Review of Infrastructure Pricing at Perisher Range Resorts

Final Report

INDEPENDENT PRICING AND
REGULATORY TRIBUNAL
of New South Wales

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OF NEW SOUTH WALES

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1 INTRODUCTION

The Treasurer of New South Wales has requested the Independent Pricing and Regulatory Tribunal ('the Tribunal') to review pricing of infrastructure services at the Perisher Range Resorts ('Perisher')[1].

Perisher has received significant Budget funding in recent years for infrastructure services, and is currently the subject of a major upgrade proposal. The purpose of the Tribunal's review is to establish a full cost recovery framework, including cost-reflective pricing and funding arrangements for the proposed upgrade, expansion and operation of municipal services at the resorts.

The Perisher Range Resorts are located within the Kosciuszko National Park (KNP). The National Parks and Wildlife Service (NPWS) has overall administrative responsibility for the KNP. Under current arrangements:

- Ski lodges, ski lift operators, retailers and others operate at Perisher through leases administered by NPWS.
- NPWS provides a range of municipal services at Perisher, including water, wastewater and stormwater services, internal roads, and solid waste disposal.
- Other companies provide services such as electricity and oversnow transport, including oversnow transport of solid waste to a central collection point.
- Leaseholders pay NPWS a Municipal Services Charge (MSC) which covers the operating cost of providing municipal services. NSW taxpayers generally fund the capital costs of providing Perisher municipal services.

In 2002, NPWS developed the Perisher Ranges Resorts Infrastructure Services Strategy (PRRISS). PRRISS sets out the capital and operating expenditure required over the 30-year period to 2031 to maintain and operate the infrastructure used in providing municipal services. Treasury has provided more than $20 million in the form of repayable advances to begin the most urgently needed capital works included in PRRISS.

1.1 Scope of the review

The review is divided into three main areas:

- a review of the Perisher Range Resorts infrastructure capital works program and operating expenditure, in order to establish the efficient capital and operating costs of providing municipal services
- development of pricing principles
- recommendation of specific prices and charges

The Tribunal was also requested to recommend a preferred regulatory framework for determination of future prices and charges.

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1 'Perisher Range Resorts' encompasses the village and ski slope areas at Perisher Valley, Smiggin Holes, Guthega and Mt Blue Cow.

The review's Terms of Reference are set out in full in Attachment A. A list of recommendations is set out at below in section 1.5.

This review did not address:

- Pricing of lift tickets, accommodation, or general merchandise and services at Perisher.
- The proposed expansion and upgrading of the Perisher resort, apart from any effects this might have on infrastructure services and NPWS facilities.
- Tenure and governance at Perisher. The Tribunal did not assess the relative merits of the current Perisher arrangements, a head lease arrangement, the Victorian model, or other models of tenure and governance which can be applied at snow resorts.
- Snow-making operations at Perisher. Snow-making at Perisher does not rely on the infrastructure examined in this review.
- General NPWS policies regarding entry to fees to National Parks, the activities allowed or not allowed in National Parks, and the NPWS approach to administering National Parks and providing services within them.
- Possible but not yet ratified future changes to legal requirements and license conditions for infrastructure operations at Perisher Range Resorts.

1.2 Overview of findings and recommendations

In reviewing future capital and operating expenditure at Perisher, the Tribunal has been guided by the estimates of stakeholders and by expert advice. The Tribunal's final conclusions differ in some ways from the conclusions of previous assessments. The Tribunal's overall cost estimates are higher than those originally estimated by the National Parks and Wildlife Service (NPWS). NPWS estimated a total cost over 30 years of around $145 million. The Tribunal's final estimate is closer to $159 million. The Tribunal's estimate includes lower capital expenditure than the original NPWS estimate, but higher operating expenditure. In some cases, changes reflect actual expenditure incurred since NPWS originally estimated costs.

The Tribunal's proposed pricing principles are designed to strike a balance between cost reflectivity and administrative simplicity. The Tribunal concludes that a gate entry surcharge is the best mechanism for recovering costs from day visitors. Leaseholder costs are recovered with a fixed charge for most services, and with a combination fixed charge and volume charge for water and sewerage. All charges are designed to cover both operating and capital costs, where previous charges generally only covered operating costs.

A key element in establishing total costs is the asset base. The Tribunal recommends an asset base starting at $0 on 1st July 2000, rising to $23 million in 2006, and $43 million in 2015.

The Tribunal considers it anomalous that some commercial ventures at Perisher have been subsidised by NSW taxpayers, through provision of most capital costs of infrastructure services. Nevertheless, the Tribunal has aimed to balance varying interests, and to minimise financial burdens that leaseholders could not have foreseen at the outset of their tenure. The most significant measures to achieve this are:

- a 'line in the sand' which sets the asset base at $0 on 1st July 2000, meaning that capital costs incurred before this date are not recovered

- avoiding retrospective charging through recovery of return on capital and return of capital (depreciation) only from the date of implementation of the new pricing structure
- a 'glide-path' for charges which aims to achieve full cost recovery by 2015 rather than immediately[2]
- an over-recovery from Perisher day visitors, which has a cumulative value of $6.3 million in the 10 years to 2015.

The key charges recommended by the Tribunal are designed to achieve full cost recovery within 10 years. They include:

- a $10 per vehicle surcharge on day entry to the Kosciuszko National Park, a $95 surcharge on annual passes, and commensurate surcharges on other tickets such as bus entry
- a volume charge for water of $3.50 per kilolitre, and a $3.50 per kilolitre charge for sewerage
- total charges for infrastructure services (including water and sewerage) which work out at around $780 per bed in 2006, or around $14 per overnight stay[3].

1.3 Review process

The Tribunal, in accordance with its usual practice, has in the course of this review applied a combination of analysis and stakeholder consultation. As part of this process, the Tribunal:

- Released key extracts of the Perisher Range Resorts Infrastructure Services Strategy (PRRISS) in order to assist informed stakeholder discussion.
- Engaged engineering consultants Earthtech to assess the total cost of providing infrastructure services at Perisher.
- Engaged the Centre for International Economics (CIE) to explore possible pricing principles at Perisher.
- Released an Issues Paper in September 2004, requesting stakeholder submissions. In response, the Tribunal received 26 submissions.
- Held discussions with stakeholders in Jindabyne and Perisher.
- Held a stakeholder roundtable in March 2005.
- Presented interim results to the Treasurer in April 2005.

Documents arising from this process, such as consultant reports, stakeholder submissions, and a transcript of the roundtable, are available on the Tribunal's website (www.ipart.nsw.gov.au) under the heading 'Other Projects'. The September 2004 Issues Paper sets out in greater detail which issues the Tribunal considered at the outset.

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2 It is worth noting that this glide-path is projected to achieve full cost recovery when costs are calculated over the full 30-year period. In the period to 2015, leaseholders are forecast to under-pay by almost $2 million.

3 This compares with an estimated charge of $750 per bed in 2005. The estimate of cost per overnight stay is based on an assumption of bed occupancy of 57 nights per annum, as set out in section 5.4.

1.4 Structure of the report

This report addresses each component of the Terms of Reference in a separate chapter. The overall report structure is as follows:

- Chapter 2 provides background information to the review, including a summary of the PRRISS, and an overview of the proposed new development at Perisher.
- Chapter 3 explains the Tribunal's review of the PRRISS and its recommendations regarding efficient capital and operating expenditure for provision of municipal services.
- Chapter 4 discussed the Tribunal's recommended pricing principles.
- Chapter 5 recommends specific prices and charges.
- Chapter 6 sets out a preferred future regulatory framework.

1.5 List of recommendations

1.5.1 Establishing efficient capital and operating expenditure over 30 years

Recommendation 1

Total costs of $24.1 million[4] should be allowed for water distribution and supply services, including $18.4 million in capital expenditure (capex), and $5.8 million in operating expenditure (opex). The capex figure includes $5.0 million for possible headwork augmentation to restore environmental flows.

Recommendation 2

NPWS, in consultation with the relevant regulators and Treasury, should research cheaper options for water headwork augmentation.

Recommendation 3

Total costs of $36.2 million should be allowed for sewerage services, including $17.2 million in capex and $19.0 million in opex. The capex figure excludes:

- ***the Budget grant of $9.8 million for constructing the sewerage treatment plant, including the $2.0 million spent after 1st July 2000***
- ***the $4.5 million collected through leaseholders through the sewerage levy, which should be recognised as a capital contribution at time of receipt (including levies yet to be collected).***

Recommendation 4

Total costs of $31.2 million should be allowed for internal roads, including $18.4 million in capex and $12.9 million in opex.

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4 In some recommendations, rounding errors give rise to a total cost figure which appears different to the sum of capex and opex.

Recommendation 5

Total costs of $23.3 million should be allowed for solid waste services, including $5.3 million in capex and $18.0 million in opex.

Recommendation 6

Total costs of $8.6 million should be allowed for public facilities and amenities, including $3.9 million in capex and $4.8 million in opex.

Recommendation 7

Total costs of $4.2 million should be allocated for freight and passenger services, including $0.4 million in capex and $3.8 million in opex.

Recommendation 8

Total costs of $3.7 million should be allowed for medical services, including $0.7 million in capex and $3.0 million in opex.

Recommendation 9

Total costs of $27.4 million should be allowed for administration, including $0.3 million in capex and $27.1 million in opex. The capex figure reflects actual expenditure in 2001-2004, and includes no allowance for the building of the NPWS workshop, visitor centre and office.

1.5.2 Developing pricing principles

Recommendation 10

Lease rentals at Perisher should be seen as distinct from charges designed to recover the costs of municipal services and infrastructure, and therefore not considered in setting those charges.

Recommendation 11

A 'line in the sand' should be set at 1st July 2000 when establishing the value of the capital asset base, so that prices do not recover investments made prior to this date. The return on capital and return of capital should commence when the new pricing system is introduced.

Recommendation 12

Infrastructure costs, apart from water and sewerage services, should be allocated to overnight stayers and day visitors in the ratio of 60 to 40.

Recommendation 13

Day visitor costs at Perisher should be recovered through a gate entry surcharge. The gate entry surcharge should apply to all forms of entry to the Kosciuszko National Park, irrespective of the point of sale. The Government should consider measures to mitigate the impact of a surcharge on local residents, who can be defined as those with a business or residence within 30 km of the Kosciuszko National Park.

Recommendation 14

Entry surcharges from ticket sales should be applied to Perisher infrastructure as follows:

- *80 per cent of all tickets sold at the Kosciuszko Road Vehicle Entry Station*
- *none of the tickets sold at Vehicle Entry Stations other than Kosciuszko Road*
- *35 per cent of day passes sold at places other than entry points to the KNP*
- *35 per cent of annual passes sold at places other than entry points to the KNP*
- *95 per cent of Skitube sales*
- *95 per cent of Kosciuszko Road bus sales.*

Recommendation 15

Infrastructure service costs attributable to leaseholders, other than those related to water and sewerage, should be funded by a fixed charge levied according to bed numbers.

Recommendation 16

Water and sewerage services should be funded by a combination of volume-based and fixed charges.

Recommendation 17

The infrastructure service provider should earn a 6 per cent real, pre-tax rate of return on assets.

1.5.3 Setting prices and charges

Recommendation 18

The gate entry surcharges shown in Table 1.1 below should be applied to all ticket sales for the Kosciuszko National Park as soon as practicable.

Table 1.1 Tribunal's recommended gate entry surcharges (nominal $)

Entry mode	Current entry price (incl GST)	New gate entry surcharge	Likely GST on surcharge	Total recommended price (incl GST)
Vehicle Day Pass	$16.00	$10.00	$1.00	$27.00
Motorcycle Day Pass	$6.00	$4.55	$0.45	$11.00
Bus passenger (adult)	$6.60	$4.41	$0.44	$11.45
Skitube/Bus passenger (child)	$2.20	$1.27	$0.13	$3.60
Skitube (adult)	$4.95	$3.00	$0.30	$8.25
Skitube (child)	$1.65	$1.00	$0.10	$2.75
Annual pass	$85.00	$95.45	$9.55	$190.00
Second annual household pass	$42.50	$47.73	$4.77	$95.00
Two year pass	$150.00	$168.18	$16.82	$335.00
Second two year household pass	$75.00	$81.82	$8.18	$165.00
Access pass	$22.00	$14.55	$1.45	$38.00
Upgrade tickets	$26.00	$17.27	$1.73	$45.00

Recommendation 19

The leaseholder charges shown in Table 1.2 should apply uniformly to Perisher, Smiggin Holes and Guthega as soon as practicable. They should be increased each year to 2015 by the change in the CPI + 2.5%.

Table 1.2 Tribunal's proposed leaseholder charges for 2005/06 excluding GST

Leaseholder Charge	Units	Price per unit nominal $
Municipal services operating charge	per bed per annum	$130
Municipal services capital charge	per bed per annum	$171
Water usage charge	per kL	$3.50
Water fixed charge		
25mm	per connection per year	$1,401
32mm	per connection per year	$2,296
40mm	per connection per year	$3,588
50mm	per connection per year	$5,606
80mm	per connection per year	$14,351
Sewerage usage charge	per kL	$3.50
Sewerage fixed charge		
25mm	per connection per year	$1,562
32mm	per connection per year	$2,559
40mm	per connection per year	$3,999
50mm	per connection per year	$6,248
80mm	per connection per year	$15,995

1.5.4 Future regulatory arrangements at Perisher

Recommendation 20

Perisher's infrastructure pricing should be reviewed on a five-year cycle by the Independent Pricing and Regulatory Tribunal in a manner similar to that of the current review.

2 BACKGROUND TO THE REVIEW

The Perisher Range Resorts encompass the village and ski slope areas at Perisher Valley, Smiggin Holes, Guthega and Mt Blue Cow. They are located within the sensitive Kosciuszko National Park. As a result, they have been the subject of extensive review, and their development is carefully managed. Past and current reviews are set out in Attachment C. This review aims to build on and complement those reviews.

This chapter provides background information, including:

- an overview of the Perisher Range Resorts Infrastructure Services Strategy (PRRISS)
- proposed new development at Perisher
- road clearing at Perisher
- reason for high infrastructure charges at Perisher.

2.1 The Perisher Range Resorts Infrastructure Services Strategy (PRRISS)

The Perisher Range Resorts Infrastructure Services Strategy (PRRISS) was developed to ensure that the capabilities and capacity of the infrastructure at Perisher could meet current demand, future growth and performance standards. It sets out a 30-year program of capital and operating expenditure for the period FY 2001 to FY 2031. An extract of key sections of the PRRISS is available on the Tribunal's website.

The primary services provided by NPWS at Perisher include water, sewerage, internal roads, and solid waste services. Electricity, telecommunications and LPG storage and distribution services are provided by other parties and thus are not included in the PRRISS. A range of secondary services are also provided by NPWS. These include public facilities, amenities, freight, passenger, medical, emergency and administration services.

Though the PRRISS was completed in 2002, subsequent revisions have been made and continue to be made. Table 2.1 summarises the expenditure program put forward by NPWS in the 2002 PRRISS, excluding subsequent amendments[5]. These are incorporated by Earthtech in their assessment of the PRRISS.

5 The figures in Table 2.1 are different to those presented by the Centre for International Economics (CIE) in the pricing principles paper. This is because the data reported by CIE include revised PRRISS estimates.

Table 2.1 NPWS expenditure program in PRRISS 2002

2001 dollars, excl GST	Capital $ m	Operating $ m	Total $ m
Water	13.3	7.4	20.8
Sewerage	12.0	15.6	27.5
Roads	22.7	9.9	32.6
Solid waste	9.5	9.0	18.5
Public amenities	2.2	0.9	3.0
Emergency services	-	-	-
Freight & passenger	0.4	2.8	3.2
Medical services	0.8	3.0	3.8
Administration	9.1	26.1	35.2
Total	**70.0**	**74.7**	**144.6**

Figures reported in the PRRISS are all in 2000/01 dollars, excluding GST. For consistency and ease of comparison, Earthtech and the Tribunal have also reported cost figures in the same manner.

2.2 Plans for Perisher re-development

Perisher Blue has put forward a development proposal for a new village centre. This follows from the 1996 Master Plan for Perisher. NPWS also plans to release 520 new beds for expansion of existing lodges. Perisher Blue plans to build a new village development on the existing car park at Perisher Valley. Construction of the new village is planned to be staged over 10 years. Perisher Blue's plans include:

- 846 beds in the form of apartments and other accommodation[6]
- a pedestrian plaza
- approximately 5,000 square metres of retail space and 2,300 square meters of commercial space
- basement car park capacity of 274 spaces and residual above ground parking of 360 spaces
- extra parking areas at Smiggin Holes and Prussian Flat.

