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SUBMISSION ON TPM WORKING PAPER – BENEFICIARIES-PAY

- 1 Orion New Zealand Limited (**Orion**) welcomes the opportunity to comment on the “Transmission pricing methodology: Beneficiaries-pay” working paper (the **paper**) released by the Electricity Authority (Authority) in January 2014.

Introduction

- 2 The paper indicates that the Authority will release a new issues and proposals document in the future, and we will reserve our position on that until we have the full picture. In addition a number of other working papers have already been produced and others are being prepared by the Authority. However we consider that SPD beneficiaries-pay is the core of the proposal, and as such is worthy of substantive comment at this stage.
- 3 Based on the working papers released so far, we are concerned that they lack coherence and are not well or clearly related to each other. The TPM has to work as a whole. Yet, more than a year after the Authority received the first set of submissions on its October 2012 TPM proposal, it has not responded clearly to what we believe to be the overwhelming key messages from submitters, which were:
 - There is no mandate for change (there has not been a material change in circumstances as claimed).
 - The SPD beneficiaries-pays method does not derive meaningful private benefit estimates, is overly complex, difficult to understand, subject to both manipulation and lobbying and most importantly will not, in fact, lead to any net economic benefits from either better use of the transmission system or better future investment in it.

We think these points should be addressed first.

- 4 Some parts of our submission below suggest ways that the beneficiaries-pay method could be improved. None of these should be interpreted as agreement that the method has significant merit, or that it is superior to the status quo.
- 5 The Electricity Network Association (ENA) has also prepared a submission on the paper. Orion endorses the ENA submission.

Comments

- 6 We are of the view that the paper, in not addressing the fundamental criticisms of the SPD beneficiaries-pay method, rather misses the point. We discuss this first in what follows. We then provide comments on some other aspects of the modified proposal.

The fundamental criticisms

- 7 In the “Summary of Submissions” on the TPM¹, the Authority, in section 10.3 stated that “...16 [of 35] submitters either supported or partially supported beneficiaries-pay as the optimal solution...” Orion was included in the 16. We would not characterise our position as “support”.

- 8 Our March 2013 submission made the following high level comments:

“In Orion’s view the paper **does not** ...[e]stablish the specific case for moving to dynamic, SPD generated benefits-based charges for key interconnection assets, and in particular does not explain how this will lead to better investment decision-making...” and

“Orion recommends that the Authority...[a]bandons the interconnection charge component of the proposal as it stands...”

- 9 We did not expect that either of these statements would be characterised as “partial” support. We did go on to recommended that the Authority “[f]urther develops the idea of beneficiaries-pay, but in a longer term context where it...attempts to establish reasonably enduring and stable cost allocations for interconnection assets, perhaps with regular updates...” and that is perhaps what is being interpreted as partial support. This is not how we intended it. For the avoidance of doubt, what we had in mind was using SPD beneficiaries-pay to see how the admittedly partial private benefits of the interconnected transmission system, averaged over a broad but plausible range of cases, flowed to broad classes of participants. This might have given some insight (and perhaps support for the status quo)² around relative shares for generation and load, and for broad geographical regions.

¹ *Summary of submissions, Transmission pricing methodology: issues and proposal consultation paper*, 28 May 2013, p 63.

² In this regard, we note Figure 4 on page 30 of the paper, one of many “heat maps” in the paper. This appears to show that generator benefits calculated according to SPD, and expressed in \$/MWh, are low and broadly uniform across the country, while load benefits are somewhat higher than generation, but also

