Submission on the System Operator Rolling Outage Plan

20 March 2024

Thank you for the opportunity to submit on the proposed changes to the System Operator System Operator Rolling Outage Plan (SOROP). There is no confidential information in this submission.

Our Firstlight Network business is directly affected by the proposed changes to the SOROP, as a distributor responsible for maintaining and implementing our Participant Rolling Outage Plan (PROP).

This submission was made in response to a Transpower consultation, in its capacity as the system operator. However, the most important aspects of our feedback are directed to the Electricity Authority (EA) as we understand that the EA is not required to consult on changes to the SOROP. The SOROP proposes new, enforceable Electricity Industry Participation Code (Code) obligations on distributors and direct consumers. However, we consider that the current process for such amendments is not ideal. The SOROP appears not to meet the test for incorporation by reference and the process does not receive the same scrutiny as EA-run Code amendments.

The EA should instead move rolling outage requirements into Part 9 of the Code

The EA should, at minimum, identify the elements of the system operator's final proposal that need to be enforceable Code obligations and amend Part 9 of the Code to include these into the body of Part 9 and (perhaps) a new schedule to Part 9.

An even better approach would be for the EA to review the SOROP, the Security of Supply Forecasting Information Policy (SOSFIP) and the Emergency Management Plan (EMP) and incorporate the essential requirements of each into Parts 7 and 9 of the Code and a new schedule to Part 9.

The collective content of these three documents (SOROP, SOSFIP and EMP) would undergo some mix of being:

- Moved into the Code (Part 7, Part 9, and/or a new schedule to Part 9)
- Moved into the system operator's Policy Statement, or an enforceable equivalent (if enforceability is important, and the system operator is the party with the obligation)
- Moved into system operator formal policies published on their website (if clarity about system operator actions is needed, but strict Code enforceability is not)
- Moved into system operator guides and forms (where the content is educational/informational in nature); or
- Abandoned (where the content is not required).

The SOROP includes requirements for the SOROP and PROPs to include contact details for critical operations. These important contact details should be managed in modern and secure technology. There is no need for a bespoke approach for contact details for rolling outages. The system operator should have a single, comprehensive approach to managing and maintaining the countless contact details they need for their numerous critical responsibilities. The electricity industry emergency management contact detail list voluntarily managed by Transpower should become a Code obligation of the system operator, with corresponding obligations on the participants that contribute information.

The SOROP, the SOSFIP and EMP should not be incorporated by reference

We do not consider that the SOROP, the SOSFIP and EMP should be incorporated by reference into the Code because:

- It does not appear that the SOROP (or the SOSFIP or EMP) meet the grounds for incorporation by reference into the Code (specifically, section 64(1) of the Legislation Act 2019).
- When Parliament established the EA and its Code amendment responsibilities, the intent was clearly to ensure that the EA meets certain standards before imposing obligations on industry participants. The less onerous process of incorporation by reference is not appropriate for critical security of supply obligations, especially where those obligations relate to parties other than the system operator (as is the case with the SOROP). The current process also puts the system operator in a conflicted situation where it gets to author the obligations to be imposed on it.
- It is not appropriate to expect the system operator to prepare documents that meet legislative drafting requirements. The proposed SOROP clearly has not followed the EA's Code drafting standards. The system operator has proposed new obligations for itself, distributors and direct consumers. However, the drafting of these enforceable obligations lacks clarity, which increases the cost to comply and reduces enforceability.
- An EA-run consultation would garner more scrutiny from stakeholders and meet a higher test before approval (specifically, the Code amendment requirements in the Electricity Industry Act and the administrative law requirements created by the EA's Code amendment principles).
- The SOROP should be co-designed with other security of supply policy in Part 9 of the Code, especially the provisions for declaring and operating official conservation campaigns. This is not possible for the system operator to achieve when drafting the SOROP. For example, based on the system operator's consultation, it is not possible to know how much time would elapse between the declaration of an official conservation campaign and a declaration of rolling outages (although paragraph 68 of the system operator's consultation hints at such analysis). It appears there would likely be an appropriate gap for an official conservation campaign that began in May or June, but it appears inappropriately short for one beginning in September-December. This may not be a shortcoming of rolling outages, but point to the need to co-design the official conservation campaign to align with rolling outages.