Perisher Blue's proposal is currently being assessed by DIPNR.

6 The Tribunal understands that NPWS has proposed an allowance of 800 beds for the Perisher Blue development.

2.3 Road clearing at Perisher

The issue of snow clearing from roads at Perisher is currently being examined by DIPNR[7]. The choice between cleared and uncleared roads is, to a large extent, a management issue. As such, the Tribunal considers that the DIPNR process is an appropriate forum for discussion. However, the issue of cleared roads also has financial implications, which the Tribunal is required to address as part of this review.

The DIPNR process is likely to be finalised after the delivery of this report. Nevertheless, the Tribunal has needed to make some assumptions about its outcome, in order to have a basis for estimating future costs. The Tribunal, in its modelling of costs, has assumed that Perisher will have partially cleared roads, as recommended in the Earthtech report. The implications of this assumption are set out in the sections dealing with roads (section 3.5) and solid waste (section 3.6). In making these assumptions, the Tribunal does not seek to influence the DIPNR process. If this process arrives at a different conclusion, the Tribunal's estimated costs can be adjusted accordingly, as can the Tribunal's proposed structure of fees and charges.

2.4 Reason for high infrastructure charges at Perisher

Stakeholders have noted that Perisher infrastructure charges are higher than those of other Australian resorts. CIE's report suggested that municipal service charges at other Australian resorts were in the range of $270-450 per bed, in contrast with Perisher charges of up to $600.

The Tribunal considers that this is the case for a number of reasons:

- the spread-out nature of the resorts makes infrastructure provision more costly
- Perisher is the highest-altitude resort in Australia, and the resulting frequent snow cover raises the cost of infrastructure provision
- there is a backlog of investment required to ensure that Perisher complies with current standards, particularly environmental standards.

It is worth noting that more frequent snow cover and a dispersed layout, while imposing additional costs, also enhance the value of Perisher. More frequent snow cover is a key advantage in the skiing market, and stakeholders have frequently noted that they value the less crowded feel of Perisher.

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7 The discussion paper on road clearing is available on DIPNR's website: http://www.planning.nsw.gov.au/plansforaction/roads.html

3 CAPITAL AND OPERATING EXPENDITURE

In the first part of its review, the Tribunal examined the capital and operating expenditure necessary to provide infrastructure services at Perisher in the 30 years to 2031. The review took as its starting point the capital expenditure (capex) and operating expenditure (opex) set out in the Perisher Range Resorts Infrastructure Services Strategy (PRRISS). The Tribunal engaged a specialist engineering consultancy, Earthtech, to undertake an independent assessment of capex and opex. The Tribunal then developed its own view of capex and opex, based on PRRISS, the Earthtech study, stakeholder comments and advice from Government agencies. The Tribunal used this assessment to recommend the efficient 30-year cost of providing each service, which should be recovered through prices and charges. This chapter discusses the Tribunal's consideration and assessment regarding each service.

The expenditure figures in PRRISS are in 2000/01 dollars, excluding GST. For consistency and ease of comparison, Earthtech and the Tribunal have reported cost figures in the same manner.

3.1 Earthtech consultancy

The Tribunal engaged Earthtech to assist with technical assessment of the PRRISS. Earthtech examined the 2002 PRRISS, subsequent revisions and NPWS' actual expenditure in implementing the strategy for each service to date. It also requested from Earthtech an assessment of the capex and opex required to provide infrastructure services over the period to 2031.

Earthtech's capex estimates for the 30-year program comprise actual expenditure in the years 2000-2004 and forecast expenditure from 2005 onwards. Operating expenditure was assessed using the 2003/04 and 2004/05 budget estimates from the NPWS Municipal Services Unit (MSU), rather than the PRRISS. The Earthtech final report is available on the Tribunal's website.

3.1.1 Demand study underpinning Earthtech study

In line with usual practice, the Tribunal considered that analysis of future infrastructure requirements first required a thorough analysis of future demand. Earthtech engaged the Centre for International Economics (CIE) to undertake this analysis.

CIE's full report is available on the Tribunal's website. CIE has developed four basic scenarios for future demand growth, as set out in Table 3.1 below.

Table 3.1 CIE demand study scenarios

Annual per cent growth (skier-days) in years preceding	2010	2015	2025	2035
A. Continued growth	1.7	2.0	2.1	1.7
B. Competition with non-snow alternatives	1.3	1.3	1.3	0.9
C. No new investment*	0.2	(0.4)	(0.7)	(0.9)
D. Climate change	0.6	0.4	0.3	0.3

*Relating to the proposed village development by Perisher Blue Pty Ltd.

CIE prefers scenario B (if proposed development takes place) or scenario C (if proposed development does not take place). Both of these scenarios are within the range of visitor numbers that can be serviced by the infrastructure proposed in the PRRISS.

3.2 Assessment of the 30-year expenditure program

For the current review, expenditure categories have been grouped in 'primary' and 'secondary' categories as follows:

Primary infrastructure	Secondary infrastructure
Water supply and distribution	Public facilities and amenities
Sewerage services	Emergency services
Internal roads, stormwater and drainage	Freight and passenger services
Solid waste services	Medical services
	Administration

The greatest portion of proposed capex is directed to water, sewerage and roads infrastructure.

The Municipal Services Unit in NPWS is responsible for the provision of municipal services. MSU budgets are presented to the major stakeholders, Ski Lodges Organisation of Perisher, Smiggins and Guthega (SLOPES), Perisher Blue and the Kosciuszko Chamber of Commerce for consultation periodically.

The Earthtech report noted that the lack of an asset register made it difficult to assess historical asset expenditure. Earthtech considers that the establishment of an asset management plan, using a sinking fund and formal depreciation or replacement strategies, would bring asset accounting in line with the Australian Accounting Standards for life cycle cost planning.

3.3 Water supply and distribution

3.3.1 PRRISS proposal

PRRISS identified a number of upgrade and augmentation works in Perisher, Smiggin Holes and Guthega. The four areas assessed were headworks, water treatment, transport and storage of water and the water reticulation system. Headwork augmentation was identified as a significant issue due to expected changes to environmental flow requirements in the infrastructure provider's diversion licences. However, PRRISS did not estimate a cost for headwork augmentation.

PRRISS proposed a total water program of $20.8 million, consisting of $13.3 million in capex and $7.4 million in opex.

3.3.2 Earthtech's findings

Earthtech found that expenditure to date on water infrastructure is largely consistent with PRRISS estimates. Earthtech considers that water pressure is adequate for fire fighting requirements as set out in AS.2419. However, Earthtech raises some concerns about the quality of the potable water supplied. Australian Drinking Water Guidelines recommend chlorination of public water supplies. Water at Perisher is currently treated with UV disinfection and chlorination is used only as a backup when the UV system fails.

Subsequent to the completion of the 2002 PRRISS, headwork augmentation options were and still are being assessed. Earthtech allowed $5.0 million for this project.

Apart from headwork augmentation, Earthtech estimates that future water capex is consistent with PRRISS estimates. Earthtech proposes a lower opex program based, on the 2004/05 MSU budget estimates. This implies water opex of $5.8 million over 30 years.

3.3.3 Stakeholder comments

After Earthtech had completed its review, NPWS provided the Tribunal with three options for the proposed headwork augmentation:

- Option 1 ($6.7 million) utilises the water in the Perisher aqueduct and the snow making pump stations currently being built by Perisher Blue Pty Ltd (Perisher Blue).
- Option 2 ($8.6 million) is extraction from Guthega Dam and pumping over Blue Calf Mountain to Perisher.
- Option 3 ($9.6 million) is extraction from Guthega Dam and pumping along the existing road network.

These options were discussed at the roundtable on 16 March 2005.

Perisher Blue questioned the viability of all three options. Perisher Blue has concerns with the water quality in the aqueduct and Guthega Dam. Both sources receive effluent from the sewerage treatment plant at Perisher and/or Charlotte Pass. Thus treatment of this water to a potable standard would impose greater costs. The other major concern raised by Perisher Blue is the environmental impact of and cost of piping the water from Guthega to Perisher under options 2 and 3.

The Ski Lodges Organisation of Perisher, Smiggins, and Guthega (SLOPES) put forward another option, which was to pump water from Perisher Creek, at the confluence of Perisher Creek and Rock Creek.

3.3.4 Tribunal's assessment

The Tribunal accepts Earthtech's proposed water opex, and considers that the MSU budget is a good basis for estimating opex.

The Tribunal notes that the proposed headwork augmentation has been the subject of extensive debate. In light of the information and comments from stakeholders, the Tribunal has some reservations about the three options put forward by NPWS and discussed at the roundtable. The Terms of Reference request the Tribunal to adopt the least-cost method consistent with current minimum standards. The Tribunal has been advised that NPWS is currently investigating cheaper options than those presented at the roundtable.

The Tribunal understands that practically all the water taken from the environment to service Perisher is returned to the environment after treatment at the sewerage treatment plant. A potential environmental problem arises between the off-take and the sewerage treatment plant, because flows are decreased in that sector. Flows are most likely to be reduced in the sector between the off-take and the confluence of Perisher Creek and Rock Creek – a distance of around 600 metres. Following extensive discussions with DIPNR, DEC, the Department of Commerce, the Department of Health and NPWS, it is clear to the Tribunal that cheaper options are available. These should be thoroughly researched in consultation with the relevant environmental regulators and Treasury in order to provide a more efficient resolution of the issue of environmental flows. Given the uncertainty surrounding the options available, their cost, and the time it will take to resolve this issue, the Tribunal has decided to adopt Earthtech's $5.0 million estimate for water headwork augmentation, rather than consider the more expensive options presented by NPWS at the roundtable.

On capex other than the headwork augmentation, the Tribunal accepts Earthtech's recommendations, which are largely consistent with PRRISS.

Recommendation 1

Total costs of $24.1 million should be allowed for water distribution and supply services, including $18.4 million in capex, and $5.8 million in opex. The capex figure includes $5.0 million for possible headwork augmentation to restore environmental flows.

Recommendation 2

NPWS, in consultation with the relevant regulators and Treasury, should research cheaper options for water headwork augmentation.

3.4 Sewerage

3.4.1 PRRISS proposal

The proposed total expenditure is $27.5 million on sewerage services over 30 years, including $12.0 million in capex and $15.6 million in opex. Forward sewerage works mainly consist of tertiary filtration in five years time to meet the water quality objective in the NSW *Water Management Act 2000*. Renewal works are not projected until 2020 and beyond, due to recent upgrades and augmentations.

3.4.2 Earthtech's findings

Earthtech noted that expenditure on sewerage capex to date has varied significantly from the estimates in PRRISS. The major expenditure item has been the Sewerage Treatment Plant (STP). The design of the STP was amended after the PRRISS was completed. These amendments were assessed by the then EPA (now part of DEC) and the then Department of Urban Affairs and Planning (now DIPNR), and approved by the then Minister for Urban Affairs and Planning.

The bulk of the capex for sewerage has already been incurred with the completion of the STP. Works planned for the future relate more to renewal and are not due until 2020 and beyond. The one exception is a filtration project to meet phosphorus discharge levels in the near future. The PRRISS estimated expenditure on this item at $2.0 million, and Earthtech considers this to be appropriate.

Earthtech also found that the system now has the capacity and robustness it needs to meet the demands of the alpine environment, and is able to meet shock loads and discharge conditions in its licence. However, the new STP has led to an increase in operating costs, especially in the areas of chemicals, gas heating, laboratory consumables and mechanical/electrical contractors. Given the location and nature of the environment at Perisher, Earthtech was not able to determine whether the increased expenditure is efficient.

Weighing up all the factors outlined above led Earthtech to recommend 30-year sewerage capex of $19.2 million and opex of $19 million.

3.4.3 Stakeholder comments

Many stakeholder submissions have referred to a one-off levy on leaseholders, which was applied to the STP capex. Stakeholders have suggested that they paid for the STP, so its cost should not be included in the cost base.

3.4.4 Tribunal's assessment

The Tribunal generally accepts Earthtech's findings, but proposes to modify the Earthtech capex estimate of $19.2 million. The Tribunal's recommendation on the 'line in the sand' in section 4.6.2 aims to address stakeholder concerns about recovery of previously funded sewerage works capex. The Budget grant of $9.8 million and total leaseholder sewerage levy payments of $4.5 million provided a total amount of $14.3 million for the STP. Of the $9.8 million Budget grant, $2.0 million was spent after the 'line in the sand' date of 1st July 2000. The $2.0 million spent after 2000/2001, has been removed by the Tribunal from recoverable sewerage capex, thereby excluding the whole $9.8 million Budget grant. The Tribunal also considers that contributions from leaseholders should be recognised as separate capital contributions. The Tribunal accepts Earthtech's recommendation that the $2.0 million for phosphorus filtration should be included in the capital base, because its aim is to meet minimum standards which will be applicable in the course of the Tribunal's proposed five-year price path.

Overall, the Tribunal considers that total capex for sewerage over 30 years should be $17.2 million. The Tribunal accepts Earthtech's estimate of $19.0 million for sewerage opex.

Recommendation 3

Total costs of $36.2 million should be allowed for sewerage services, including $17.2 million in capex and $19.0 million in opex. The capex figure excludes:

- ***the Budget grant of $9.8 million for constructing the sewerage treatment plant, including the $2.0 million spent after 1st July 2000***
- ***the $4.5 million collected through leaseholders through the sewerage levy, which should be recognised as a capital contribution at time of receipt (including levies yet to be collected).***

3.5 Internal roads

The road network at Perisher is serviced by three main parties:

- The Roads and Traffic Authority, which is responsible for all main access roads, namely Kosciuszko Road, Link Road and the Alpine Way.
- NPWS, which is responsible for internal roads that provide access to various sites within the resort. There are two main units that provide these services – the Roads Unit and the Municipal Services Unit (MSU). The MSU is responsible for internal roads in the resort, while the Roads Unit is responsible for road access in the wider Kosciuszko National Park.
- Perisher Blue, which is responsible for car parking and access roads to Blue Cow.

In this review, the Tribunal has only considered those road services provided by the MSU.

Roads expenditure has been a source of controversy for some time. Most debate is centred on the question of whether Perisher's internal roads should be cleared of snow in winter. Related questions are whether roads should be sealed, and which material might be used for sealing (concrete or bitumen). As set out in section 2.3, the question of road clearing is being addressed by DIPNR. The Tribunal has chosen to assume partially cleared roads as a basis for its cost estimates, but does not seek to influence the DIPNR process.

3.5.1 PRRISS proposal

To improve stormwater quality, PRRISS proposed a staged program of sealing a majority of the roads with concrete and installing pollution traps. PRRISS did not envisage sealing minor roads with bitumen, and made no explicit assumption about snow clearing.

PRRISS estimated 30-year roads capex of $22.7 million, and roads opex of $9.9 million. The capex figure includes expenditure on road building and maintenance, bridges, stormwater and drainage, street and directional signage, street furniture, and lighting and traffic controls.

3.5.2 Earthtech's findings

In general, Earthtech supported the roads program set out in the PRRISS, with some modifications. Earthtech noted that, to date, actual expenditure on roads has been below that estimated in PRRISS, mainly due to funding constraints.

In PRRISS, bridge works totalling $1.8 million were scheduled over the years 2001-2005. These have yet to be carried out. Earthtech did not assess the capex on bridges and omitted it from its road capex estimate because of insufficient information.

One major issue regarding roads is whether they should be sealed, and if so, with what material. It is generally agreed that roads need to be sealed for environmental reasons. Earthtech is of the view that concrete is the better option if roads are to be cleared of snow. Though concrete roads cost more to build, they require less maintenance and withstand snow-clearing operations better. However, if roads are not cleared of snow, then bitumen is a cheaper option which can provide the same performance levels as concrete, provided proper maintenance takes place.

The road network is also the main stormwater system. With the recent and proposed concrete pavements used on roads and road sealing, this should improve stormwater runoff in line with the CSIRO Urban Stormwater Best Practice Environmental Guidelines.

Earthtech proposes that the village roads around Perisher and Smiggin Holes should be cleared by a further 1.5 km and 0.34 km respectively, and notes that this additional snow clearing will add to the roads opex.

Earthtech also proposes a program where some roads are first sealed with bitumen and then replaced with concrete as the bitumen reaches its useful life. Other roads (those with minimal traffic) are to be sealed with bitumen which will not be replaced with concrete. The aim of sealing first with bitumen, to be replaced in some cases with concrete, is to speed up road sealing works which will deliver better environmental results at an acceptable cost.

Earthtech estimates 30-year roads capex of $12.2 million and roads opex of $12.9 million.

