IPART Independent Pricing and Regulatory Tribunal | NSW

TAHE's compliance with the NSW Rail Access Undertaking – 2022-23

Final Report

May 2024

Transport »

Acknowledgment of Country

IPART acknowledges the Traditional Custodians of the lands where we work and live. We pay respect to Elders both past and present.

We recognise the unique cultural and spiritual relationship and celebrate the contributions of First Nations peoples.

Tribunal Members

The Tribunal members for this review are:

Carmel Donnelly PSM, Chair
Jonathan Coppel

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The Independent Pricing and Regulatory Tribunal

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Overview of our assessment of TAHE's compliance

The NSW Rail Access Undertaking ('the Undertaking') provides for third-party access to certain parts of the NSW rail network. One of its functions is to limit the amount of revenue that rail owners can charge these third-party businesses to use the network. Rail owners cannot receive more revenue than the economic costs of providing the service. This requirement, known as 'the ceiling test', is intended to ensure that monopoly track owners provide prices and conditions of access to existing and future access seekers on reasonable terms.

IPART is required to assess the Transport Asset Holding Entity's (TAHE) annual compliance with the ceiling test. This compliance assessment relates to the 2022-23 financial year for TAHE's networks (shown in Figure 1 and Figure 2).

This is our second assessment of TAHE's passenger network. Prior to last year's review, we did not apply the ceiling test to the metropolitan passenger network. The reason was that the track owner at the time, RailCorp, was not corporatised and hence was not a separate legal entity to Sydney Trains, NSW Trains or Transport for NSW. Metropolitan passenger operations involved transfer payments between above-rail and below-rail departments of a single vertically integrated operation without any access contracts. On 1 July 2020, RailCorp became TAHE (a State-Owned Corporation). Passenger train operators now pay access fees for using TAHE's passenger network, and the NSW RAU now applies to these transactions.

We have also completed a detailed assessment of TAHE's Hunter Valley Coal Network against the ceiling test and a high-level assessment of TAHE's other freight networks.

In addition to the ceiling test, rail owners must meet the 'floor test', which requires them to charge every access seeker fees that recover their direct costs of using the network.

The floor test is intended to ensure efficient rail owners can recover the avoidable costs of providing access to a third-party access seeker. It protects against a cross-subsidy to one access seeker from other access seekers and taxpayers. While IPART does not have a formal role assessing the floor test, we have considered whether this requirement has been met.

In parallel to this compliance review, we have reviewed TAHE's Unders and Overs Account policy. This policy will determine how any over-recovery or future under-recovery of revenue, is returned to, or collected from, rail access customers.

We received only one submission in response to our Draft Report and that was from TAHE. The relevant sections of that submission and our consideration are incorporated in the relevant sections of this Final Report.

1.1 Summary of our decisions

1.1.1 Metropolitan Passenger Network

Our decision is that TAHE has complied with the ceiling test for the Metropolitan Passenger Network. Its access revenue was less than 40% of its full economic costs using the depreciated optimised replacement cost (DORC) asset valuation methodology required by the Undertaking.[a] We also consider that the floor test has been met.

1.1.2 Hunter Valley Coal Network

Our decision is that TAHE has not complied with the ceiling test in the Undertaking for its Hunter Valley Coal Network for the 2022-23 compliance year. Across all access seekers, TAHE recovered around 115% of its costs of serving the combined coal and freight group of access seekers on the network. This was an over-recovery of around $1.17million in 2022-23.

TAHE's cumulative over-recovery was $6.0 million as at 30 June 2022.[1] TAHE's over-recovery in 2022-23 has increased this cumulative balance to $7.12 million as at 30 June 2023.

TAHE subsequently provided IPART with an updated Draft Unders and Overs Policy. We expect that it will address the current cumulative over-recovery.