The system operator should complete its review of SOROP and provide its findings to the EA

Regardless of our above recommendations to the EA, the system operator should complete its review of the SOROP. The finished product from that review will be useful no matter which approach the EA takes with respect to the SOROP, SOSFIP and EMP.

Key opportunities for improvement

We consider these are the important opportunities for improvement in the proposed SOROP:

- The SOROP should be clearer up front about what class and size of participant can have obligations under the SOROP. We recommend creating a new section 1A called 'Participants with obligations under this plan'. The new section would:
    - incorporate any useful content from clauses 2.2 (can a grid owner have any obligations under the SOROP?) and 5.1, and cause the revocation of those clauses
    - clarify whether the SOROP uses a narrower definition of 'specified participant' (as a 'specified participant' in the Code includes a retailer, a line owner and 'a person who uses electricity that is conveyed to the person directly from the grid' rather than 'direct consumer' as the SOROP does)
    - clarify the scope of obligations when a direct consumer has another participant embedded within it
    - for completeness, name the system operator as having obligations under the SOROP.
- The system operator's proposed 35-day forecast uses first percentile hydro inflows on each day for days 8-35 and describes this as a "worst-case scenario". But taking the worst 'day 8' plus the worst 'day 9' (and so on)

builds a sequence without historical precedent – it is worse than worst-case. While some conservatism is warranted, this seems too conservative.

- The proposed 35-day forecast uses zero GWh of stored hydro as the proxy for unplanned outages (in energy shortage situations, not capacity shortages). But we know that the present-day power system would have unplanned outages happening earlier than that. There is no single theoretical exact amount, as it is highly dependent on the distribution of water in hydro lakes. In the SOSFIP, the system operator sets 50 GWh as the buffer against a similar kind of risk. We recommend the system operator should use an identical buffer for an energy-based 35-day forecast in the SOROP.
- The system operator should rewrite the SOROP to give themselves the option to specify a capacity savings target as a MW limit. An example could be 'Firstlight must keep TUI1101 net load under 60 MW until further notice'. In some cases, it may be useful for the system operator to give a combined limit for multiple grid exit points managed by a single distributor. In some capacity shortage situations (such as avoiding overloading on one particular asset), this ability to specify a MW limit would be a more targeted/precise way of setting the target as it is not dependent on the accuracy of demand forecasts. A MW limit would be far easier for distributors to confidently operationalise.

Other opportunities for improvement

We identified a variety of other opportunities for improvement in the SOROP:

- Referring to a capacity shortage as a "shortage of transmission capacity" is a misnomer because a shortage of generation capacity is also a trigger. We recommend removing 'transmission' from this proposed definition.
- Defined terms should use similar wording where possible. There are misalignments between 'capacity savings target' versus 'energy savings target', and 'developing event' versus 'immediate event'.
- The proposed definition of 'outage' is very similar to 'rolling outages'. It is not clear what distinction the system operator is attempting to make, if any. If the system operator's intention is to distinguish unplanned outages from rolling outages, then the system operator should redraft 'outage' to be 'unplanned outage' and delete "by specified participants" from within that definition (as it carries some intentionality).
- The definition of "savings target" should simply refer to the two relevant defined terms (capacity savings target and energy savings target) as these are an exhaustive list of savings targets.
- The definition of "supply shortage" is repetitive of the Part 9 obligation for "supply shortage declaration". This is overly complex and introduces risk of future misalignment between Part 9 and the SOROP. We think a better approach would be to reword the instances of "supply shortage" to instead make use of the existing defined term "supply shortage declaration".
- The system operator proposes that, once a new SOROP is published, PROPs would need to be updated within two years of each PROP's last update. However, clause 9.13(1)(a) of the Code creates a continuous obligation on specified participants that their PROP must be consistent with the SOROP (clause 9.8(1)(a) of the Code). So, as soon as the new SOROP is 'goes live', PROPs must be consistent with the SOROP. This is impractical and will create an operational bottleneck for the system operator receiving updated PROPs of around the same time (and again in two years' time). Ideally, the system operator would set a schedule for 6-18 months for provision of updated PROPs, in descending order of load (ie largest loads first, as a proxy for risk). This will mitigate risk and spread future workload out more evenly. However, putting such a schedule into place may be difficult to give effect to without also amending Part 9 of the Code.

