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Mr Bruce Chan
A/Executive Director
Office of the Rail Access Regulator (WA)
PO Box 7459 Cloister Square
PERTH WA 6850

11 November 2002

Agreed Procedures Review of WestNet Rail Access Pricing Models

Dear Mr Chan

We have performed the agreed procedures to review the WestNet Rail ("WestNet") access pricing model as specified in our engagement letter to you of 27 September 2002.

Our engagement was undertaken in accordance with Australian Auditing Standards as applicable to procedures agreed-upon for this engagement listed below. The responsibility for determining the adequacy or otherwise of the procedures agreed to be performed is that of the Office of the Rail Access Regulator (WA). This review relates only to the model versions received by PwC in the week commencing 14 October 2002 (files 'WestNetCostingModel.mdb' and 'CeilingCalcModel.xls') and does not extend to any other WestNet documents. During the course of our review WestNet has corrected some of the minor inaccuracies identified by PwC within the model and additionally WestNet has continued completion of a range of additional refinements.

The procedures performed were completed solely to assist the Regulator in assessing the accuracy and adequacy of WestNet's access pricing approach and associated models and is summarised as follows:

i. Provide brief comments on data and model integrity risks with a focus on assessing whether previous concerns outlined in the earlier PwC review have been addressed.
ii. Assess the mathematical accuracy of the pricing calculations.
iii. Assess whether the model assumptions and logic are consistent with the *Final Determination on the Costing Principles to Apply to WestNet Rail (27 September 2002).*
iv. Assess whether changes to input variables or assumptions accurately translate into changes in the floor and ceiling price test (Clause 7 and 8, Schedule 4 of the Railways (Access) Code 2000 ("the Code")).
v. Identify the key sources of model cost data (without assessing the efficiency or reasonableness of inclusions).

As the above procedures do not constitute either an audit in accordance with Australian Auditing Standards or a review in accordance with Australian Auditing Standards applicable to review engagements, we do not express any assurance or opinion on the calculated access floor and ceiling price.

Had we performed additional procedures or had we performed an audit in accordance with Australian Auditing Standards or a review in accordance with Australian Auditing Standards applicable to review engagements, other matters might have come to our attention that would have been reported to you. We do not accept any responsibility for losses occasioned to WestNet or to any other party as a result of this review.

Key Findings

We report as follows:

i. General comments on data and model integrity risks:

Overall the new model is a significant improvement from the prior models. The new model stores population data, including all cost and physical parameter assumptions, in a Microsoft (MS) Access database. The database has an interface that allows the user to select routes and vary assumptions prior to running the costing model. Preliminary calculations are performed within MS Access, and thereafter the results are exported as text files to the Decision Support System (DSS) where final calculations are conducted and summary results on access prices are presented. DSS calculations include interest, annuities, working capital, project management fees and maintenance expenditures. Maintenance expenditures are modelled on a net present value basis. As a check measure the DSS calculations are mirrored in MS Excel.

The previous PwC Agreed Procedures Review (12 April 2002) identified issues that had the potential to materially compromise data integrity and calculation accuracy. These risks and an assessment of their status under the new model are summarised in the table below:

Previous Risk Issues	Current Status
Large number of files The previous model was characterised by a large number of MS Excel files. Each file was independently developed and aggregated to calculate access prices.	**Resolved** The revised model uses a MS Access database to create a common data set for calculating itemised cost components for each route section.
An absence of formalised procedures The previous model had no formalised procedures for price calculation and model updating.	**Resolution pending** Formal procedures for price calculation and model update are still under development. WestNet concur that such procedures are necessary and expect to complete these once the revised model is finalised.
Extensive reliance on hard coded data The previous model extensively relied on hard coded data throughout the majority of sheets across almost all models.	**Resolved** Where possible information requirements throughout the revised model have been linked to one data entry point.

