



APPENDIX – DETAILED DISCUSSION OF ELECTRICITY COMMISSION PROPOSALS RELATING TO UNDER-FREQUENCY EVENT CHARGE CAUSER DETERMINATION

Overview

Transpower, as Grid Owner, does not agree with the proposed changes to the Electricity Governance Rules 2003 (EGRs) relating to under-frequency event charge causer determination.

Transpower submits that the changes proposed will not achieve the desired performance outcome of increasing the incentives for asset owners to take reliability and risk into account when designing, maintaining and operating their assets. The effect of asset trippings on normal business costs and the need to comply with the EGRs are sufficient motivation for asset owners to design, maintain and operate their assets properly. The cost of the reserves needed to cover risks is already expressed by the availability charges. The event charges add little other than complexity, transaction costs and uncertainty.

The proposed changes will also not result in any greater clarity as to who the “causer” of an event is, especially when an event actually comprises several contingent events. The absolute/strict liability nature of the proposed new rules may also actually reduce the incentive for asset owners to take reliability and risk into account when designing, maintaining and operating their assets. This is partly because the proposed changes may unfairly penalise an asset owner whose assets are rule compliant, while not imposing charges on an owner whose assets are non compliant and the “true causer” of an event, and also because the proposed changes penalise asset owners for events that are completely outside their control. More detailed examples of these problems are provided in the body of this paper.

We also point out that Transpower already has performance obligations under Part F of the EGRs (enforceable under the Electricity Governance Regulations 2003) and the Commerce Act (Thresholds Notice) 2008 (enforceable under provisions of the Commerce Act 1986); these have been introduced since the event charge regime was implemented. Transpower is therefore subject to scrutiny and exposed to potential penalties from three overlapping regimes.

If the Commission wishes to make interim changes to improve the current arrangements, this could be achieved by simply increasing the de minimus for the event charge liability from 60MW to 200MW. This would result in a less litigious approach, reducing the often substantial transaction costs, while still retaining charges for major events. The Commission could also consider reducing the \$1,250/MW charge to a rate that more closely reflects the costs actually incurred as a result of under-frequency events.

24 May 2010

In summary, Transpower submits that:

- (a) The scope of the Review is too limited;
- (b) Event charges should not be imposed if there is no fault;
- (c) The “first causer” proposal is likely to result in real injustices;
- (d) The charge is too high; and
- (e) The combination of (b), (c) and (d) means that the charge is *ultra vires*.

We would encourage the Commission to step back from these proposals and undertake a fits principles review of the event charge regime at a later date.

Finally, while we welcome some of the administrative proposals, we consider that a more simplified procedure should apply if a participant accepts responsibility up front.

Scope of review too narrow

In our view, the amendments proposed by the Commission do not address the fundamental problems that exist with the mechanisms used to allocate the costs of instantaneous reserves.

Paragraph 1.1.1 states:

“The purpose of this charge is to incentivise asset owners to invest in reliable assets and to maintain those assets to achieve appropriate levels of reliability”

Paragraph 2.3.3 of the discussion document then states:

“As with all ancillary service costs in part C, the principle driving the cost allocation methodology for centrally procured ancillary services such as instantaneous reserves is to allocate costs to persons who ‘cause’ the need and can act to reduce costs.”

In the case of the HVDC link the current allocation mechanisms clearly breach these principles. The link is an historical asset with the ability and timing of any upgrade or replacement investment being controlled by the Commission itself. Furthermore, its operation is controlled by the EGRs. Transpower is required by the EGRs to make the HVDC asset available at its full capacity (except as otherwise permitted by the Outage Protocol or modifications to the service measures in the EGRs).

Consequently, we contend that this review should be extended to include a reassessment of all the mechanisms used to allocate the costs of instantaneous reserves, including the formula in rule 11.5.1 of section IV of part C and the event cost allocation provisions in rule 11.5.2 of section IV of part C.