Our review of the proposed SOROP leads us to make the following comments:

Proposed SOROP clause reference	Clarus comments
Clause 3.5	The clause chapeau should be specific that the clause relates only to energy shortages and not capacity shortages.
Clauses 3.5(b), 3.5A, 3.5B and 4.1(a)	The words "extended period of unplanned outages" attracted comments from several submitters who would prefer greater specificity from the system operator. This would be preferable, though it is not obvious that it will be possible to have *meaningful* specificity (especially if the system operator needs flexibility to adapt to the particular circumstances of this unprecedented situation).
Clause 3.6(d)	The word 'profiled' may mean different things to different readers. We suggest replacing this with the more generic 'forecast' as that is fundamentally what it is and the system operator hasn't been specific about its methodology. The system operator should consider whether there are any notable assumptions about its methodology it thinks it ought to commit to in the SOROP. It may be better for the SOROP to be silent on this matter. A wide range of assumptions are possible for forecasting thermal contribution. During an official conservation campaign, it is probably reasonable to assume all thermals are running flat out (within their fuel constraints). During a capacity constraint, different thermal plants may see radically different pricing incentives that influence whether they are likely to contribute to peak capacity requirements.
Clause 4.1(a)	The context suggests the system operator means the target savings will be set to the *minimum sufficient* to avoid unplanned outages, but isn't explicit about this in the drafting. If it is the system operator's intention to set the smallest savings target necessary that avoids unplanned outages, this should be made explicit.
Clause 4.1(a)	The defined term "savings target" should be in bold font.
Clause 4.1(b)	More specificity about the system operator's forecasts is needed. Will the system operator's demand forecasts be *net* load at GXP only? In which case, it will be necessary to share what the system operator assumes about generation behind the GXP. Will electricity generated and consumed 'behind the meter' always be disregarded? Will the system operator's demand forecasts be inclusive or exclusive of official conservation campaign savings? Will they be inclusive or exclusive of rolling outage savings? Will the system operator's methodology for forecasting vary depending on whether it is setting an energy savings target or a capacity savings target? Gross consumption may be more appropriate in an energy shortage, whereas net demand at the GXP may be more appropriate in a capacity shortage.
Clause 4.1(b)	This clause has sandwiched a sentence for specified participants between two sentences for the system operator. This is suboptimal drafting.
Clause 4.1(b)	The defined terms "specified participant" and "electricity" should be entirely in bold font.

Proposed SOROP clause reference	Clarus comments
Clause 4.1(b)	The proposed new sentence in this clause seems to be intended to create an obligation on specified participants to review the system operator's forecast and give feedback within 48 hours if they believe it is inaccurate. However, the wording does not achieve this. The actual effect of the wording is ambiguous. It could be read as a limitation on specified participants' ability to provide feedback on the system operator's forecast (limiting it to a 48-hour window). Or it could be read as creating no enforceable obligation or limitation.
Clause 4.1(c)	It is unclear what "updated weekly on a rolling basis" adds to this clause. If the intention is to create an obligation on the system operator to recalculate savings targets weekly, this deserves its own clause and a clearly worded obligation on the system operator.
Clauses 4.6 and 5.1	Consider rewording these clauses to use 'specified participant' as used elsewhere in the SOROP.
Clause 5.1	One of our three key recommendations (see above sections) was to give the system operator the ability to specify a capacity savings target as a MW limit at one or more GXPs operated by a single participant. If our recommendation was adopted, this clause is the place to locate it.
Clauses 6.2A and 6.2B	Consider obligating specified participants in these clauses to use the format specified by the system operator (if any). This will be much cheaper to implement if specified participants can design their delivery systems accordingly, rather than adapt them at a later date. Consistency of delivery would, we presume, lower costs and improve process quality for the system operator.
Clauses 6.2A and 6.2B	These clauses need to be worded so it is clear when the first day of the obligation is. We consider the 'first day' should be the day after the day on which the notice is received.
Clause 6.2B	This clause should specify the units of measurement. We presume the system operator wants to receive average MW for each half hour.
Clause 6.2C	This clause repeats a Code obligation to provide accurate information via WITS. If there is a distinction from existing Code obligations it should be made clearer.
Clause 6.2E	The content of this clause would be better suited to around clauses 4.3 or 4.4.
Clauses 6.3(a) and (b)	These subclauses are irrelevant to an *energy* savings target, so should not be worded as an obligation in relation to *any* formal direction from the system operator. If an energy savings target has been issued to a distributor, they should not be in breach for not intervening when demand changes by more than 25 MW in a five-minute period.
Clause 6.3(a)	This clause should specify how demand is measured. If a distributor has more than one GXP, is it a 25 MW movement per GXP? Is the demand net of generation behind the GXP, or gross demand?