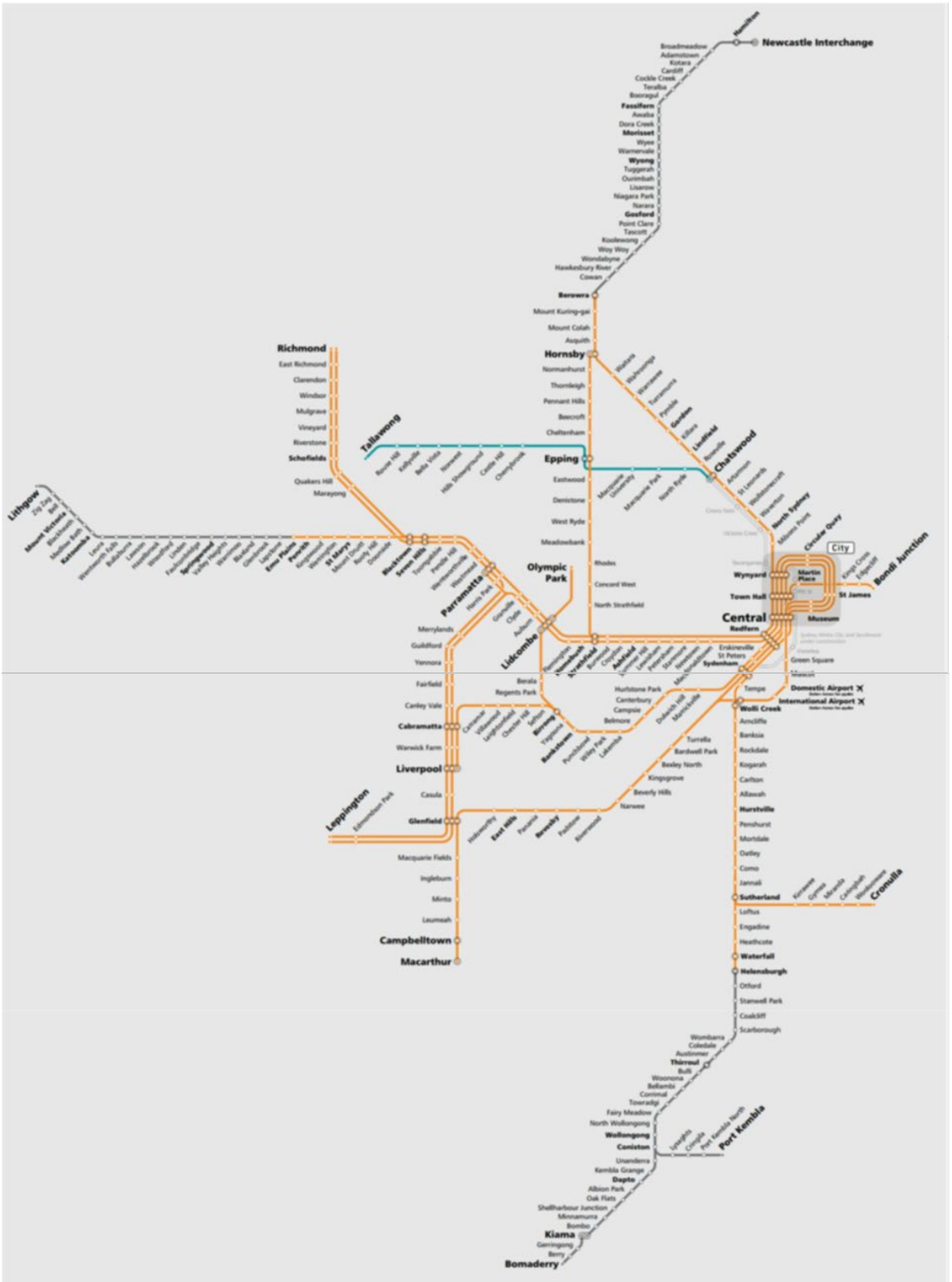
1.1.3 Other TAHE Networks

Our decision is that TAHE has complied with the ceiling test for these 3 networks. The access revenue for these networks is less than TAHE's total of operating and maintenance costs. While a ceiling test would ordinarily include capital costs in the full economic cost, which in turn would ordinarily require a DORC valuation for the asset base, in this case we concluded that this DORC valuation was not necessary to establish that the ceiling test was met.

Final Decisions

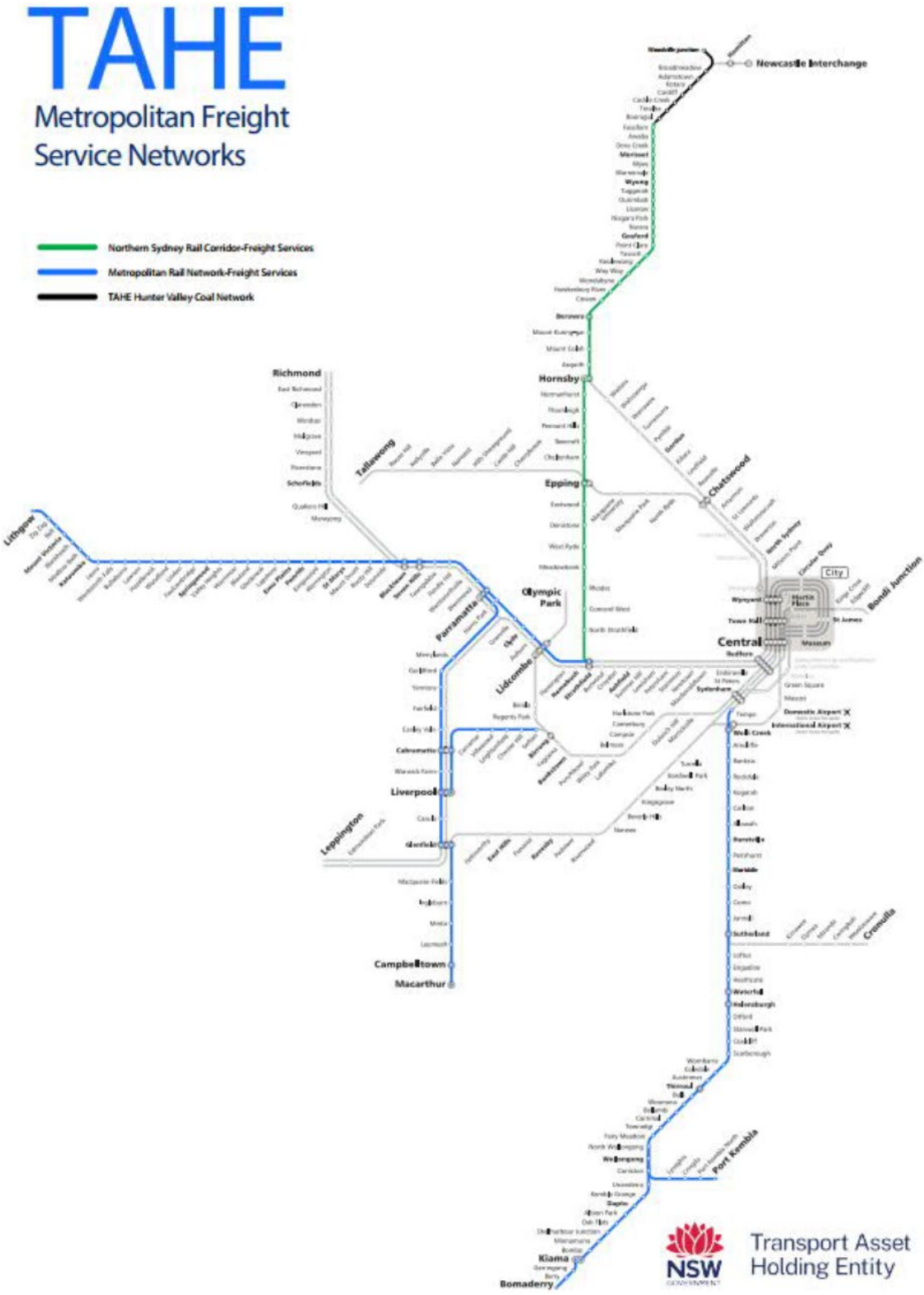
[a] Full economic cost is a defined term in Schedule 3 of the Undertaking. Full economic cost reflects in part TAHE's actual costs as well as regulated outcomes, such as rate of return that is determined by IPART.

