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Submissions on Revised Draft ODV Handbook
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Commerce Commission
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Submission on revised draft ODV Handbook and the Replacement Costs Report

Orion welcomes this opportunity to make submissions on the "*Revised Draft ODV Handbook for Consultation*", dated 9 July 2004 and the "*Review of Optimised Deprivation Valuation Handbook – Replacement Costs of System Fixed Assets*" prepared for the Commerce Commission by Parsons Brinckerhoff Associates (PBA), also dated 9 July 2004. Our submission is arranged under four headings, as follows:

- Welcome changes
- Points of disagreement
- Issues of principle
- Issues of implementation

One key issue that has arisen is the position of the "efficient new entrant", as discussed later in section 1.4. We advise that we have commissioned Nera to provide a short letter on the topic and we expect to forward this to the Commission by the end of next week (5 August 2004).

1. Welcome Changes

Orion welcomes many of the changes proposed in the handbook and compliments the Commission and PBA on responding positively to many of the points raised by Orion and other stakeholders. We comment on some of these in the following paragraphs.

1.1. Costs of ground reinstatement and traffic management

We agree with extending the multiplier range to 1.15 – 2.0 (clause A.14) to recognise the increased costs of the new requirements for reinstatement and/or special backfilling in business districts. We also agree with the recognition of the increased costs of traffic management (clause A.19).

We do, however, have some concerns over their implementation and we cover these below in section 4.1.

1.2. Standard, not maximum, asset replacement costs and lives

We agree with designating asset replacement costs and total lives as 'standard' not 'maximum' (Appendix A).

Furthermore, Orion welcomes paragraph 34 of the Commission's invitation for submissions - *"For the purposes of a post-breach inquiry, under subpart 1 of Part 4A of the Act, lines businesses could still provide evidence to support asset replacement costs materially different from the standard values in the handbook."* While this does not provide quite the flexibility to recognise local conditions that we would like, it is a welcome refinement to the Commission's intended process for dealing with breaches to thresholds. It also acknowledges the importance of ODV in any post-breach inquiry.

1.3. Efficiency

There are numerous references in the proposed handbook to "efficient new entrant" (e.g. clauses 1.2, 1.3 and 1.4) and to "cost efficient" design etc., indicating a recognition of the need for economic efficiency. We agree with this but refer to our concerns in the following section 1.4.

1.4. Valuation and revenue requirements

The Commission has established a clear link between asset value, revenue requirement, and pricing, in handbook clause 1.2:

"In such a situation the incumbent ELB's revenue could not exceed the amounts customers would need to pay an efficient new entrant employing a sustainable, cost reflective pricing strategy. In the situation where conventional system fixed assets are economic, a new entrant's revenue would be determined by the efficient cost of capital required to fund the installation of replacement modern equivalent assets (MEAs) and efficient operating costs."

Orion has always identified its revenue requirement from WACC applied to Average Total Funds Employed (principally ODV) and used the result as an important basis for deriving its prices and pricing structure. Having this connection stated in the handbook shows a new development of understanding since the previous MED handbook always stated *"there is specifically no regulatory requirement that prices be determined on the basis of system assets being valued according to ODV."*

We welcome this development but have some concern, however, regarding the lack of definition of the "efficient new entrant" and the implications of clause 1.2.

In a competitive market, there is a normal distribution of efficiency, as some participants are more efficient than others. The very essence of the market system is to provide opportunities and incentives to participants or new entrants to become more profitable than others, through efficiencies. While prices are constrained via market pressures, participants with lower costs than others are more profitable.

Similarly, opportunities must be available to ELBs to make better returns than others. Given that revenue is capped, as described in clause 1.2, ELBs must be able to achieve returns higher than WACC by having lower costs, such as by installing assets at less than the 'standard' costs in the handbook. Conversely, less efficient ELBs should earn returns that are lower than WACC.

The benchmark in clause 1.2 is the performance of the efficient new entrant. The new entrant must perform with the *average efficiency* that would be seen in a competitive market in order to provide opportunities for ELBs who are more efficient than average to make higher returns than average. Otherwise, an ELB will have little incentive to invest as (at best) it could only ever achieve returns less than or

equal to its WACC level. The new entrant benchmark cannot be an ELB that is perfectly efficient at the top end of the performance range.

We recommend that the Commission defines the “efficient new entrant” in the handbook, recognising the need for an average position in terms of performance, as discussed above.

Orion regards the position of the efficient new entrant to be of fundamental importance to ODV. It underlies many aspects of ODV, such as the asset replacement costs, planning periods, and optimisation overall. The valuation criteria must be according to what is achievable by the average efficient new entrant, not by what is hypothetically possible.