3.5.3 Stakeholder comments

At the roundtable, all stakeholders agreed that internal roads need to be sealed. There is general consensus that concrete should be used, although SLOPES have suggested that there are cheaper options for spur roads.

3.5.4 Tribunal's assessment

Earthtech generally supports the roads program in PRRISS, with some modifications. However, the cost estimates between PRRISS and Earthtech vary widely. The PRRISS estimates for road capex is $22.7 million, which includes bridges. Earthtech estimates $12.2 million, excluding bridges. After adding back an amount for bridges, the roads capex, based on Earthtech's estimate would be $14.0 million. Earthtech's cost estimates are based on road lengths and assumed unit costs which are generally consistent with NPWS estimates. The source of the discrepancy in total cost estimates is unclear, and both NPWS and Earthtech have reiterated their respective cost estimates.

The Tribunal has adopted Earthtech's proposal to increase snow clearing in the Perisher village centre, while leaving most of the resort snow-bound, to achieve a partially snow-cleared resort. This is merely a working assumption, and the Tribunal's estimated cost and prices can be modified if the DIPNR process leads to a different outcome. The alternative to using this working assumption was to develop three sets of costs (and three sets of prices and charges) based on cleared, uncleared and partially cleared roads. The Tribunal considers that the option of three scenarios would have been excessively complex, and would have offered few insights of value to stakeholders.

For the purpose of cost estimation, the Tribunal has presumed that not all roads need to be built and sealed with concrete. A mix of concrete for roads with heavy traffic and bitumen for those with less traffic seems likely to provide the desired outcomes while reducing initial costs. The Tribunal also expects that some savings can be achieved if the road works are awarded as a single contract. (The single contract can be completed over a number of years, depending on the optimal speed of construction.)

Given the lack of detailed information which might serve to reconcile the NPWS and Earthtech estimates, the Tribunal considers that future roads capex should be calculated using the mid-point between NPWS and Earthtech's capex estimates, excluding actual expenditure and bridges capex. This yields a total roads capex allowance of $18.4 million over the 30 years.

With regards to opex, the Tribunal has used the partially snow-cleared scenario and thus accepts Earthtech's estimate of $12.9 million.

The Tribunal has decided to estimate roads capex by using the mid-point between Earthtech's estimate and the PRRISS estimate, adjusted for:

- $3.7 million of actual expenditure to date
- $1.8 million in proposed bridges capex.

In the CIE pricing principles paper, there is reference to a road sealing levy. The Tribunal treats such payments as a contribution to capital when they arise. The Tribunal's proposed structure of fees and charges should avoid the need to collect such levies in future.

Recommendation 4

Total costs of $31.2 million should be allowed for internal roads, including $18.4 million in capex and $12.9 million in opex.

3.6 Solid waste

Current arrangements for solid waste disposal in Perisher village are simple but disjointed. NPWS provides large skip bins near the Skitube terminal (the road/oversnow interface) and transports solid waste from the skip bins to a recycling facility or to the landfill at Sawpit Creek. Leaseholders are responsible for transferring garbage from lodges to the skip bins.

In winter, the oversnow operator transports much of the solid waste from Perisher Valley lodges to the skip bins. The oversnow operator charges per bag of solid waste. Lodges at Perisher Valley with their own oversnow transport can transport their own solid waste. Lodges at Smiggin Holes also generally transport their solid waste to Perisher, while Guthega lodges generally dispose of their solid waste at the end of the ski season. The current landfill at Sawpit Creek is scheduled to be decommissioned in the near future.

3.6.1 PRRISS proposal

PRRISS highlights that the current bulk bin arrangements are not aesthetically pleasing and attract birds and feral animals. PRRISS suggests that improvements in waste collection and handling are necessary.

NPWS, Snowy River Shire Council and Cooma Monaro Shire Council have formed a regional waste management group to look at the solid waste services on a regional basis.

In 2003, the regional waste management group commissioned URS Australia Pty Ltd (URS) to carry out a detailed study of waste management options for the region and to address issues raised in PRRISS. URS completed a draft report in September 2004.

For the Perisher Range Resorts, the URS draft report recommends that:

- a transfer station be built in the resort, without a recycling facility
- NPWS collect putrescibles and recyclables from lodges outside the village area
- sites in the village area bring their own wastes to the transfer station.

PRRISS estimated 30-year solid waste capex of $9.5 million, and opex of $9.0 million.

3.6.2 Earthtech's findings

Earthtech notes that actual expenditure to date is below the PRRISS estimate. This is attributed to the delay in building the transfer station ($1.5 million) and in decommissioning the landfill at Sawpit Creek ($2.0 million). In Earthtech's report, the $2.0 million for the decommissioning of the Sawpit Creek landfill is considered under the service category of 'Public facilities and amenities', together with the redevelopment of the site.

Earthtech's report argues against the need for a transfer station in the alpine environment. Instead it proposes that smaller sealed waste huts be built around the resort, serving a role similar to wheelie bins in urban residential areas. Garbage would be collected from these huts and directly transported off the mountain to the disposal/recycling site.

Earthtech also proposes that the collection and transfer service should be awarded as a single contract for the entire service. In its proposed opex, Earthtech has allowed $0.4 million per annum for this contract.

Earthtech estimated 30-year solid waste capex of $3.8 million, and opex of $18.0 million.

3.6.3 Stakeholder comments

Submissions and roundtable comments have highlighted a division of opinion regarding the proposed transfer station in Perisher Valley. NPWS, the Kosciuszko Chamber of Commerce, SLOPES and the Nature Conservation Council are all in favour of building the transfer station to remedy the existing situation, including the open skip bins. Perisher Blue is of the view that there is no proper site for a transfer station and that the volume of waste generated over the year does not warrant it.

3.6.4 Tribunal's assessment

Solid waste capex estimates by NPWS and Earthtech are very different. This is because Earthtech assumes a different system for collection, transfer and disposal. In its future capex, Earthtech has allowed for $1.0 million to cover the cost of the waste huts and the cost of rehabilitating the Sawpit Creek landfill once it is closed.

The Tribunal agrees with the general stakeholder view that current solid waste arrangements at Perisher are unsatisfactory, and supports the Earthtech proposal of sealed waste huts close to lodges. The Tribunal presumes that a waste transfer station in Perisher Valley will probably be necessary to meet an acceptable level of environmental practice, and notes that the NPWS Perisher Range Resorts Master Plan assumes that a waste transfer facility will be required at the oversnow interface. The transfer station will serve the same function as the current skips (ie, a drop-off point at the oversnow/road interface), and will also aid separation of waste into recyclable and non-recyclable streams.

In relation to solid waste opex, the Tribunal accepts Earthtech's estimate as it is based on the more recent MSU budgets and includes $0.4 million per annum for a garbage collection contract. Currently some garbage collection costs are directly paid by leaseholders, through the charge levied by the oversnow operator for transporting solid waste to the central collection point. Under the Tribunal's proposed solution, leaseholders will no longer need to pay this direct cost, which will at least partially offset the higher solid waste opex proposed in the Tribunal's program. This solution relies on the assumption of partially cleared roads.

The Tribunal has therefore allowed $5.3 million for solid waste capex, of which the major components are actual expenditure to date ($2.8 million), the transfer station ($1.5 million), Sawpit Creek rehabilitation ($0.6 million), and sealed huts ($0.4 million).

The Tribunal has allowed $18 million for solid waste opex, of which the major components are the annual contract for solid waste collection ($12 million over 30 years), and ongoing expenditure such as maintenance of vehicles and public litter bins.

Recommendation 5

Total costs of $23.3 million should be allowed for solid waste services, including $5.3 million in capex and $18.0 million in opex.

3.7 Public facilities and amenities

Public facilities and amenities at Perisher include public shelters, public toilets, lighting, general signs, litter bins and walking tracks.

3.7.1 PRRISS proposal

Expenditure on public facilities and amenities includes improvements to walking tracks and vehicle pick-up and set down points, and is currently below target levels. PRRISS estimated 30-year capex of $2.2 million, and opex of $0.9 million.

3.7.2 Earthtech's findings

Earthtech's capex estimate includes actual capex spent until 2004, totalling $1.0 million, and an amount of $2.9 million for the decommissioning and redevelopment of the site at Sawpit Creek when the landfill is closed. Of the $2.9 million, decommissioning of the landfill is estimated at $2.0 million and redevelopment is estimated at $0.9 million. Redevelopment includes a new gate entry, shuttle bus terminal, car parking and better queue management.

In terms of operating and maintaining the existing public facilities, Earthtech considers that the cost estimated by NPWS is too low and proposes increased opex based on MSU budgets. These increased opex costs cover the normal cost of servicing public facilities.

Earthtech estimates 30-year capex of $3.9 million and opex of $4.8 million.

3.7.3 Stakeholder comments

Stakeholders have argued that they should not pay for the facilities at the Snowy Region Visitor Centre, Jindabyne. NPWS has advised that there is no expectation that Municipal Service Charges should pay for any of these facilities.

3.7.4 Tribunal's assessment

After considering the information and comments from various stakeholders, the Tribunal accepts Earthtech's estimates of capex and opex. The Tribunal considers that the current MSU budget is a reasonable indicator of the likely future costs of operating public facilities.

The Tribunal agrees that Perisher visitors should not pay for the cost of the NPWS facilities at Jindabyne. The Tribunal understands that these are not included in Earthtech's capex and opex estimates.

Recommendation 6

Total costs of $8.6 million should be allowed for public facilities and amenities, including $3.9 million in capex and $4.8 million in opex.

3.8 Emergency services

Currently leaseholders do not directly pay for most emergency services at Perisher. Leaseholders pay for fire brigade services through the fire levy, which is charged to leaseholders by the NSW Fire Brigade. NPWS merely administers and collects the levy.

Perisher's ambulance and police services are funded on the same basis as similar services elsewhere in NSW, largely from the State Budget.

Some minor costs related to emergency services, such as the capital and operating costs of the helipad, have been paid by NPWS. These costs are included under 'Administration'. Accordingly, the Tribunal has made no allowance for recovering the cost of emergency services.

3.9 Freight and passenger services

Freight and passenger services operate from the Skitube terminal building, which services visitors to both Perisher and Charlotte Pass. The MSU rents from Perisher Blue the space used for the freight and passenger terminal.

3.9.1 PRRISS proposal

The PRRISS proposed $0.4 million in capex to improve the parking and freight handling area, and $2.8 million in opex.

3.9.2 Earthtech's findings

Earthtech has put forward a proposal to move the freight and passenger services for Charlotte Pass users to another location, with relocations costs to be borne by Charlotte Pass visitors. Earthtech argues that the subsequent reduced load at the Skitube terminal would allow for the delay or even the removal of the upgrade capex proposed in PRRISS. Earthtech estimates 30-year opex of $3.8 million, based on the current MSU budget. Earthtech considers that there is no capex cost associated with freight and passenger services, because the capital cost of Earthtech's proposed changed would be borne by Charlotte Pass visitors.

3.9.3 Stakeholder comments

NPWS has pointed out that freight and passengers for Charlotte Pass, which generally travel via the Skitube, would effectively require two transfers under Earthtech's proposal – one at the Skitube terminal and the other at the new Charlotte Pass freight and passenger facility. Therefore, it would not reduce the number of movements at the Skitube terminal, but would lead to double handling of passengers and freight.

3.9.4 Tribunal's assessment

The Tribunal agrees with the PRRISS proposal of $0.4 million capex for freight and passenger services. The Tribunal accepts Earthtech's revised estimate of $3.8 million in opex, based on the current MSU budget.

Recommendation 7

Total costs of $4.2 million should be allocated for freight and passenger services, including $0.4 million in capex and $3.8 million in opex.

3.10 Medical services

Medical services provided by NPWS relate to medical staff accommodation and the space in which the medical centre is located. Tenders for the provision of medical services are awarded periodically.

3.10.1 PRRISS proposal

The PRRISS identifies a need for increased floor space to adequately provide the required service. If the new village development is approved, it is expected that floor space for the medical centre will be incorporated into the new village centre. Necessary capex is estimated at $0.8 million. PRRISS estimates opex at $3.0 million over 30 years. Opex relates to rent of the space where the medical centre is located. Capex relates to upgrades and improvement works which were scheduled over 2001-2004, but have not taken place.

3.10.2 Earthtech's findings

Earthtech considers that the medical centre is located in the right position, with easy access to vehicle, ambulance and ski patrol services. However, the design of the medical centre itself is not optimal. Earthtech suggests that the infrastructure service provider should re-examine the design of the medical centre and staff accommodation, in consultation with the resident doctor. Earthtech estimates opex at $3 million, based on the current MSU budget, and the assumption that the medical centre will remain in its current location. Earthtech estimates capex at $0.7 million, which includes upgrade and improvement works scheduled for 2001-2004 but not yet implemented.

3.10.3 Stakeholder comments

Skiers have commented that the medical centre is located in an appropriate position in the resort.

3.10.4 Tribunal's assessment

The Tribunal accepts Earthtech's estimate of medical centre costs of $0.7 million in capex and $3.0 million in opex (at the current location).

Capex relates to upgrades and improvement works which were scheduled over 2001-2004, but have not taken place. The opex relates to rent of the space where the medical centre is located, utilities and maintenance of the medical centre premises and staff accommodation.

Recommendation 8

Total costs of $3.7 million should be allowed for medical services, including $0.7 million in capex and $3.0 million in opex.

3.11 Administration

The cost of the services set out in sections 3.3 to 3.10 above excludes their administration costs. Currently these services are administered by the MSU, which has staff based both on and off the mountain. NPWS owns the facilities in which the MSU operates (offices, workshop and information centre) and therefore does not pay rent.

3.11.1 PRRISS proposal

The core work relating to the management of the Kosciuszko National Park, as distinct from infrastructure provision at Perisher, is excluded from PRRISS. Administration costs are included in the project management allowances for each project.

Currently the NPWS office, visitor centre and workshop are located in the same building. If the new village development goes ahead, this building will be displaced. It is expected that sufficient floor space for a permanent visitor centre will be incorporated into the village proposal. PRRISS allowed an amount of $6.8 million to rebuild the NPWS office and workshop.

3.11.2 Earthtech's findings

Earthtech found that treatment of management and administration costs varies from each service category and from year to year. This makes analysis difficult. For ease of comparison and transparency, Earthtech treats administration costs as a separate item, rather than allocating them back to the respective service categories.

Administration capex relates mainly to the NPWS office and workshop. Earthtech comments that the existing facilities are old and run down. Earthtech suggests that a new facility could be rented rather than rebuilt. Consequently, it proposes to remove the capex for the workshop and office and increase the opex to cover rental costs.

Earthtech estimates administration capex at $0.3 million (reflecting expenditure to date), and opex at $28.8 million. Earthtech estimates that PRRISS would have had an opex estimate of $26.1 million if using the same categorisation as Earthtech. The largest component of this is salaries, followed by vehicle expenses.

3.11.3 Stakeholder comments

Stakeholders have argued that the NPWS presence on mountain is not sufficient to deal with emergencies. NPWS has commented that it costs more to station employees in the resort and some systems can be controlled remotely.

Some submissions have called for the NPWS office and related facilities' capex to be funded by the developer of the new village centre which is displacing the existing facilities.

NPWS has commented that Earthtech's proposal to rent building space does not address the question of where to rent it. Currently there is no available or planned facility which can be rented for use as an office and workshop. The Tribunal understands that space for a visitor centre has been incorporated in the planned Perisher Blue village centre development.

3.11.4 Tribunal's assessment

The Tribunal considers that, to fully reflect the cost of providing municipal services, administration and related overhead costs should be allocated to the respective service categories. However, given the multi-skilled workforce of the MSU, allocation of these costs to the services would impose an unnecessary degree of complexity on the accounts. For reasons of simplicity, the Tribunal prefers Earthtech's proposal to treat administration as a separate service category.

The NPWS facilities will need to be relocated if the village development goes ahead. However, Earthtech's comments on the run down nature of the building suggest that upgrades and improvements would still be required in the absence of the village development. On balance, the Tribunal considers that the $6.8 million for the office and workshop should not be included as recoverable costs. If the development goes ahead, then the developer should pay at least partially for displacing the facilities. Given the run-down state of the current facilities, the balance of displacement costs should be funded from the State Budget rather than leaseholder payments. The extent to which the developer pays for relocation is likely to be linked with general negotiations on the fee to be paid for re-development rights. If the development does not go ahead, then the costs of any improvements to the workshop, visitor centre and office should be considered in the next price review.

The Tribunal proposes to adopt an opex figure of $27.1 million for administration. This compares with the PRRISS figure of $26.1 million, and reflects the actual administration opex from 2000/01 to 2003/04, plus NPWS' forward opex estimates, with no extra allowance for building rental. The Tribunal proposes to adopt a capex figure of $0.3 million, reflecting actual expenditure to date.

