

The Pilbara Infrastructure Pty Ltd (TPI)

Final Determination on TPI's
Costing Principles

11 March 2010

Economic Regulation Authority



WESTERN AUSTRALIA

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FINAL DETERMINATION

1. The Pilbara Infrastructure Pty Ltd (**TPI**), a wholly owned subsidiary of Fortescue Metals Group (**FMG**) is the owner of a recently constructed railway (**TPI Railway**) connecting FMG's Cloud Break iron ore mine in the Pilbara to TPI's port facilities at Port Hedland.
2. On 1 July 2008, the TPI Railway was included in the State's rail access regime (consisting of the *Railways (Access) Act 1998* (**Act**) and the *Railways (Access) Code 2000* (**Code**)) through proclamation of Part 3 of the *Railway and Port (The Pilbara Infrastructure Pty Ltd) Agreement Act 2004* (**Agreement Act**).
3. On 15 August 2008, TPI submitted its proposed Costing Principles to the Economic Regulation Authority (**Authority**) for approval, in accordance with Part 5, section 46(1) of the Code. The Agreement Act required TPI to submit its proposed Costing Principles to the Authority no later than seven days after the TPI Railway became subject to the State's rail access regime.
4. The Authority issued its draft determination on TPI's proposed Costing Principles on 24 November 2009. This draft determination listed seventeen amendments which were required to be made to TPI's proposed Costing Principles before the Authority could approve this proposal.
5. The Authority has considered TPI's proposed Costing Principles in conjunction with comments made in submissions to the Authority on TPI's proposal and on the draft determination.
6. The final determination of the Authority is to approve TPI's proposed Costing Principles subject to seventeen amendments, as listed below.

LIST OF AMENDMENTS

Required Amendment 1

Section 1 of TPI's proposed Costing Principles (headed 'Introduction') should be amended as follows:

- Additional paragraphs should be added, similar to the following elements of sections 1.2 and 1.3 of the WNR CP:
 - first sentence under the first paragraph of section 1.2
 - second and third paragraphs of section 1.3
- Additional dot points should be added to the list at the end of this section to include Section 7 and the appendices (A to C). The appendices should also be added to the List of Contents on page 2.

Required Amendment 2

Section 2 of TPI's proposed Costing Principles (headed 'Timing and route sections') should be amended as follows:

- The first paragraph should be amended to include a statement to the effect that TPI will provide the Authority with its proposed floor and ceiling costs submission,

incorporating its costing model (in excel format), within three months of the Authority issuing its final determination on TPI's Costing Principles.

- A statement should be included to the effect that TPI will design its costing model to accommodate the addition of multiple route sections in the future.
- A statement should be added to the effect that, whenever rail lines connecting to TPI's railway network are constructed, TPI will submit within three months of the completion of such works, proposed amendments to its Costing Principles for the purpose of inclusion of those new route sections.

Required Amendment 3

Section 3.1 of TPI's proposed Costing Principles (headed 'Infrastructure included') should be amended as follows:

- In the first paragraph on page 4, delete the words "covered by the WA Rail Access regime or is otherwise required to provide access under the TPI Railway and Port Agreement (covered infrastructure), including:" and replace with the words "defined as 'railway infrastructure' under Part 1 of the Code, including:".
- In the second paragraph on page 5, delete the second and third sentences in this paragraph and replace with wording which accurately reflects the provisions of sections 2(2) and 2(2a) of Schedule 4 of the Code.

Required Amendment 4

Section 3.1.1 of TPI's proposed Costing Principles (headed 'Gross replacement values') should be amended as follows:

Item 1: Capacity of infrastructure

- Add the words "for all users taken together" immediately following the words "reasonably projected demand".
- Delete the second sentence.

Item 2: Route optimisation

- Delete the words "as a greenfields development" and "infrastructure configuration".

Item 4: Greenfields

- Amend this section to be consistent with the wording in the equivalent part of section 2.3 of the WNR CP.

Item 5: Modern equivalent assets

- Add the words "if appropriate" immediately following the words "MEA value".
- Delete the second sentence.
- Provide details of the process to determine the MEA and to calculate the GRV on the basis of the MEA, consistent with the wording for these processes in the equivalent part of section 2.3 of the WNR CP.

Item 6: Unit rates

- Amend this section to be consistent with the wording in the equivalent part of section 2.3 of the WNR CP.

Item 7: Design, construction and project management fees

- Amend this section to be consistent with the wording in the equivalent part of section 2.3 of the WNR CP.

Item 8: Financing charge during construction

- Delete the third sentence.
- Amend the heading to read “Financing charge during railway infrastructure construction”.
- Add wording consistent with the wording in the equivalent part of section 2.3 of the WNR CP.

Item 9: Equity raising costs

- Add the word “Authority’s” immediately preceding the word “weighted” in the third line.

Item 10: Costs index

- Delete the wording in the last paragraph on page 6 and replace with the words “Where it is necessary for TPI to escalate its actual costs the escalators used will be in accordance with the nature of the costs involved”.

Item 11: Extensions and expansions

- Delete the entire first paragraph on page 7.

Required Amendment 5

Appendix A on page 13 of TPI’s proposed Costing Principles (headed ‘Economic life of assets’) should be amended as follows:

- Item 1 – Delete the figure ‘50’ under the heading ‘Life Expectancy (Years)’ and replace this figure with ‘100’.
- Item 5(a)[Curve > 800m & tangent] – Delete the figure ‘20’ under the heading ‘Life Expectancy (Years)’ and replace this figure with ‘25’.
- Items 11, 12 and 13 – Delete these items.

Required Amendment 6

Section 3.1.3 of TPI’s proposed Costing Principles (headed ‘Rate of return’) should be amended by deleting the second, third and fourth sentences under this section.

Required Amendment 7

Section 3.1.4 of TPI’s proposed Costing Principles (headed ‘Annuity’) should be amended as follows:

- Delete the second sentence.
- Add a detailed outline of the annuity calculation methodology, consistent with the principles under sections 2(3) and 2(4) of Schedule 4 of the Code and along similar lines to the methodology set out under section 2.6 of the WNR CP.

Required Amendment 8

Section 4.1 of TPI’s proposed Costing Principles (headed ‘Definition of operating costs’) should be amended as follows:

- The second sentence should include the words “managing the railway network in a manner consistent with the efficient costs definition under section 4 of Schedule 4 of the Code”, immediately following the words “efficient stand alone operator”.
- Add the first paragraph under section 3.3 of the WNR CP as the second paragraph.

- Add the words “TPI has defined the terms routine and cyclical maintenance to detail what activities have been included in operating costs” as the third paragraph.
- Delete the first three dot points and the last two dot points on page 8.
- Delete the words “and major planned maintenance” from the fourth and fifth dot points on page 8.
- Add the following four headings and provide a detailed description of the appropriate definitions, principles and processes under each of these headings, consistent with those set out under section 3.3 of the WNR CP:
 - Routine and cyclical maintenance for track.
 - Routine and cyclical maintenance for signalling and communications.
 - Network management costs.
 - Working capital.
- Add details of TPI’s track maintenance model in a manner similar to the description of WestNet’s track maintenance model set out under section 3.3 of the WNR CP.
- Incorporate TPI’s track maintenance model into its costing model.

Required Amendment 9

Section 4.2 of TPI’s proposed Costing Principles (headed ‘Efficient cost tests’) should be amended as follows:

- Delete the first paragraph and replace with wording similar to that in the first paragraph of section 3.2 of the WNR CP.
- Delete the words “having regard to the market conditions that are presently being experienced in the Pilbara region” in the first dot point.
- Delete the word “will” in the second dot point and replace with the word “may”.
- Delete the second sentence in the last paragraph and replace with wording similar to the sentence under section 3.1 of the WNR CP.

Required Amendment 10

Section 4.3 of TPI’s proposed Costing Principles (headed ‘Allocation of operating costs’) and Appendix B on page 14 should be amended as follows:

- Amend section 4.3 by:
 - Deleting the words “specific operating costs, including track and signalling maintenance costs, centralised train control cost and” from the first sentence.
 - Inserting the first two sentences from section 3.4 of the WNR CP as the first paragraph.
 - Deleting the last sentence.
 - Inserting the last sentence under section 3.4 of the WNR CP as the last sentence in this section, excluding the words “will be determined by the ERA” and replacing these words with “will be reviewed by the ERA”.
- Amend the Operating Costs part of Appendix B by:
 - Deleting all references to costs related to land (corridor and non-corridor land).

- Deleting references to operating costs which are directly attributable and listing indirect operating costs under the headings ‘railway infrastructure management costs’ and ‘network management costs’.
- Inserting GTKs as the cost allocator for railway infrastructure management costs.
- Inserting train numbers as the cost allocator for network management costs.

Required Amendment 11

Section 5.1 of TPI’s proposed Costing Principles (headed ‘Definition of overhead costs’) and Appendix B on page 14 should be amended as follows:

- Amend section 5.1 by:
 - Deleting the wording in the third paragraph. Replace with similar wording to that in the third sentence of the third paragraph of section 4.1 in the WNR CP.
- Amend the Overhead Costs part of Appendix B by:
 - Classifying overheads under the heading ‘Cost Component’ into two categories, being: ‘TPI’s overheads’ and ‘Corporate overheads (services provided by FMG and allocated to TPI)’.
 - Providing a similar level of detail in relation to the specific type of overhead costs being allocated under the heading ‘Description’, as is provided under Annexure 7.2 of the WNR CP under the heading ‘Inclusions’.