Figure 1 TAHE's Metropolitan Passenger Network



Source: TAHE, 2022 access pricing compliance submission to IPART, December 2022.

Figure 2 TAHE's Metropolitan Freight Network



Source: TAHE, 2022 access pricing compliance submission to IPART, December 2022.

Metropolitan Passenger Network

TAHE's Metropolitan Passenger Network is used by Sydney and NSW Trains to provide passenger operations. It consists of the metropolitan rail network but excludes the new metro lines (turquoise lines in Figure 1 above). Sydney Trains operates suburban services entirely within the passenger network. NSW Trains uses the network to operate intercity and regional services that may have an origin or destination outside of the Metropolitan Passenger Network. Sydney Trains is responsible for maintaining the Metropolitan Passenger Network.[2,b]

2.1 How we assessed compliance

Clause 5 of Schedule 3 of the Undertaking requires TAHE to provide an annual compliance statement to IPART demonstrating its compliance with the ceiling test, including the asset valuation roll forward principles. For the Metropolitan Passenger Network, this test requires TAHE to not earn more than the full economic cost of providing access to the network for Sydney and NSW Trains.

IPART is required to assess this information to determine if TAHE has complied with these requirements.

We consider that an assessment of the ceiling test on a standalone basis requires estimating costs for a hypothetical network that is purpose-built and optimised for that group of access seekers. The actual costs of the existing infrastructure are not relevant unless they are efficient for a group of access seekers. For example, any extra costs that are driven by freight trains must be excluded from the ceiling test for passenger access seekers. Similarly, passenger train costs must be excluded when assessing the hypothetical freight networks.

TAHE has conducted the ceiling test using the depreciated optimised replacement cost (DORC) methodology as required by the Undertaking.[3]

Although we do not have a formal compliance role in relation to the 'floor test', we also considered whether this test has been met.

2.2 Assessment of the ceiling test

TAHE has calculated the full economic cost of the Metropolitan Passenger Network on a standalone basis for the passenger operators (Table 1). Our decision is that it meets the ceiling test.

[b] NSW Trains also paid a fee to Sydney Trains for the provision of maintenance and train control expenditure. See TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023 p 24.

In calculating the costs of providing access, TAHE has included some expenditure by other entities. This reflects that some activities necessary for access are undertaken by other parties and incurred on TAHE's behalf. Accounting for these costs provides a holistic assessment of the cost of providing access to the passenger network.

Table 1 TAHE's ceiling test for the Metropolitan Passenger Network ($ m)

	TAHE's estimates		
Activity	**Sydney Trains**	**NSW Trains**	**All passenger access seekers**
Variable operating costs	10.9	4.5	15.4
Variable maintenance costs	48.3	17.6	65.9
Total direct costs	59.2	22.1	81.3
Train control costs	122.3	122.3	122.3
Fixed maintenance expenditure	549.1	549.1	549.1
Fixed operating costs	84.0	84.0	84.0
Full incremental costs	671.9	671.9	671.9
Depreciation	762.0	762.0	762.0
Return on RAB	1,167.0	1,167.0	1,167.0
Tax allowance	330.3	330.3	330.3
Full economic costs	**3,073.8**	**3,036.6**	**3,095.8**
Access revenue paid to TAHE	324.7	124.8	449.7
In-kind contributions[c]	565.6	179.8	745.3
Total access revenue and in-kind contributions	**890.3**	**304.6**	**1,195.0**
Total access revenue and in-kind contributions less full economic costs	-2,183.5	-2,732.0	-1900.8
Recovery Rate	**29.0%**	**10.0%**	**38.6%**

Source: TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, p29 and IPART analysis.

[c] In-kind contributions by Sydney Trains mainly consist of labour and materials used for maintenance and train control activities undertaken by Sydney Trains on TAHE's behalf that are not directly billed to TAHE but instead off-set against Sydney Trains access charges. These agregated costs are derived from the individual inputs to Sydney Trains accounting system

TAHE's ceiling calculation differs from our standard ceiling calculation in one respect. TAHE treats major periodic maintenance as capital expenditure, adding it to the Regulatory Asset Base (RAB) and applying depreciation to it. In contrast, IPART's standard approach is to calculate a life-cycle average level of major periodic maintenance for asset replacement and to include that levelized charge as a maintenance expense. In practice, these two approaches yield very similar values for the ceiling, so we consider TAHE's choices to be reasonable for the purpose of calculating a ceiling for the metropolitan passenger network.

2.2.1 Variable operating costs

TAHE has assumed that the proportion of its operating costs that vary with network usage is 10%.[4] It arrived at this percentage by first considering the proportion of its operating costs that related to its regulated assets.[d] TAHE then considered what proportion varied with usage and the driver of the costs.[e] The remainder of the operating expenditure has been treated as a fixed cost.

2.2.2 Variable maintenance

TAHE has included its variable maintenance, as required by the Undertaking.[5] TAHE has noted in its submission that the impact of COVID-19 created a maintenance backlog the is currently being addressed.[6] It also noted that Sydney Trains has put in place strategies to lower maintenance costs over time.[7] TAHE expects that these strategies will deliver a cost-efficient maintenance program. TAHE's submission shows that combined variable and fixed maintenance costs have risen by only 1.4% from 2020-21 to 2022-23.[8]

2.2.3 Capitalised variable major periodic maintenance.

TAHE has excluded capitalised variable MPM from its variable maintenance cost figures. It has instead included this cost as part of capital expenditure. The capital expenditure increases the RAB and therefore leads to larger return on assets and depreciation building blocks in the ceiling. As noted above, we consider this is acceptable for the metropolitan passenger network ceiling test, even though this approach differs from our standard one.