1.5. Asset quantity and age estimates

We welcome the addition to the provision in handbook clause 2.10 for estimating asset quantities and ages:

*“Estimates of system fixed asset quantities and weighted-average ages shall be regularly reviewed to account for the removal of assets from the network **and / or the availability of more accurate information.**”*

Orion has often found more accurate information when determining its ODVs and this provision sanctions this sensible practice.

1.6. Changes to asset remaining lives

Orion welcomes the relaxation in Handbook clause 2.52 of the previous drafted requirement to **include details** where a date of installation has changed. The requirement proposed now is:

*“The valuation report shall **describe in general terms** the evidence used as the basis for changing asset installation dates from those used in the previous ODV valuation, except where the change in installation date is due to the replacement of an asset or the replacement of poles on a transmission or distribution line.”*

1.7. Cross-referencing and clause numbering

Orion welcomes the improvements in the proposed handbook with respect to cross-referencing (eg the reporting requirements in handbook clause 2.65) and clause numbering (eg clauses in handbook Appendix B).

2. Points of Disagreement

Orion disagrees with some aspects of the proposed handbook. This section puts Orion's disagreements on record for those aspects where we and others have previously made submissions but the Commission, so far, has chosen not to accept.

2.1. Valuer and flexibility

Orion has submitted previously^{1 2} that the handbook rules should provide for an independent valuer, who is professionally qualified as a member of the NZ Institute of Valuers, to undertake the specialised work on system fixed asset valuations. This valuer should have discretion over some key parameters such as unit replacement costs, and interpretations on selection of Modern Equivalent Assets (MEAs) and optimisation. The ELB would fully disclose any variation arising from the use of this discretion, the impact on the valuation and the reasons for it. This would be audited. Another advantage of this approach is that it could facilitate a post-breach investigation by getting a more sensible value "up-front".

Orion disagrees with the omission in the proposed handbook of any provision for the flexibility to use an independent valuer.

2.2. Short planning periods

Orion and others have previously submitted much longer planning periods for optimisation (clause 2.30), as follows (in years):

Network plant	Revised Draft Handbook 9 Jul 04	Orion submitted Q26 ¹ & Part 2, section 8 ²
Subtransmission, primary distribution and zone substations	15	30
Zone substation transformers	10	30
HV and LV distribution and other network assets	5	15
Distribution transformers	0	5

We stand by our submissions because we still consider that these are appropriate planning periods which would also be used by an efficient new entrant. The capacity in an electricity distribution system is increased in significant increments and the ELB has to judge the medium to long term requirements, bearing in mind the long lives of assets it employs and the opportunities it has for future expansion. This is the planning process that all ELBs use, including the efficient new entrant. ELBs do not have perfect foresight as to where growth will occur. The durations of our recommended planning periods are still a compromise between the full life of assets and the planning horizons typically employed by ELBs. The much shorter periods proposed in the handbook are incompatible with good industry practice. Planning periods that are out-of-line with good industry practice will harm incentives to invest.

¹ Orion New Zealand Limited, *Submission on Assets Valuation Issues Paper by the Commerce Commission, 11 September 2000*, dated 19 November 2003

² Orion New Zealand Limited, *Submission on Handbook for Optimised Deprival Valuation of System Fixed Assets of Electricity Lines Businesses issued by the Commerce Commission Draft 23 December 2003*, dated 11 February 2004

Therefore, Orion disagrees with the proposed short planning periods.

2.3. Multipliers for wind and snow loading on lines

The Commission has not introduced multipliers to recognise the higher design and construction costs of lines in areas of high wind and snow loading, as applies to Orion and as recommended by Orion in Part 2, Section 1.3 of its submission² to the Commission in February 2004.

Orion's overhead costs in most of its rural area are greater than average because of having to construct for high wind and snow loadings. Orion has 70-80m spans, as stated in clause A.9, but a stronger than average design is required. This includes stronger poles and the use of smooth body conductors costing approximately an extra \$5-6 per metre. This may explain why Orion's costs are higher than those proposed in the handbook.

The New Zealand loadings standard NZS 4203:1992³ identifies areas in New Zealand with significant wind and snow loading. Figure 5.4.1 shows parts of Canterbury exposed to nor-westers with basic wind speeds of up to 47 metres per second (170km/h) and figure 6.3.2 puts Canterbury in Zone 4, the zone with the most severe open ground snow load in NZ. Suitable ranges for both multipliers would be from 1.0 to 1.2 or 1.3.