Further, any amendment to the event charge requirements should align with the purpose of the regime, which clearly implies that the charge should only be imposed where the asset owner subject to the charge could have controlled its assets so as to avoid the need for instantaneous reserves to be called for, but did not; that is, the asset owner has been at fault. We note that the proposed new rules are, in fact, less aligned with this purpose than the current rules, because the absolute/strict liability nature of the proposed new rules may penalise an asset owner whose assets are rule compliant, while not imposing any charge on the owner of non compliant assets

24 May 2010

that were the actual cause of an event, and may also penalise asset owners for events that are entirely outside their control (e.g. events caused by acts of God or saboteurs).

We also question the current relevance of the 1998 Belgrave Report, which is referred to a number of times in the consultation document. The market has moved on considerably since 1998. Further, it should be noted that although the GSC removed force majeure and secondary event charges, this was not subject to industry consultation but simply adopted in the EGRs.

We do not follow the rationale given for not having a force majeure exemption. This rationale is described at para 2.4.2 as being:

“causers of events should be responsible for the associated costs of reserves, and that therefore it was important to ensure force majeure type exemptions were not available. Force majeure was regarded as a possible contractual matter for ancillary service providers and therefore to be addressed as part of the contractual arrangements between the System Operator and IR providers. The Regulations were subsequently amended to allow FM for ancillary service provision.”

If an event were triggered by a force majeure circumstance it could hardly be claimed that the asset owner was the “causer”. It is also not immediately obvious to us why the contractual provisions between the System Operator and a provider of instantaneous reserves should influence the exclusion of force majeure in relation to event charges. In fact, as noted, the regulations expressly provide a force majeure exemption for such providers. That shows a legislative intention not to impose charges for matters beyond the control of a participant. Indeed it is hard to see why, if the same circumstance causes the under-frequency event and the non-response from the instantaneous reserves supplier, e.g. an earthquake, the asset owner is liable but the instantaneous reserves supplier is not.

Transpower’s view is that insufficient consideration has been given to the benefits of undertaking a “first principles” review and that this is not only a reasonably practicable option, but necessary.

Purpose of event charge regime

As noted, the consultation document states in a number of paragraphs¹ that the purpose of the under-frequency event charge regime is to incentivise asset owners to take reliability and risk into account when designing, maintaining and operating their assets. It also implies that its purpose is to encourage compliance with the rules².

Transpower’s view is that the regime is part of a wider scheme within the EGRs requiring protection for the transmission system (grid and related assets connected to it). There are a series of compliance code requirements designed to protect the transmission system from cascade failures and also to try to protect the equipment of

¹ See Paragraphs 1.1.1, 2.3.2, 2.3.4, 2.3.5, 3.2.3, 3.2.4, 3.2.5

² See Paragraph 2.3.2

24 May 2010

persons, who either own the grid or are connected to the grid, from damage due to faults elsewhere in the system.

Another important feature of the EGRs is to vest in the System Operator responsibility for managing demand on the grid, including ensuring that sufficient generation is dispatched to meet demand, to meet emergencies and to maintain frequency and voltage.

The event charge is therefore designed to discourage three things:

- (a) faulty assets being connected to the grid;
- (b) generators from having generation dispatched in a single large block, thereby necessitating the need for very significant instantaneous reserve to be available in case that large block becomes unavailable through some fault;
- (c) large single shaft generators from being installed without bearing the true costs of the system risks this may create.

Common to all these objectives is that the asset itself that causes the under-frequency event has to be faulty. This is consistent with the charge being a penalty (see below) and with the charge being confined to the asset owner. It follows from this that the charge should not necessarily be payable for every under-frequency event. There may be occasions when the event is caused by some stranger who is not an asset owner or by an act of God.

An under-frequency event may also arise simply because all assets are operating correctly and doing what they are designed to do. For instance, if there were a lightning strike which resulted in circuit breakers opening to prevent further damage to the system, it would be quite wrong to impose the charge on somebody whose asset actually protected the system. This is even if such a protection operation itself resulted in an under-frequency event.