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Clause 6.3(b)	We presume that clause 6.3(a) captures what specified participants must do to minimise their impact on power system frequency. As such, the reference to frequency should be removed from clause 6.2(b).
Clause 6.3(c)	This clause could be better worded to be clear that the only problematic actions are disconnection during ramp down or reconnection during ramp up. The present wording makes a Code breach out of reconnection during ramp down, and disconnection during ramp up.
Clause 6.5(a)	The new chapeau of clause 6.5 sets the scope for the personnel of interest ('involved in implementing the participant rolling outage plan'). Accordingly, clause 6.5(a) is too wordy. We recommend deleting "about matters relating to supply shortages, supply shortage declarations, directions and rolling outages".
Clause 6.5(c)	This clause includes "and the media (if required)". Saying "if required" here is impossible for specified participants to operationalise. The system operator should either delete the "if required" (because the system operator does require the contact details, but will only use those details if the circumstances require it) or delete all mention of the media if the system operator doesn't require it.
Clause 6.6	The system operator should probably insist that its contact details (required by clause 6.5(d)) are redacted from published versions. Publishing these contact details poses an operational risk.
Clause 6.6	Consider making this clause a requirement rather than an option. It seems likely no specified participant should be permitted to include their contact details in the publicly available version, as it poses an operational risk.
Clause 6.7	This clause doesn't seem to add much (if anything) given clause 9.18 of the Code and the newly proposed requirements of clauses 6.2A and 6.2B of the SOSPA. It appears it should be deleted.
Clause 6.12(b)	If the system operator's approval of a PROP is dependent on the PROP including the forecast electricity consumption, then this would be tantamount to a new requirement to update PROPs annually (to always use the latest data for August). We suspect this was not the intention and the system operator should be careful to warn PROP authors against including forecast electricity consumption.
Clause 6.12(b)	This subclause seeks to standardise the use of August data as the baseline for demonstrating demand management. A more flexible approach may be warranted. Direct consumer loads are varied, and August may be a poor baseline for some of them. Some distributors with winter-peaking loads may find it worthwhile to have a different approach for summertime, when lower loads on AUFLS feeders may make a different configuration of load management needed. The few distributors with summer-peaking loads may find August a poor baseline.
Clause 6.13(a)	This subclause requires acknowledgement within 48 hours. For something as simple as an acknowledgement and the urgency of an immediate event, this seems overly long. An

Proposed SOROP clause reference	Clarus comments
	alternative approach would be to require acknowledgement "as soon as reasonably possible and within 48 hours".
Clause 6.13(a)	The system operator's obligation should not be tacked on to the end of this subclause. A new 6.13A should be created clearly setting out the system operator's obligations. The system operator should have a new requirement to specify the acknowledgement window in its direction.
Clauses 6.13(b)-(d)	These subclauses use the defined term "demand" which means "the rate of consumption of electrical energy". While it isn't possible to save GWh without reducing MW, we recommend using more generic language.
Clause 6.20	It is not clear what additional clarity this clause gives relative to subclauses 4.2(b) and (d). The mention of "economic reasons" in clause 6.20 makes explicit a possibility allowed by the system operator's discretion. However, the system operator could have mentioned public safety, avoidance of damage to assets, or protection of the environment or any number of reasons why it might decide to vary a savings target. Given that use of the SOROP or PROPs is without precedent, we recommend being silent about the reasons and preserving broad system operator judgement. The system operator's judgement in such incredibly rare circumstances is better governed by the principles established in Part 7 of the Code. Clause 6.20 should be deleted. If retained, the content of proposed new clause 6.20 would be better relocated to be a new clause 4.2A as it relates to the preceding clauses.