As the condition is readily identifiable and has clear implications on the overhead line replacement costs, Orion recommends the introduction of two new multipliers in clause A.9; one for areas with significant wind loading and the other for areas with significant snow loading.

2.4. Lack of transparency

Orion disagrees with the lack of transparency regarding the basis for the replacement costs in the handbook. The wide range of costs submitted by stakeholders probably reflects mostly the wide range of assumptions used or conditions prevailing for the costing. PBA's report (9 July 04) explains their basis for developing replacement costs, but falls short on specifics for individual assets. The handbook states the principles well, but does not provide specific information. For example, handbook clause A.13 states that "*standard underground replacement costs in Table A.1 have been based on laying underground cables in an urban area with developed infrastructure.*" Orion's cross-submission on the handbook conference⁴, page 15, summarised the key factors that influence cable construction costs. While some of these have been dealt with in the proposed handbook, many have not, such as:

- Range of other underground services to work around
- Contractual specifications
- Type of cable
- Location of trenches – proportions in footpath, road and berm
- Prevailing surface
- Presence of trees and requirements for their preservation

³ Standards New Zealand, *Code of practice for General Structural Design and Design Loadings for Buildings*, published 14 December 1992

⁴ Orion New Zealand Limited, "*Cross-submission Electricity Lines Business Optimised Deprival Valuation Handbook Conference, Public Section, 14-16 April 2004*", dated 3 May 2004

- Timing for work - eg season.

We acknowledge that the companion report that the Commission plans to issue with the final handbook may assist, but we cannot take this into account in this submission as it has yet to be issued. In the meantime we express our disappointment and disagreement over the lack of transparency on the basis for replacement costs.

2.5. Easements

Orion and other stakeholders have submitted extensively on the need to value all easements at current cost because they are a cost that must necessarily be faced by an efficient new entrant. There is a token improvement in the proposed handbook in clause A.28 whereby easements secured since 1 January 1993 may be valued at their cost of purchase, regardless of whether or not they are expensed. However, this does not go anywhere near far enough to recognise the full current value of established easements. It is inconsistent with the efficient new entrant criteria (Clauses 1.2, 1.3 & 1.4).

Note that easements are sometimes given for no cash consideration, but accounting principles in FRS-3 suggest they should be stated at their current value and the "donation" credited to income.

3. Issues of Principle

This section covers some issues of principle that concern Orion. They are minor, in the overall context of the proposed handbook, and may readily be corrected. Overall, Orion agrees with the principles expressed in the handbook, particularly in the rewritten introduction.

3.1. Inconsistency over stated basis for replacement costs

Orion considers that there is an inconsistency in the statements regarding the basis for the replacement costs between:

- (a) Paragraph 30 in the Commission's Invitation for Submissions, which states:

"The standard replacement costs represent the best estimate of the costs that would be paid by an efficient distribution business using the most cost effective methods to establish the optimised design of network, and purchasing all items (equipment and services) at the best possible rates"

and

- (b) Handbook clause A.3 *"They reflect efficient construction costs, achieved through bulk or term purchasing, a significant scale of construction and competitively tendered installation contracts"* and pertinent statements in PBA's July 2004 report (section 1) are:

"The new standard costs are those considered realistically achievable by an efficient new entrant operating in a competitive environment. This is consistent with the philosophy underpinning the ODV method as set out in the Handbook."

and

"Greater weight has been placed on actual costs, where these are available than on estimated or budgetary costs. The use of budgetary costs is considered problematic as experience has shown that contractors will price to win a job and will only disclose their most competitive pricing strategies in situations where competition is intense."

We advised previously in our submission² in Part 1, Section 8.2, that the benchmark in (a) above amounts to a 'best of the best of the best' criterion that is at odds with the underlying objective and principles of an ODV valuation. There is nothing about the ODV that requires costs to be determined by reference to a hypothetical optimum across all possible sources of influence on costs. The concept simply requires that assets should be valued by reference to their cost to replace by a new entrant with average efficiency. For it to have practical relevance, an ODV valuation must be grounded in the reality of what is achievable by an averagely efficient new entrant.

In contrast, and in Orion's view, the basis described in (b) is appropriate.

3.2. Basis for valuing LV cable

Note h of handbook Table A.1 states, with respect to LV cables *"Values are based on costs for suburban subdivisions"*. These are generally "greenfields" situations where services are installed in new ground. This is inconsistent with the "brownfields" basis required as described in clause 2.13 of the handbook, which is what would be faced by a new entrant.