[d] Regulated assets refers to TAHE's rail networks, which are regulated by the NSW Rail Access Undertaking. TAHE also has assets that are not regulated by the Undertaking - mainly train stations and the property around them.

[e] Cost drivers considered by TAHE included trip length, carriage weighted trip length, gross tonne kilometres and service count. See TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, p51.

2.2.4 Train control costs

TAHE has treated train control costs as a fixed cost.[9] In its submission TAHE states that the total maintenance and train control costs have only risen by 2.6% from 2020-21 to 2022-23. However, we note that train control costs separately have risen by 9.0% over the same period. This is materially more than the 5.5% cumulative effect of inflation over the same period. TAHE stated in its 2021-22 submission that there was a backlog in maintenance as a result of COVID and natural disasters.[10] TAHE's submission to the draft report made it clear that train control costs are the responsibility of and are incurred by Sydney Trains. Therefore, they are outside TAHE's control. TAHE stated it was unable to comment on expected future train control costs.

Given the maintenance backlog in train control costs due to COVID and natural disasters we consider that the 2022-23 costs are reasonable but would expect them to fall in real terms in the coming years as the backlog is reduced.

2.2.5 Capital costs

TAHE has calculated the RAB for 2022-23 in accordance with the principles in the Undertaking (Table 2). It has used a DORC valuation as the opening value for its passenger network. TAHE has then increased this value by CPI and added capital expenditure for the given year, less any depreciation and asset disposals. We have checked TAHE's asset roll-forward calculation and find it reasonable.

Table 2 Asset roll forward valuation for the Metropolitan Passenger Network ($ m)

Roll forward component	TAHE's estimates 2022/23
Opening value 30 June 2022	21,674.4
Indexation	848.3
Capital expenditure	623.8
Additions	-
Depreciation	762.0
Disposals	21.7
Closing value 30 June 2023	22,362.8
Average RAB	22,018.6

Source: TAHE, Access Pricing Compliance Submission to IPART Financial Year 2022-2023, October 2023, pp26-27 and IPART analysis.

Capital Expenditure

TAHE has incurred $623.8 million in capital expenditure in 2022-23 with the majority being spent on rail infrastructure and signalling[11]. Approximately 65% of the capex was for improvements to rail network. Approximately 35% of the capital expenditure was on major periodic maintenance to extend the life of the existing assets.

We have not independently tested the capex amount for reasonableness. However, we note that this level of capex is largely determined by, undertaken by, and therefore implicitly approved by TAHE's only customer on the metropolitan passenger network—Sydney Trains.

As discussed earlier we consider TAHE's treatment of major periodic maintenance as capital expenditure appropriate for determining the rate of return, depreciation, and size of the regulatory asset base. It is also appropriate for determining compliance with the ceiling test.

We do however make an adjustment to TAHE's direct costs to include levelised variable MPM for the sole purpose of the floor test later in this report.

Our analysis shows that TAHE has rolled forward the regulatory asset base appropriately.

Depreciation

TAHE has included depreciation on all asset classes (excluding land) for the Metropolitan Passenger Network. It has calculated this figure over the estimated useful life of its assets on a straight-line basis, consistent with the requirements of the Undertaking.[12] TAHE has also depreciated new capital expenditure by half a year, as also required by the Undertaking.[13]

Return on RAB

TAHE has applied the correct rate of return to the average of the opening and closing values of the RAB. The rate of return is set by IPART in our 5-yearly rate of return and remaining mine life review.

2.2.6 Tax allowance

TAHE has incorporated a tax allowance as required when using a real post-tax rate of return. It has estimated the tax allowance by applying the ratio of the real pre-tax rate and post-tax rate of returns from our 2014 and 2019 rate of return determinations.[14] This tax allowance is 28.3%[f] of the return on assets. We consider that this is a reasonable method for calculating a tax allowance.

Final decision

1. TAHE has complied with the ceiling test for its Metropolitan Passenger Network.

2.3 Assessment of the floor test

Clause 1 of Schedule 3 of the Undertaking requires the access revenue from every access seeker to at least meet the direct cost imposed by that access seeker. This is known as the floor test.

[f] The pre-tax real WACC is 6.8%. The post-tax real WACC is 5.3%. The tax allowance is (6.8-5.3)/5.3=28.3%

As noted above, direct costs are the efficient, forward-looking costs which vary with the usage of a single operator.[15]

We consider the floor test has been met by TAHE for both Sydney Trains and NSW Trains (see Table 4)

As discussed above, not all of the costs of providing access are incurred by TAHE. Namely, Sydney Trains carries out maintenance and train control for the Metropolitan Passenger Network at no cost to TAHE under current arrangements.[16] TAHE treats this as an "in-kind" contribution. To conduct the floor test, all the costs of the network that vary with usage, including those funded through in-kind contribution by Sydney Trains and NSW Trains, should be captured in direct costs. If the focus was solely on costs paid for by TAHE, then the floor would be set too low.

2.3.1 Variable TAHE operating expenditure

TAHE allocated its own variable operating expenditure based on aggregate trip length of each operator. This resulted in a 69% allocation to Sydney Trains and a 31% allocation to NSW trains. We consider approach reasonable.[17]

2.3.2 Variable major periodic maintenance

TAHE allocated variable major period maintenance based on gross tonne kilometres. TAHE considers that variable major periodic maintenance is driven by the number and weight of the trips. This resulted in a 73% allocation to Sydney Trains and a 27% allocation to NSW trains.[18] We consider this approach reasonable.

We also compared TAHE's variable major periodic maintenance costs for the 3 years provided with our own estimates based on a gross tonnes per km basis and found them to be reasonable.

For 2022-23 TAHE has reported that there were 15.85 billion gross tonne-kilometres (gtk) for passenger trains on the Metropolitan Passenger Network. Using TAHE's estimate of $81.3 million for direct costs for the MPN implies an average direct cost rate of $5.14 per '000 gtk.