Recommendation 9

Total costs of $27.4 million should be allowed for administration, including $0.3 million in capex and $27.1 million in opex. The capex figure reflects actual expenditure in 2001-2004, and includes no allowance for the building of the NPWS workshop, visitor centre and office.

3.12 Summary of Tribunal's estimate of costs

Tables 3.2, 3.3 and 3.4 below compare the PRRISS, Earthtech and Tribunal cost estimates. Attachment D provides a detailed 30-year summary of capex and opex.

Table 3.2 Comparison of capex estimates

Total for 2001-2030 (2001 dollars, excl GST)	PRRISS $ m	Earthtech $ m	Tribunal $ m
Water	13.3	18.4	18.4
Sewerage	12.0	19.2	17.2
Roads	22.7	12.2	18.4
Solid waste	9.5	3.8	5.3
Public amenities	2.2	3.9	3.9
Emergency services	-	-	-
Freight & passenger	0.4	-	0.4
Medical services	0.8	0.7	0.7
Administration	9.1	0.3	0.3
Total	**70.0**	**58.5**	**64.4**

Table 3.3 Comparison of opex estimates

Total for 2001-2030 2001 dollars, excl GST	PRRISS $ m	Earthtech $ m	Tribunal $ m
Water	7.4	5.8	5.8
Sewerage	15.6	19.0	19.0
Roads	9.9	12.9	12.9
Solid waste	9.0	18.0	18.0
Public amenities	0.9	4.8	4.8
Emergency services	-	-	-
Freight & passenger	2.8	3.8	3.8
Medical services	3.0	3.0	3.0
Administration	26.1	28.8	27.1
Total	**74.7**	**96.0**	**94.3**

Table 3.4 Comparison of total cost estimates (capex + opex)

Total for 2001-2030 2001 dollars, excl GST	PRRISS $ m	Earthtech $ m	Tribunal $ m
Water	20.8	24.2	24.1
Sewerage	27.5	38.2	36.2
Roads	32.6	25.1	31.2
Solid waste	18.5	21.8	23.3
Public amenities	3.0	8.6	8.6
Emergency services	-	-	-
Freight & passenger	3.2	3.8	4.2
Medical services	3.8	3.7	3.7
Administration	35.2	29.1	27.4
Total	**144.6**	**154.5**	**158.7**

4 PRICING PRINCIPLES

4.1 Introduction

The second component of the Terms of Reference requires the Tribunal to develop a pricing framework which

- incorporates full cost recovery principles
- considers benefits enjoyed by different groups of Perisher visitors (particularly day visitors and leaseholders)
- assesses the degree to which the value of existing Perisher infrastructure should be reflected in municipal service charges
- recovers, through developer charges, the infrastructure costs imposed by new development at Perisher.

This chapter aims to address these points by covering:

- current pricing principles at Perisher
- general pricing principles adopted by the Tribunal
- CIE's report on Perisher pricing principles
- the purpose and application of lease rentals
- a 'line in the sand' for valuing existing infrastructure assets
- a break-up of costs between day visitors and overnight visitors
- charges to recover costs from day visitors
- charges to recover costs from leaseholders
- developer charges
- a rate of return on infrastructure assets.

4.2 Current pricing principles at Perisher

Current charges for Perisher infrastructure services are relatively simple. Each year, the NPWS Municipal Services Unit (MSU) calculates how much revenue it is likely to need in order to cover operating expenses. This is generally in the order of $2.8 million, and is apportioned among lessees, mainly on the basis of bed numbers. Lessees also pay a fire services levy, which is collected by NPWS for the NSW Fire Brigade. In FY02, lessees also paid a special capital works levy as their contribution to an upgrade of Perisher sewerage infrastructure.

It is worth noting that solid waste disposal is covered by the Municipal Services Charge. However, leaseholders are responsible for delivering solid waste to the central point where it is collected for disposal. Some leaseholders have this delivery performed by the Perisher oversnow operator, who charges by the bag. In this sense, some leaseholders currently face a volume charge for solid waste disposal.

Lessees and Perisher visitors also pay general NPWS entry charges, but these are outside the Tribunal's Terms of Reference. Perisher lessees also pay lease rental, which is discussed in Section 4.6.1 below.

4.3 Tribunal's general principles

In regulating utilities, the Tribunal generally adopts a number of principles. The Tribunal aims to achieve the objectives of:

- environmental sustainability
- economic efficiency
- revenue sufficiency
- equity
- administrative simplicity.

Environmental sustainability requires consideration of externalities and long-term impacts of human activity. Economic efficiency is generally promoted by prices which are cost-reflective and subsidy-free, and which signal future investment costs. Equity is generally promoted by price structures which are transparent, based on published costs and methods, and have regard to the impact of price changes on customers. In this review, due regard for equity necessitated extensive analysis to ensure that the Perisher Range Resorts were not placed at a competitive disadvantage with other snow resorts. The Tribunal considered the potential impact on competitiveness when assessing the proposed fees and charges.

The Tribunal has aimed to recommend an infrastructure program which minimises impacts on the natural environment at Perisher through measures such as

- pricing signals which encourage lower water consumption
- better treatment of solid waste removal
- assessing the need for augmented environmental flows in Rock Creek
- a program of road sealing to minimise stormwater impacts.

As set out in chapter 3 above on the capex and opex program, the Tribunal engaged a specialist engineering consultancy, Earthtech, to assist in establishing efficient costs, which allow the Tribunal to assess revenue sufficiency. The Tribunal's final assessment of the level of efficient costs is based on the NPWS Perisher Range Resorts Infrastructure Services Strategy (PRRISS), Earthtech's report, advice from Government agencies, and input from stakeholders.

4.4 CIE report on pricing principles

In order to obtain a broad, objective view of pricing principles, the Tribunal engaged the Centre for International Economics (CIE) to prepare a report. The CIE report is available on the Tribunal's website.

On Perisher's current pricing system, CIE's key findings are that:

- current charges do not recover total costs of infrastructure provision
- there are currently cross subsidies between different customer groups
- there are limited price signals in current prices.

CIE considers that future pricing principles at Perisher should:

- recover the full cost of providing municipal services
- limit the extent of cross-subsidies across different customer groups
- provide incentives for efficient consumption
- ensure that the pricing regime is transparent and simple to administer
- distribute volume-related risk across users, service providers and the infrastructure provider.

Concretely, CIE recommends the following pricing regime:

- a preference for simplicity over fully cost reflective pricing
- a 'line in the sand' at 2001[8], meaning that only capital expenditure after that date should count as expenditure to be recovered
- recovery of a $1.2 million user contribution for sewerage upgrade works from future lessees, as originally envisaged
- developer charges that signal the cost of providing and expanding infrastructure to meet the demands of new development
- exclusion of the cost of water headworks from the developer charge if there is uncertainty about when such works will be required
- only incremental costs associated with the new village centre to be included in developer charges levied on the new village centre
- fixed and volume charges for water and sewerage services
- a fixed charge for solid waste disposal
- a fixed charge for road services, probably levied according to lease size
- fixed charges for remaining services
- identification of separate fixed charges for each service, where practicable.

The Tribunal is in general agreement with the principles and pricing regime put forward by CIE, and aims to apply them in a manner which is consistent with administrative simplicity.

4.5 Stakeholder comments

Stakeholder submissions have generally not expressed direct opposition to the review's core principle of full cost recovery. However, the Tribunal has noted that most stakeholders consider that someone else should pay more in order to achieve full cost recovery.

Some stakeholders have also put forward the idea that full cost recovery should be softened by the incorporation of regional benefits in the Tribunal's calculations. The Tribunal considers that regional benefits are, firstly, difficult to quantify and, secondly, outside the Terms of Reference. The Tribunal aims to present a pricing structure which allows the full recovery of all quantifiable costs over the 30 years, phased in over a reasonable time period.

[8] CIE's proposed "line in the sand" at 2001 refers to the 2001 financial year. This is consistent with the Tribunal's "line in the sand" date of 1st July 2000, which is the first day of the 2001 financial year.

In dealing with regional impacts, the Tribunal notes that it is proposing that local residents should be able to purchase annual passes for a cheaper price than other visitors to the KNP. In this way, the Tribunal aims to minimise the impact on local residents who travel to the KNP for everyday business.

Table 4.1 Stakeholder comments on pricing

Issues	Stakeholder comments
Full cost recovery	• Perisher operates in a very competitive skiing market. There is concern about the impact on Perisher's competitiveness due to funding arrangements at competing ski resorts. • Generally agree with full cost recovery, but not retrospectively. Stakeholders say they were not informed about the repayable nature of advances. • NPWS has collected a lot of money in terms of gate and rental payments, thus the start date for cost recovery should be 2005.
Equity / Cost allocation	• Everyone should pay their fair share, but ski lodges think that day visitors are not paying enough. • Perisher Blue considers that day visitors should not pay more than they currently pay. • Should include user pays and beneficiary pays principles. • The difference between peak and design day demands is largely driven by day visitors and related costs should be borne by commercial interests who profit from them. • MSU cost split between overnight and day visitors was determined to be 5:1 in 1992. The basis for this is not clear.
Ability to pay / Willingness-to-pay	• There is limited scope for lodges to increase their fees to cover higher costs due to competition from other ski resorts. • Some lodges do not support paying for enhanced capacity as they are not contributing to the need. • Need to increase utilisation of the facilities all year round to spread out the costs.
Developer charges	• Infrastructure serving the planned development should be paid by the developer and by beneficiaries.
Water sewerage charges	• Agree that a fixed and volume charge is equitable. Those who use more water should pay more. • Commercial lodges support the proposal for NPWS to pay for water and sewerage charges on toilets facilities in large commercial lodges that are predominately used by day visitors. NPWS does not support the proposal.
Gate entry surcharge	• NPWS disagrees with a surcharge as this will complicate ticketing. • SLOPES and the Kosciuszko Chamber of Commerce support a gate entry surcharge and not a car parking charge. • Nature Conservation Council does not support a gate entry surcharge.
Car parking charge	• Supported by Nature Conservation Council, generally opposed by other stakeholders.

4.6 Tribunal's assessment

In assessing the principles that should be used to set infrastructure prices at Perisher, the Tribunal considered stakeholder comments, expert advice, and the general principles set out above. Its considerations and recommendations are summarised below.

4.6.1 Lease rentals

A recurring theme in stakeholder submissions has been that lease rentals at Perisher are too high and that part or all of lease rentals should be used to fund infrastructure services at Perisher.

The Tribunal considers that lease rentals are an issue distinct from the issue of charges for infrastructure services. Perisher is public property, and the Government (on behalf of the public) is entitled to ask for a payment in return for the use of its special amenities. Applying lease payments to infrastructure services, and not to the owner, would suggest that Perisher's amenities have no value. On the contrary, Perisher has qualities that are rare (and valuable) in Australia: it is at a high altitude, with regular snow, and access to extensive ski-slopes. Perisher stakeholders have also pointed out that they value the relatively undeveloped and spacious nature of Perisher, perhaps unique among Australian ski resorts. The combination of all these rare elements can lead users to expect to pay a reasonable sum in rent, over and above the amount they pay for infrastructure services.

The optimal level of the lease payment is a matter of judgement. The Tribunal is aware that lessees negotiated their current lease payments at a time when municipal services were not priced on the principle of full cost recovery. Introduction of full cost recovery principles is likely to alter the overall financial picture for lessees. The Tribunal, in developing its proposed system of fees and charges, has aimed to minimise the burden on lessees to the extent consistent with equity principles. It has done this through mechanisms such as:

- a 'glide-path' to introduce full cost recovery over a period of 10 years
- a 'line in the sand' at 1st July 2000 which limits taxpayer investments to be recovered from lessees
- avoiding retrospective charging by recovering return on capital and return of capital (depreciation) only from the date of implementation of the new pricing structure
- an over-recovery from Perisher day visitors which has a cumulative value estimated at $6.3 million in 10 years to 2015.

Recommendation 10

Lease rentals at Perisher should be seen as distinct from charges designed to recover the costs of municipal services and infrastructure, and therefore not considered in setting those charges.

4.6.2 'Line in the sand'

A 'line in the sand' is a concept used elsewhere in the Tribunal's work to denote a date for commencing calculation of an asset base. It is generally applied where capital expenditure before that date is difficult to quantify, or where recovery of previous expenditure might be considered inequitable.

At Perisher, the main options for a 'line in the sand' include:

- no line in the sand at all, in other words all capital expenditure to be included in the asset base
- 1998 (decision to upgrade sewerage treatment plant)
- 2001 (beginning of repayable advances)
- 2005 (present).

As noted above, CIE's report recommended a 'line in the sand' at 2001.

The first option, of including all expenditure, is theoretically the most equitable, in that it eliminates any possible subsidy from taxpayers to Perisher visitors. However, this solution is problematic for a number of reasons. Firstly, it appears that there are limited records of past investment. This means that the investment is not only difficult to quantify, but is even more difficult to test for prudency. Secondly, stakeholders have in the past believed that most capital expenditure was a grant from the Government. Thirdly, lessees may have had little or no say in past investment decisions.

Both 1998 and 2001 could be chosen as plausible dates at which to draw a 'line in the sand'. However, the Tribunal notes that most of the funding for the sewage treatment plant was presented in the 1998 Budget as being a grant. A smaller amount ($4.5 million, of which $3.3 million from current leaseholders and $1.2 million from future leaseholders) was specified as needing to be repaid. For this reason, using 1998 appears to contradict a previously stated Government intention.

At the March 2005 Perisher roundtable, stakeholders suggested that 2005 is the most appropriate line in the sand, because they were not aware that funding from 2001 onwards was in the form of repayable advances. The Tribunal considers it unfortunate if stakeholders really were unaware of this funding arrangement, but considers that it should not change the understanding between NPWS and Treasury. The Tribunal has been advised that NPWS policy is that the provision of municipal services for lessees in the Perisher Range Resorts is on a cost recovery basis.

On balance, the Tribunal considers that drawing a 'line in the sand' from 1st July 2000 appears to be the most reasonable option. Using this date as a 'line in the sand' gives Perisher leaseholders a benefit, in that they do not have to pay for previous investments. These investments clearly have significant value, because they have provided and continue to provide a valuable service. Indeed, 2001 as a 'line in the sand' may appear inequitable to taxpayers in general, who funded investments before that date. Another argument in favour of 2001 as a 'line in the sand' is that it is concurrent with the introduction of a more commercial funding arrangement between Treasury and NPWS.

While the Tribunal prefers a general 'line in the sand' set at 1st July 2000, it prefers to avoid retrospective charging of capital costs. The Tribunal considers that the return on capital and return of capital (depreciation) should not commence until implementation of the new pricing structure. This is a significant concession to leaseholders.

Attachment E sets out the proposed asset base which arises from the 2001 'line in the sand'. The actual date for calculation of the 'line in the sand' is 1st July 2000, which is the first day of the 2001 financial year.

Recommendation 11

A 'line in the sand' should be set at 1st July 2000 when establishing the value of the capital asset base, so that prices do not recover investments made prior to this date. The return on capital and return of capital should commence when the new pricing system is introduced.

4.6.3 Percentage of costs attributable to lessees and day visitors

Stakeholder submissions focussed extensively on the percentage of costs that should be attributed to day visitors and overnight stayers. Currently NPWS uses a ratio of 5:1 to estimate the cost of an overnight stayer as opposed to a day visitor. SLOPES has argued for a ratio around 3:1, which would bring down costs for overnight stayers.

Given this broad range of opinion, the Tribunal considered that it was desirable to examine individual components of costs, and how they might be assigned to day visitors and overnight stayers. The Tribunal set out a possible break-up, and asked for comment from key stakeholders. Table 4.2 below sets out the range of responses, together with the allocation that the Tribunal finally used in its modelling. The Tribunal has not included water and sewerage costs in the pool of costs to be allocated between day visitors and overnight stayers. The Tribunal considers that water and sewerage costs should be fully recovered by service-specific charges. These will be paid by lessees, who can either bear the cost or pass it on to day visitors who use their premises. Water and sewerage charges are discussed in section 4.6.5 below.

The Tribunal considers that one quarter of Perisher skiers on an average day are overnight stayers.

Table 4.2 shows that the Tribunal has attributed 60% of overall infrastructure costs (apart from water and sewerage) at Perisher to overnight stayers. If one quarter of skiers are overnight stayers, this is equivalent to saying that costs for an individual overnight stayer are between 4 and 5 times those of an individual day visitor, as set out in Attachment F. The Tribunal's reasoning on individual items is set out below. Individual items are weighted according to their proportion of total costs.