Therefore, the replacement costs of LV cables have not been assessed correctly. The ODV principles have not been followed.

Stakeholders have provided the Commission with appropriate values. In particular, we draw your attention to the costings provided by Powerco at the ODV Handbook Conference on 15 April 2004. Powerco's slide headed "*Subdivision vs OHUG Replacement Costs*" illustrates that Powerco's average cost for installing LV cable in a new subdivision is \$80/m, but the average cost in an overhead to underground conversion project is \$116/m. The latter represents the appropriate "brownfields" situation required. Orion advised \$100/m in Appendix A of its 11 February 2004 submission².

We therefore ask the Commission to increase the replacement costs for valuing LV cables on a "brownfields" basis so that they comply with the stated ODV principles.

3.3. Threshold for EV test

The revised draft handbook clause 2.59 prescribes a threshold EV adjustment of 1% of the ODRC to determine whether a comprehensive EV test is required. Orion considers that a 1% threshold is too small, in principle, and is not compatible with common commercial and auditing practice. We suggest a threshold value of at least 3%, as was used by the Commission in the recalibration of the 2001 ODVs.

4. Issues of Implementation

This section covers some issues of implementation that concern Orion. They mainly relate to the changes or the lack of changes introduced into the revised draft handbook.

4.1. Reinstatement costs in Level 1 Roads

The increased multiplier range that has been proposed to reflect the higher costs of reinstatement applies only to level 2 roads – CBD, business districts and arterial roads (clause A.14 of handbook). Allowances for the cost of temporary traffic management must reflect local practice, recognising the variations in classifications by the road control authorities (handbook clause A.19).

The new “Code of practice for working in the road” issued by Standards New Zealand, June 2003, originated in Christchurch and has only recently been adopted as a national standard. It has been applied in Christchurch since early 2003, but ‘roadshows’ for its introduction elsewhere in NZ were held only recently, in 2004. As we have identified our base cabling costs to be above those proposed in the handbook, we wonder if the full impact of the new reinstatement costs have been realised. We note that PBA’s report, section 3.9, is vague regarding “the extent of a local authority’s reinstatement requirements”. While PBA has recognised the high costs of reinstatement in business districts, PBA does not appear to have recognised the new stringent requirements that apply in level 1 roads. There is no specific reference to this new code in PBA’s report or in the proposed handbook.

At present, there are clearly similar variations amongst roading authorities with respect to the adoption of the new code covering reinstatement requirements, just as there are for traffic management. Orion submits that a multiplier should also be available for Level 1 roads to capture this variation. This would need to have only a small range, perhaps from 1.0 to 1.1 or 1.2. The base cabling costs should have to relate to a standard that is identifiable in the code, which has considerable common requirements and some options. Alternatively, the base cabling costs in the handbook should be increased to fully reflect the costs of the extra reinstatement requirements that will be applied NZ-wide in the not too distant future.

4.2. Traffic management

The allowances given in handbook clause A.19 for traffic management costs in level 2 roads make a distinction over whether the cable is buried in the carriageway or not. In Orion’s experience, the traffic management costs have not varied significantly with the location of the cable in level 2 roads. Our view is that this cost averages about \$40,000 per km regardless, as we previously advised the Commission⁵.

With level 2 roads, temporary safe arrangements have to be set up to manage the congestion experienced by both pedestrians and traffic. This generally occurs regardless of whether the cables are in the footpath, carriageway or berm. Ways have to be provided for pedestrians, cyclists, regular traffic and works vehicles. The common features are that, for safe working, lanes have to be closed to allow for plant and vehicles, barriers have to be erected and dismantled and the working days shortened to avoid the high traffic congestion periods. Another complication is that cables often deviate in and out of the carriageway and the carriageways are shifted from time-to-time, making it difficult or impossible to establish lengths.

⁵ Orion New Zealand, N Ross, *Further cable costing 23 February 2004*, email to the Commission and PBA, 18:04, 23 February 2004

We therefore recommend that there be a simple single allowance of \$40,000/km of cable route length in level 2 roads.

4.3. Underground reticulation

Four conditions are given in the revised draft handbook clauses B.7, B.9 and B.12 for justifying valuation as underground reticulation and not optimising to overhead. Orion submits that another reason is needed, as follows:

- third parties pay the majority of additional costs.

In Orion's case, Transit NZ and Orion's owners, principally Christchurch City Council, pay most of the costs of underground conversions. Orion consequently owns these assets and needs to value them as underground reticulation. The value of the contributions received by Orion are properly accounted for as revenue in accordance with FRS-3.