Because of the primacy given to the System Operator to maintain stability of the system it should also follow that an asset owner should not be the causer of an under-frequency event if the asset owner is simply following the apparently reasonable instructions of the System Operator. Given the speed at which a cascade effect can occur it would also be inappropriate for an asset owner to have to second guess apparently reasonable instructions from an operator. When a potential problem is emerging there is simply not time to reflect fully on instructions given by the System Operator. Were it otherwise there would be a greater risk that those given instructions by the System Operator might act too slowly or not at all, thereby increasing the risk of a cascade failure.

The absolute/strict liability nature of the new proposed rules do not in any way align with the stated purposes of the regime.

24 May 2010

Proposed new “causer” definition still unclear and problematic

The crux of the consultation is the proposed new definition of “causer”, which the Commission contends would resolve problems with the interpretation of the current definition of “causer”. In our view, the proposed new definition would still leave ample scope for dispute over who was the “causer” when an event was the outcome of several contingent actions.

Firstly, the word “causer” is not a word that is capable of a simple and clear-cut definition. It needs to be interpreted in light of the purpose of the provision in which it appears. There is a crucial difference between causing a loss and simply providing an opportunity for its occurrence.

Secondly, a distinction has also to be drawn between assets that create the opportunity for an under-frequency event and the actual asset that causes the under-frequency event. A “but for” test is not a sufficient test to decide who might be the causer. The contribution has to be both material and significant, that is, the faulty equipment must have had a real influence on the occurrence of the loss, being more than a de minimus or trivial contribution.

Transpower believes the word “causer” or “caused” requires a material element of culpability or fault. For example, if a saboteur blew up a lattice tower owned by Transpower with the result that there was an under-frequency event, a just conclusion would be that Transpower’s asset did not cause the under-frequency event – it simply provided the opportunity for the event with the real causer being the saboteur.

Another example is where the actions of a third party, other than a generator or grid owner, lead to an electrical disconnection. For example, if a malfunction of the Oanui to Huntly gas pipeline led to an electrical disconnection at Huntly and this produced an under-frequency event, the proposed new “causer” definition would deem Huntly to be the causer of the event because the proposed “causer” definition refers only to grid owners and generators.

The lack of any force majeure provision further means that parties whose assets/asset operation are detrimentally affected by acts of God will have to bear event charges in circumstances over which they have no control and no ability to limit their exposure.

While generator market participants can limit their exposure through their offer strategy, Transpower does not have any ability to manage its exposure to possible non-compliance with those parts of the EGRs that require Transpower to offer circuits at specified ratings.

True causer

The proposed definition of “causer” lacks any element of culpability or fault and, consequently, creates what amounts to an absolute/strict liability. This is

24 May 2010

demonstrably unfair and unreasonable, especially in situations where there is more than one “causer” of an event.

For example, suppose a transmission circuit trips, as is inevitable from time to time, in circumstances where an under-frequency event would not normally result because of the obligations imposed by the EGRs on other asset owners to meet such a contingency. However, then assume a situation where a major generator has not fulfilled its obligations with the result that its equipment trips resulting in an under-frequency event (this has happened recently). The definition as drafted would result in the Grid Owner being deemed to be the causer because, under the proposed rule change, it is the first party who is liable, not the second, despite the non-compliance by the second. We believe that this sort of outcome does not create the right incentives to maintain and operate equipment to limit the need for reserves. It would also result in further costly litigation against non compliant parties by those forced to pay costs.

One of the stated reasons for the current review is to reduce the costs that have arisen under the existing rule as a result of parties trying to avoid the imposition of high under-frequency event charges. It is ironic that the proposal would allocate the charge in a way that leads to extra costs because the party truly at fault is not fined and the party who is not really at fault is left to try collect the fine from the other party. Further, although the Rulings Panel is empowered to order civil pecuniary penalties, that power is subject to both a quantum limitation and also jurisdictional considerations as to the level of the pecuniary penalty, which means that the amount ordered may not necessarily reflect the loss the payer of the under-frequency event charge has suffered.³

Multiple causers

Paragraph 3.3.15 (bullet point 3) of the discussion document states that:

“it is difficult to construct a set of circumstances when there are genuinely multiple causers of a single under frequency event”.