It is worth noting that the Tribunal's estimate of the overnight stayer/day visitor cost ratio is not directly comparable to the previous NPWS estimate. The previous NPWS estimate included an attribution of water and sewerage costs, where the Tribunal's estimate excludes these.

Table 4.2 Percentage of costs attributable to overnight stayers

Service	High estimate	Low estimate	Tribunal
Roads	95%	60%	90%
Solid waste	65%	43%	55%
Administration	85%	50%	50%
Public amenities	20%	0%	10%
Freight/passenger	95%	20%	60%
Medical services	50%	10%	30%
Weighted average	**76%**	**44%**	**60%**

Roads

The Tribunal considers that the overwhelming majority of roads exist for the benefit of leaseholders. The number of roads that would be needed to serve day visitors only is limited to those that service infrastructure such as the sewage treatment plant and the water supply. Therefore 100 per cent of the non-service roads, which is most roads, is attributable to leaseholders. A large proportion of service roads is also attributable to leaseholders, since they also benefit from the relevant infrastructure. For this reason, the Tribunal considers 90 per cent of the costs associated with roads should be allocated to leaseholders, and 10 per cent to day visitors.

Solid waste

The Tribunal attempted to obtain accurate estimates of solid waste consumption from a number of sources, without success. The Tribunal knows of no comparable infrastructure authority which has measured solid waste produced by comparable groups of visitors. The Tribunal assumed that overnight stayers consume around three times more food and drink at Perisher than day visitors (based on three meals per day as opposed to one meal per day). If one quarter of skiers are overnight visitors, this suggests a cost allocation of 50 per cent to overnight stayers, as explained in Attachment F. In order to account for the fact that collection of solid waste from overnight stayers is more costly (because it involves widely dispersed points of collection), the Tribunal allocated 55 per cent of solid waste costs to overnight stayers.

Administration

Administration is also difficult to quantify, since the NPWS offices share resources across a number of functions. If there were no overnight facilities at Perisher, there would be less need for NPWS administration of leases, but it is difficult to estimate how much less. There would still be a need to administer numerous other aspects of the resort. The Tribunal considers that dividing the costs equally between lessees and day visitors is as fair an estimate as is possible in the circumstances.

Public amenities

Stakeholders generally agree that overnight visitors make very little use of public facilities. The Tribunal has decided to use the mid-point of estimates, which is that overnight visitors account for 10 per cent of the cost associated with public amenities.

Freight and passenger services

There is a wide range of views on the proportion of freight and passenger expenses that should be allocated to overnight stayers. At one extreme is a view that practically all freight and passenger movements involve transport of people and supplies to lodges. At the other extreme is the view that most movements are of supplies of food and drink to facilities located in Perisher village. The Tribunal consulted NPWS and the oversnow operator, in addition to other stakeholders, in order to obtain greater clarity. The Tribunal's conclusion is that overnight stayers account for 60 per cent of freight and passenger expenses.

Medical services

There is also a range of views on medical services. The medical centre indicated that about half of its patients are overnight stayers. However, other stakeholders pointed out that patient numbers alone should not be the sole basis for cost allocation. A patient with a major fracture requires more time and resources than a patient requiring a simple consultation. Day visitors and overnight stayers are equally likely to suffer major injuries on the ski slopes. Since day visitors significantly outnumber overnight stayers, the Tribunal considers that only 30 per cent of medical centre costs should be allocated to overnight stayers.

Recommendation 12

Infrastructure costs, apart from water and sewerage services, should be allocated to overnight stayers and day visitors in the ratio of 60 to 40.

4.6.4 Charges to recover costs from day visitors

Equity principles suggest that at least some part of infrastructure costs should be recovered from day visitors. There are three main options for doing this:

- a surcharge on lift tickets
- a car parking charge
- a gate entry surcharge.

Lift ticket surcharge

The Tribunal considers that a surcharge on lift tickets is problematic. The Perisher lift operator competes with the Thredbo lift operator, and also with lift operators elsewhere. The two most direct competitors, Perisher and Thredbo, price their lift tickets almost identically. The Perisher lift operator would not be able to pass on to consumers all of a lift ticket surcharge, so that a lift ticket surcharge would result in a simple transfer from the lift operator to the infrastructure service provider. The current lift operator, Perisher Blue, has pointed out that this is not equitable, because a noticeable proportion of day visitors to Perisher do not actually buy lift tickets.

The Tribunal gave most serious consideration to a gate entry surcharge and a car parking charge. These options were a major item of the discussion at the stakeholder roundtable, and their relative merits are set out in the discussion paper which the Tribunal published beforehand.

Car parking charge

The Tribunal decided not to proceed with a car parking charge for the following reasons:

- In the course of the Perisher review, the Tribunal has noted that stakeholders are more uncomfortable with a parking charge than with an entry surcharge.
- It appears that the competitive disadvantage of an entry surcharge can be neutralised by introducing the same surcharge for all entry points to the Kosciuszko National Park, so that Thredbo visitors pay the same surcharge as Perisher visitors. It is more difficult to neutralise the competitive disadvantage of a parking surcharge.
- Stakeholders have expressed reservations about the operational difficulties associated with implementing a parking fee.

- The Tribunal has been advised that snowfields visitors prefer paying one charge, rather than a series of separate charges.

Gate entry surcharge

The Tribunal has therefore devoted considerable analysis to a gate entry surcharge without an accompanying car parking charge.

Currently all visitors to Perisher pay an entry fee. This can be paid in the form of a day pass, a surcharge on a bus ticket or Skitube ticket, or an annual pass. The pass to Perisher is in fact a pass to the whole of the Kosciuszko National Park (KNP), so the entry fee is the same for visitors to all resorts within the KNP, including Thredbo, Charlotte Pass and Mt Selwyn.

Australians are accustomed to paying entry fees at ski fields, and it is worth noting that such fees are also used in other contexts where a large number of people want to use a limited asset at the same time. For example, many Sydney councils charge non-residents significant fees for parking near the beach. There are two main reasons for such charges. One is to recover the costs of providing visitors with additional services, such as rubbish removal and lifeguards. The other reason is that an access or parking fee can serve as a congestion charge, signalling that visitors should either choose a less congested beach, or visit the beach at a time when it is less popular. In the case of Perisher, the Tribunal does not envisage that an entry fee surcharge will serve as a congestion charge. The Tribunal, in accordance with its Terms of Reference, is proposing a charge that will contribute to cost recovery.

Day entry to the Kosciuszko National Park (KNP) currently costs $16. During the snow season, day entry to Victorian ski resorts costs up to $28. The Tribunal therefore considers that there is ample scope for an entry surcharge that will not affect visitor numbers. However, there are three major complications associated with such a surcharge.

The first complication arises from the proximity of Thredbo ski resort to Perisher. An entry surcharge applied only at Perisher would place it at a competitive disadvantage. Such a surcharge would require the ski lift operator to lower lift tickets by an equivalent amount, in order for visitors to face the same cost of access to the ski slopes. In that sense, an entry surcharge imposed only at Perisher would be similar to a lift ticket surcharge, which the Tribunal does not favour. The Tribunal has not been able to determine the extent to which a higher entry price only for Perisher might compel visitors to prefer competing resorts. It is likely that some visitors would choose Perisher in any case, but the Tribunal feels that it is more equitable to businesses based at Perisher for visitors to face the same entry price throughout the KNP.

The second complication arises from the different types of entry passes to the KNP, and their widely dispersed points of sale. Annual passes to the KNP are currently priced at 5.3 times the cost of a day pass. If the Tribunal recommends a surcharge on day entry but not on annual passes, there is a danger that fewer people will buy day passes, because annual passes will be relatively cheaper. The Tribunal therefore considers that an entry surcharge, if introduced, needs to be applied to all forms of entry to the KNP, irrespective of the point of sale. The Tribunal notes that annual passes are sold at all places where NPWS sells passes in general.[9]

As mentioned above, day visitors can also pay an entry fee as part of the price of a Skitube ticket or bus ticket. As with the annual pass surcharge, the Tribunal considers that a surcharge on day entry should be proportionately reflected in a surcharge on bus and Skitube entry, in order to avoid the risk of a revenue shortfall if visitors switch to a form of entry with a lower surcharge.

The third complication arises from the fact that local residents often need access to the KNP for everyday business. Residents of the KNP, and businesses based within the KNP, are exempt from paying a park entry fee. However, businesses based in the region, but outside the KNP, are generally required to pay the full entry fee when they do work within the KNP. The Tribunal considers that higher entry charges, or entry charges *per se*, could be considered inequitable, in that residents of other regions which do not adjoin the KNP are not faced with such entry costs as they go about their daily lives. The Government may wish to consider a mechanism for local residents to have access to cheaper annual passes, or even free entry. Local residents might be defined as those with a residence or business within 30 km of the KNP. The Tribunal has not quantified the financial impact of such a measure.

Recommendation 13

Day visitor costs at Perisher should be recovered through a gate entry surcharge. The gate entry surcharge should apply to all forms of entry to the Kosciuszko National Park, irrespective of the point of sale. The Government should consider measures to mitigate the impact of a surcharge on local residents, who can be defined as those with a business or residence within 30 km of the Kosciuszko National Park.

Another question is how NPWS might apportion surcharge revenue from points of sale other than Perisher. One option is for the Tribunal to state the revenue requirement arising from the Tribunal's apportionment of costs, and allow NPWS to determine which points of sale should provide the revenue. However, the Tribunal believes that this could lead to the inequitable outcome of non-Perisher visitors paying for Perisher infrastructure. The Tribunal prefers to recommend a system which relates surcharge income to likely Perisher visitation. The Tribunal's modelling provides one guide. For the sake of simplicity, the Tribunal has assumed that all day passes sold at the Alpine Way entry are for access to places other than Perisher, generally to Thredbo. Conversely, the Tribunal has assumed that all day passes sold at the Kosciuszko Road entry are for access to Perisher and Charlotte Pass. The first question to resolve is the break-up between Perisher and Charlotte Pass. The Tribunal understands that summer entries are more likely to be attributable to Charlotte Pass. Looking at the pattern of ticket sales in different months, the Tribunal considers that, overall, 80 per cent of Kosciuszko Road entries are attributable to the Perisher Range Resorts, and 20 per cent are attributable to Charlotte Pass.

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9 Chapter 5 sets out a recommended price for annual passes which is greater than 5.3 times the recommended price for day passes.

In all, there are 4 entry points to the KNP[10] which sell entry tickets. In 2004, day passes sold at the Kosciuszko Road entry accounted for 46 per cent of day passes sold at these points. Annual passes are also sold at all entry points to the KNP. In 2004, sales at the Kosciuszko Road entrance accounted for 44 per cent of these sales.

As noted above, annual passes are sold at numerous other points. Day passes are also sold at other points, such as the Snowy Region Visitor Centre, Jindabyne. The Tribunal considers that Kosciuszko Road sales are a useful guide for allocating surcharge revenue from these other sales to Perisher. Allowing for the 20 per cent which should be allocated to Charlotte Pass, 37 per cent of day passes and 35 per cent of annual passes sold at non-entry points can be considered to be Perisher-related. Surcharge revenue should be allocated to Perisher infrastructure in these proportions. In the interests of simplicity, the Tribunal considers that 35 per cent is the appropriate proportion to be applied in both cases.

NPWS has advised that approximately 5 per cent of Skitube users are bound for Charlotte Pass. The Tribunal therefore considers that 95 per cent of the surcharge from Skitube entry should be applied to Perisher infrastructure. The Tribunal considers that bus entry allocation should be the same as Skitube allocation.

There is one further question regarding a surcharge on entry to the KNP: what might happen to surcharge revenue that is not applied to Perisher infrastructure? The Tribunal considers that this is outside this review's Terms of Reference, and does not seek to express a view.

Recommendation 14

Entry surcharges from ticket sales should be applied to Perisher infrastructure as follows:

- *80 per cent of all tickets sold at the Kosciuszko Road Vehicle Entry Station*
- *none of the tickets sold at Vehicle Entry Stations other than Kosciuszko Road*
- *35 per cent of day passes sold at places other than entry points to the KNP*
- *35 per cent of annual passes sold at places other than entry points to the KNP*
- *95 per cent of Skitube sales*
- *95 per cent of Kosciuszko Road bus sales.*

4.6.5 Charges to recover costs from leaseholders

As discussed above, currently leaseholders pay an annual Municipal Service Charge (MSC), which covers only the operating costs of providing infrastructure. The MSC is occasionally supplemented by special capital levies.

The Tribunal, in accordance with the principle of full cost recovery, considers that leaseholders should pay those capital costs which are attributable to them. The Tribunal considers that a predictable capital charge is preferable to occasional capital levies, because a predictable charge allows leaseholders to know in advance their likely expenses.

10 The entry points are Alpine Way, Khancoban, Kosciuszko Road, and Mt Selwyn.

A capital charge is, by nature, generally a fixed charge rather than a volume-based charge. The key question is how it should be allocated. Most Australian ski resorts, including Perisher, use bed numbers as a basis for allocation. Mt Hotham uses the concept of Fully Enclosed Covered Area (FECA). In its report, CIE suggested that lease area might be a useful measure for recovering road costs. Municipal councils in NSW use a percentage of property value as a basis for levying general rates. All four options have the advantage of administrative simplicity, but there are further options which are more cost-reflective. For example, lodges that are further from the village centre generate higher infrastructure costs, because the infrastructure provider must build longer roads, water pipes and sewerage pipes. So charging according to distance from village centre could be more cost reflective.

The main advantage of allocation according to **bed numbers** is that NPWS already has a database which lists bed numbers for each lease. Bed numbers have, however, a number of disadvantages. The main disadvantage is that lessees have an incentive to under-report the number of beds. Anecdotal evidence suggests that some lessees do this by installing sofa-beds in rooms not designated as bedrooms. Another disadvantage is that charging by bed numbers gives little incentive to develop a site, and penalises lessees who provide cheaper accommodation by fitting more beds into a limited space.

The main advantage of **FECA** is that it charges according to the immediate economic potential of a site. If the lessee chooses to provide more luxurious accommodation and install fewer beds, the choice is reflected in a higher charge per bed. Conversely, a lessee who provides cheaper accommodation is not penalised. The main disadvantage is that, as with bed numbers, charging by FECA gives little incentive to develop a site.

Charging by **lease area** has the long-term advantage of encouraging lessees to develop their sites, and to lease the minimum area necessary for their intended use. In this way, it promotes infill and stops proliferation of sites. This is an advantage from an aesthetic/environmental point of view, and also lowers long-term costs of providing infrastructure.

Charging by **site valuation** has a similar advantage to FECA, in that the charges are related to the immediate economic potential of a site. As such, this charging method most closely reflects ‘capacity to pay’. However, in the specific case of Perisher, site valuation is likely to be inversely correlated with costs imposed on infrastructure services, since sites close to the village centre are likely to be the most highly valued. Centrally located lessees could in this way subsidise more remote lessees, who impose higher costs on the infrastructure service provider.

It is possible to combine any of the four methods described above (bed numbers, FECA, site valuation and lease area) with other indicators, to arrive at a more cost-reflective method of charging. For example, lodges which are some distance from the village centre cost more to service than centrally located lodges. Most simply, distant lodges require more roads, water pipes and sewerage pipes. **Charging according to location** would encourage a more clustered development pattern, which lowers long-term costs of providing infrastructure. Lessees who value isolation (and many Perisher stakeholders have pointed out that they do) would still be able to have it, but they would pay the extra cost themselves, rather than being subsidised by more central lessees.

Charges for all services other than water and sewerage

On balance, the Tribunal considers that charging by bed numbers is the most practical immediate solution for fixed charges apart from water and sewerage connection. The main reason is administrative simplicity and stability. Lessees are already facing significant changes, and bed numbers are a known factor. The Tribunal does not rule out other factors in the future (such as FECA, lease area, or distance from the village centre), but considers bed numbers to be the best basis for charging in the immediate future.

There is also the question of how solid waste should be charged. A volume charge has the advantage of serving as a demand management tool. Stakeholders have noted that the current system, where the oversnow operator imposes a volume charge for rubbish removal, encourages overnight stayers to minimise their waste. However, volume charging is rarely adopted by other municipal infrastructure providers, mainly because of its administrative complexity. Volume charging can also lead to illegal dumping. Charging for solid waste removal depends also on the method of waste removal, which in turn depends on a future decision on whether or not Perisher roads should be cleared of snow. As discussed above in section 2.3, the Tribunal has chosen to assume that Perisher roads will be partially cleared. In that scenario, the Tribunal has presumed adoption of the solid waste method proposed by Earthtech – by compactor from sealed huts. This solution makes volume charging difficult, so the Tribunal prefers a **fixed charge** for solid waste removal, as part of an overall municipal services fixed charge.