Required Amendment 12

Section 5.2 of TPI’s proposed Costing Principles (headed ‘Allocation of overhead costs’) and Appendix B on page 14 should be amended as follows:

- Amend section 5.2 by:
 - Deleting the number “2” and replacing it with the letter “B”.
 - Adding the first sentence under section 4.2 of the WNR CP as the first paragraph, excluding the words “will be determined by the ERA” and replacing these words with “will be reviewed by the ERA”.
- Amend the Overhead Costs part of Appendix B by:
 - Inserting the words “Combination of GTKs and Train Numbers” under the heading ‘Cost allocator’.
 - Adding a note at the end of this appendix, similar to the note under section 7.2.1 of Annexure 7.2 of the WNR CP, which relates to the use of the two cost allocators (GTKs and Train Numbers) for overhead costs.
 - Adding a further sentence to the end of the above note, as follows; “The use of these two cost allocators for overhead cost allocation is to be reviewed by the ERA during its floor and ceiling costs determinations”.

Required Amendment 13

Section 6.1 of TPI’s proposed Costing Principles (headed ‘Indexation of floor and ceiling’) should be amended as follows:

- Delete the third paragraph.

- Replace the above paragraph with the first four sentences from section 5.1 of the WNR CP.

Required Amendment 14

Section 7 of TPI's proposed Costing Principles (headed 'Review and consultation') should be amended as follows:

- Amend the heading to read "Compliance and review".
- Delete the wording under this section and replace with wording consistent with section 6 of the WNR CP, with the exception of the following:
 - First paragraph of section 6 of the WNR CP: Delete this paragraph and replace with "TPI agrees to a review of the Costing Principles by the ERA, through a public consultation process, two years after the date when all the regulatory instruments required under the Act and the Code for TPI's railway have been approved by the ERA. It is expected that the review will commence on 1 October 2012 and that TPI will provide the ERA with its proposed revised Costing Principles on this date".
 - Fourth paragraph of section 6 of the WNR CP: (1) Replace "WestNet" with "TPI", (2) Replace "The ERA will monitor TPI's compliance" with "TPI agrees to the monitoring by the ERA of its compliance", (3) Add the following sentence to the end of this paragraph; "It is expected that the first audit will commence at the end of the 2011-12 financial year".

Required Amendment 15

Section 6 of TPI's proposed Costing Principles (headed 'Other Matters') should be amended to include a new sub-section (sub-section 6.3) headed "Asymmetric Risk".

Required Amendment 16

Section 6 of TPI's proposed Costing Principles (headed 'Other matters') should be amended to include a new sub-section (sub-section 6.4) headed "Service quality commitment", which should contain wording similar to the wording under section 1.5 of the WNR CP.

Required Amendment 17

TPI's proposed Costing Principles should be amended to include a new section (Section 8) headed "Definitions", which should include a complete list of all the terms used in the Costing Principles which might reasonably be expected to require a definition. In addition, all definitions should be:

- Consistent with the definitions in the Act and the Code.
- If not defined in the Act or the Code, consistent with the definitions under section 8 of the WNR CP.
- Consistent with definitions used previously by TPI in its proposed segregation arrangements or proposed Part 5 Instruments, subject to the above requirements.

REASONS FOR THE FINAL DETERMINATION

BACKGROUND

7. The TPI Railway was commissioned in May 2008. This railway is about 260 kilometres in length and runs from FMG's Cloud Break iron ore mine in the Chichester Ranges (East Pilbara) to TPI's port facilities at Anderson Point in Port Hedland.
8. On 1 July 2008, the TPI Railway became subject to the Act and the Code through the proclamation of Part 3 of the Agreement Act. TPI was required, from this date, to comply with the legislative obligations set out for railway owners under the Act and the Code.
9. The TPI Railway is owned and operated by TPI. TPI will perform both access-related rail functions and functions associated with the operation of train services.
10. The Costing Principles is one of the four Part 5 Instruments set out in Section 40(3) of the Code. Section 40(2) of the Code notes that the Part 5 Instruments are binding on the railway owner.
11. To assist the Authority in the preparation of its final determination, the Authority engaged a consultant, PricewaterhouseCoopers (PwC) to review TPI's proposed Costing Principles and the public submissions, and provide advice to the Authority. The PwC final report is available on the Authority's web site (www.era.wa.gov.au).

PUBLIC CONSULTATION

12. The Authority issued its draft determination on 24 November 2009. Seventeen amendments were required to be made to TPI's proposed Costing Principles under the draft determination.
13. The Authority provided a seven week public consultation period on its draft determination, from 24 November 2009 to 12 January 2010. Four public submissions were received during this period, from the Australian Rail Track Corporation (**ARTC**), Oakajee Port and Rail (**OPR**), North West Iron Ore Alliance (**NWIOA**) and from FMG on behalf of TPI (**FMG/TPI**). These submissions are available on the Authority's web site (www.era.wa.gov.au).
14. It should be noted that reference has been made in the discussion below to WestNet Rail's (**WNR**) Costing Principles, as approved by the Authority in April 2009. WNR's 2009 Costing Principles document is available on the Authority's web site (www.era.wa.gov.au). This document is referred to as the **WNR CP** in this draft determination.

SCOPE OF MATTERS COVERED UNDER THE FINAL DETERMINATION

15. The final determination deals with the matters to be included in TPI's Costing Principles as set out under Part 5, section 46 of the Code.

16. Some comments made in the public submissions are outside the scope of matters dealt with under the above section of the Code and, consequently, have not been included in the discussion of relevant issues set out in this final determination.

FINAL DETERMINATION

17. The seventeen amendments set out in the draft determination have been listed below. Each of these amendments is followed by:
- An outline of the comments on the amendment in the public submissions.
 - PwC's advice on the public submission comments.
 - The Authority's assessment of the public submission comments.
 - The Authority's final determination.

Draft Determination – Amendment 1

Section 1 of TPI's proposed Costing Principles (headed 'Introduction') should be amended as follows:

- *Additional paragraphs should be added similar to the following elements of sections 1.2 and 1.3 of the WNR CP:*
 - *first sentence under the first paragraph of section 1.2*
 - *second and third paragraphs of section 1.3*
- *Additional dot points should be added to the list at the end of this section to include Section 7 and the appendices (A to C). The appendices should also be added to the List of Contents on page 2.*

Public Submissions

18. No comments were made in the public submissions relating to Amendment 1.

Authority's Assessment

19. The Authority confirms its position as set out in the draft determination.

Final Determination

Required Amendment 1

Section 1 of TPI's proposed Costing Principles (headed 'Introduction') should be amended as follows:

- Additional paragraphs should be added, similar to the following elements of sections 1.2 and 1.3 of the WNR CP:
 - first sentence under the first paragraph of section 1.2
 - second and third paragraphs of section 1.3
- Additional dot points should be added to the list at the end of this section to include Section 7 and the appendices (A to C). The appendices should also be added to the List of Contents on page 2.

Draft Determination – Amendment 2

Section 2 of TPI's proposed Costing Principles (headed 'Timing and route sections') should be amended as follows:

- *The first paragraph should be amended to include a statement to the effect that TPI will provide the Authority with its proposed floor and ceiling costs submission, incorporating its costing model (in excel format), within two months of the Authority issuing its final determination on TPI's Costing Principles.*
- *A statement should be included to the effect that TPI will design its costing model to accommodate the addition of multiple route sections in the future.*
- *A statement should be added to the effect that, whenever rail lines connecting to TPI's railway network are constructed, TPI will submit within three months of the completion of such works, proposed amendments to its Costing Principles for the purpose of inclusion of those new route sections.*

Public Submissions

20. FMG/TPI commented (page 1), in relation to the first dot point of Amendment 2, that two months was too short a period of time for TPI to submit its proposed costing model given the complexities involved in preparing this model. FMG/TPI suggested that three months would be a more acceptable timeframe.
21. OPR (page 2) supported FMG/TPI's view that three months would be a more acceptable timeframe for TPI to submit its proposed costing model.
22. The ARTC considered (page 2) that the submission of TPI's costing model should be related to TPI's compliance timeframe requirements.
23. The NWIOA (page 1) made several comments as follows:
 - TPI should be required to include a definition of 'costing model' similar to that of the WNR CP.

- Some of the text in section 1.4 of the WNR CP should be included in TPI's Costing Principles, as detailed in the NWIOA's previous submission on TPI's proposed Costing Principles.

PricewaterhouseCoopers' (PwC) Advice

24. PwC agreed with the view expressed by FMG/TPI and OPR to the effect that for TPI to provide its floor and ceiling submission, incorporating its costing model, a period of three months was reasonable.
25. With respect to the NWIOA's view relating to the addition of text from section 1.4 of the WNR CP, PwC confirmed its draft report position that it did not consider the incorporation of this text to be necessary.

Authority's Assessment

26. In relation to the timeframe for TPI to submit its proposed floor and ceiling costs, incorporating its costing model, the Authority agrees with PwC that the suggestion by FMG/TPI and OPR for an increased timeframe from two months to three months is reasonable.
27. With regard to the comments by the NWIOA, the Authority notes that Amendment 17 of the draft determination requires TPI to include a definitions section similar to section 8 of the WNR CP. This definitions section is required to include a complete list of all the terms used in TPI's Costing Principles. The term "costing model" will be one of the key terms required to be included in the definitions section of TPI's Costing Principles under Amendment 17.
28. With respect to the NWIOA's comment on its previous submission, related to the inclusion of text from section 1.4 of the WNR CP in TPI's Costing Principles, the Authority confirms its view outlined in the draft determination to the effect that it agrees with PwC that this text would not add materially to the information provided in TPI's Costing Principles. The Authority also notes, in relation to the NWIOA's comments on the availability of route section data, that the Code requires the railway owner to publish (Part 2A) and make available to potential proponents (section 7) specific information relating to routes and route sections.
29. Amendment 2 of the draft determination has been revised, in this final determination, to reflect the Authority's view on the timeframe issue, as discussed above.

