellation may just delay that risk. Cancelling outages have a large impact on participants, considering certain outage crews can only be available on six months' notice. For these reasons, cancelling an outage should be considered a very serious matter, and it is a question of how AEMO decides when it is necessary.

Gina, Collgar Wind Farm, noted the difficulty of re-scheduling outages and noted that changes in network outage planning is disruptive to their outage planning. The representative asked how generators can tell Western Power not to conduct certain outages if they are going to significantly disrupt a generator.

Clayton James responded that generators should be able to negotiate with Western Power.

Brad Huppatz stated that there needs to be appropriate incentives for Western Power to schedule outages efficiently and account for impacts to the market.

Aditi Varma asked what the timeline for AEMO is to reclassify a capacity on a forced outage as unavailable capacity where it is unavailable due to a network outage.

Clayton James responded that AEMO will aim to incorporate the constraint in the next five-minute dispatch interval but stated that it may be added in the subsequent interval. In any case it will be incorporated as soon as possible.

Clayton James asked for TDOWG members' thoughts on whether the proposed single stage outage process.

Jenny Laidlaw responded that the one-stage process is a good idea so long as an outage stays approved barring something going wrong, and the criteria is tight enough to prevent a high cancellation rate of approved outages.

Jas Bhandal outlined AEMO's outage assessment timeframes and AEMO's intention to publish a long-term outage plan that includes network outages.

Jenny Laidlaw noted that generators have an incentive to apply for outages as early as possible because it increases the likelihood of approval and said an additional requirement for them to provide information on their outage plans may be unnecessary. Jenny Laidlaw noted that this information is also provided as part of certification and said that Western Power does not have this incentive to provide long term notice of outages.

Clayton James suggested AEMO may instead publish the outage information participants submit during certification to prevent AEMO asking twice. AEMO's intention is to provide a forecast of network and generator outages to participants to help their outage planning.

Collar representative responded that this plan will be useful.

Jas Bhandal outlined AEMO outage submission deadlines for scheduled and opportunistic outages. There is no change proposed to the deadlines in RC_2013_15.

Patrick Peake asked whether there will be a limit on how long an opportunistic outage can be, considering there may be a run of moderate days, giving opportunity for a longer outage.

Clayton James responded that the limit will remain 1 day, considering longer outages can be requested up to a week before and moderate conditions could be forecasted in this timeframe. Opportunistic outages are for two days before – longer than one day is difficult to plan at this short notice.

Jas Bhandal outlined the proposed timing requirements for notification of Forced Outages.

Jenny Laidlaw advised that under RC_2014_03, there is consideration of softening these timeframes, to prevent double-handling of meter data. Jenny Laidlaw advised that 24 hours may not be enough time to account for network outages in outage notifications.

Clayton James stated that the intent is to strike a balance between providing information to market participants and being able to finalise the finer details. Clayton James added that AEMO will follow the discussion on RC_2014_03 and aim to align with this rule change.