Table 3 sets out TAHE's estimate of direct costs in millions of dollars per year. We have concluded that TAHE's estimate of variable operating cost and variable maintenance cost for the Transport cluster are reasonable, despite the difference in method between TAHE and IPART.

Table 3 Direct costs for the Metropolitan Passenger Network ($ m)

	TAHE's estimates		
	Sydney Trains	**NSW Trains**	**All passenger access seekers**
Transport cluster basis			
Variable operating costs	10.9	4.5	15.4
Variable maintenance expenditure	48.3.	17.6	65.9
Total Direct costs	**59.2**	**22.1**	**81.3**
TAHE only costs			
Variable operating costs	6.3	2.8	9.1
Variable maintenance expenditure	-	-	-
Levelised charge	-	-	-
Total Direct costs	**6.3**	**2.8**	**9.1**

Source: TAHE, Access Pricing Compliance Submission to IPART Financial Year 2022-2023, October 2023, pp26-27 and IPART analysis

2.3.3 All transport cluster direct cost must be included.

There are two important reasons for allocating all transport cluster direct costs in the floor test not just TAHE's own directly incurred costs.

1. Sydney Trains has undertaken $745.3 million in in-kind works for TAHE in 2022-23 and NSW Trains has contributed $179.8 million in fees to Sydney Trains for the work they undertook. These represent the bulk of the resource costs incurred to provide access. It is these resource costs and not simply TAHE's costs to administer the access contracts that represent the avoidable cost if rail access were not provided.
2. Ignoring resource costs incurred by parties other than TAHE to provide access might also raise competitive neutrality concerns of a type that the floor test is designed to prevent. If these resource costs are not reflected, then the direct costs on the MPN would be undervalued and possibly lead to a situation where a private operator was subsidised by the other access users who make in-kind contributions.[9]

From Table 3 above we can see that if only TAHE costs rather than transport cluster direct costs are used then the floor test cost is only $9.1 million rather than the true direct costs of the MPN which is $81.3 million.

[9] While the number of private trains using the MPN is relatively small with only $200,000 of access revenue in 2022-23 it is nonetheless important to have the principles properly applied to create a level playing field for competition.

Failure to include all the network direct costs could lead to other access seekers only being charged as little as 11.3%[h] of the actual direct costs they impose on the MPN without failing the floor test. This would see Sydney Trains and NSW Trains[i] subsidising those access seekers.

2.3.4 Sydney Trains and NSW Trains floor test

Table 4 below shows the TAHE floor test for Sydney Trains and NSW Trains. The IPART scenario includes:

- all the transport cluster direct costs not just TAHE direct costs
- the levelised variable major period maintenance as required by the Undertaking

This is the upper bound of the floor test and shows that the floor test is passed for Sydney Trains and NSW Trains individually and also for all access sectors combined.

Table 4 Floor test for the Metropolitan Passenger Network ($ m)

	TAHE's estimates		
	Sydney Trains	**NSW Trains**	**All passenger access seekers**
Transport cluster basis			
Access revenue paid to TAHE	324.7	124.8	449.5
In-kind contributions	565.6	179.8	673.7
Total access revenue and in-kind contributions	**890.3**	**304.6**	**1,194.8**
Total Direct costs	**59.2**	**22.1**	**81.3**
Access revenue less direct costs	**831.0**	**282.5**	**1113.6**

Note: Access revenue for all passenger access seekers includes $0.2 m from other passenger access seekers who use the passenger network, such as heritage passenger operators.
Source TAHE, Access Pricing Compliance Submission to IPART Financial Year 2022-2023, October 2023, pp26-27 and IPART analysis

Table 4 shows that access revenue exceeds TAHE's estimate of direct cost more than 14 times over.

We noted in the Draft Report that TAHE's direct cost estimate of $5.14 per '000 gtk was high relative to the range of $0.77 and $1.18 per '000 gtk that IPART had estimated then from analysis of coal railways.[j]

[h] $9.1m/$81.3m = 11.3%.

[i] Ultimately then NSW taxpayers.

[j] This range was derived from recent IPART regression analysis on ARTC and Aurizon data for their respective coal networks. It has since been updated in our Estimating the direct cost of rail access Draft Report

TAHE's submission to the Draft Report stated that comparing costs between the MPN and coal networks was not helpful because the MPN has a large number of relatively light trains on a diverse network. In contrast, coal networks tended to be linear in nature with a much smaller number of heavier trains.

We accept that the matters raised by TAHE are relevant to the direct cost estimation. However, TAHE did not provide an alternative figure for the direct cost for a metropolitan passenger network other than its own estimate of the variable cost rate, based on accounting data.

Our own direct cost work has continued. In parallel to the publication of this Final Report on TAHE compliance, we are publishing a Draft Report on estimating the direct cost of rail access ("Direct Cost Draft Report"). In that report, we have updated our estimated range of direct cost for coal networks. The updated range, based on the QCA's work from 2000 adjusted for inflation, was from $0.69 to $1.93 per '000 gtk. Our econometric estimate of the direct cost rate was $0.84 per '000 gtk.

This updated range is also well below TAHE's own direct cost estimate. Tables 3 and 4 above show that TAHE's access revenue (including in-kind contributions from Sydney Trains) is well above its own direct cost estimate which, in turn, is well above IPART's current estimate of the direct cost rate. We therefore conclude that TAHE's access prices for metropolitan passenger services passes the direct cost floor test.

Hunter Valley Coal Network

3.1 How we assessed compliance

We have assessed TAHE's compliance with the ceiling test for its Hunter Valley Coal Network. We:

- Considered whether TAHE had performed the test for all relevant access seekers or groups of access seekers.
- Considered whether TAHE had correctly calculated the full economic costs of the Hunter Valley Coal Network on a standalone basis for each of those groups. This included testing whether TAHE had complied with the asset roll forward requirements in the Undertaking. We compared TAHE's calculations against our own assessment of costs.
- Compared access revenues received by TAHE, with our calculations of full economic costs for each group.