Final Determination

Required Amendment 2

Section 2 of TPI's proposed Costing Principles (headed 'Timing and route sections') should be amended as follows:

- The first paragraph should be amended to include a statement to the effect that TPI will provide the Authority with its proposed floor and ceiling costs submission, incorporating its costing model (in excel format), within three months of the Authority issuing its final determination on TPI's Costing Principles.
- A statement should be included to the effect that TPI will design its costing model to accommodate the addition of multiple route sections in the future.
- A statement should be added to the effect that, whenever rail lines connecting to TPI's railway network are constructed, TPI will submit within three months of the completion of such works, proposed amendments to its Costing Principles for the purpose of inclusion of those new route sections.

Draft Determination – Amendment 3

Section 3.1 of TPI's proposed Costing Principles (headed 'Infrastructure included') should be amended as follows:

- *In the first paragraph on page 4, delete the words "covered by the WA Rail Access regime or is otherwise required to provide access under the TPI Railway and Port Agreement (covered infrastructure), including:" and replace with the words "defined as 'railway infrastructure' under Part 1 of the Code, including:".*
- *In the second paragraph on page 5, delete the second and third sentences in this paragraph and replace with wording which accurately reflects the provisions of sections 2(2) and 2(2a) of Schedule 4 of the Code.*

Public Submissions

30. FMG/TPI commented (pages 1 to 2) that the effect of the second dot point of Amendment 3 would be to create uncertainty in giving effect to the handling of railway land development costs in TPI's costing model.

Authority's Assessment

31. The Authority noted in the draft determination that TPI had not correctly represented the provisions of the Code under Schedule 4, including section 2(2a), under the second and third sentences of the second paragraph of section 3.1 of its Costing Principles. The draft determination pointed out, for example, that the value of cuttings or embankments does not include the value of the land of which the cuttings or embankments form part.

32. The second dot point of Amendment 3 therefore requires the above sentences in TPI's Costing Principles to be amended to be consistent with the relevant Code provisions.
33. In relation to the comments by FMG/TPI relating to land development costs (for example site clearing and levelling) associated with preparation of the railway track, the Authority notes that for the purpose of the Authority's assessment of the floor and ceiling costs for routes within a railway owner's network, the Gross Replacement Value (**GRV**) of the earthworks component of the railway track infrastructure (expressed as a cost per kilometre of track formation) is assumed to include such costs. The Authority would therefore expect that TPI's costing model, when submitted as part of its proposed floor and ceiling costs submission, would include (with the provision of appropriate detail) such costs as part of its total earthworks track construction GRV, on the basis of a cost per kilometre of track formation.
34. The Authority also notes that engineering overhead costs (fees associated with design and the project management of construction works) associated with the track construction are required to be separately identified in TPI's costing model, consistent with the requirements of Item 7 of Amendment 4 of this final determination.
35. The Authority confirms its position as set out in the draft determination.

Final Determination

Required Amendment 3

Section 3.1 of TPI's proposed Costing Principles (headed 'Infrastructure included') should be amended as follows:

- In the first paragraph on page 4, delete the words "covered by the WA Rail Access regime or is otherwise required to provide access under the TPI Railway and Port Agreement (covered infrastructure), including:" and replace with the words "defined as 'railway infrastructure' under Part 1 of the Code, including:".
- In the second paragraph on page 5, delete the second and third sentences in this paragraph and replace with wording which accurately reflects the provisions of sections 2(2) and 2(2a) of Schedule 4 of the Code.

Draft Determination – Amendment 4

Section 3.1.1 of TPI's proposed Costing Principles (headed 'Gross replacement values') should be amended as follows:

Item 1: Capacity of infrastructure

- *Add the words "for all users taken together" immediately following the words "reasonably projected demand".*

- Delete the second sentence.

Item 2: Route optimisation

- Delete the words “as a greenfields development” and “infrastructure configuration”.

Item 4: Greenfields

- Amend this section to be consistent with the wording in the equivalent part of section 2.3 of the WNR CP.

Item 5: Modern equivalent assets

- Add the words “if appropriate” immediately following the words “MEA value”.
- Delete the second sentence.
- Provide details of the process to determine the MEA and to calculate the GRV on the basis of the MEA, consistent with the wording for these processes in the equivalent part of section 2.3 of the WNR CP.

Item 6: Unit rates

- Amend this section to be consistent with the wording in the equivalent part of section 2.3 of the WNR CP.

Item 7: Design, construction and project management fees

- Amend this section to be consistent with the wording in the equivalent part of section 2.3 of the WNR CP.

Item 8: Financing charge during construction

- Delete the third sentence.
- Amend the heading to read “Financing charge during railway infrastructure construction”.
- Add wording consistent with the wording in the equivalent part of section 2.3 of the WNR CP.

Item 9: Equity raising costs

- Add the word “Authority’s” immediately preceding the word “weighted” in the third line.

Item 10: Costs index

- Delete the wording in the last paragraph on page 6 and replace with the words “Where it is necessary for TPI to escalate its actual costs the escalators used will be in accordance with the nature of the costs involved”.

Item 11: Extensions and expansions

- Delete the entire first paragraph on page 7.

Public Submissions

36. FMG/TPI made several comments (pages 4 to 5) as follows:

- It unclear why the ERA does not accept that TPI’s actual construction costs be used as the basis for calculating the GRV for its railway infrastructure for the purpose of the floor and ceiling costs assessment.

- TPI does not agree with the deletion of the term 'greenfields' in describing its railway infrastructure.
37. OPR also made a number of comments (pages 3 to 4) as follows:
- Item 1 – The second dot point of this item is not necessary as the capacity of TPI's infrastructure was a requirement of TPI's State Agreement.
 - Item 2 – This item is not necessary as there needs to be recognition that TPI's railway is a greenfields development and the rail alignment has been approved by the Government.
 - Item 5 – OPR disagrees with dot points 6 and 7 on the basis that for greenfields developments, actual costs equate to gross replacement values.
 - Item 8 – OPR disagrees with the first dot point and supports TPI's use of actual construction costs for the purpose of calculating the financing charge during construction.

PricewaterhouseCoopers' (PwC) Advice

38. PwC noted, in response to the comments by FMG/TPI and OPR relating to the use of actual costs, that the nature of the costs defined in Schedule 4 of the Code requires the Authority to consider efficient practices applicable to the provision of railway infrastructure. In PwC's view, application of the Code could lead to outcomes where efficient practices could differ from the practices adopted by the railway owner and the application of efficient costs may differ from the actual costs incurred by a railway owner.
39. With regard to the issue of TPI's railway being a 'greenfields development', PwC noted that the required deletion (under Amendment 4) of the second sentence of the first paragraph of section 3.1.1 which included the term 'greenfields development' related to the assertion made in relation to the efficiency of the network rather than the use of the term 'greenfields development'.

Authority's Assessment

40. In relation to FMG/TPI's comments on the proposed use of its actual construction costs as the basis for its railway infrastructure GRV, the Authority noted in the draft determination that the requirements of Schedule 4 of the Code require the Authority to ensure that an appropriate level of market testing of key unit rates is undertaken at the time TPI submits its proposed floor and ceiling costs to ensure that the GRV has been calculated in accordance with the requirements of section 2(4)(c) of Schedule 4 of the Code. This section requires the GRV to be calculated on the basis of being the lowest current cost to replace existing assets as set out under the requirements of this section.
41. On the above basis, the Authority noted in the draft determination that it considered TPI's proposed approach involving an indexation of its actual construction costs, with no market testing, to be an inappropriate approach to determining the lowest current costs in accordance with the Code requirements.
42. The Authority agrees with PwC's comments to the effect that, under the Code, TPI's actual costs cannot necessarily be assumed to be efficient costs for its railway network and that the Authority is required to give consideration to efficient practices applicable to the provision of railway infrastructure.

43. In relation to the second matter raised by FMG/TPI, relating to the use of the term 'greenfields', the Authority notes that the draft determination outlines in the discussion related to Amendment 4, that TPI has used this term in several parts of section 3.1.1 of its proposed Costing Principles in a manner which is inconsistent with the relevant section of the Code. In such cases, amendments to TPI's wording have been required under Amendment 4.
44. While the Authority acknowledges that TPI's railway is a 'greenfields' infrastructure development in the general meaning of this word, where the Code is involved it is necessary not to make inferences or assumptions arising from this term which may be inconsistent with the principles set out in the Code, particularly in relation to the calculation of the floor and ceiling costs for TPI's railway infrastructure.
45. With regard to OPR's comment on Item 1 of Amendment 4, while it is acknowledged that the current capacity of TPI's railway network is set out in the Agreement Act, in carrying out its assessment of TPI's floor and ceiling costs the Authority will be required to apply section 2(4) of Schedule 4 of the Code which sets out the matters which will need to be considered by the Authority at that time in relation to the calculation of the GRV for TPI's railway infrastructure. Accordingly, TPI's Costing Principles cannot pre-judge an element of the Code (section 2(4)(c)(i) of Schedule 4) which requires the Authority's consideration at the time of assessing TPI's floor and ceiling costs (i.e., that the GRV should be based on the current capacity of TPI's railway on the basis that it provides the level of service that meets actual and reasonably projected demand). The draft determination noted that it was inappropriate for TPI to be incorporating an assumption into its Costing principles regarding its railway network being optimised on the basis that it was a greenfields development.
46. In regard to OPR's comment on Item 2 of Amendment 4, this matter has been dealt with above under the discussion relating to TPI's use of the term 'greenfields'.
47. OPR's comment on Item 5 of Amendment 4 has also been dealt with above, under the discussion related to TPI's proposed use of actual construction costs as the basis for calculating its railway infrastructure GRV.
48. With regard to OPR's comment on Item 8 of Amendment 4, the Authority notes that it required the deletion of the wording in TPI's proposed Costing Principles which referred to TPI's proposed use of historical construction cash flows as the basis for calculation of its financing charge during construction. The draft determination pointed out that utilisation of the railway owner's historical cash flows was inconsistent with section 2 of Schedule 4 of the Code, which requires the calculation of capital costs by application of the WACC, as determined by the Authority, to the GRV. The Authority also notes that not all of TPI's construction cash flows for the port and rail project relate to the construction of railway infrastructure covered under the Code. As pointed out in the draft determination, the financing costs should only relate to railway infrastructure covered by the Code. It was also noted in the draft determination that the allocation of these costs to route sections is important in ensuring a proper application of such costs to the railway infrastructure under the Code. For this reason, the Authority required under Amendment 4 in the draft determination, wording in TPI's proposed Costing Principles relating to the financing costs to be consistent with the equivalent part of the WNR CP.
49. The Authority confirms its position as set out in the draft determination.