- 10 We also made more specific comments on SPD beneficiaries-pay, including:
- We did not understand the rationale for choosing which assets should be subjected to the method.
 - We did not consider that reliability investments were appropriately handled (the method rather implied there was no benefit from them).
 - We did not understand the rationale for capping of the calculated benefits.
 - We expressed uncertainty as to how the SPD calculation worked with respect to the demand “curve” used, and the related question of how the counterfactual was to be represented – specifically what VoLL to use.
 - We did not understand how the cost allocation from the SPD method actually translated through to participant charges (although we noted that the method did not actually calculate prices).
- 11 In addition to our own concerns, we noted in the submissions of most others an emphatic lack of support for the SPD method, much of it backed up by extensive analysis and expert commentary. We will leave those parties to respond for themselves, but we note here that the Authority must, in due course, respond to all the concerns raised.
- 12 With respect to our own concerns, we note that the latest paper:
- Still does not explain *how* investment decision-making will be improved. We thus do not see how any dynamic efficiency benefits can arise.
 - Limits the assets proposed to be subject to the SPD method.
 - Includes in some of the options the idea that reliability investments could be added in (for example the “GIT-plus-SPD” option), which is possibly a partial response to our suggestion of thinking about beneficiary-pays in a wider context.
 - Has a more detailed discussion of capping, but we do not see a clear rationale for the paper’s preference for daily capping.
 - Suggests that some demand elasticity could be included in the SPD modelling, and has a number of scenarios for VoLL.

broadly uniform except for the upper North Island. This is of course partial as it does not add up to Transpower’s total interconnection revenue requirement, but the message is really little more than a statement that all parties benefit from the transmission system - load somewhat more than generation – and a significant amount of recent investment has supported supply to the top of the North Island. It is arguably good to get confirmation from another source, but we think this was already known with some confidence in October 2012. (We also note the representation of the benefits as \$/MWh. As noted below this representation is a reasonable way to show the comparison, but it is not a justification for *pricing* in this way, which is suggested in some parts of the paper.)

- Includes more detail on when charges might be calculated and when they might be applied.

13 We discuss each of these in turn.

Investment decision-making

14 Para 1.7 of the paper sets out a *statement* about dynamic efficiency, but we could not find anywhere in the paper an *explanation* of *how* improvements in this area will be delivered as a result of SPD beneficiaries-pay. We therefore remain extremely sceptical that there will be any such effect. We think all of the following must be true for there to be improved decision-making:

- SPD beneficiaries-pay must incentivise parties to participate in the Commerce Commission's investment decision-making more, **and**
- That participation must bring more and/or better information to the process, **and**
- The rules around the decision-making must accommodate the greater involvement and better information so that the resulting decisions are better.

Asset subject to the method

15 The paper proposes to further limit the assets to be subject to the method. In our view, much of the submitter concern about including so many assets in the calculation was that it just made the calculation burden unnecessarily large, and made the outputs (as ex-post half hourly results) harder to explain, particularly given the relatively small value associated with many assets. But if, as proposed, ex-post calculation is infrequent (say once per year) and charges are determined ex-ante for the following year, then most of these concerns go away. Participants wishing to understand prospective charges might still need to process a lot of data, but they will only need to do it once a year. Moreover, Transpower would be able to spend more time explaining the prospective charges as part of a one-off exercise. In other words, the paper's proposal to further limit the assets subject to the method is unnecessary given the change in the timing of the calculations.

Reliability investments

16 Reliability investments are indeed an example of investments that have benefits that are not, or not accurately, captured by the SPD benefits method. As such we think it is reasonable to argue that the cost of them should be assigned to a defined beneficiary group (so long as this group is not particularly controversial). We agree that this should mainly or only be load in most cases and it may be reasonable to allocate to a defined region. We note, however, the concerns expressed by Vector about how much of the cost of such investments should be sheeted home to beneficiaries, as the cost of some of these may be materially in excess of the benefit calculated at the time the investments were approved. We can see a case for only allocating the benefit if it is less than the cost. Of course the

remaining cost would, under Transpower's current price regulation, have to be recovered from other parties.

17 However, in relation to possible different treatment for reliability investments we note that:

- For NIGU, at least as depicted in Figure 19, the SPD method calculates significant private benefits despite it being classed as a reliability investment. We are not sure how to interpret this, but it perhaps shows that a hybrid approach is quite risky given the meshed nature of the interconnected grid, and how the value of individual components can change over time.
- Allocating large wedges of cost based on what is a purely conceptual assessment of benefit indicates that less technical (than SPD) approaches to beneficiaries-pay are acceptable to the Authority, and it certainly does not strike us as inherently unreasonable. We believe this has wider implications.