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Previous Risk Issues	Current Status
Inadequate spreadsheet security The previous model incorporated no security precautions.	**Resolution pending** Once the model is finalised, WestNet have committed to including spreadsheet security and password protection. It is noted that the requirement to appropriately protect confidential information is provided for in the Regulator's Final Determination on the Segregation Arrangements to Apply to WestNet Rail (6 June 2002).
Redundant material within model The previous model included a large amount of superseded material.	**Substantially resolved** The vast majority of components within the MS Access database are utilised. However, there is a minor amount of redundant material created during the development stage. WestNet is currently in the process of removing this redundant material.
Inadequate links between models The previous model inadequately linked the access price model to source data and other cost models.	**Resolved** The new model has all calculations based on the one data set which ensure data consistency and allows for changes in source data and/or costs to directly flow through the model.
Dependence on one individual The previous model was reliant on the WestNet Access Policy Manager to calculate, maintain and update as required.	**Substantially resolved** This reliance has been reduced through the use of a Specialist Contractor who has developed the new MS Access model in conjunction with the Access Policy Manager. To resolve this issue more permanently, WestNet has committed to appointing a new Commercial Manager prior to the end of 2002 and this role will include a joint accountability for access price modelling. Overall this risk issue has been significantly reduced through development of the new simplified system. This risk will also be reduced further upon finalisation of Price Calculation Procedures and Model Updating Procedures manuals.

The new model requires some minor refinements to prevent the selection of illogical combinations of track components eg concrete sleepers and dogspikes. WestNet is in the process of completing these refinements. Additionally, WestNet has agreed to implement a PwC suggestion for an additional MS Access table (along with a mirror excel sheet) which summarises the key assumptions selected for each price being calculated. Currently the active assumptions are selected across a range of tables within the MS Database. A central list of key assumption selections may reduce the risk of using inconsistent or incorrect assumptions.

ii. Assess the mathematical accuracy of the pricing calculations

Overall, sample testing on the mathematical accuracy of the model has found it to be generally acceptable. Sample testing across 5 line sections on the South West Mainline did detect some minor errors and data inconsistencies, but none large enough to materially alter the ceiling price over the whole Bunbury to Kwinana section.

Examples of the relatively minor errors and data inconsistencies include:

- Local level crossing assets were being excluded from track asset data due to a missing line of visual basis code. This has now been corrected.
- Various communication capital items were being double counted resulting in an immaterial overstatement of capital assets due to an error in the MS Access calculation of communications capital. This has now been corrected.
- The evaluation periods for various track maintenance activities are inconsistent with the timing of the activity. WestNet is in the process of correcting this issue.
- There is difficulty in deriving Gross Tonne figures from GTK data because not all traffic travels the entire length of line (particularly some grain hauls connecting into the main lines). WestNet is now in the process of revising the model to derive Gross Tonne figures from GTK data, whilst taking into account line traffic.
- The evaluation period for various track maintenance activities were inconsistent with economic life. WestNet has subsequently updated the maintenance data to correct the inconsistency.

iii. Assess whether the model assumptions and logic are consistent with the Final Determination on Costing Principles

Overall, the calculations and modelling are broadly consistent with WestNet's interpretation of the requirements of the Regulator's *Final Determination on the Costing Principles to Apply to WestNet Rail* (27 September 2002). PwC testing confirmed the application of key aspects of the Determination such as:

- A design, construction and project management fee of 20%.
- The annuity formula set at beginning of period and a salvage value set at zero.
- A weighted average cost of capital (WACC) of 7.8% (pre-tax real) for 2002/03. It is noted that whilst the Costing Principles Determination stipulates the 7.8% WACC, that rate was originally stated in the Regulator's 1 July 2002 *Notice of the Regulator's Determination of the Weighted Average Cost of Capital as at 30 June 2002*.