Final Determination

Required Amendment 4

Section 3.1.1 of TPI's proposed Costing Principles (headed 'Gross replacement values') should be amended as follows:

Item 1: Capacity of infrastructure

- Add the words "for all users taken together" immediately following the words "reasonably projected demand".
- Delete the second sentence.

Item 2: Route optimisation

- Delete the words "as a greenfields development" and "infrastructure configuration".

Item 4: Greenfields

- Amend this section to be consistent with the wording in the equivalent part of section 2.3 of the WNR CP.

Item 5: Modern equivalent assets

- Add the words "if appropriate" immediately following the words "MEA value".
- Delete the second sentence.
- Provide details of the process to determine the MEA and to calculate the GRV on the basis of the MEA, consistent with the wording for these processes in the equivalent part of section 2.3 of the WNR CP.

Item 6: Unit rates

- Amend this section to be consistent with the wording in the equivalent part of section 2.3 of the WNR CP.

Item 7: Design, construction and project management fees

- Amend this section to be consistent with the wording in the equivalent part of section 2.3 of the WNR CP.

Item 8: Financing charge during construction

- Delete the third sentence.
- Amend the heading to read "Financing charge during railway infrastructure construction".
- Add wording consistent with the wording in the equivalent part of section 2.3 of the WNR CP.

Item 9: Equity raising costs

- Add the word "Authority's" immediately preceding the word "weighted" in the third line.

Item 10: Costs index

- Delete the wording in the last paragraph on page 6 and replace with the words "Where it is necessary for TPI to escalate its actual costs the escalators used will be in accordance with the nature of the costs

involved”.

Item 11: Extensions and expansions

- Delete the entire first paragraph on page 7.

Draft Determination – Amendment 5

Appendix A on page 13 of TPI’s proposed Costing Principles (headed ‘Economic life of assets’) should be amended as follows:

- *Item 1 – Delete the figure ‘50’ under the heading ‘Life Expectancy (Years)’ and replace this figure with ‘100’.*
- *Item 2(a) – Delete the figure ‘50’ under the heading ‘Life Expectancy (Years)’ and replace this figure with ‘100’.*
- *Item 5(a)[Curve > 800m & tangent] – Delete the figure ‘20’ under the heading ‘Life Expectancy (Years)’ and replace this figure with ‘60’.*
- *Items 11, 12 and 13 – Delete these items.*

Public Submissions

50. The ARTC commented (page 3) that it agreed with the Authority’s draft determination with respect to Amendment 5 and that where TPI has suggested shorter proposed economic lives for some asset classes, TPI should be required to provide full justification for these shorter lives.
51. The NWIOA (page 3) noted that the asset lives of 50 years suggested by TPI for earthworks and bridges does not appear to be supported by other independent consultant advice to the ARTC, the ACCC and Independent Pricing and Regulatory Tribunal (IPART). The asset lives adopted by the ARTC for bridges and earthworks, based on PwC advice, are 100 years. IPART consultant, Booz Allen and Hamilton, advised asset lives of 80 years for steel bridges and 100 years for concrete bridges.
52. The NWIOA also noted that ARTC generally uses an asset life for rail of 50 years for the Hunter Valley.
53. FMG/TPI commented (pages 3 to 4) that asset lives should be shorter than those applied to the WNR network for the following reasons:
 - The haulage of iron ore on the TPI network will only occur for as long as the iron ore resources last. The Chichester resource will be exhausted in 25 years and the Solomon resource in 30 years.
 - No identified third party likely to require haulage (or track access) has resources sufficient to warrant an expectation that the mine life of their projects will exceed 40 years.
 - The licence granted to TPI for its rail operations is for a period of 50 years.
 - The Australian Tax Office uses 30 years as the recommended life of heavy haul railway assets (above 30 tonnes axle load).
 - BHP is preparing to replace Pilbara rail bridges that are less than 50 years old.

- The Basis for Design for TPI's railway prepared by Worley Parsons (August 2006) provided for 50 year life for bridge structures and 20 year life for straight rail. This was based on a throughput of 45 Mtpa, and tonnages above 45 Mtpa would reduce the life of rail assets.
54. FMG/TPI maintained its position, as set out in its proposal, that the economic lives of its earthworks and bridges should be 50 years and its rail (curve > 800 m & tangent) should be 20 years.
 55. OPR (pages 4 to 5) provided a similar argument to that put forward by FMG/TPI. OPR noted that the TPI railway has a greater stranding risk than the WNR railway due to the limited life of the iron ore reserves compared with the traffics such as grain and containers carried on the WNR rail network.
 56. OPR also supported FMG/TPI's "Basis for Design" argument, and noted that the TPI railway has been designed to haul at least 70Mtpa whereas the traffic on the most heavily utilised WNR rail line (Kwinana Bunbury) is 25-30Mtpa.
 57. OPR also noted that it disagreed with the fourth dot point of draft determination Amendment 5, on the basis that these items were allowed in the WNR Costing Principles approved in April 2009.

PricewaterhouseCoopers' (PwC) Advice

58. PwC has noted that stakeholders generally accept that higher axle loads and faster speeds of iron ore heavy haul compared to the mixed traffic on the WNR network will result in lower asset lives on the TPI network.
59. PwC also noted that the economic life for an asset would be less than its physical life where demand or use of the asset ceases before the end of its physical life. PwC notes that this principle is applied by IPART to asset lives under the NSW Rail Access Regime. However, PwC advised that any determination of the lifespan of mineral resources was complex and would require a comprehensive analysis of the extent of the mineral resources, the current and future capacity of the total infrastructure chain, from mine to port, and current and future market conditions.
60. In relation to the economic lives of TPI's earthworks, bridges and rail (curve greater than 800 metres and tangent) assets, PwC obtained advice from engineering consultants AECOM Australia. PwC's recommendations on the economic lives of these assets is as follows:
 - Earthworks: Provided drainage was adequate and maintained, there was no technical reason why earthworks could not have an asset life of 100 years. PwC therefore recommended that an economic life of 100 years be applied for TPI's earthworks consistent with the value in the WNR CP.
 - Bridges: PwC took into account that (1) TPI was able to modify design standards for its bridges and that such bridges were not subject to MRWA 100 year design life requirements; (2) that the basis for design by Worley Parsons in 2006 was 50 years based on a 45 Mt/a throughput; and (3) that TPI expects to increase its haulage rate to 100 Mt/a. On this basis, PwC recommended an economic life of 50 years be accepted for TPI's bridges, as proposed by TPI. However, PwC also noted that the capital costs of bridges designed for a 50 year life would be expected to be less than for bridges designed for a 100 year

life and that TPI's floor and ceiling costs proposal would be expected to reflect capital costs for its bridges on a basis consistent with a 50 year design life.

- Rail (curve > 800 m & tangent): PwC has used an estimate provided by AECOM Australia for the maximum expected life of TPI's rail of 1,500 million gross tonnes. Based on this figure, PwC has made assumptions about TPI's haulage rate over future years using information previously provided by TPI to derive a life expectancy of 19.2 years for this rail. On this basis, PwC has recommended an economic life of 20 years be accepted for the asset category rail (curve > 800 m & tangent), as proposed by TPI.

61. In relation to the removal of items 11 to 13 from Appendix A of TPI's Costing Principles, PwC does not consider these items to constitute assets despite their appearance in the WNR Costing Principles. Nonetheless, PwC noted that a railway owner should be able to recover such costs as reasonably incurred. On this basis, PwC supported the inclusion of these items as set out in Amendment 4 of the draft determination.

Authority's Assessment

62. In relation to the issue raised by FMG/TPI of limited iron ore resources having a direct impact on the economic lives of TPI's key railway assets, the Authority accepts the principle that a railway servicing only a specific mineral resource is likely to have an economic life limited to the life of that resource. However, the Authority agrees with PwC that any estimate of the available life of a mineral resource is a complex matter which requires assumptions to be made about future infrastructure investments, haulage rates and market conditions.
63. In the case of TPI, the Authority notes that the railway is not dependent on a single iron ore resource (currently the Cloudbreak mine) as FMG has identified a number of other substantial iron ore resources in its 2009 Annual Report (Christmas Creek, Solomon Group and Glacier Valley). It is understood that a new rail line is currently being developed from TPI's existing railway to the Christmas Creek deposit and additional lines are expected to be developed to connect TPI's rail network to the other iron ore resources in the future.
64. The Authority is also aware of a range of FMG estimates for the total size of its iron ore resources, as follows:
- FMG/TPI submission: 5.2 billion tonnes based on the Chichester and Solomon deposits.
 - FMG 2009 Annual Report: 6.3 billion tonnes based on the Chichester and Hamersley range deposits and the Glacier valley deposit.
 - At a Sydney Mining Club lunch on 12 November 2009, FMG CEO Andrew Forrest was quoted by the Australian Journal of Mining as saying that FMG was "never going to be short of resources" and "we have iron ore for generations. Fortescue holds about 70,000 square kilometres in the Pilbara. BHP and Rio, they're about 16,000 square kilometres between them".¹
65. On the basis of the above, the Authority is of the view that TPI's rail network is likely to continue to expand in line with the development, by FMG, of new iron ore

¹ Reported in The Australian Journal of Mining, November 2009

mines for a considerable period into the future. Therefore, the Authority does not consider the resource life of FMG's iron ore resources to be a relevant factor, based on current information, in the determination of the economic lives of the three asset categories set out under Amendment 5 of the draft determination.