Charges for water and sewerage services

While simplicity dictates the adoption of one method of allocating fixed charges, there is at least one important exception. Fixed **charges for water and sewerage services** are more easily isolated. It is normal practice in municipal services to charge a fixed water connection cost according to the size of the meter connection. In the case of Perisher, this can also be applied to the fixed sewerage charge, since it can reasonably be assumed that all water is discharged to the sewer system.

In line with general practice in water utilities, the Tribunal considers that a fixed charge for water and sewerage services should be complemented by a volume charge for both water and sewerage consumption. The relative weight of these two will determine the distribution of volume risk between leaseholders and the infrastructure provider. A higher fixed charge transfers more of the volume risk to leaseholders, while a higher volume charge transfers this risk to the infrastructure provider. A higher volume charge can send a clearer demand signal. In the case of Perisher, a sufficient demand response could, *inter alia*, avoid the need for the water headwork augmentation discussed in section 3.3. This could have both financial and environmental benefits. The Tribunal therefore favours a volume charge which will be high enough to send a significant price signal to leaseholders.

It is worth noting that a small reticulation system like Perisher will always give rise to a higher total charge than a larger system like Sydney's, because fixed costs need to be spread among a much smaller customer base. Perisher in particular is built adjacent to a local watershed, with very little flow upstream from the village. This in itself imposes significant costs on the water supply.

Commercial lessees have pointed out that some of their water consumption arises from their provision of toilet facilities which are used by the general public. Many users of these facilities do not provide any business to the commercial lessees. At Perisher, NPWS has provided only one such facility (in the NPWS information centre). In most national parks, NPWS bears the full cost of providing public facilities.

This issue raises a trade-off between economic efficiency, equity and administrative simplicity. Economic efficiency suggests that the party which controls the public facilities should pay for water consumed – otherwise there is no incentive to install the most water-efficient equipment. Equity suggests commercial lessees should not pay to service visitors who are not their customers. Administrative simplicity suggests that one party (the lessee) should be responsible for paying all expenses associated with a lease.

On balance, the Tribunal considers that commercial lessees should pay for all their water consumption. Commercial lessees at Perisher are in a similar position to commercial lessees elsewhere who provide toilet facilities. A publican, fast food operator or shopping centre manager also faces an unknown proportion of people who are not paying customers, but who nonetheless use toilet facilities on the premises.

Recommendation 15

Infrastructure service costs attributable to leaseholders, other than those related to water and sewerage, should be funded by a fixed charge levied according to bed numbers.

Recommendation 16

Water and sewerage services should be funded by a combination of volume-based and fixed charges.

4.6.6 Developer charges

The Tribunal agrees with CIE's conclusion that only incremental costs related to resort expansion should be reflected in developer charges. However, it is difficult in practice to isolate these incremental costs. As a result, the Tribunal has adopted an assumption about developer charges that reflects charges at other resorts.

The Tribunal treats developer charges differently to regular charges. The income from developer charges is not treated as revenue, but as a contribution to the capital base, ie the asset base and investment cost to be recovered is reduced by the amount of the developer charge. As a result, the time when these charges are collected has a bearing on full cost recovery.

4.6.7 Rate of return

The principle of full cost recovery requires that a business earn a commercial rate of return on all of its assets. In the context of Perisher and this review, this means that a commercial rate of return should apply to all existing infrastructure including water, sewerage and roads, and future capital expenditure. The Tribunal considers that an appropriate commercial rate of return to apply to Perisher's assets is 6 per cent (real, pre-tax). The Tribunal has not undertaken an exhaustive analysis of the appropriate rate of return for Perisher. Given the range of municipal services at Perisher, the rate of return is based on similar rates which apply to utilities such as those which provide metropolitan water services.

Recommendation 17

The infrastructure service provider should earn a 6 per cent real, pre-tax rate of return on assets.

5 PRICES AND CHARGES

The third section of the Tribunal's Terms of Reference requires it to establish and recommend prices and charges for infrastructure and municipal services, taking into consideration different funding sources and impacts of the recommended prices and charges.

This chapter sets out:

- current prices and charges at Perisher
- the Tribunal's recommended prices and charges
- the likely impact on stakeholders of the Tribunal's recommendations
- assumptions behind the Tribunal's recommendations.

5.1 Current prices and charges

Currently there are four types of charges levied in the Perisher Range Resort. All visitors to the Kosciuszko National Park pay a gate entry fee, while Perisher leaseholders pay a lease rental, a Municipal Service Charge (MSC), and special levies that are imposed from time to time (see Table 5.1).

The level of the MSC is set to recover the cost of operations and maintenance at Perisher, while capital costs are either recovered from special levies, or funded by NSW taxpayers. Revenue from park entry and lease rentals goes to the NPWS general pool of funds.

Table 5.1 Current charges at Perisher

Park Entry	Entry into the park attracts an entry fee. This amount varies with the mode of entry. $16/car/day $6.60/ bus entry (adult)* $2.20/ bus entry (child)* $4.95/Skitube entry (adult)* $1.65/Skitube entry (child)* $6/motor cycle/day $85/car/year
Lease Rental	Non commercial lessees pay 6 per cent of their land value. Commercial lessees pay the greater of 6 per cent of lease value or 2-12 per cent of gross turnover. The majority of commercial lessees pay rent based on turnover.
Municipal Service Charge (MSC)	MSC covers water, sewerage, solid waste disposal, public facilities and amenities, street signage and furniture provided by NPWS. All lessees pay a base obligation based on their bed allocation. This charge ranges from $300 per bed in Guthega to $600 per bed in Perisher. Commercial lessees then pay a special surcharge on the base amount to account for day visitors.
Special Levies	These are collected for specific projects. In 2001/02, a one off sewerage levy raised $3.3 million and an ongoing road sealing levy was introduced. Other levies include a fire service levy and an environmental levy.

*Bus and Skitube entry fees are generally not paid directly by the visitor to NPWS, but are collected on behalf of NPWS by the transport company.

5.2 Recommended prices and charges

The Tribunal's Terms of Reference specify full cost recovery over the life of the infrastructure in a way that smooths the initial cost impact. The Tribunal has modelled the revenue outcomes under various pricing scenarios. The Tribunal has chosen to proceed with pricing recommendations which achieve full cost recovery within 10 years. The Tribunal considers that this 10-year 'glide path' strikes an appropriate balance between administrative simplicity and minimising undue impacts on Perisher stakeholders.

5.2.1 Total cost to be recovered

As set out in chapters 3 and 4, the Tribunal's total cost estimate is based on the following assumptions:

- capex of $64.4 million over 30 years (details set out in Attachment D)
- opex of $94.3 million over 30 years (details set out in Attachment D
- an asset base starting at $0 on 1st July 2000, rising to $23 million in 2006 and $43 million in 2015 (details set out in Attachment E)
- avoiding retrospective charging through recovery of return on capital and return of capital only from the time of implementation of the recommended prices and charges
- a rate of return on assets of 6 per cent.

These assumptions lead to the total cost for each year set out in Attachment E. This rises from $4.9 million in FY06 to $8.2 million in FY15, mainly due to the significant investments necessary over that period.

The Tribunal's assessment is that 60 per cent of costs are attributable to overnight stayers, and 40 per cent to day visitors. In order to minimise the impact on leaseholders, the Tribunal has set prices and charges so that total charges to leaseholders are subject to a real rise of 2.5 per cent per annum in the 10 years to 2015. This limited rise is achieved through an over-recovery from Perisher day visitors which has a cumulative value of $6.3 million[11] in the 10 years to 2015.

5.2.2 Day visitor charges

As discussed in section 4.6.4, the Tribunal considers that:

- entry surcharges are the preferable way of recovering costs from day visitors to Perisher
- any entry surcharge needs to be applied in a way which does not place the Perisher Range Resorts at a competitive disadvantage.

The Tribunal has therefore developed proposed entry charges which should apply to all entry points and modes of entry into the Kosciuszko National Park (KNP). The Tribunal has calculated charges which achieve full cost recovery if applied from 1st July 2005. The Tribunal recommends that they be implemented as soon as practicable. The Tribunal is aware that there may be passes which are not shown in Table 5.2. The Government should consider introducing a proportional surcharge on any such passes.

The Tribunal understands that GST is levied on current entry charges to the KNP. This makes it likely that GST will also be levied on any surcharges. However, a final decision on this is a matter outside the Tribunal's jurisdiction, so the final GST-inclusive prices shown in Table 5.2 should be taken as indicative only.

The Tribunal has noted in section 4.6.4 above that the Government may wish to consider implementing these surcharges in a way which mitigates their impact on local residents, who can be defined as those with a business or residence within 30 km of the KNP.

Recommendation 18

The gate entry surcharges shown in Table 5.2 below should be applied to all ticket sales for the Kosciuszko National Park as soon as practicable.

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11 This figure is the difference between projected day visitor revenue and costs allocated to day visitors.

Table 5.2 Tribunal's recommended gate entry surcharges (nominal $)

Entry mode	Current entry price (incl GST)	New gate entry surcharge	Likely GST on surcharge	Total recommended price (incl GST)
Vehicle Day Pass	$16.00	$10.00	$1.00	$27.00
Motorcycle Day Pass	$6.00	$4.55	$0.45	$11.00
Bus passenger (adult)	$6.60	$4.41	$0.44	$11.45
Skitube/Bus passenger (child)	$2.20	$1.27	$0.13	$3.60
Skitube (adult)	$4.95	$3.00	$0.30	$8.25
Skitube (child)	$1.65	$1.00	$0.10	$2.75
Annual pass	$85.00	$95.45	$9.55	$190.00
Second annual household pass	$42.50	$47.73	$4.77	$95.00
Two year pass	$150.00	$168.18	$16.82	$335.00
Second two year household pass	$75.00	$81.82	$8.18	$165.00
Access pass	$22.00	$14.55	$1.45	$38.00
Upgrade tickets	$26.00	$17.27	$1.73	$45.00

5.2.3 Leaseholder charges

Leaseholders currently pay a single MSC to recover opex. The Tribunal proposes a combination of six charges to recover capex and opex:

- municipal services capex charge
- municipal services opex charge
- water fixed charge
- water volume charge
- sewerage fixed charge
- sewerage volume charge.

The Tribunal assumes that these six charges will be implemented in a way that is administratively simple for NPWS and leaseholders. One option is to include all the charges on a single bill, with a break-up for leaseholder information.

The price path recommended would achieve full cost recovery if applied from 1st July 2005. These charges are inflated each year until 2015 by the change in CPI + 2.5%. After 2015, the Tribunal's modelling projects that leaseholder charges need to increase by the change in CPI only. The Tribunal recommends that the leaseholder charges in Table 5.3 be implemented as soon as practicable, in order to assist the aim of full cost recovery.

The Tribunal understands that water and sewerage charges are not subject to GST, but that the picture is less clear for the Municipal Services Charge. A final decision on GST is outside the Tribunal's jurisdiction, and the numbers in Table 5.3 are shown without estimated GST impacts.

Recommendation 19

The leaseholder charges shown in Table 5.3 should apply uniformly to Perisher, Smiggin Holes and Guthega as soon as practicable. They should be increased each year to 2015 by the change in the CPI + 2.5%.

Table 5.3 Tribunal's proposed leaseholder charges for 2005/06 excluding GST

Leaseholder Charge	Units	Price per unit nominal $
Municipal services operating charge	per bed per annum	$130
Municipal services capital charge	per bed per annum	$171
Water usage charge	per kL	$3.50
Water fixed charge		
25mm	per connection per year	$1,401
32mm	per connection per year	$2,296
40mm	per connection per year	$3,588
50mm	per connection per year	$5,606
80mm	per connection per year	$14,351
Sewerage usage charge	per kL	$3.50
Sewerage fixed charge		
25mm	per connection per year	$1,562
32mm	per connection per year	$2,559
40mm	per connection per year	$3,999
50mm	per connection per year	$6,248
80mm	per connection per year	$15,995

By way of comparison, Sydney residential users with a 25 mm connection in June 2005 pay around $1 per kilolitre for water consumption, a fixed charge of $121.28 for water connection, and a fixed charge of $541.66 for sewerage connection.

5.2.4 Developer charges

Developer charges, from the Tribunal's perspective, are charges paid by developers to agencies for infrastructure services supplied by agencies to the development. This type of charge is common in other infrastructure industries.

The Tribunal's modelling has assumed that the 1320 new beds approved for Perisher will be developed over a period of 5 to 10 years starting in 2007. This is based on the assumption that charges are payable from the new bed owners once a certificate of practical completion is issued.

The Tribunal's assumed developer charges include the recovery of the outstanding $1.2 million relating to the Sewerage upgrade works.

The Tribunal is aware that the Government is currently negotiating the sale of new beds to existing leaseholders, and does not seek to influence these negotiations. For this reason, the Tribunal will not publish its assumed developer charge relating to recovery of infrastructure costs, and will not make any recommendations on developer charges.

5.3 Impact on cost recovery

The Tribunal's terms of reference require it to incorporate full cost recovery as one of the pricing principles. However, the capital program recommended by the Tribunal starts from 2000/01 while the prices and charges are recommended for commencement in 2005/06. Thus there is an issue of whether the under recovery in the prior years should be included in calculations. Retrospective recovery of costs raises issues of fairness given the different expectations and understanding of stakeholders at that time. The Tribunal does not recommend the retrospective recovery of return on capital and return of capital (depreciation) in prior years. This provides leaseholders with a further generous concession in addition to the 2001 'line in the sand' date.

Looking forward, from 2005/06 to 2029/30, prices and charges are set to yield full cost recovery. The inherent nature of infrastructure expenditure is lumpy, thus, while achieving full cost recovery, the Tribunal also seeks to smooth out the impacts of the lumpy expenditure program. In doing so, the level of cost recovery will vary year by year, as shown in Table 5.4 below. It is worth noting that the proposed pricing structure leads to full cost recovery when assessed over the full 30-year period. In the period to 2015 only, leaseholders pay almost $2 million less than the full cost recovery level.

Table 5.4 Cost recovery

(all values in nominal $ million unless otherwise stated)

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total costs	**4.9**	**5.3**	**5.8**	**6.3**	**7.0**	**7.5**	**7.7**	**8.0**	**8.1**	**8.2**
Expected total revenue										
Leaseholder charges	2.8	3.0	3.2	3.5	3.7	4.0	4.3	4.6	4.9	5.2
Day visitor charges	2.4	2.5	2.6	2.6	2.7	2.8	2.8	2.9	3.0	3.1
Others*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total	**5.3**	**5.6**	**5.8**	**6.2**	**6.5**	**6.8**	**7.2**	**7.5**	**7.9**	**8.3**
Over/under recovery	0.4	0.3	0.0	-0.2	-0.5	-0.7	-0.5	-0.4	-0.2	0.1
Over/under recovery	8%	5%	1%	-3%	-7%	-9%	-7%	-5%	-3%	1%

*Revenue from Sponar's Chalet, Kosciuszko Mountain Retreat and Ski Rider Motel for use of solid waste services provided by the MSU. These three premises are not located in Perisher but uses receive solid waste services. Number s may not add up due to rounding.

5.4 Impact on stakeholders of recommended prices and charges

The Tribunal's recommendations will have varying impacts on users. These changes are recommended to improve cost reflectivity and cost recovery. When comparing the 2005 MSC charge with the total bill in 2006, under the Tribunal's recommended new pricing structure, it is important to keep these impacts in mind.

- Setting prices to recover capital costs will increase charges for most visitors and leaseholders.
- The introduction of a gate entry surcharge will increase the total gate entry charge for all users. Both over night stayers and day visitors will have to pay the gate entry surcharge when they enter the KNP.
- Revenue from the gate entry surcharge incorporates an over-recovery from Perisher day visitors which has a cumulative value of $6.3 million in the 10 years to 2015. Given that overnight stayers also pay gate entry, the actual over-recovery from day visitors will be less than estimated.
- Currently some commercial lessees pay a special surcharge on top of their MSC per bed charge to account for day visitors. Revenue from the gate entry surcharge will replace this special surcharge. Commercial lessees with few beds and significant retail space may see a fall in total fees.
- The introduction of a fixed charge for water and sewerage imposes a base rate for most, if not all, lessees. For smaller premises, this will impose a higher cost per bed compared to larger premises with the same meter size. As discussed in section 4.6.5, the impact on small leaseholders has been mitigated by increasing the weighting of volume-based charges for water and sewerage.
- The introduction of significant volume-based charges for water and sewerage will allow leaseholders some flexibility in reducing their bill by adopting water saving measures. This in turn may lead to lower overall financial and environmental impacts, if the lower water consumption avoids the need for water headwork augmentation.
- Inclusion of solid waste collection costs in the municipal services operating charge will offset the need for current users to pay for solid waste collection directly.
- The projected price path should provide more certainty for leaseholders in estimating future costs.