Capping

18 From para 7.42, the paper discusses different approaches to capping. We make the following observations:

- The charts on page 36 make the point very well that the benefits calculated by the SPD method are very sensitive to administrative choices and assumptions.
- While the original proposal and subsequent material prior to the paper has not taken a clear position on whether New Zealand has in fact made poor decisions on grid investment in recent years, there was a definite *implication* that this was the case, and in particular for NIGU and HVDC Pole 3. This, albeit very indirectly, and probably unfairly given that SPD benefits are private only, supported the argument that decision-making could be improved and dynamic efficiency gains achieved. This section of the paper shows that, under reasonable assumptions, the private benefits alone of these investments exceed the costs. The implication for potential dynamic efficiency gains is then rather different.
- We see no basis for the conclusion that daily capping is the best amongst the other options shown. We are not at all sure that a balance “needs to be struck”, but if it does then a method for evaluating the balance needs to be struck first. We do not see one in the paper. It seems to us that one side of the balance is the concern about parties changing behaviour (primarily generator offer behaviour) to avoid the charges, but:
 - (a) If this is indeed a serious risk, it undermines the credibility of the SPD method, and
 - (b) We see no conceptual problem, and considerable benefit, in using data in the SPD benefit calculation that does not include such behaviour (for example historical (pre new TPM) data), or that modifies any data to remove such

effects. This is an administrative method that is trying to assess “true” private benefits, so such approaches are perfectly acceptable.

- We also note that the paper proposes (without much detail) an ex-post calculation based on a possibly extended period, but with ex-ante application. This is in contrast to the original proposal which implied ex-post half hourly calculation and ex-post application. Taken at face value this will address concerns about participant exposure to particular half hours, and the associated volatility concern that some submitters, including Orion, had with the original proposal. But annual capping would seem to be the right way to go in this context?³
 - Finally in the area of capping, we are not sure what revenue requirement is being used in the capping calculation. We suspect that, if Transpower calculates an annual revenue requirement for an asset, this will decline over the life of the asset. Even if the actual benefits remain constant over time (and they might be expected to increase with demand growth) the amount of capping will increase, so the SPD benefits will decrease over time. This is at best counter-intuitive.
- 19 More fundamentally, the discussion about behaviour change to avoid charges rather misses the point that, no matter how accurate or inaccurate, efficient or inefficient transmission charges are, we can expect participants to try and minimise theirs. In the context of a wider regulatory environment that guarantees Transpower’s revenue, and does not limit actual use of (and actual benefit from) the transmission grid by those who, nevertheless, manage to avoid paying, we can expect to see a lot of minimising. The grid (or at least the interconnected grid) is a common carriage system, and the inability to exclude parties from using it creates an inevitable revelation of preference problem: everyone is going to try and claim they don’t benefit from it, or benefit by less than you might think. The current TPM, whatever its faults, makes it difficult for parties to avoid charges.

Demand elasticity and VoLL

- 20 The discussion of elasticity and VoLL rightly notes that this is also related to capping, since VoLL generates quite significant proportions of the SPD benefit in some cases, and therefore helps determine the number of periods that would be capped.
- 21 We have no particular objection to modelling some demand response in the calculation of SPD benefits. Again we notice that the results are quite (and sometimes very) sensitive to the response assumptions, particularly with the longer capping period. Again we think this calls into question how meaningful any of the SPD benefit calculations are. We suspect that

³ Although even annual capping is not necessary: if the benefit exceeds the cost, is that really a problem?

pretty much any result can be generated with the 'right' set of inputs, and that there is no single right set of inputs.⁴

- 22 The discussion of VoLL is more detailed than in the original proposal, but we are still not convinced that VoLL (no matter how it is calculated) is an appropriate counterfactual for this purpose. Given that VoLL applies in calculations where the counterfactual is non-supply, does this in fact mean that participants supplied at a lower quality (and presumably lower cost to Transpower) will be deemed to benefit *more* from the transmission grid, and pay more for it, than those supplied at higher quality (and cost)? This strikes us a perverse outcome.