66. The Authority also does not accept, as relevant to the assessment of asset economic life, the comment by FMG/TPI that asset lives are truncated by the duration of the licence granted to TPI for its rail operations (50 years). The Authority does not consider that the duration of this licence should be a factor in determining the economic life of the assets, as it is reasonable to expect that the licence would be extended, subject to licence conditions being met, if the rail operations are ongoing.
67. In determining the economic lives of the three asset categories outlined under Amendment 5, the Authority has used the physical life of the assets as the principal guide in determining appropriate economic lives. The economic life sets the period over which the railway owner is able to depreciate the asset. Under the floor and ceiling costs determination, the ceiling price incorporates the equivalent of an annual depreciation allowance for the asset over this period of time.
68. In the case of TPI's earthworks, the Authority agrees with PwC to the effect that there does not appear to be a technical reason as to why TPI's earthworks could not have a physical lifespan of 100 years. On this basis, the Authority considers that the appropriate economic life for TPI's railway earthworks should be consistent with the WNR CP, at 100 years.
69. With regard to TPI's bridges, the Authority also agrees with PwC's advice, to the effect that the available information indicates that TPI's bridges have been designed and built based on a life of 50 years. The Authority also notes that PwC's advice from AECOM Australia indicated that bridge lives of 100 years are only mandatory as an engineering standard where those bridges carry Main Roads WA (MRWA) roadways. TPI has advised that it is about to commence building such a bridge close to Port Hedland, but that none of the existing nine bridges constructed as part of its rail network carry MRWA roads. The Authority considers, therefore, that the appropriate economic life for TPI's railway bridges is 50 years.
70. The Authority also notes PwC's comment that the construction cost of these bridges, under TPI's floor and ceiling costs proposal, would be expected to reflect a 50 year design life.
71. In relation to TPI's rail (curve > 800 m & tangent), the Authority notes PwC's advice that it has used an estimate of total rail life of 1,500 million gross tonnes to derive a physical lifespan for TPI's rail. Subsequent to the FMG/TPI submission on the draft determination, TPI provided the Authority with an estimate of its rail life, based on advice from its rail consultants on 19 February 2010. This estimate was 1,800 million gross tonnes. The Authority accepts the TPI estimate as being an appropriate basis for calculation of the economic life of its rail asset.
72. The Authority notes that FMG/TPI has predicted haulage rates on TPI's railway of 100Mtpa and greater in coming years. In its submission, FMG/TPI indicated a future output of 95Mtpa from its Chichester resource and 60Mtpa from its Solomon resource. The Authority notes, however, that based on FMG's 2009 Annual Report, the haulage rate for TPI's railway in 2009 was 27.3 million tonnes of iron ore. The issues for consideration are the annual increases in haulage rates likely over future years and the point in the future at which the haulage rate reaches the

design capacity of the current railway. Beyond this point, an upgrade of the railway would be required to increase the haulage rate further. For the purpose of the economic life of the rail, under TPI's floor and ceiling determination, the railway will be assessed on the basis of its configuration and capacity at that time. This means, that for the floor and ceiling determination later this year, the current design capacity of the railway is the relevant issue.

73. Based on the Agreement Act, TPI's railway has a design capacity of 70 million tonnes per annum. In its advice to the Authority of 19 February 2010, TPI advised that, in gross tonnage terms, its rail design life was 70 million tonnes plus 15 per cent for the tare weight of the rolling stock, giving a total of 80.5 million tonnes per annum. The Authority accepts this figure as being appropriate for the design capacity of the current railway.
74. The Authority then considered the period of time it will take from the commencement of operations in late-2008 to reach this design capacity. Based on the 2009 haulage rate of 27.3 million tonnes (equivalent in gross tonnage terms to 31.4 million tonnes) and mindful of the considerable cost and time required to upgrade the entire logistic chain (mine to port) to achieve increases in throughput, the Authority considers that a five year period, from 2009 to 2013, to achieve TPI's design capacity of 80.5 million tonnes (gross) is reasonable. This assumes an increase in iron ore haulage rates of about 30 per cent per annum from 2009 to 2013.
75. On the above basis, and assuming a total rail life of 1,800 million tonnes (gross), as estimated by FMG, the physical life of TPI's rail would be 24 to 25 years. On this basis, the Authority's view is that an appropriate economic life for TPI's rail (curve > 800 m & tangent) is 25 years.
76. In relation to OPR's comment on the requirement under Amendment 5 of the draft determination, to delete items 11, 12 and 13 from Appendix A of TPI's proposed Costing Principles, the Authority notes that PwC has advised that this requirement should remain. The Authority agrees with PwC's advice and notes that TPI is able to earn a return from these items consistent with the approach taken in the WNR CP, as set out under the requirements of Amendment 4 of the draft determination.
77. Amendment 5 of the draft determination has been revised, in this final determination, to reflect the Authority's revised view on the asset lives of bridges, and of rail (curve > 800m & tangent), as discussed above.

Final Determination

Required Amendment 5

Appendix A on page 13 of TPI's proposed Costing Principles (headed 'Economic life of assets') should be amended as follows:

- Item 1 – Delete the figure '50' under the heading 'Life Expectancy (Years)' and replace this figure with '100'.
- Item 5(a)[Curve > 800m & tangent] – Delete the figure '20' under the heading 'Life Expectancy (Years)' and replace this figure with '25'.
- Items 11, 12 and 13 – Delete these items.

Draft Determination – Amendment 6

Section 3.1.3 of TPI's proposed Costing Principles (headed 'Rate of return') should be amended by deleting the second, third and fourth sentences under this section.

Public Submissions

78. The NWIOA reiterated (page 3) the comments in its previous submission, that in its view there was only a minor stranding risk in relation to TPI's railway.
79. OPR commented (page 5) that it did not agree that the fourth sentence under section 3.1.3 of TPI's proposed Costing principles should be deleted, as required under Amendment 6.

PricewaterhouseCoopers' (PwC) Advice

80. In relation to OPR's comment on the Authority's required deletion of TPI's reference to asymmetric risk being included in operating costs, PwC supported the Authority's position and noted that Amendment 15 of the draft determination provides an opportunity for TPI to include any costs considered to result from asymmetric risks.

Authority's Assessment

81. The draft determination noted that any asymmetric risks, such as stranding risk, identified by TPI would be considered by the Authority as part of assessment of TPI's proposed floor and ceiling costs, rather than being accounted for under the WACC.
82. OPR has suggested that TPI's wording in the fourth sentence under section 3.1.3 of the proposed Costing Principles should remain. This sentence states an assumption by TPI that any allowance which the Authority may make for asymmetric risk in its floor and ceiling costs assessment would be made through an adjustment to TPI's operating costs.
83. The draft determination noted that it is not appropriate for TPI to assume that asymmetric risks, if material, would necessarily be incorporated as an allowance into operating costs.

84. Amendment 15 of the draft determination required TPI to include any costs it considered to fall into the category of asymmetric risks to be clearly identified under a separate heading in its Costing principles.
85. The Authority confirms its position as set out in the draft determination.

Final Determination

Required Amendment 6

Section 3.1.3 of TPI's proposed Costing Principles (headed 'Rate of return') should be amended by deleting the second, third and fourth sentences under this section.

Draft Determination – Amendment 7

Section 3.1.4 of TPI's proposed Costing Principles (headed 'Annuity') should be amended as follows:

- *Delete the second sentence.*
- *Add a detailed outline of the annuity calculation methodology, consistent with the principles under sections 2(3) and 2(4) of Schedule 4 of the Code and along similar lines to the methodology set out under section 2.6 of the WNR CP.*

Public Submissions

86. No comments were made in the public submissions relating to Amendment 7.

Authority's Assessment

87. The Authority confirms its position as set out in the draft determination.

Final Determination

Required Amendment 7

Section 3.1.4 of TPI's proposed Costing Principles (headed 'Annuity') should be amended as follows:

- Delete the second sentence.
- Add a detailed outline of the annuity calculation methodology, consistent with the principles under sections 2(3) and 2(4) of Schedule 4 of the Code and along similar lines to the methodology set out under section 2.6 of the WNR CP.