Our decision is that TAHE has failed the ceiling test for combined coal and general freight access users because this combined revenue exceeds the relevant full economic costs.

3.2 Relevant access seekers

TAHE submitted ceiling tests conducted on 3 different groups of access seekers:

1. combined coal and general freight
2. coal
3. general freight.

We find the 3 groups proposed by TAHE are appropriate.

Both coal and general freight access seekers need to use the same assets. This means the full economic cost is similar for each group, differing only by the extent that direct costs (i.e. variable costs) are different.

3.3 Assessment of the ceiling test

The ceiling test requires that every group of access seekers pays no more than the full economic cost of the network assets that they use. In the present context, that means that we need to examine three groups: all coal trains, all non-coal freight trains, and all freight trains including coal. There is substantial overlap between the assets and costs that support each of these groups. This is why the combined ceiling test is not just the sum of the coal and non-coal cost recoveries.

TAHE calculated the full economic costs for each group of access seekers on a standalone basis (Table 5), consistent with the Undertaking and our 2020-21 decision. Specifically, it has excluded any extra costs that are driven by other access seekers (namely passenger trains).

Table 5 Ceiling test for the Hunter Valley Coal Network ($)

	2021-22 (from IPART's 2021-22 decision)	2022-23 (from TAHE's submission)
All access seekers (combined coal and freight)		
Maintenance costs	4,672,091	5,153,369
Network control costs	602,530	645,463
Corporate and system overheads	485,265	533,493
Depreciation	689,623	700,565
Return on assets	681,395	662,852
Tax allowance	192,848	187,600
Full economic cost	7,323,751	7,883,341
Access revenue	5,839,624	9,051,440
Cost over-recovery	-1,484,127	1,168,099
Coal		
Maintenance costs	4,296,994	4,757,416
Network control costs	602,530	645,463
Corporate and system overheads	450,756	497,065
Depreciation	689,623	700,565
Return on assets	681,395	662,852
Tax allowance	192,848	187,600
Full economic cost	6,914,146	7,450,960
Access revenue	4,122,691	7,213,916
Cost over-recovery	-2,791,455	-237,044
General Freight		
Maintenance costs	4,336,170	4,639,270
Network control costs	602,530	645,463
Corporate and system overheads	454,360	486,195
Depreciation	689,623	700,565
Return on assets	681,395	662,852
Tax allowance	192,848	187,600
Full economic cost	6,956,926	7,321,944
Access revenue	1,716,933	1,837,524
Cost over-recovery	-5,239,993	-5,484,420

Source: 2021-22 final decision, TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, p.51.

3.3.1 Maintenance costs

TAHE has applied the same general approach that we used in our 2021-22 decision. It used the benchmarking data provided by SNC Lavalin to determine the benchmark fixed maintenance costs (per km of track) and variable costs (per thousand gross tonne kilometres (gtk)).[k19]

TAHE has escalated its maintenance cost estimates using CPI[20], rather than the maintenance cost index (MCI) as proposed in our 2020-21 decision.[l] This leads to lower maintenance costs, as CPI is lower than MCI. TAHE acknowledge in their submission that CPI is a conservative estimate of maintenance cost inflation.[21]

3.3.2 Network control costs

TAHE has escalated last year's network control costs accepted by IPART using CPI. TAHE has adopted this approach on the basis that network control costs are fixed and do not vary by the number of access seekers or volume of freight. We consider that this approach is reasonable.

3.3.3 Corporate and system overheads

TAHE has again used IPART's 2020-21 estimate of an efficient level of corporate and system overheads equal to 9.2% of the sum of maintenance and network control. This is derived from industry benchmarking we commissioned in 2009-10.[22] This 'mark-up' approach is generally accepted industry practice. We would not expect the percentage of costs allocated for corporate and system overheads to increase over time for an efficient firm.

TAHE has noted that there is a slight difference in corporate and system overheads between coal and general freight access seekers. It states that this reflects the difference in direct (variable maintenance) costs relating to each group of access seekers.[23] We consider that this approach is reasonable.

3.3.4 Capital costs

TAHE has calculated the RAB for 2022-23 according to the roll forward principles in the Undertaking (Table 6). It must use the RAB in the prior year plus the CPI increase on that prior RAB. TAHE must then add capital expenditure in the given year, less depreciation, and any asset disposals in the given year.

TAHE has correctly adopted the asset life from our asset mine life determination and applied depreciation on a straight-line basis.

[k] RailCorp contracted SNC Lavalin to estimate efficient costs for the 2015-16 to 2017-18 compliance assessments.

[l] MCI measures the change in price of standard inputs used in maintenance, for example fuel costs and metal products. It may more accurately reflect the change in maintenance costs than CPI as it does not include goods that are not relevant to maintenance (e.g. grocery prices and the cost of residential rental).

It has also applied the correct rate of return of 5.3%[24] to the average of the opening and closing values of the RAB. The rate of return is set by IPART in our 5-yearly review.

Table 6 TAHE's asset roll forward valuation for combined coal and general freight access seekers ($)

	2021-22	2022-23
Opening RAB	13,102,839	12,610,166
Opening RAB x CPI	196,951	493,522
Add Capex	0	0
Add Additions	0	0
Less Depreciation	-689,623	700,565
Less Disposals	0	0
Closing RAB	12,610,166	12,403,124

Note: The figures for 2021-22 are from our 2022-23 final decision.
Source: TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, Table 14, p.34.

3.3.5 Tax allowance

TAHE has estimated the tax allowance by applying the ratio of the real pre-tax rate and post-tax rate of returns from our 2014 and 2019 rate of return determinations.[25] [m] We consider that this is an appropriate method for calculating the tax allowance.

Final decisions

2. TAHE has not complied with the ceiling test for its Hunter Valley Coal Network.

3. TAHE has complied with the asset valuation roll forward principles in the NSW Rail Access Undertaking for its Hunter Valley Coal Network in 2022-23.