Charging

- 23 The charging period section of the paper (from 7.88 to para 7.90) and the later section on parties subject to the charge (from para 7.119) highlights what we consider to be a fundamental practical and conceptual problem with the proposal, which is that it confuses cost allocation with pricing, and pricing with charging (and invoicing). These are very different things.
- 24 Para 7.88 sets this off with the statement that some submitters preferred an annual charging period, rather than a monthly charging period. We do not think that anyone is suggesting that participants will not be invoiced monthly, the question is when will participants know how much they will be invoiced for.
- 25 Para 7.89 then goes on to note that some submitters would prefer an even "longer charging period", but we are sure the submitters actually meant how many years of history goes into the calculation, not how many years charges are for, or known for.
- 26 From our perspective, the SPD method, in all the forms that are being discussed in the paper and earlier papers, is a cost allocation exercise. We believe it is trying to calculate how a portion of Transpower's costs should be allocated to various components of the transmission system, and within that to generation and load. This allocation is not a price signal in any sense. It is not even a price. There is not even a unit of usage. It is an amount of dollars, or on one possible variation (see our suggestion below) a proportion of an amount of dollars. And to be very specific, identifying beneficiaries is not the same as identifying and charging parties.
- 27 Figure 16 is an example of this. It shows an allocation of benefits of Pole 3 to the groupings: North Island load, North Island generation, South Island load and South Island generation, in this case in monthly \$million. But even if the allocation is accepted, it is only an apportionment of Transpower's revenue requirement: it does not tell us how to charge specific participants. It is the way that prices are derived and applied that will actually

⁴ The options of gross, net and net with compensation approaches to benefit calculation add a further dimension that significantly changes the result, but which does not, in our view, have a clear method for establishing which option is best.

influence behaviour, and in this sense SPD beneficiaries-pay, or indeed any other cost allocation method, is irrelevant. This makes the discussion about “Parties subject to simplified SPD charge” moot: there is no point having the discussion in the absence of an understanding of how prices are set and charges applied.

- 28 For pricing and charging, it does not matter how Transpower’s costs are allocated to groupings, the prices need to be structured so as to enable charging, and with an eye on the incentives created by the pricing. All the cost allocation gives is the amount of revenue we are seeking to recover from each grouping, and perhaps at lower levels than that. Because both the original proposal and now this paper use the language of pricing and charging in the context of cost allocation, neither has made much progress on a TPM. Put another way even if the Authority has, in SPD beneficiaries-pay, come up with a better method to allocate the combined bucket of HVDC and interconnection costs, that does not really help with *pricing* the transmission service.
- 29 On either view we believe this drives us very quickly back to the more orthodox learnings of network economics: set prices that reflect LRM where possible; that are difficult for parties to avoid; which do not inefficiently affect use of the grid; and which are higher the more inelastic the demand.
- 30 We cannot in the time available establish what the *best* way of doing this is, but one candidate, which would involve minimal change to the status quo, is (in very high-level terms):
- Combine the HVDC and HVAC interconnection revenue requirements together.
 - Establish, annually, allocations of that cost to generation and load separately, based on regional groupings that reflect reasonably clear clusters of benefit on, say, a \$/MW basis. (This might end up being the existing four RCPD regions, but does not have to be, and it does not have to be the same for generation as it is for load.) For stability the calculations might use several years of historical data and/or model a range of scenarios.
 - Use HAMI (for generators) and RCPD (for loads) respectively to calculate prices to parties within regions.
 - Advise charges to parties (the same parties as now: generators, distributors and direct connects) for the year ahead based on their previous year’s measured HAMI and RCPD quantities.
 - Bill monthly consistent with the advised charges.
- 31 We hasten to add that we do not believe that the SPD beneficiaries-pay calculation establishes that the cost of the HVDC should be included in a single bucket with HVAC interconnection. We believe that decision is still a separate one that the Authority will have to satisfy itself is in the best interest of consumers given the likely increases in consumers’

costs. If HVDC cost is kept separate, SPD beneficiaries-pay might provide a reasonable allocation between generators in various regions.

A suggestion

- 32 One possibility that has occurred to us is that, if it is agreed that SPD beneficiaries-pays is useful at all, then, because amounts are being worked out ex-post for ex-ante application, the SPD benefit results can be used to allocate *proportions* of Transpower's total interconnection revenue requirement. This removes the need for allocation of the residual, as there won't be any.

Concluding remarks

- 33 Thank you for the opportunity to make this submission. Orion does not consider that any part of this submission is confidential. If you have any questions please contact Bruce Rogers (Pricing Manager), DDI 03 363 9870, email bruce.rogers@oriongroup.co.nz.

Yours sincerely



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