Draft Determination – Amendment 8

Section 4.1 of TPI's proposed Costing Principles (headed 'Definition of operating costs') should be amended as follows:

- *The second sentence should include the words "managing the railway network in a manner consistent with the efficient costs definition under section 4 of Schedule 4 of the Code", immediately following the words "efficient stand alone operator".*
- *Add the first paragraph under section 3.3 of the WNR CP as the second paragraph.*
- *Add the words "TPI has defined the terms routine and cyclical maintenance to detail what activities have been included in operating costs" as the third paragraph.*
- *Delete the first three dot points and the last two dot points on page 8.*
- *Delete the words "and major planned maintenance" from the fourth and fifth dot points on page 8.*
- *Add the following four headings and provide a detailed description of the appropriate definitions, principles and processes under each of these headings, consistent with those set out under section 3.3 of the WNR CP:*
 - *Routine and cyclical maintenance for track.*
 - *Routine and cyclical maintenance for signalling and communications.*
 - *Network management costs.*
 - *Working capital.*
- *Add details of TPI's track maintenance model in a manner similar to the description of WestNet's track maintenance model set out under section 3.3 of the WNR CP.*
- *Incorporate TPI's track maintenance model into its costing model.*

Public Submissions

88. TPI commented (page 2) that it did not agree that land corridor costs for its railway, such as rent or similar payments to the Government, native title groups, miners or pastoralists, could not be recovered as part of its railway operating costs.
89. The ARTC noted (pages 2 to 3) that the Code makes it clear that no costs associated with the land on which railway infrastructure is located can be taken into account, but that the Authority should consider possible changes to the Code to reflect cases where there are legitimate land costs on which a return should be allowed.
90. OPR made several points (pages 6 to 7) as follows:
 - Major periodic maintenance should not be excluded from TPI's operating costs.
 - Similar to the comment made by TPI, OPR noted that costs associated with the leasing of land within the railway corridor should be included in TPI's operating costs. OPR noted that the Code was deficient in this area and should be amended as part of the Authority's Code review process.
 - The costing model to be developed by TPI should not need to include a track maintenance model.

PricewaterhouseCoopers' (PwC) Advice

91. PwC noted, in regard to the issue of including leasing costs for land in the railway corridor in operating costs, that it did not consider the definition of operating costs under the Code to be capable of broad interpretation to encompass annual charges for use of the land on which the railway infrastructure is situated.
92. With regard to the OPR's comment on the need for a track maintenance model, PwC reaffirmed the view in its draft report to the effect that a track maintenance model should be included in TPI's costing model, in order to confirm the operating costs to be included in the floor and ceiling cost calculations and to provide a clear statement of the principles and rules for determining these costs. PwC noted that it was important for TPI to provide information on how its actual maintenance costs were spread over the life of the railway assets to ensure that efficient costs did not exceed actual costs over this cycle and to show the linkage between maintenance activities and costs. In regard to benchmarking, PwC considered that the potential for the Authority to benchmark TPI's maintenance costs to determine whether TPI was adopting efficient practices did not lessen the need for TPI to provide a robust calculation of its actual maintenance costs.

Authority's Assessment

93. In relation to the issue of leasing costs associated with land within the railway corridor, the draft determination noted that only costs consistent with the Code could be included as operating costs. Operating costs under the Code (section 1 of Schedule 4) are defined in relation to railway infrastructure. Under section 2(2) of Schedule 4 of the Code, railway infrastructure does not include the land on which the infrastructure is situated or of which it forms part. Therefore, leasing or similar costs incurred by a railway owner associated with land within a railway corridor would not be included in the definition of operating costs under the Code. It is noted that PwC has expressed a similar view.

94. The draft determination also noted that sections 2(2) and 2(2a) of Schedule 4 of the Code make it clear that no costs associated with the value of the land on which the railway infrastructure is located (apart from embankments and cuttings) can be taken into account in the calculation of the capital costs (depreciation and return on capital) associated with this railway infrastructure.
95. Based on the above, the Authority's view is that the Code excludes TPI from incorporating, as part of its floor and ceiling costs, any operating or capital costs associated with the land on which its railway infrastructure is located, with the exception of cuttings and embankments pursuant to section 2(2a) of Schedule 4 of the Code.
96. The Authority notes the comments by the ARTC and OPR to the effect that the land issue should be considered as part of the Authority's current Code review process. The Authority published an issues paper and called for submissions at the commencement of its Code review process in late 2009. The issue of land costs was raised in a number of these submissions, and will be addressed in the context of the Code review. The Authority is not able to consider the inclusion of land costs under the Code as it is currently written.
97. With regard to the comment by OPR on the exclusion of major periodic maintenance costs, the draft determination noted that the Authority considered it important for TPI to have a similar definition of major periodic maintenance in its Costing Principles as that contained in the WNR CP. On this basis, the draft determination noted that major periodic maintenance would therefore be assumed to extend the life of the assets and, in accordance with the treatment in the WNR CP and the requirements of Schedule 4 of the Code, major periodic maintenance should be excluded from the operating costs under TPI's Costing Principles. The Authority notes that the costs associated with renewal of assets by major periodic maintenance is recovered via the annuity charge calculated on a GRV basis, rather than via an explicit depreciation allowance.
98. In relation to OPR's comment that the costing model to be developed by TPI should not need to include a track maintenance model, the Authority agrees with PwC to the effect that a track maintenance costing model should be provided by TPI as part of its costing model in order to provide an appropriate level of detail on TPI's actual maintenance costs over the life of the railway assets. This will assist the Authority in assessing an appropriate level of efficient operating costs for TPI's network, regardless of the extent to which the Authority may utilise benchmarking as part of this assessment.
99. The Authority confirms its position as set out in the draft determination.

Final Determination

Required Amendment 8

Section 4.1 of TPI's proposed Costing Principles (headed 'Definition of operating costs') should be amended as follows:

- The second sentence should include the words “managing the railway network in a manner consistent with the efficient costs definition under section 4 of Schedule 4 of the Code”, immediately following the words “efficient stand alone operator”.
- Add the first paragraph under section 3.3 of the WNR CP as the second paragraph.
- Add the words “TPI has defined the terms routine and cyclical maintenance to detail what activities have been included in operating costs” as the third paragraph.
- Delete the first three dot points and the last two dot points on page 8.
- Delete the words “and major planned maintenance” from the fourth and fifth dot points on page 8.
- Add the following four headings and provide a detailed description of the appropriate definitions, principles and processes under each of these headings, consistent with those set out under section 3.3 of the WNR CP:
 - Routine and cyclical maintenance for track.
 - Routine and cyclical maintenance for signalling and communications.
 - Network management costs.
 - Working capital.
- Add details of TPI's track maintenance model in a manner similar to the description of WestNet's track maintenance model set out under section 3.3 of the WNR CP.
- Incorporate TPI's track maintenance model into its costing model.

Draft Determination – Amendment 9

Section 4.2 of TPI's proposed Costing Principles (headed 'Efficient cost tests') should be amended as follows:

- *Delete the first paragraph and replace with wording similar to that in the first paragraph of section 3.2 of the WNR CP.*
- *Delete the words “having regard to the market conditions that are presently being experienced in the Pilbara region” in the first dot point.*
- *Delete the word “will” in the second dot point and replace with the word “may”.*

- Add the words “or unit costs, as appropriate,” immediately following the word “actual” under the third dot point.
- Delete the second sentence in the last paragraph and replace with wording similar to the sentence under section 3.1 of the WNR CP.

Public Submissions

100. FMG/TPI commented (page 4) that it disagreed with the exclusion of references to market conditions in the Pilbara under the second dot point of Amendment 9.
101. OPR made several comments on Amendment 9 (page 6 to 7) as follows:
 - First dot point: OPR disagreed that the first paragraph of section 4.2 should be deleted.
 - Second dot point: Similar to the comments by FMG/TPI, OPR does not support the exclusion of references to market conditions in the Pilbara.
 - Fourth dot point: OPR does not agree with this inclusion.
102. The NWIOA commented (page 3) that the second paragraph of section 3.2 of the WNR CP should also be included in this section of TPI’s Costing Principles.

PricewaterhouseCoopers’ (PwC) Advice

103. PwC noted, with respect to the comments by FMG/TPI and OPR relating to the required exclusion of references to market conditions in the Pilbara, that it was reasonable that regard may be made to current market conditions in the Pilbara in addition to having regard to other factors such as comparable and efficient benchmarks from elsewhere.
104. In regard to the comments by the NWIOA, PwC did not consider the incorporation of the suggested additional text from section 3.2 of the WNR CP to be necessary.

Authority’s Assessment

105. In relation to the comments by FMG/TPI and OPR that references to market conditions in the Pilbara should not be deleted under the second dot point of Amendment 9, the draft determination noted that these words were unclear and unnecessary and should be deleted.
106. The Authority’s view is that the wording “benchmarking of costs where comparable and current data is available” under the first dot point of section 4.2 of TPI’s proposed Costing Principles is appropriate, being similar to the wording in the equivalent part of the WNR CP and setting out one of the methods available to test whether operating costs are efficient. Any benchmarking of TPI’s railway operating costs with comparable railways would need to take account of the location of TPI’s railway in the Pilbara. It is not necessary to add further wording to this sentence, as proposed by TPI, relating to “having regard to the market conditions currently being experienced in the Pilbara”. This wording is also unclear in relation to the specific market conditions being referred to and the relevance of such market conditions to operating costs.
107. With regard to OPR’s comment that the first dot point of Amendment 9 was not required, the draft determination noted that although the wording in the first paragraph of section 4.2 of TPI’s proposed Costing Principles was similar to that in

the equivalent section of the WNR CP, TPI's wording did not clearly state that the purpose of the efficiency cost testing is to ensure that operating costs proposed for inclusion in the floor and ceiling costs, are efficient costs. Therefore, the draft determination noted that the Authority considered that to remove any uncertainty in relation to the purpose of TPI's cost efficiency testing, wording similar to that in the equivalent section of the WNR CP should be used.

108. A further point in relation to TPI's wording, was the implied assumption that TPI's actual operating costs were likely to reflect efficient costs and provide the basis for TPI's floor and ceiling costs. While actual operating costs could appropriately be regarded as efficient costs under specific circumstances, as set out under the third dot point of section 4.2 of TPI's proposed Costing Principles, the wording in the first paragraph of this section containing the implied assumption that TPI's actual operating costs, in general, were likely to be efficient costs is not appropriate.
109. In relation to OPR's comment that it did not agree with the fourth dot point under Amendment 9, the Authority has considered OPR's comments on this issue and agrees that the inclusion of the wording "or unit costs, as appropriate" is not necessary.
110. With regard to the NWIOA's comments regarding the inclusion of wording from section 3.2 of the WNR CP, the Authority notes that the second paragraph of this section of the WNR CP, containing the wording required by the NWIOA, is already included under section 4.2 of TPI's proposed Costing Principles. The Authority does not consider that further information from section 3.2 of the WNR CP, other than as set out under Amendment 9, needs to be added to section 4.2 of TPI's proposed Costing Principles.
111. Amendment 9 of the draft determination has been revised, in this final determination, by deleting the fourth dot point of this amendment, as discussed above.