3.4 TAHE's unders and overs account

When the Undertaking was established, it was recognised that it may be impractical to set access prices in a way that would avoid over-recovery of full economic costs in every year. This is because prices must be set with only an estimate of the tonnage for the coming year. Prices set with an expectation of low tonnage will generate too much revenue if tonnage turns out to be higher than expected (and vice versa).

[m] The pre-tax real WACC is 6.8%. The post-tax real WACC is 5.3%. The tax allowance is (6.8-5.3)/5.3=28.3%

To adjust for these under or over-recoveries of the ceiling revenue, the Undertaking provides for an unders and overs account. The expectation is that the net balance of this account would remain close to zero, even though it might fluctuate from time to time.

We must have regard to the operation of the unders and overs account as part of our compliance reviews.

3.4.1 The unders and overs account balance

Our finding is that the unders and overs account balance is $7.12 million as at 30 June 2023.

Table 7 IPART findings on unders and overs account ($)

	All access seekers (combined coal and freight)	Coal	General Freight
Balance at 30 June 2022	5,975,088		
2022-23 revenue minus costs	1,168,099	-237,044	-5,484,420
2022-23 cost recovery percentage	114.8%	96.8%	25.1%
Balance as at 30 June 2023	7,115,334		

Source: TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023 and IPART analysis.

Table 7 shows that the level of cost recovery from the coal sector is 96.8% and 25.1% from the general freight sector. However, the level of cost recovery from the combined sectors is 114.8%. TAHE has breached the ceiling test by $1.17 million in 2022-23. This has increased the Unders and Overs Account balance to $7.12 million as at 30 June 2023.

3.4.2 Developing an unders and overs account policy

In our 2021-22 compliance report we recommended that TAHE complete a draft Unders and Overs Account Policy by 31 May 2023.[26]

TAHE consulted with access seekers and provided a Draft Unders and Overs Policy to IPART in May 2023. After consultation with IPART, TAHE presented a revision in August 2023 and an updated Draft Unders and Overs Policy in November 2023. In its submission to the Draft Report TAHE stated that its Draft Unders and Overs Policy will address the current and any future issues of revenue over-recovery.

IPART has now completed its review of TAHE's Unders and Overs Policy. The Policy is expected to address the current Overs Account balance and ensure that there are no persistent over or under recovery balances in the future.

Other TAHE Networks

Several segments of TAHE's network are accessed by freight trains to transport goods to domestic and export markets. They carry a diverse range of goods, including grain, cotton and containerised freight. The specific segments used are the:

- Country Regional Network
- Northern Sydney Rail Corridor
- Metropolitan Rail Network – freight.

These segments are treated as hypothetical standalone networks for the purposes of the Undertaking. This ensures freight operators are only charged the efficient cost of using the network (i.e. so that costs attributable to passenger trains are not passed on to freight trains).

4.1 How we assessed compliance

Last year we assessed TAHE's compliance information under clause 5(f) of the Undertaking. Under this clause, IPART is not required to undertake a detailed compliance review where a rail infrastructure owner can demonstrate that access revenue for a sector is no more than 80% of the full economic cost for that sector.

This year we have conducted a more detailed review of the compliance with the ceiling test for the 3 network segments as it has been 5 years since our more detailed review.

We are however mindful to minimise the regulatory burden and cost on TAHE where there is no material benefit to other stakeholders. Requiring TAHE to undertake a DORC study of the assets and prepare a detailed regulatory asset base and roll forward would be burdensome, unless necessary to determine the ceiling test result.

4.2 Assessment of the ceiling tests

Table 7, Table 9 Table 10 shows that the access revenue for each of the:

- Country Regional Network
- Northern Sydney Rail Corridor
- Metropolitan Rail Network – freight

is below the total operational and maintenance costs for those individual segments. The inclusion of capital costs would only further increase the under-recovery of the full economic costs.

We are therefore satisfied TAHE has complied with the ceiling test for the three respective segments and a capital cost review is unnecessary.

Table 8 Country Rail Network – Ceiling Test Compliance

	2020-21	2021-22	2022-23
Maintenance costs	48,678,219	57,893,171	61,120,876
Network control costs	8,976,380	8,886,617	7,617,814
Corporate and system overheads	14,673,717	13,246,279	10,702,798
Mobilisation payment[n] (annualised)	N/A	N/A	4,861,652
Total O&M	**72,328,316**	**80,026,067**	**84,303,140**
Access revenue	9,154,878	12,065,410	14,344,889
Access revenue less O&M	**-63,173,438**	**-67,960,657**	**-69,958,251**
Indicative recovery rate	**12.7%**	**15.1%**	**17.0%**

Source: TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, Table 17, p40.

Table 9 Northern Sydney Rail Corridor – Ceiling Test Compliance

	2020-21	2021-22	2022-23
Maintenance costs	17,542,297	20,525,917	20,446,807
Network control costs	3,521,078	3,658,882	3,919,592
Corporate and system overheads	1,937,831	2,225,001	2,241,709
Total O&M	23,001,206	26,409,800	26,608,107
Access revenue	17,549,134	22,204,663	23,394,296
Access revenue less O&M	-5,452,072	-4,205,137	-3,213,811
Indicative recovery rate	76.3%	84.1%	87.9%

Source: TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, Table 18, p41.

Table 10 Metropolitan Rail Network/Freight - Ceiling Test Compliance

	2020-21	2021-22	2022-23
Maintenance costs	23,790,619	28,689,912	29,107,287
Network control costs	4,100,897	4,261,393	4,565,035
Corporate and system overheads	2,566,019	3,031,520	3,097,854
Total O&M	30,457,535	35,982,825	36,770,176
Access revenue	23,860,920	28,612,365	26,340,776
Access revenue less O&M	-6,596,615	-7,370,460	-10,429,401
Indicative recovery rate	78.3%	79.5%	71.6%

Source: TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, Table 19, p42.