The Tribunal has estimated the impact on leaseholders per overnight stay. This requires an estimate of how many nights per year a typical bed is occupied. The Tribunal used the assumptions set out in Table 5.5.

Table 5.5 Estimate of bed occupancy at Perisher

Period	Days in period	Occupancy	No. of days occupied
Winter weekends	24	80%	19
Winter weekdays	60	50%	30
Summer weekends	80	10%	8
Summer weekdays	201	0%	0
Total	**365**	**16%**	**57**

Numbers may not add up due to rounding.

These assumptions on bed occupancy do not affect the Tribunal's calculation of costs and charges required to cover those costs. The assumptions are used only in calculating likely impacts.

The Tribunal developed these estimates in consultation with key stakeholders. Some stakeholders suggested that occupancy might in fact be higher (up to 100 per cent on winter weekends). The Tribunal has adopted generally conservative assumptions in order to ensure that stakeholder impacts are not underestimated. In particular, the Tribunal has sought to include the possibility of a poor ski season in its estimates. Adoption of more optimistic assumptions would lower the estimated impact per overnight stay.

Impacts on day visitors

The Tribunal considers that the impact on day visitors of the proposed gate entry surcharge is reasonable. The resulting total entry charges are comparable to those charged at competing ski resorts, as shown in Table 5.6. Table 5.6 makes no comparison with Thredbo entry charges, because the Tribunal's recommendations assume that the same entry charges will apply throughout the KNP.

Table 5.6 Comparison of gate entry charges

	Vehicle day entry	Bus	Annual pass
Perisher existing (incl GST)	$16.00	$6.60	$85.00
Proposed surcharge (incl GST)	$11.00	$4.85	$105.00
Total Perisher entry	**$27.00**	**$11.45**	**$190.00**
VICTORIAN SKI RESORTS			
Mt Buller	**$28.00**	**$8.00**	**$200.00**
Falls Creek			
Normal price	**$25.00**	**$6.00**	**$190.00**
Early bird deal			$155.00
Mt Hotham			
Normal price	**$27.00**	**$9.00**	**$280.00**
Early bird deal			$230.00

The proposed surcharge is aimed at recovering costs from users who place a demand on the services in the resort. The Tribunal's recommendations assume that surcharge revenue from entries to Thredbo, Charlotte Pass and other locations in KNP will not be used to subsidise Perisher.

Currently businesses in surrounding areas which perform services at Perisher are required to pay the standard KNP entry charges, either by way of a vehicle day entry or annual pass. The imposition of the surcharge on all entry tickets will thus increase the cost to these businesses. It is not the Tribunal's intention to disadvantage these businesses with the introduction of the gate entry surcharge. As discussed in section 4.6.4, the Government may wish to consider an exemption from the gate entry surcharge to local businesses, defined as those based within 30 km of the KNP.

Impacts on leaseholders

Leaseholders will experience the largest change in pricing. Apart from paying the entry surcharge, they will also pay:

- a fixed charge for water and sewerage based on the size and number of meter connections they own
- a variable charge for water and sewerage based on total consumption, and
- a municipal services operating and capital charge for every bed they are allocated (including staff accommodation beds).

It is worth noting that there is a further impact which is outside the Tribunal's control. Some leaseholders will soon be required to pay Goods and Services Tax (GST) on lease rents, where they previously have not. This will raise the total cost of holding a lease. As this matter is outside the Tribunal's control, it is not included in the analysis of stakeholder impacts.

To compare the changes for leaseholders, Table 5.7 below presents leaseholder total charges on a per bed basis. These are indicative and are averaged for the whole of Perisher.

Table 5.7 Expected leaseholder costs per bed (nominal $)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
X-factor (%)	7.5	2.2	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Leaseholder cost ($m)	2.7	2.8	3.0	3.2	3.5	3.7	4.0	4.3	4.6	4.9	5.2
Ave $/bed	750	786	811	831	853	878	904	939	982	1,027	1,073
Ave $/bed/night	13	14	14	15	15	15	16	16	17	18	19

The X-factor reflects the real increase in prices over and above the change in CPI.[12] There is no X-factor in 2005 or 2006. The corresponding number in 2005 is a 10 per cent nominal increase implemented by NPWS, and in 2006 it is the real increase in revenue that year arising from the Tribunal's recommendations.

Table 5.7 above implies that the Tribunal's recommendations are equivalent to an increase for leaseholders of around $6 per bed per night (ie, an increase from $13 to $19) over 10 years. This is a minor portion of a typical skiing holiday, where the cost of a day's skiing is around $280 (including food, accommodation, transport and lift tickets).

Previously retail lessees paid a special surcharge to account for day visitors. With day visitors paying directly through the gate entry surcharge, retailers need not pay the equivalent of the special surcharge anymore. Therefore, lessees with a predominance of retail space, as opposed to accommodation space, should see a fall in their total bill.

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12 The Tribunal has assumed a change in CPI of 2.5 per cent in its modelling.

Generally, the biggest influence on the change in leaseholder charges is the water and sewerage component. The greatest increase in bills is for leaseholders who currently pay for a small number of beds, and who will in future pay a fixed charge for water and sewerage connection that exceeds their current bed charge.

To better highlight these impacts, Table 5.8 below presents average expected changes in total bills for the three separate valleys. Water consumption in 2006 is assumed to be the same as in 2005.

Table 5.8 Average expected bills impact for each valley (nominal $)

	2005 MSC	Water & Sewerage fixed charge	Water & Sewerage usage charge	MS opex charge	MS capex charge	Total bill	Average change in total bill
Perisher	$13,118	$4,375	$4,138	$3,063	$4,031	$15,605	19%
Smiggin Holes	$15,054	$3,506	$3,749	$3,121	$4,107	$14,483	-4%
Guthega	$6,477	$3,704	$2,309	$2,514	$3,308	$11,835	83%

Percentage change in bills excludes group- owned premises (where one owner has more than one lease) given that individual bills for each of their premises in 2005 were not available.

Table 5.8 highlights that different valleys are expected to experience different changes in average bills. This is because the current MSC rate per bed varies for each valley. The valleys which experience the greatest increase are those which are currently furthest below cost recovery level – Guthega and Perisher Valley.

Table 5.9 below presents a sample of leaseholders who are expected to face large increases. The sample shows that some premises are facing large increases due to the fixed water and sewerage charge, while for others the increase is a result of high water consumption.

Table 5.9 Sample of customers with large increases (nominal $)

Change from 2005 to 2006

	Beds	2005 MSC			Water & Sewerage fixed charge	Water & Sewerage usage charge	MS opex charge	MS capex charge	Total bill 2006			Change in total bill
		$	$/bed	$/bed/night					$	$/bed	$/bed/night	
Leaseholder H	6	$3,134	$522	$9	$2,963	$1,722	$780	$1,027	$6,492	$1,082	$19	107%
Leaseholder I	16	$8,358	$522	$9	$2,963	$8,253	$2,080	$2,738	$16,035	$1,002	$18	92%
Leaseholder J	12	$6,269	$522	$9	$2,963	$5,040	$1,560	$2,054	$11,617	$968	$17	85%
Leaseholder K	6	$3,134	$522	$9	$2,963	$693	$780	$1,027	$5,463	$911	$16	74%
Leaseholder L	6	$3,134	$522	$9	$2,963	$378	$780	$1,027	$5,148	$858	$15	64%
Leaseholder M	18	$5,907	$328	$6	$2,963	$1645	$2,341	$3,080	$10,029	$557	$10	70%
Leaseholder N	16	$5,251	$328	$6	$2,963	$1519	$2,080	$2,738	$9,301	$581	$10	77%

Calculation of cost per bed per night is based on the assumptions set out in Table 5.5.

An analysis of the total number of premises in Perisher shows that under the proposed prices, a large number of leaseholders will experience an increase in their bill, compared to their 2005 MSC bill. A small number is expected to experience a decrease in their total bill. Around one third of properties will experience an increase of more than 30 per cent.

Table 5.10 Summary of properties and their change in total bill

% change in bill from 2005 MSC	Number of properties
more than -20%	4
-20% to -10%	6
-10% to 0%	17
0% to 10%	25
10% to 20%	22
20% to 30%	15
Greater than 30%	30
Total	**119**

Consumption data provided by NPWS indicates that that water usage is not always proportionate to the number of beds at each property. This can be attributed to facilities provided at the premises, usage behaviours of patrons and/or meter reading accuracy. Complete meter installation at all premises was only completed in recent years. The Tribunal values NPWS' initiative in being among the first of Australian ski resorts to collect water consumption data, and notes that reliable metering is essential if the infrastructure provider wishes to provide proper volume pricing signals.

5.5 Sensitivity analysis

Underpinning the Tribunal's analysis are various assumptions. As with all forecasting, there is a risk that actual outcomes might vary from the underlying assumptions. One of the major assumptions is that of future visitor numbers at Perisher. CIE's demand study presents four scenarios, as described in section 3.1.1.

In determining prices and charges, the Tribunal has assumed scenario B. This scenario assumes that the proposed village development will go ahead. There will be moderate growth in visitor numbers, but this growth will be limited by competition with non-snow alternatives.

With prices and charges set as per above, if growth follows CIE's scenario A (which has the highest growth rate), then there will be an over-recovery of total revenue to the amount of $1.4 million in net present value terms. This is largely driven by higher gate entry surcharge revenue and usage revenue from water and sewerage. Conversely, if growth is negative, as per CIE's scenario C, the result is an under-recovery of $3.0 million in net present value terms.

Table 5.11 Revenue sensitivities to demand forecasts

	2006			2015			2030		
Scenario	**A**	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**
Average skier days growth	1.7%	1.3%	0.2%	2.0%	1.3%	-0.4%	1.7%	0.9%	-0.9%
Average skier numbers growth	0.5%	0.1%	-0.4%	0.5%	-0.2%	-1.0%	0.4%	-0.4%	-1.7%
(Nominal $ m)									
Leaseholder revenue	2.8	2.8	2.8	5.3	5.2	4.9	8.7	8.1	7.0
Gate entry surcharge revenue	2.5	2.4	2.4	3.2	3.1	2.8	4.9	4.5	3.2
Other*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total revenue	**5.3**	**5.3**	**5.2**	**8.6**	**8.3**	**7.8**	**13.7**	**12.7**	**10.3**
Over/under recovery	0.4	0.4	0.4	0.4	0.1	-0.4	0.4	-0.6	-3.0
Total cost recovery	109%	108%	108%	104%	101%	95%	103%	96%	77%

*Revenue from Sponar's Chalet, Kosciuszko Mountain Retreat and Ski Rider Motel for use of solid waste services provided by the MSU. These three premises are not located in Perisher but uses solid waste services.

There is one further sensitivity, unrelated to future visitor numbers. Currently the price of an annual pass is 5.3 times the price of a day pass. The Tribunal's proposed pricing structure changes this ratio, so may lead to a change in relative demand for the two types of passes. This impact is difficult to quantify, but the Tribunal considers that it is likely to be minor.

6 FUTURE REGULATORY FRAMEWORK

The Terms of Reference request the Tribunal to recommend a preferred regulatory framework for determination of future prices and charges.

In regulating other infrastructure charges, the Tribunal generally has a review cycle of three to five years. This reflects common practice among infrastructure regulators. Where a review is protracted due to the complexity of the infrastructure, a longer review cycle is preferable. The Tribunal considers that Perisher's infrastructure is sufficiently complex to justify a five year review cycle.

In order to gain stakeholder acceptance, future reviews need to be similar to this review, and to include

- focussed terms of reference
- assessment of the views and interests of the diverse Perisher stakeholder group
- rigorous financial and technical analysis.

An important question is who should undertake any future reviews of Perisher infrastructure pricing. The Tribunal considers that it has the appropriate skills and experience to undertake such reviews.

Recommendation 20

Perisher's infrastructure pricing should be reviewed on a five-year cycle by the Independent Pricing and Regulatory Tribunal in a manner similar to that of the current review.

ATTACHMENT A TERMS OF REFERENCE

Review of the National Parks and Wildlife Service's Infrastructure
Services Strategy for the Perisher Range Resorts

The Independent Pricing and Regulatory Tribunal of NSW (IPART) is requested, under section 9(l)(b) of the *Independent Pricing and Regulatory Tribunal Act* 1992 ('the Act'), to undertake a review of the National Parks and Wildlife Service's (NPWS) proposed *Infrastructure Services Strategy* for the Perisher Range Resorts[13].

The purpose of the review is to establish a full cost recovery framework including cost-reflective pricing and funding arrangements for the proposed upgrade, expansion and operation of municipal infrastructure services at the Perisher Range Resorts.

Background

NPWS[14] currently provides a range of municipal services to the Perisher Range Resorts as part of its overarching responsibility for the care, control and management of National Parks. These services include:

- Primary Services - water, wastewater, stormwater/roads and waste removal; and
- Secondary Services - office accommodation/ public facilities/ ancillary services.

The current proposal to expand the Perisher Range Resorts dates back to the late 1990's. In 1999, 2000 and 2002, the NSW Government endorsed progress on the development of additional accommodation in the Perisher Range Resorts through the sale of 1,320 additional bed spaces.

In 2002, in order to upgrade the existing infrastructure, and to support the expansion, NPWS and the then Department of Public Works and Services[15] (DPWS) developed a 30 year *Infrastructure Services Strategy*, which proposed a range of capital works and annual operating expenditure. The capita1 works were required to comply with licence conditions and legislative requirements (such as public health, environmental, occupational health and safety standards), augment capacity to accommodate new development, and replace plant and equipment when the current economic life of the asset expires.

In May 2003, the total cost of the *Infrastructure Services Strategy* was revised to include additional works and greater contingencies for design and construction, as well as account for adjustments in the Consumer Price Index since the original estimates were made. The total capita1 and recurrent annual expenditure is now forecast to exceed $160 million over the 30 year period from 2001. The proposed capital works program has been analysed and categorised as:

- ‘backlog’ (or deferred capital maintenance) works;
- ongoing maintenance and renewals; and
- expansion costs relating to the 800 bed Village Centre development and 520 additional beds.

Since 2001, Treasury has provided in excess of $20 million in repayable advances to commence water supply upgrades and other works, fund overruns in the sewerage works, and cover other miscellaneous expenses.

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13 The “Perisher Range Resorts” encompass the village and ski slope areas at Perisher Valley, Smiggin Holes, Guthega and Mt Blue Cow.

14 The NPWS is also referred to as the Parks and Wildlife Division of the Department of Environment & Conservation.

15 Now the Department of Commerce.

Revenue is collected from Perisher leaseholders and visitors through municipal service charges, gate entry fees, and lease payments. Revenue from municipal service charges ($2.4 million) is applied to Perisher services and infrastructure. The remainder is presently retained by the Parks & Wildlife Division of the Department of Environment & Conservation, and applied to other programs.

The municipal service levies paid by the Perisher Range Resorts leaseholders recover the recurrent (or operating) costs of providing infrastructure and services. Historically the NSW Government has borne the majority of the capital refurbishment costs, with some contribution from leaseholders (through 'one-off' capital levies) from time to time.

Current NSW Government policy is to fully recover costs of providing municipal infrastructure and services from the beneficiaries of those services. Implementation of the *Infrastructure Services Strategy* as it stands would see a substantial enhancement of amenity at the Perisher Range Resorts, with leaseholders and visitors as the main beneficiaries.

The NSW Government currently has an Exclusive Negotiation Agreement ('the Agreement') with Perisher Blue Pty Ltd (PBPL) for the new 800 bed Village Centre development.

A separate tendering process is proposed for the sale of the remaining 520 beds to existing leaseholders. Negotiations on bed sales can not be completed until a decision is made on future charges for municipal infrastructure and services.