Final Determination

Required Amendment 9

Section 4.2 of TPI's proposed Costing Principles (headed 'Efficient cost tests') should be amended as follows:

- Delete the first paragraph and replace with wording similar to that in the first paragraph of section 3.2 of the WNR CP.
- Delete the words "having regard to the market conditions that are presently being experienced in the Pilbara region" in the first dot point.
- Delete the word "will" in the second dot point and replace with the word "may".
- Delete the second sentence in the last paragraph and replace with wording similar to the sentence under section 3.1 of the WNR CP.

Draft Determination – Amendment 10

Section 4.3 of TPI's proposed Costing Principles (headed 'Allocation of operating costs') and Appendix B on page 14 should be amended as follows:

- Amend section 4.3 by:
 - *Deleting the words "specific operating costs, including track and signalling maintenance costs, centralised train control cost and" from the first sentence.*
 - *Inserting the first two sentences from section 3.4 of the WNR CP as the first paragraph.*
 - *Deleting the last sentence.*
 - *Inserting the last sentence under section 3.4 of the WNR CP as the last sentence in this section, excluding the words "will be determined by the ERA" and replacing these words with "will be reviewed by the ERA".*
- Amend the Operating Costs part of Appendix B by:
 - *Deleting all references to costs related to land (corridor and non-corridor land).*
 - *Deleting references to operating costs which are directly attributable and listing indirect operating costs under the headings 'railway infrastructure management costs' and 'network management costs'.*
 - *Inserting GTKs as the cost allocator for railway infrastructure management costs.*
 - *Inserting train numbers as the cost allocator for network management costs.*

Public Submissions

112. FMG/TPI commented (page 5) that the cost allocators it had proposed (train kilometres) for the allocation of indirect operating costs were preferred to the cost allocators required (Gross Tonne Kilometres (**GTKs**) and train numbers) under the second dot point of Amendment 10.
113. OPR commented (page 8) that the costs associated with leasing land within the railway corridor should be accepted as part of TPI's operating costs contrary to the requirement to delete references to such costs under the second dot point of Amendment 10.

PricewaterhouseCoopers' (PwC) Advice

114. PwC noted, in response to the comments by FMG/TPI on cost allocators, that the issues raised did not warrant a change to its position as outlined in its draft report and set out under Amendment 10 of the draft determination.

Authority's Assessment

115. With respect to the cost allocator issue raised by FMG/TPI, the draft determination set out the Authority's view on the most appropriate cost allocators for the allocation of operating costs associated with railway infrastructure management (such as maintenance management and engineering support) and network management (such as access management and train scheduling and operations planning).
116. The draft determination noted that in the case of railway infrastructure management costs, GTKs provided a better measure of demands placed on the railway infrastructure than train kilometres. With network management costs, the draft determination noted that train numbers was a better cost allocator than train kilometres based on the nature of the network operations.
117. The Authority notes that in order for the cost allocations to various route sections to be appropriate, for the purpose of the floor and ceiling costs assessment, the proxies or cost allocators used to allocate indirect costs need to be chosen to best reflect the manner in which such costs are likely to be distributed across the railway network so as to ensure a reasonable allocation of such costs to each route section within the network.
118. The Authority notes the comments by FMG/ TPI on this matter, to the effect that the cost allocators proposed for the TPI railway have been based on encouraging operators to use longer trains with higher axle loads to promote more efficient use of its network. The Authority notes that it is in the interests of operators to fully utilise the capability of TPI's railway network and thereby minimise their unit costs for rail transport by moving to longer and heavier trains regardless of any incentives which may be offered by TPI. In the case of the Code, the floor and ceiling cost determination process requires cost allocations between route sections to be made in a manner considered by the Authority to be appropriate. Amendment 10 sets out the cost allocation arrangements, for operating costs, considered by the Authority to be appropriate for TPI's railway network.
119. With regard to OPR's comment on land leasing costs, this matter has been dealt with earlier in this final determination in the discussion on Amendment 8.

120. The Authority confirms its position as set out in the draft determination.

Final Determination

Required Amendment 10

Section 4.3 of TPI's proposed Costing Principles (headed 'Allocation of operating costs') and Appendix B on page 14 should be amended as follows:

- Amend section 4.3 by:
 - Deleting the words "specific operating costs, including track and signalling maintenance costs, centralised train control cost and" from the first sentence.
 - Inserting the first two sentences from section 3.4 of the WNR CP as the first paragraph.
 - Deleting the last sentence.
 - Inserting the last sentence under section 3.4 of the WNR CP as the last sentence in this section, excluding the words "will be determined by the ERA" and replacing these words with "will be reviewed by the ERA".
- Amend the Operating Costs part of Appendix B by:
 - Deleting all references to costs related to land (corridor and non-corridor land).
 - Deleting references to operating costs which are directly attributable and listing indirect operating costs under the headings 'railway infrastructure management costs' and 'network management costs'.
 - Inserting GTKs as the cost allocator for railway infrastructure management costs.
 - Inserting train numbers as the cost allocator for network management costs.

Draft Determination – Amendment 11

Section 5.1 of TPI's proposed Costing Principles (headed 'Definition of overhead costs') and Appendix B on page 14 should be amended as follows:

- *Amend section 5.1 by:*
 - *Deleting the wording in the third paragraph. Replace with similar wording to that in the third sentence of the third paragraph of section 4.1 in the WNR CP.*
- *Amend the Overhead Costs part of Appendix B by:*

- *Classifying overheads under the heading ‘Cost Component’ into two categories, being: ‘TPI’s overheads’ and ‘Corporate overheads (services provided by FMG and allocated to TPI)’.*
- *Providing a similar level of detail in relation to the specific type of overhead costs being allocated under the heading ‘Description’, as is provided under Annexure 7.2 of the WNR CP under the heading ‘Inclusions’.*

Public Submissions

121. No comments were made in the public submissions relating to Amendment 11.

Authority’s Assessment

122. The Authority confirms its position as set out in the draft determination.

Final Determination

Required Amendment 11

Section 5.1 of TPI’s proposed Costing Principles (headed ‘Definition of overhead costs’) and Appendix B on page 14 should be amended as follows:

- Amend section 5.1 by:
 - Deleting the wording in the third paragraph. Replace with similar wording to that in the third sentence of the third paragraph of section 4.1 in the WNR CP.
- Amend the Overhead Costs part of Appendix B by:
 - Classifying overheads under the heading ‘Cost Component’ into two categories, being: ‘TPI’s overheads’ and ‘Corporate overheads (services provided by FMG and allocated to TPI)’.
 - Providing a similar level of detail in relation to the specific type of overhead costs being allocated under the heading ‘Description’, as is provided under Annexure 7.2 of the WNR CP under the heading ‘Inclusions’.

Draft Determination – Amendment 12

Section 5.2 of TPI’s proposed Costing Principles (headed ‘Allocation of overhead costs’) and Appendix B on page 14 should be amended as follows:

- Amend section 5.2 by:
 - *Deleting the number “2” and replacing it with the letter “B”.*
 - *Adding the first sentence under section 4.2 of the WNR CP as the first paragraph, excluding the words “will be determined by the ERA” and replacing these words with “will be reviewed by the ERA”.*
- Amend the Overhead Costs part of Appendix B by:

- *Inserting the words “Combination of GTKs and Train Numbers” under the heading ‘Cost allocator’.*
- *Adding a note at the end of this appendix, similar to the note under section 7.2.1 of Annexure 7.2 of the WNR CP, which relates to the use of the two cost allocators (GTKs and Train Numbers) for overhead costs.*
- *Adding a further sentence to the end of the above note, as follows; “The use of these two cost allocators for overhead cost allocation is to be reviewed by the ERA during its floor and ceiling costs determinations”.*

Public Submissions

123. FMG/TPI’s comments (page 5) in relation to Amendment 12 were similar to its comments in relation to Amendment 10, to the effect that its proposed cost allocators for the allocation of overhead costs were preferred to those required under Amendment 12.
124. The ARTC commented (page 3) that it supported the Authority’s proposed cost allocators as set out in the draft determination and required under Amendment 12.

PricewaterhouseCoopers’ (PwC) Advice

125. In relation to the comments by FMG/TPI regarding cost allocators for overhead costs, PwC referred to its previous comments on cost allocators under Amendment 10, where it reconfirmed its position as outlined in its draft report and set out under Amendments 10 and 12 of the draft determination.

Authority’s Assessment

126. The Authority notes that the comments by FMG/TPI in relation to cost allocators have been discussed previously under Amendment 10.
127. While the cost allocators proposed under the draft determination for indirect operating costs (Amendment 10) and overhead costs (Amendment 12) are the same (GTKs and train numbers), the draft determination noted that in the case of overhead costs, GTKs should be used to allocate those costs which vary more in quantum due to volumes moved, with train numbers used for those costs which vary more in quantum due to the number of train movements.
128. The Authority confirms its position as set out in the draft determination.