[n] The mobilisation payment for the Country Regional Network is a payment as part of the cost of switching to a new provider for the Country Regional Network. TAHE has allocated the payment across the life of the contract, so that a portion of the payment is recognised in the full economic cost of the Country Regional Network each year. We consider that this is a reasonable approach as it will prevent large fluctuations in the full economic cost of the network between financial years.

Final decision

4. TAHE has complied with the ceiling test for its 3 other freight networks.

Glossary

The following terms are defined in section 2.1 of schedule 3 to the NSW RAU (Pricing Principles).

Asset Valuation Roll Forward Principles means the provisions of clause 3 of this Schedule by which the Opening Regulatory Asset Base in any year is adjusted to derive the Closing Regulatory Asset Base in that year.

Closing Regulatory Asset Base means the value of the Regulatory Asset Base at the end of a financial year determined in accordance with clause 3 of this Schedule.

Capital Contribution means a direct payment other than by way of an access price or charge by any person in connection with Capital Expenditure or New Investment undertaken by the Rail Infrastructure Owner. Where a Capital Contribution is to be paid over a period of years, the value of the Capital Contribution may be represented as one figure calculated on a net present value basis.

Capital Expenditure means expenditure undertaken in order to increase the capacity, service quality or useful life of an asset but not including maintenance or operating expenditure.

Corridor Formation Assets means cuttings, embankments and tunnels (including lighting and ventilation).

Depreciation means depreciation of the Regulatory Asset Base, over the useful life of the Regulatory Assets calculated on a straight-line basis.

Depreciated Optimised Replacement Cost (DORC) is the replacement cost of an 'optimised system', less accumulated depreciation.

Direct Costs means efficient, forward-looking costs which vary with the usage of a single operator within a 12 month period, plus a levelised charge for variable MPM costs, but excluding Depreciation.

Full Incremental Costs means all costs which could be avoided if a Sector was removed from the system.

Full Economic Costs are Sector specific costs including a permitted Rate of Return and Depreciation and an allocation of non-Sector specific costs such as train control and overheads including a Rate of Return and Depreciation on non-Sector specific assets. All included items are to be assessed on a stand-alone basis.

Hunter Valley Coal Network means the group of Sectors located in the Hunter Valley utilised for the purpose of coal train movements as specified in Schedule 6.

Major Periodic Maintenance and/or MPM means planned maintenance expenditure on infrastructure assets at intervals of more than one year, including activities that renovate and refurbish the assets to achieve their predetermined service life and service level.

Opening Regulatory Asset Base means the value of the Regulatory Asset Base at the start of a financial year determined in accordance with clause 3 of this Schedule.

Rate of Return means a rate of return in percentage terms approved by IPART for a period of five years to be applied to the average of the Opening and Closing Regulatory Asset Base. The Rate of Return approved by IPART for the period from 1 July 1999 is 8.0 percent on a real, pre-tax basis.

Regulatory Assets means the facilities and associated assets used in the provision of Access to the NSW Rail Network and where the term is used in relation to a Sector or group of Sectors shall include the facilities and associated assets used in the provision of Access to that Sector or those Sectors and includes non-Sector Specific Assets.

Regulatory Asset Base means the capital value of the Regulatory Assets as determined in accordance with clause 3 of this Schedule and further:

(a) Shall be based on an initial valuation of the Regulatory Asset Base calculated using the depreciated optimised replacement cost methodology.

(b) Where applied in relation to a Sector or group of Sectors means the capital value of that Sector or group of Sectors determined in accordance with clause 3 of this Schedule and includes that portion of non-Sector specific assets allocated in accordance with the Rail Infrastructure Owner's asset allocation policy.

Routine Maintenance means inspections and unplanned minor maintenance carried out annually or at more frequent cycles and includes track inspection, track patrolling, replacing broken track components, corridor maintenance, fence maintenance and signal testing.

Unders and Overs Account means the account established by the Rail Infrastructure Owner pursuant to clause 4 of this Schedule.

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1 IPART, Final Report – TAHE's compliance with the NSW Rail Access Undertaking – 2021-22, April 2023, p2 & p17.
2 TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, pp.15 & 48.
3 cl 2.1 of Schedule 3 of the NSW Rail Access Undertaking
4 TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, p24
5 cl 2.1 of Schedule 3 of the NSW Rail Access Undertaking.
6 TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, p26
7 TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, p25
8 TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, p26
9 TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, Table 10 p27
10 TAHE, *2022 access pricing compliance submission to IPART,* December 2022, p 26.
11 TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, pp26-27
12 cl 2.1 of Schedule 3 of the NSW Rail Access Undertaking.
13 cl 3.2 of Schedule 3 of the NSW Rail Access Undertaking.
14 IPART, Final Report and Decisions - NSW Rail Access Undertaking - Review of the rate of return and remaining mine life - from 1 July 2014, July 2014 and IPART, Final Report – Review of rate of return and remaining mine life from 1 July 2019, July 2019.
15 cl 2.1 of Schedule 3 of the NSW Rail Access Undertaking.
16 TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, pp23-24.
17 TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, p.51.
18 TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, p.51.
19 TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, p.32
20 TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, p.32
21 TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, p.32

[22] IPART, *Compliance with the NSW Rail Access Undertaking RailCorp HVCN, 2009/10*, Final Report, August 2012, p 14. and Sapere Research Group, *A ceiling test protocol for RailCorp – prepared for IPART*, November 2011, p 12.
[23] TAHE, *Access Pricing Compliance Submission to IPART Financial Year 2022-2023,* October 2023, p.33
[24] Final Report – Review of rate of return and remaining mine life from 1 July 2019, July 2019. p.6
[25] IPART, Final Report and Decisions - NSW Rail Access Undertaking - Review of the rate of return and remaining mine life - from 1 July 2014, July 2014 and IPART, Final Report – Review of rate of return and remaining mine life from 1 July 2019, July 2019.
[26] IPART, Final Report – TAHE's compliance with the NSW Rail Access Undertaking – 2021-22, April 2023, p17.

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