This is wrong. In fact, it is not uncommon for there to be situations where a loss of injection at a grid injection point or HVDC injection point, which would not ordinarily cause the frequency to fall below 49.25Hz, does so because of other circumstances present at the time. In this situation, it would seem unreasonable for the generator or HVDC owner to be held liable for an event charge, when there were other concurrent “causers” of the event.

There have also been situations where two major generators have tripped one after the other. The first in time has caused an under-frequency event and the other, riding on the first, has caused a subsequent event within seconds of the first. Are these one or two events? Past considerations determined that only the first generator tripping was the causer of the event.

³ See Reg 109(3), 114, 115.

24 May 2010

The recent lower South Island flooding is an example of how both the current arrangements and the proposed amendments create perverse incentives. After extremely high rainfall in the lower South Island, Transpower made Pole 1 available, which significantly increased HVDC transfer capability and enabled South Island generation to be maximised. At the same time, problems were identified with Pole 2 protection control cards which increased the risk of tripping at higher than normal transfer levels. In this situation, Transpower's best commercial decision, under either the current rules or the proposed amendments, would have been to take Pole 2 out of service to enable the problem to be remedied, but this would clearly be inconsistent with the interests of the nation as a whole. The fact that both the current arrangements and the proposed amendments rely on Transpower acting philanthropically in order to achieve nationally desirable outcomes suggests that both are fundamentally flawed.

Test plans

It is not clear whether or not the proposed exemption in paragraph 3.3.10(c), which refers to an electrical disconnection that occurs in order to comply with the rules, applies to a test undertaken in accordance with a test plan. A test plan allows a test to occur. However, the test itself is not undertaken in order to comply with the rules. The rule should be specific about the circumstances in which electrical disconnection is acceptable and does not incur an event charge, i.e. it should specifically refer to compliance with a test plan if it is intended that such compliance should relieve the complying party from exposure to the risk of an event charge.

De minimus

The regime, especially for larger generators and the HVDC owner, is very much a "large sledge hammer to crack a performance improvement nut". Transpower is not only subject to the event charge regime, but is also exposed to potentially high reserve prices and Commerce Commission quality performance measures.

Transpower could try to manage its exposure by:

- Submitting GUPs for grid upgrades (but Transpower would be dependent on the Commission approving them and also on the Commission for the timing of such approval. In this respect it notes that it would not be entitled to rely on the savings to it of future event charges in its justification of the cost of the upgrade, as these would be considered transfers rather than net savings to persons who produce, distribute, retail and consume electricity in New Zealand);
- Increasing maintenance expenditure;
- Buying easements under all critical lines so Transpower is in a position to control all the activities that take place under them.

However, not only are these mechanisms reliant on the approval of third parties (and therefore essentially not a complete risk management tool for Transpower), they must inevitably result in increased expenditure, which those parties paying grid charges would have to bear. This is unlikely to be viewed favourably by those parties.

24 May 2010

Transpower considers that a practical and justifiable means of softening the impact of the event charge would be to increase the de minimus for event charge liability from 60MW to 200MW. With today's grid it is much less likely that, outside the special circumstances of testing and commissioning, cascade failure would result for plant of less than 200MW. Also, event charges for smaller events simply create unnecessary transaction costs and the risk of legal action, while the charges return to those allocated instantaneous reserves availability costs in any case.

Quantum of the event charge constitutes an inappropriate penalty

Despite the assertions made in paragraphs 3.2.5 and 3.2.6 of the consultation document, we believe that the quantum of the event charge constitutes a penalty, because it bears no relationship to and greatly exceeds both the cost of the instantaneous reserves needed to manage an under-frequency event and any costs that may be incurred by end users as a result of such an event. In fact, the event charge payment is an arbitrary amount; which emphasises the penalty nature of the charge and leads to the conclusion that the event charge is not intended to be imposed unless the entity charged could have reasonably prevented the under-frequency event.

Consequently, we recommend that, if the event charge regime is to be maintained, the \$1,250/MW figure should be reviewed with the aim of substituting a lower figure which more accurately reflects the costs actually incurred as a result of under-frequency events.