Final Determination

Required Amendment 12

Section 5.2 of TPI's proposed Costing Principles (headed 'Allocation of overhead costs') and Appendix B on page 14 should be amended as follows:

- Amend section 5.2 by:
 - Deleting the number "2" and replacing it with the letter "B".
 - Adding the first sentence under section 4.2 of the WNR CP as the first paragraph, excluding the words "will be determined by the ERA" and replacing these words with "will be reviewed by the ERA".
- Amend the Overhead Costs part of Appendix B by:
 - Inserting the words "Combination of GTKs and Train Numbers" under the heading 'Cost allocator'.
 - Adding a note at the end of this appendix, similar to the note under section 7.2.1 of Annexure 7.2 of the WNR CP, which relates to the use of the two cost allocators (GTKs and Train Numbers) for overhead costs.
 - Adding a further sentence to the end of the above note, as follows; "The use of these two cost allocators for overhead cost allocation is to be reviewed by the ERA during its floor and ceiling costs determinations".

Draft Determination – Amendment 13

Section 6.1 of TPI's proposed Costing Principles (headed 'Indexation of floor and ceiling') should be amended as follows:

- *Delete the third paragraph.*
- *Replace the above paragraph with the first four sentences from section 5.1 of the WNR CP.*

Public Submissions

129. FMG/TPI commented (page 5) that it disagreed with the requirement under the first dot point of Amendment 13 to delete reference to the use of a regional cost index for the escalation of TPI's operating costs.
130. FMG/TPI also disagreed with the second dot point of Amendment 13 relating to the incorporation of an efficiency factor as part of the escalation method.
131. OPR made similar comments (page 9) to those of FMG/TPI.
132. The NWIOA supported the requirements set out in Amendment 13 and noted that it welcomed the opportunity to contribute to the public consultation process associated with the future review of the efficiency factor issue proposed in the draft determination.

133. The ARTC commented (page 3) that the application of an efficiency factor should depend on the particular circumstances of each railway network. In the ARTC's view, where there is some doubt about the level of efficiency at which a network is operating, the application of an efficiency factor is probably valid.

PricewaterhouseCoopers' (PwC) Advice

134. With regard to the comments from FMG/TPI and OPR on the use of regional cost index for the escalation of TPI's operating costs, PwC supported the use of the CPI as set out under Amendment 13 of the draft determination. PwC considered the adoption of the CPI measure to be consistent with the needs of the regulatory regime, including for reasons of transparency and efficiency of regulatory process. In PwC's view the development and administration of a unique regional index would require additional regulatory process and resolution of potentially subjective matters, such as the cost components to be included, the measures to verify and report actual input prices, the weight to be attached to individual prices and the indexation methodology to be applied.
135. With respect to the comments from FMG/TPI, OPR and the ARTC on the use of an efficiency factor, PwC advised that while it recognised that the application of efficiency factor should be based on the particular circumstances involved, it also recognised that if such a factor was not applied to TPI's network this would result in an inconsistency of approach compared to the WNR CP. PwC suggested that at the next review of TPI's Costing Principles, the Authority should give further consideration to this matter.

Authority's Assessment

136. In relation to the issue raised by FMG/TPI and OPR relating to the use of a regional cost index for the escalation of TPI's operating costs, the draft determination noted that for the purpose of TPI's initial Costing Principles it was appropriate to adopt an approach consistent with that applied to WNR. Under this approach the adjustments to both capital cost components and operating costs, resulting from movements in the CPI, would be based on the same CPI data as set out in the WNR CP.
137. While the Authority acknowledges the location of TPI's railway network in the Pilbara, it notes that WNR's network is also largely located in regional centres spread across the southern part of Western Australia and extending east to Kalgoorlie. The Authority also notes that the CPI set out under the WNR CP is generally used as the index for the annual adjustment of costs across other infrastructure regimes regulated by the Authority in Western Australia.
138. The Authority agrees with PwC's view, that there would be significant difficulties in attempting to develop a unique regional cost index to replace the CPI and that use of the CPI ensures consistency and transparency and is the index best suited to the needs of the regulatory regime. The Authority will consider this issue further under the review of TPI's Costing Principles in 2012.
139. With regard to the required use of an efficiency factor under Amendment 13, which was also raised by FMG/TPI and OPR, the draft determination noted that for the purpose of the initial Costing Principles, the application of a consistent approach on this matter to both the WNR and TPI railway networks was considered appropriate. On this basis, the draft determination required, under Amendment 13,

the same efficiency factor to apply to the annual CPI cost adjustments for TPI's network as is currently set out under the WNR CP.

140. However, the Authority takes note of the point raised by the ARTC, to the effect that the particular circumstances of each railway network is relevant to the application of an efficiency factor to that network, and recognises that the efficiency factor currently applied to WNR has been in place for some time and should be reviewed.
141. The draft determination noted that the Authority will undertake a review of the efficiency factor to determine whether the current methodology and magnitude of the efficiency factor is still appropriate, following the completion of TPI's floor and ceiling costs determination. This review will include an examination of the extent to which any efficiency factor should be tailored to the particular circumstances of the railway networks under the regulatory regime.
142. The Authority confirms its position as set out in the draft determination.

Final Determination

Required Amendment 13

Section 6.1 of TPI's proposed Costing Principles (headed 'Indexation of floor and ceiling') should be amended as follows:

- Delete the third paragraph.
- Replace the above paragraph with the first four sentences from section 5.1 of the WNR CP.

Draft Determination – Amendment 14

Section 7 of TPI's proposed Costing Principles (headed 'Review and consultation') should be amended as follows:

- *Amend the heading to read "Compliance and review".*
- *Delete the wording under this section and replace with wording consistent with section 6 of the WNR CP, with the exception of the following:*
 - *First paragraph of section 6 of the WNR CP: Delete this paragraph and replace with "TPI agrees to a review of the Costing Principles by the ERA, through a public consultation process, two years after the date when all the regulatory instruments required under the Act and the Code for TPI's railway have been approved by the ERA. It is expected that the review will commence on 1 October 2012 and that TPI will provide the ERA with its proposed revised Costing Principles on this date".*
 - *Fourth paragraph of section 6 of the WNR CP: (1) Replace "WestNet" with "TPI", (2) Replace "The ERA will monitor TPI's compliance" with "TPI agrees to the monitoring by the ERA of its compliance", (3) Add the following sentence to the end of this paragraph; "It is expected that the first audit will commence at the end of the 2011-12 financial year".*

Public Submissions

143. No comments were made in the public submissions relating to Amendment 14.

Authority's Assessment

144. The Authority confirms its position as set out in the draft determination.

Final Determination**Required Amendment 14**

Section 7 of TPI's proposed Costing Principles (headed 'Review and consultation') should be amended as follows:

- Amend the heading to read "Compliance and review".
- Delete the wording under this section and replace with wording consistent with section 6 of the WNR CP, with the exception of the following:
 - First paragraph of section 6 of the WNR CP: Delete this paragraph and replace with "TPI agrees to a review of the Costing Principles by the ERA, through a public consultation process, two years after the date when all the regulatory instruments required under the Act and the Code for TPI's railway have been approved by the ERA. It is expected that the review will commence on 1 October 2012 and that TPI will provide the ERA with its proposed revised Costing Principles on this date".
 - Fourth paragraph of section 6 of the WNR CP: (1) Replace "WestNet" with "TPI", (2) Replace "The ERA will monitor TPI's compliance" with "TPI agrees to the monitoring by the ERA of its compliance", (3) Add the following sentence to the end of this paragraph; "It is expected that the first audit will commence at the end of the 2011-12 financial year".

Draft Determination – Amendment 15

Section 6 of TPI's proposed Costing Principles (headed 'Other Matters') should be amended to include a new sub-section (sub-section 6.3) headed "Asymmetric Risk".

Public Submissions

145. No comments were made in the public submissions relating to Amendment 15.

Authority's Assessment

146. The Authority confirms its position as set out in the draft determination.

Final Determination

Required Amendment 15

Section 6 of TPI's proposed Costing Principles (headed 'Other Matters') should be amended to include a new sub-section (sub-section 6.3) headed "Asymmetric Risk".

Draft Determination – Amendment 16

Section 6 of TPI's proposed Costing Principles (headed 'Other matters') should be amended to include a new sub-section (sub-section 6.4) headed "Service quality commitment", which should contain wording similar to the wording under section 1.5 of the WNR CP.

Public Submissions

147. No comments were made in the public submissions relating to Amendment 16.

Authority's Assessment

148. The Authority confirms its position as set out in the draft determination.

Final Determination

Required Amendment 16

Section 6 of TPI's proposed Costing Principles (headed 'Other matters') should be amended to include a new sub-section (sub-section 6.4) headed "Service quality commitment", which should contain wording similar to the wording under section 1.5 of the WNR CP.

Draft Determination – Amendment 17

TPI's proposed Costing Principles should be amended to include a new section (Section 8) headed "Definitions", which should include a complete list of all the terms used in the Costing Principles which might reasonably be expected to require a definition. In addition, all definitions should be:

- *Consistent with the definitions in the Act and the Code.*
- *If not defined in the Act or the Code, consistent with the definitions under section 8 of the WNR CP.*
- *Consistent with definitions used previously by TPI in its proposed segregation arrangements or proposed Part 5 Instruments, subject to the above requirements.*

Public Submissions

149. No comments were made in the public submissions relating to Amendment 17.

Authority's Assessment

150. The Authority confirms its position as set out in the draft determination.

Final Determination

Required Amendment 17

TPI's proposed Costing Principles should be amended to include a new section (Section 8) headed "Definitions", which should include a complete list of all the terms used in the Costing Principles which might reasonably be expected to require a definition. In addition, all definitions should be:

- Consistent with the definitions in the Act and the Code.
- If not defined in the Act or the Code, consistent with the definitions under section 8 of the WNR CP.
- Consistent with definitions used previously by TPI in its proposed segregation arrangements or proposed Part 5 Instruments, subject to the above requirements.