Matters for Consideration

IPART is requested, under section 9(1)(b) of the Act, to:

1. REVIEW THE CAPITAL WORKS PROGRAM

Having regard to the nature and quantum of capital expenditure previously spent by the NSW Government to upgrade infrastructure at the Perisher Range Resorts:

a) undertake a review of NPWS's proposed *Perisher Range Resorts Infrastructure Services Strategy* to ensure that the proposed capital works program:
   i. complies with current licence conditions and legislative requirements (ie: does the proposed capital works program include only those capital costs required to meet <u>current minimum</u> public health, environmental, and occupational health and safety standards?);
   ii. incorporates 'least-cost' planning principles into the infrastructure planning framework (ie: are there any other lower cost infrastructure options available to the NSW Government?); and
   iii. represents efficient costs (ie: would the overall cost of the capita1 works program be reduced through greater use of project tendering?).

b) determine whether individual components of the capital works program should be avoided, deferred, delayed or staged over the course of the *Infrastructure Services Strategy*;

c) identify the capital costs that are directly attributable to the new Village Centre development and all other beds;

2. DEVELOP PRICING PRINCIPLES

d) develop a pricing framework that incorporates full cost recovery principles for provision of infrastructure and municipal services, including consideration of the nature and extent of any benefits enjoyed by users of municipal infrastructure services (eg: day visitors, leaseholders), and whether, and how, the costs of the proposed capital works program should be recovered from such users;

e) establish the level of efficient operating and capital costs required to meet current minimum standards;

f) establish the value of existing infrastructure assets and expenditure by the NSW Government used in the delivery of municipal services, and whether recovery of such value should be reflected in municipal service charges;

g) advocate pricing principles to recover the costs of the New Village Centre development and all other beds utilising a developer charges framework; and

3. RECOMMEND PRICES AND CHARGES

h) establish prices and charges for infrastructure and municipal services for implementation from 1st July 2005, and develop suitable price paths to meet the costs of infrastructure provision over the life of the infrastructure in a way that smooths the initial capital cost impact;

i) develop a range of funding options to meet the cost of the capital works program as determined by IPART, including consideration of municipal levies, separate user charges, gate entry fees, day parking charges and any other funding sources;

j) establish whether existing customers are 'willing-to-pay', and have an 'ability-to-pay' for the proposed level and quality of municipal services;

k) establish the level of developer contributions required to recover the costs of the new Village Centre development and all other beds; and

l) recommend a preferred regulatory framework for determination of future prices and charges for provision of municipal services within the Perisher Range Resorts which is, as far as possible, simple, transparent and not expensive to administer.

The Review should NOT include a review of:

- NPWS's current charging policies concerning the setting of gate entry fees into National Parks.

Consultation

IPART should consult with key stakeholders and other interested parties where appropriate. Such consultation should seek to ascertain, amongst other things, the impact of possible changes to the structure and level of municipal service charges, gate entry fees, or proposed introduction of any new commercial charges on existing customers.

Timing

IPART is requested to present to the NSW Treasurer an Interim Report by April 2005 and a Final Report by June 2005.

ATTACHMENT B LIST OF SUBMITTERS

CANBERRA ALPINE CLUB INC
CHARLOTTE PASS SKI LODGES ASSOCIATION INC
CRAIG TAYLOR
FELLOWSHIP SKI CLUB CO-OP LTD
GEOFF METTAM
GUTHEGA SKI CLUB
HEIDI HEMING
HUS-SKI LODGE LTD
KALYMARO LODGE (CO-OP) LTD
KIANDRA PIONEER SKI CLUB (1870) LIMITED
KOSCIUSZKO CHAMBER OF COMMERCE (KCC)
LAMPADA LODGE (DAVID STUDDY, MEMBER)
LAMPADA LODGE (SECRETARY)
LAMPADA SKI CLUB (DAVID TONKIN, MEMBER)
MAURICE BLACKWOOD
NATURE CONSERVATION COUNCIL OF NSW INC (NCC)
ORANA SKI CLUB LTD
PEER GYNT SKI LODGE
PERISHER BLUE PTY LIMITED
PUBLIC SERVICE OFFICERS SKI CLUB CO-OPERATIVE LTD
SLOPES
SNOWGUMS ALPINE CLUB PERISHER VALLEY
TECHNOLOGY SKI CLUB CO-OPERATIVE LTD
TELEMARK SKI CLUB
TURNAK CO-OP SKI CLUB LTD
WARRUGANG SKI CLUB LTD

ATTACHMENT C PAST AND CONCURRENT REVIEWS OF PERISHER

- 1996 – Development of a Master Plan and associated Environmental Impact Statement (EIS).

  This Master Plan looked at improvements to the resort environment, upgrades to existing infrastructure and development of the village centre to incorporate an increase in accommodation facilities.

- 1997 – Commission of Inquiry to assess the 1996 Master Plan/EIS.

  The Commission proposed some modification to the Master Plan proposals, but generally concluded that there were no environmental reasons to reject the development. It also increased the number of new beds proposed for the new development.

- 1999 – Approval for Master Plan from the Minister for Urban Affairs and Planning.

  The Commission's proposed modifications and expansions to the Master Plan were given Ministerial approval. Part of the approval also required NPWS to upgrade existing infrastructure facilities prior to construction and expansion of the new village centre.

- 2001 – Master Plan for Perisher completed through an inter-departmental task force.

  This Master Plan was developed to meet requirements of the 1997 Commission of Inquiry and 1999 Ministerial approval.

- 2002 – Perisher Range Resorts Infrastructure Services Strategy (PRRISS) completed.

  The PRRISS was developed under the directions of the inter-departmental task force to ensure that the infrastructure and facilities in the resort met all legislated, technical and environmental requirements.

- 2003 – Revisions to the PRRISS.

- 2005 – IPART review of Perisher Infrastructure Services.

- 2005 – DIPNR review of cleared versus uncleared roads.

- 2005 – DIPNR review of Perisher Blue development plans

There is a continuing process to review the Ski Slopes Master Plan put forward by Perisher Blue, the operator of the ski lifts. This plan focuses on the actual ski slopes used for skiing and addresses issues such ski lift location, ski trails, grooming and snow making operations. As Perisher Blue proposes to move forward on each stage of the Master Plan, the proposal is reviewed by relevant Government bodies, such as the Department of Infrastructure, Planning & Natural Resources (DIPNR) or the Department of Environment and Conservation (DEC).

Attachment D 30 Year capital and operating expenditure program

All values expressed in real 2000/01 $'000

		Financial year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total
CAPITAL WORKS	NPWS PRRISS	WATER	270	7799	486	13	9	7	1	1	60	5	62	408	111	1	5	7	70	1	1	60	624	56	1	1	284	590	309	1162	478	423	**13309**
		SEWER	282	2332	33	0	359	400	0	0	0	0	0	337	0	0	111	0	59	0	0	87	87	1329	141	196	306	4706	266	252	406	295	**11983**
		LPG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
		ROADS	1127	3780	2726	3602	3417	1360	1145	939	0	0	0	842	407	187	187	0	10	0	0	0	0	0	0	652	306	295	605	385	385	385	**22742**
		SOLID WASTE	507	1165	2550	2110	560	32	10	10	32	10	10	802	10	10	32	10	10	32	643	10	32	10	10	32	10	780	32	10	10	32	**9513**
		AMENITIES	0	0	365	420	360	240	240	0	0	0	0	110	0	0	0	0	0	0	0	0	0	0	0	0	220	220	0	0	0	0	**2175**
		EMERGENCY SERVICES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
		FREIGHT & PASSENGER	0	120	120	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**360**
		MEDICAL SERVICES	18	20	20	180	180	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	150	150	0	0	0	0	**818**
		ADMINISTRATION	56	48	3279	3639	120	48	66	66	0	48	66	142	0	312	66	66	0	48	66	66	0	48	66	92	50	98	66	429	0	0	**9051**
		TOTAL:	**2260**	**15264**	**9579**	**10084**	**5005**	**2087**	**1462**	**1016**	**92**	**63**	**138**	**2741**	**528**	**510**	**401**	**83**	**149**	**81**	**710**	**223**	**743**	**1443**	**218**	**973**	**1326**	**6839**	**1278**	**2238**	**1279**	**1135**	**69950**
	IPART proposal	WATER	270	877	5420	1254	289	387	201	1667	1667	1667	62	408	111	1	5	7	70	1	1	60	624	56	1	1	284	590	309	1162	478	423	**18355**
		SEWER	554	1774	2727	834	359	400	0	0	0	2000	0	337	0	0	111	0	59	0	0	87	87	1329	141	196	306	4706	266	252	406	295	**17224**
		LPG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
		ROADS	1223	750	583	1189	613	2100	1781	2305	238	563	0	1273	615	283	283	0	15	0	0	0	0	0	0	986	463	446	915	582	582	582	**18369**
		SOLID WASTE	507	665	1050	610	20	50	810	810	510	10	10	10	10	10	10	50	10	10	10	10	10	10	10	10	50	10	10	10	10	10	**5322**
		AMENITIES	0	0	0	965	0	0	0	0	0	2890	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**3855**
		EMERGENCY SERVICES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
		FREIGHT & PASSENGER	0	0	0	0	0	120	120	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**360**
		MEDICAL SERVICES	0	0	0	0	0	18	20	20	180	180	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	150	**668**
		ADMINISTRATION	0	0	0	279	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**289**
		TOTAL:	**2554**	**4065**	**9780**	**5130**	**1291**	**3076**	**2932**	**4921**	**2595**	**7310**	**72**	**2028**	**736**	**294**	**409**	**57**	**254**	**11**	**11**	**157**	**721**	**1395**	**152**	**1193**	**1102**	**5752**	**1499**	**2006**	**1476**	**1460**	**64442**
RECURRENT EXPENDITURE	NPWS PRRISS	WATER	179	323	250	186	206	225	211	228	214	214	235	223	251	226	233	255	236	265	250	246	273	253	280	264	271	292	275	299	279	304	**7446**
		SEWER	428	478	471	439	401	452	426	424	432	440	513	477	477	474	483	539	523	511	521	531	612	574	563	573	585	647	643	619	631	667	**15554**
		LPG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
		ROADS	210	262	243	251	283	279	281	282	292	291	313	306	321	317	330	335	341	344	353	351	371	363	380	374	387	393	399	401	410	416	**9879**
		SOLID WASTE	236	252	222	220	277	285	281	286	291	289	293	299	298	300	307	306	308	316	313	316	324	321	325	331	329	333	339	338	339	348	**9023**
		AMENITIES	12	39	25	27	30	31	29	31	29	29	30	29	30	29	29	30	29	30	29	29	30	29	30	29	29	30	29	30	29	30	**871**
		EMERGENCY SERVICES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
		FREIGHT & PASSENGER	88	88	89	86	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	**2795**
		MEDICAL SERVICES	61	63	97	94	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	**2993**
		ADMINISTRATION	647	807	882	865	808	814	793	800	807	814	826	829	836	843	850	890	893	900	908	915	899	901	908	916	923	936	938	976	984	992	**26100**
		TOTAL:	**1861**	**2313**	**2279**	**2168**	**2202**	**2283**	**2218**	**2248**	**2262**	**2274**	**2407**	**2360**	**2410**	**2386**	**2429**	**2552**	**2527**	**2563**	**2571**	**2585**	**2706**	**2638**	**2683**	**2684**	**2721**	**2828**	**2820**	**2860**	**2869**	**2954**	**74661**
	IPART proposal	WATER	200	340	250	190	171	171	162	185	165	166	183	169	193	171	173	194	175	200	178	179	198	182	208	182	183	206	186	212	187	207	**5765**
		SEWER	503	579	592	573	906	611	579	574	579	584	590	619	600	606	611	616	647	627	632	638	643	673	654	659	664	669	701	680	685	691	**18988**
		LPG	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
		ROADS	242	242	242	180	220	309	354	398	442	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	487	**12853**
		SOLID WASTE	255	255	255	162	243	598	598	598	598	687	687	687	687	687	687	687	687	687	687	687	687	687	687	687	687	687	687	687	687	687	**17988**
		AMENITIES	19	19	19	129	136	136	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	**4789**
		EMERGENCY SERVICES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**
		FREIGHT & PASSENGER	199	193	188	106	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	**3816**
		MEDICAL SERVICES	61	65	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	103	**3010**
		ADMINISTRATION	1021	1021	1021	990	953	814	793	800	807	814	826	829	836	843	850	890	893	900	908	915	899	901	908	916	923	936	938	976	984	992	**27097**
		TOTAL:	**2500**	**2714**	**2670**	**2434**	**2852**	**2863**	**2890**	**2959**	**2995**	**3142**	**3176**	**3195**	**3207**	**3198**	**3211**	**3278**	**3293**	**3305**	**3296**	**3310**	**3317**	**3334**	**3347**	**3334**	**3348**	**3389**	**3402**	**3445**	**3434**	**3467**	**94306**
		NPWS PRRISS TOTAL:	**4121**	**17576**	**11859**	**12252**	**7207**	**4370**	**3680**	**3264**	**2354**	**2337**	**2545**	**5101**	**2938**	**2896**	**2830**	**2635**	**2676**	**2644**	**3281**	**2808**	**3449**	**4081**	**2901**	**3657**	**4047**	**9667**	**4098**	**5098**	**4148**	**4089**	**144611**
		IPART proposal	**5054**	**6779**	**12450**	**7564**	**4143**	**5939**	**5822**	**7880**	**5590**	**10452**	**3249**	**5223**	**3943**	**3492**	**3620**	**3335**	**3547**	**3316**	**3307**	**3467**	**4038**	**4729**	**3499**	**4527**	**4450**	**9141**	**4902**	**5451**	**4911**	**4927**	**158749**

Attachment E Asset base and total costs to 2015

All values expressed in nominal $'000

Financial Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Proposed asset base																
Closing balance*	0	2,607	3,117	13,203	18,480	19,670	23,335	26,270	31,390	33,734	42,063	41,267	43,308	43,887	43,838	43,275
Return on capital							1,253	1,454	1,679	1,923	2,199	2,487	2,508	2,596	2,618	2,579
Depreciation							362	460	596	728	862	949	985	1,035	1,068	1,048
Operating expenditure		2,500	2,791	2,831	2,641	3,172	3,265	3,378	3,545	3,678	3,955	4,098	4,224	4,346	4,443	4,573
Total costs		**2,500**	**2,791**	**2,831**	**2,641**	**3,172**	**4,879**	**5,292**	**5,820**	**6,329**	**7,016**	**7,534**	**7,716**	**7,977**	**8,129**	**8,200**

* closing balance = opening balance + capex - capital contributions - disposals - depreciation + indexation

ATTACHMENT F CALCULATION OF OVERNIGHT STAYER/DAY VISITOR COST RATIO

Derivation of equivalent measures of cost

Table 4.2 establishes that 60 per cent of Perisher infrastructure costs, apart from water and sewerage, are attributable to overnight stayers. Previous discussion has centred around the cost difference between an individual overnight stayer and an individual day visitor. The Tribunal has assumed that one quarter of Perisher visitors are overnight stayers. This allows a simple derivation of the individual cost ratio.

a = cost of an overnight stayer
b = cost of a day visitor

We assume that there are 3 times as many day visitors as overnight stayers.

We assume that overnight stayers account for 60 per cent of total costs, and day visitors account for 40 per cent of total costs.

This gives us:

$a/3b = 60/40$

$40a/3b = 60$

$40a = 180b$

$a= 180b/40$

$a = 4.5b$

In other words, an individual overnight stayer costs 4.5 times as much as an individual day visitor. Section 4.6.3 states that 'costs of an individual overnight stayer are between 4 and 5 times those of an individual day visitor'.

Derivation of solid waste cost break-up

Section 4.6.3, in discussing solid waste costs, estimates that overnight stayers and day visitors each account for 50 per cent of solid waste generated at Perisher.

x = waste generated by an overnight stayer
y = waste generated by a day visitor

We assume that an overnight stayer generates 3 times as much solid waste as a day visitor, or

$x = 3y$.

We assume that there are 3 times as many day visitors as overnight stayers.

The total waste generated by a group of visitors will be:

$(1 * x) + (3 *y) = (1* 3y) + (3 *y) = 3y + 3y = 6y$.

Overnight stayers account for 3y out of 6y, and day visitors account for 3y out of 6y. Therefore overnight stayers and day visitors each account for 50 per cent of solid waste generation. Section 4.6.3 then alters this to account for the fact that waste generated by overnight stayers needs to be collected from widely dispersed points.

ATTACHMENT G LIST OF ABBREVIATIONS

Capex	Capital expenditure
CIE	Centre for International Economics
CPI	Consumer Price Index
CSIRO	Commonwealth Scientific & Industrial Research Organisation
DEC	Department of Environment & Conservation
DIPNR	Department of Infrastructure, Planning & Natural Resources
KNP	Kosciuszko National Park
MSC	Municipal Service Charge
MSU	Municipal Service Unit
NPWS	National Parks & Wildlife Service
Opex	Operating expenditure
PRRISS	Perisher Range Resorts Infrastructure Services Strategy
SLOPES	Ski Lodges Organisation of Perisher, Smiggins & Guthega
STP	Sewerage Treatment Plant