Penalty ultra vires

Given that we believe there is sufficient evidence to demonstrate that the event charge constitutes a penalty and this penalty may be imposed in situations where there is no fault and in situations where there is no non-compliance with the EGRs, this raises the question of whether or not the rules which permit the imposition of the event charge are ultra vires.

The regulation making provision in the Electricity Act 1992 is in section 172D(1). Subparagraphs (3) and (4) provide for regulations and rules setting the quality and security standards for transmission systems and requiring industry participants to comply with those standards. That implies that, if an industry participant has complied with the standards, that is as far as the rules and regulations can go. There is no express provision for the imposition of strict liability and the only provision for penalties is by implication where the industry participant has failed to comply with the standards.

Support for that view can be found in section 172O(1)(b). That includes, amongst the functions of the Commission, the function (emphasis added):

“to administer, monitor non-compliance, investigate, enforce, and apply penalties or other remedies for contraventions of electricity governance regulations and rules.”

That is, if there is non-compliance then a penalty can follow. The Act says nothing about imposing penalties where there is compliance. By inference, penalties are only to be imposed where there is non-compliance.

24 May 2010

This view is supported by the express provision in the regulations for force majeure exemptions for the suppliers of instantaneous reserves.

Procedure

We welcome the proposed power for the System Operator to be able to require the provision of information from market participants.

However, the elaborate procedures laid down could unnecessarily escalate the overall cost of an investigation, especially in circumstances where participant accepts that it was at fault and caused the event. In that situation the System Operator should not be obliged to publish a draft determination, etc.

Other comments

Although the consultation paper states that the current provisions are proving increasingly difficult to administer, and costing a considerable amount of money both for legal and technical expenditure (paragraph 3.1.2), the proposed new rules – especially those which result in the imposition of a very large charge – would simply result in more legal and technical costs to assess whether the application of the rules to any under-frequency event is justified or appropriate. Where a large sum of money is at stake, those subject to potential penalties are, and should be, entitled to defend themselves, especially given that straightforward events are rare.

Conclusion

In our view, the proposed changes to the EGRs do not constitute an improvement over the status quo for the following reasons:

- The proposed changes will not achieve the desired performance outcome of increasing the incentives for asset owners to take reliability and risk into account when designing, maintaining and operating their assets – indeed, the proposed new rules may reduce such incentives, because fully rule compliant asset owners can be penalised while non compliant “true causers” may escape charges, and asset owners can suffer charges for events that are entirely outside their control (e.g. caused by acts of God or saboteurs);
- The proposed definition of “causer” does not require culpability or fault, and hence creates what amounts to an absolute liability which will result in inequitable outcomes in various situations;
- The proposed definition of “causer” could in certain circumstances unduly penalise the first deemed causer when the true causer is an operator with non-complying equipment;
- The proposed definition of “causer” will not create any change in incentives to maintain and operate equipment in accordance with the technical requirements of the EGRs or limit the need for reserves;
- The quantum of the event charge is such that it constitutes a penalty, as it bears no relationship to and greatly exceeds both the cost of the instantaneous reserves needed to manage an under-frequency event and any costs that may be incurred by end users as a result of such an event and the proposed changes do not address this problem;

24 May 2010

- The proposal does not recognise the fact that Transpower has multiple performance obligations under Part F of the EGRs and the Commerce Act (Thresholds Notice) 2008, in addition to the under-frequency event charge, and one event potentially exposes it to penalties from these three overlapping regimes;
- The event charge is ultra vires because it creates a strict liability and can be imposed when asset owners are fully rule compliant.

Consequently, we recommend that the proposed changes ***not proceed***.

In order to address the problems with the current regime, we recommend that the Commission (or the Electricity Authority after 1 October 2010) undertake a comprehensive review of the instantaneous reserves cost allocation arrangements, including the allocation formula in rule 11.5.1 of section IV of part C and the event cost allocation provisions in rule 11.5.2 of section IV of part C.

If the Commission wishes to make interim changes to improve the regime ahead of a comprehensive review, it should limit those changes to increasing the de minimus for event charge liability from 60MW to 200MW and reducing the \$1,250/MW figure to a rate that more closely reflects the costs actually incurred as a result of under-frequency events.