- For interest during track construction, the assumed construction rate is 1km per day with the interest rate set at the WestNet WACC. A minor inconsistent interpretation is that WestNet had rounded up the number of construction days to the nearest whole month. At the suggestion of PwC, WestNet has now modified the formula to calculate the number of months of construction expressed to two decimal places.
- Economic life assumptions are consistent with Section 5 of the Determination.
- Allocation of non-sector specific costs via either GTKs or train movements are in accordance with WestNet's Overhead Allocation Table.
- A working capital allowance is added to the operating cost base, calculated as half WACC multiplied by the annuity for track, communication and signal capital.

iv. Assess whether changes to input variables or assumptions accurately translate into changes in floor and ceiling costs

Overall, sample testing on whether changes to input variables or assumptions accurately flow through the model into changes in ceiling costs has found them generally acceptable. Sample testing looked at WACC, the project management and design margin, track construction rate and default track design with no issues noted. However, as noted previously, WestNet is correcting a minor shortcoming whereby it is possible to select incompatible combinations of track components.

WestNet is yet to develop a component of the model for estimating floor costs and hence we were unable to assess whether changes to input variables or assumptions accurately translated into changes in floor costs.

PwC has not reviewed the reasonableness or consistency of the unit rates applied in calculating the GRV or operating costs. PwC notes that WestNet currently has an engineering consultant providing up to date efficient unit cost estimates to update the model prior to completing the calculation of floor and ceiling prices for the upcoming price review under Clause 9, Schedule 4 of the Code.

v. Identify the key sources of model cost data (without assessing the efficiency or reasonableness of inclusions).

The WestNet access pricing model is based on detailed population data describing physical track, signalling, communications and related infrastructure assets for individual route segments. Pricing information for these assets, together with a series of lookup tables containing information necessary for track design decisions, are also stored in the MS Access database.

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Key sources of model cost data have been identified in the following table:

	Population Data	Cost Data
CAPITAL COSTS		
Track Capital	WNT Estimates	ER
Communications Assets	MIMS & Contracts	LT
Signal Assets	WNS Estimates	CP
Signal Control Stations	WNS Estimates	CP
MAINTENANCE COSTS		
Track Maintenance	WNT Estimates	JH
Communications Maintenance	Not utilised	Budget
Signals Maintenance	Not utilised	Budget
OVERHEADS	Not utilised	OH Budget
Route length (Route)	CAD	Not applicable
Track length (Route + Loop)	CAD	Not applicable
GTK's	RAMS	Not applicable
Train Numbers	RAMS	Not applicable
Economic Lives	SKM	Not applicable

Population data:

- WNT Estimates – MIMS asset register extracts, verified by WestNet regional infrastructure managers.
- MIMS & Contracts – Existing asset register and engineering schedules from current contracts for the Communications Backbone project.
- WNS Estimates – WestNet engineering estimates based on signal diagrams.
- Budget – Based on MIMS 2002 budget figures.
- OH Budget - Based on MIMS 2002 budget figures and data on vehicles, IT equipment and signals & communication test equipment by engineering managers.
- CAD – Computer aided track design and maintenance information.
- RAMS – Rail Access Management System.
- SKM – WestNet historical records, as reviewed by Sinclair Knight Mertz (November 2001) and an engineering assessment for curved rail and turnouts (September 2002).

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Cost data:

- ER – WestNet estimates, but currently subject to an independent engineering review that should be available mid November 2002.
- LT – Independent consultant review by Lane Telecommunications.
- CP – Current contract schedules: Union Switch & Signal; Westinghouse Australia; and Active Level Crossing Warning Systems Agreement.
- JH – Current maintenance contracts with John Holland.

Overall WestNet is close to finalising a new access pricing model which represents a substantial improvement from the prior models. PwC will reassess whether WestNet has satisfactorily completed its remaining tasks to finalise the model as part of the upcoming Clause 9, Schedule 4 of the Code review of the floor and ceiling prices to apply, on a route section by section basis, for various routes.

If you have any questions on the results of this review please contact Scott Lennon on (02) 8266 2765.

Yours faithfully

Andrew Edwards
Partner
PricewaterhouseCoopers