4.4. 11kV OCBs

Clause A.42 of the revised draft handbook states "*The standard TL of indoor distribution switchgear is 45 years, as shown in Table A.1.*" This table has indoor 33kV switchgear with a 45 year life under Zone Substations and 22/11kV circuit breakers (distribution) with a 40 year life under Distribution Switchgear. Furthermore, PBA's report, section 3.2, states that the standard replacement costs of distribution voltage circuit breakers within zone substations are given under "Distribution switchgear".

These inconsistencies need to be corrected and the position needs clarification. Presumably, the intention is for 22/11kV circuit breakers to have 45 year total life when located indoors.

4.5. Street lighting

The proposed handbook clause 2.7 excludes "*street light control relays and circuits or other equipment used exclusively for street light control*" and clause A.25 allows "*Where LV reticulation is not available to supply street lights, street lighting mains owned by the ELB can be valued as a stand-alone two core cable or under built two wire line.*"

In Orion's street lighting implementation, 5th circuits in the LV are used to distribute the electricity to the street lights, not to control them. A ripple relay at the input to the 5th circuit provides the control. In Orion's area, this is the lowest-cost way to engineer a controlled supply to street lights that provides the performance required by the predominant owner of the lights – the Christchurch City Council.

It would seem that the writer does not have Orion's design in mind and we consider that our lighting asset sub-network should be included within the regulatory ODV. It is an asset that is integrated as part of our distribution network. Furthermore, the associated pricing and revenue are also considered within the regulatory framework. We expect that this design will be included within the ODV as long as our Quality of Supply criteria require simultaneous switching of street lights. We do not agree with the assumed alternative engineering approach to supplying streetlights where there is a relay per light (probably with photocell) connected into the LV system. We consider this approach to be more expensive and to provide inferior service.

Therefore, Orion recommends that the wording in the Handbook be altered to clarify that all lighting service designs can be valued.

4.6. Arrangement of Handbook Table A.1

ELBs have to use handbook Table A.1 when reporting results of their asset valuation. Reporting requirement #1 (revised draft handbook clause 2.65) requires assets to be classified according to this Table A.1. There are some inconsistencies with headings and subheadings. We suggest the following improvements:

- Reconsider the hierarchy of headings -
 e.g. Distribution Lines
 Distribution Cables
 and delete DISTRIBUTION LINES AND CABLES.

- Be consistent with the style of information in headings –
 e.g. headings and subheadings for distribution transformers need rearranging, such as:
 Pole-mounted Distribution Transformers, Single/Two Phase units,
 22/0.4 and 11/0.4kV, bushing terminations
 Pole-mounted Distribution Transformers, Three Phase units, bushing
 terminations
 22/0.4kV
 11/0.4kV
 Pad-mounted Distribution Transformers, Single/Two Phase units,
 22/0.4 and 11/0.4kV, cable entry
 Pad-mounted Distribution Transformers, Three Phase units, cable
 entry
 22/0.4kV
 11/0.4kV
 and delete DISTRIBUTION TRANSFORMER (kVA).

- Avoid conflicts, such as line vs cable
 e.g. for LV, headings should be:
 LV Lines
 LV Cables
 LV Terminations.

There are also at least 2 notes to Table A.1 that need attention:

Note f The second part of this note is ambiguous and needs clarification.

Note g The intent of the note g in the previous draft handbook (23 December 2003) needs to be reintroduced whereby *“The associated distribution substation life may be extended in line with the transformer, subject to appropriate maintenance provisions”*. This provision could be expressed in handbook clause A.43. We agree with the logic expressed previously by the Commission for extending the lives of transformer housings.

4.7. Typographical errors

There are a few typographical errors in the handbook that need correcting:

- Abbreviations 'm', not 'M' for metre.
- Clause 2.1. Each individual asset should have its own age or commissioning date. This would not be unique.
- Clause 2.60.4. This clause, together with the formula, describes the EV adjustment, not the EV.
- Clause 2.65, para 18. Change "economic" to "uneconomic".
- Clause A.6. Suggest adding "or a replacement cost is not provided" between "tables," and "an".
- Clause A.9. Suggest "standard" in place of "maximum".
- Table A.8 would benefit by adding the units in the header i.e. A for Rating and °C for temp and the first column should be headed 'Voltage (kV)'.
- Table A.10. The annualised rates for these two entries have been swapped over compared with the MED's Handbook. As no other transmission data has changed, this appears to be an error.
- Section B.5, last paragraph. No apostrophe in "ELBs".