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Sydney Airport

Revised Draft Aeronautical Pricing Proposal



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EXECUTIVE SUMMARY

ES1. Overview

Sydney Airports Corporation Limited (SACL) proposes to increase and restructure its aeronautical charges. The impact of these increased charges would be minimal if they are fully passed on to travellers by airlines. SACL's proposal would only justify airlines increasing airfares by around \$2 per interstate domestic flight, less than \$10 per international flight and less than \$1 per regional flight. Moreover, increasing competition in all sectors is bringing airfares down, particularly for tourists and leisure travellers, and the restructure proposed is expected to assist competition by encouraging more efficient use of facilities.

Sydney Airport is one of the world's least expensive major international airports¹ for aeronautical charges to airlines. While this is good news in the short term for incumbent airlines, current aeronautical charges:

- do not provide incentives for efficient use of airport facilities by airlines, thereby potentially inhibiting the development of competition;
- do not provide sufficient revenues to fund the investment necessary to meet future demand for airport services; and
- do not provide a reasonable return on the investment of the Commonwealth Government and Australian taxpayers.

Table 1 provides a high-level comparison of current charges, the changed pricing structure and levels proposed in the December 1999 Draft Proposal, and the revised pricing structure and levels that are proposed in the Revised Draft Aeronautical Pricing Proposal.

Table 1: (to be read with the notes that follow)

		Current Charges (GST Exclusive)		Draft Proposal (Dec 1999) (Pre GST)		Revised Draft Proposal (GST Exclusive)	
Charge	Basis/Units	Rate per unit	Total Revenue	Rate per unit	Total Revenue	Rate per unit	Total Revenue
Runway Charge	Per tonne per landing Per tonne per movement	\$2.9067	\$38.8m	\$4.00	\$106.5m	\$4.00	\$106.4m
International Terminal Charge	Per tonne per landing Per passenger per m'ment	\$7.8840	\$50.8m	\$9.00	\$79.8m	\$9.50	\$88.1m
Parking Charges (excl. leased aprons)	Per 15 minutes (non-GA) Per GA aircraft, per day	n/a \$10.95	\$0.03m	\$55.00 \$60.00	\$21.1m \$0.2m	\$35.00 \$60.00	\$10.6m \$0.2m
Bussing discount	Per use (no aerobridge)	n/a		-\$200.00	-\$1.9m	-\$200.00	-\$0.2m
Helicopter Charges	Per tonne per landing Per movement	\$2.9067	\$0.03m	\$25.00	\$0.2m	\$25.00	\$0.2m
CTFR Charge	Per tonne, per landing	\$0.4181	\$5.3m				
- International	Per passenger per m'ment			\$0.42	\$3.7m	n/a	n/a
- Domestic	Per tonne, per movement			\$0.26	\$3.0m	n/a	n/a
Total Revenue			\$95.0m		\$212.5m		\$205.4 m
Allowable Revenue					\$232.1m		\$243.2 m

¹ Sydney Airport had the lowest charges of 35 major airports in a comparative analysis in the 1999-2000 annual report of BAA Plc, a major operator of airports in the United Kingdom and world-wide.

Notes to Table 1:

- The existing charges and expected revenues have changed from the time of the Draft Proposal due to GST related reductions and changes to traffic forecasts.
- The description of the basis and units of charging is abbreviated. Full details of the charging basis and any exceptions is included in section 3 of the Revised Draft Proposal. For example, the Runway charge remains subject to a minimum charge, with special arrangements for Regional passenger aircraft.
- Counter terrorist first response (CTFR) charges have been removed from the revised aeronautical pricing proposal and will be the subject of a separate ACCC submission – refer to section 3 for details.

The rationale for the changes reflected in the above table, and the consultative and other developmental processes that have led to these changes are detailed in the Revised Draft Proposal and summarised in this Executive Summary.

The allowable revenue for regulated aeronautical services at Sydney Airport in 2000-01 is calculated to be \$243.2 million using the “building blocks” approach to revenue determination advocated by the ACCC for regulated industries. That approach combines efficiently incurred operating costs, depreciation and reasonable capital costs to determine allowable revenue.

The allowable revenue of \$232.1 million calculated in the December 1999 Draft Proposal has varied as a result of a significant number of changes. These changes have arisen from the extensive consultation process conducted by SACL with its airline customers since December 1999 and from factual changes and other analytical refinements since the release of the Draft Proposal. The increase has resulted in particular from a refinement of tax treatment to better reflect changes arising from the Ralph report. Table 2 on Page 11 provides further details of changes since the December 1999 Draft Proposal.

While consultation has resulted in a large number of refinements to the Proposal, it has nevertheless confirmed that the underlying basis of the Draft Proposal is sound and that the price levels and revenue targets are reasonable.

SACL’s Revised Draft Proposal targets revenue of \$205.4 million, which represents a 5.83% post tax return on aeronautical assets (below SACL’s 7.7% weighted average cost of capital). While the analysis is based on robust building blocks that have been tested in detail during consultation, SACL has nevertheless chosen a proposed level of revenue \$38 million less than the allowable revenue.

SACL expects that actual future returns will move towards a full return on capital as a result of traffic growth and further improvements in efficiency that are targeted (assuming any future regulatory arrangements allow for these gains to be retained).

The Revised Draft Proposal does not include counter terrorist first response (CTFR), international passenger screening, international checked-baggage screening or Domestic Express terminal charges. These charges are to be, or have been, the subject of other approval and/or review processes with the ACCC and airline customers.

The introduction of a 10% goods and services tax (GST) on 1 July 2000 resulted in an across the board reduction in GST exclusive aeronautical charges of 0.5% to reflect anticipated cost savings due to introducing the New Tax System. As most of SACL’s aeronautical customers

are businesses that pass through GST costs to their customers, prices (and costs) are expressed on a GST exclusive basis unless otherwise stated.

ES2. Background

An aerodrome was first opened at Mascot in Sydney in 1920. For most of its history, Sydney Airport was developed and operated as part of a Commonwealth department. In 1987, Sydney Airport was one of 23 Commonwealth airports transferred to the Federal Airports Corporation (FAC), a Commonwealth statutory authority. Following the privatisation of other major FAC airports in 1997 and 1998, Sydney Airport was transferred to SACL, a Commonwealth owned public company, on 1 July 1998.

SACL has a mandate to provide world class airport services and facilities at Sydney (Kingsford Smith) Airport and in its first two years has invested over \$800 million to enhance and expand those facilities, including the \$600 million expansion and redevelopment of the international terminal and precinct known as SA2000.

As a *Corporations Law* company subject to the Commonwealth's Government Business Enterprise accountability guidelines, SACL is required to earn a fair and reasonable return on the investment of its owners, the Commonwealth of Australia. Unlike the privatised airports, the Government has not placed a price cap on SACL's aeronautical charges due to the significant redevelopment and continued Government ownership.

The Australian Competition and Consumer Commission (ACCC) regulates SACL's charges for aeronautical services and facilities under the *Prices Surveillance Act 1983*.

SACL has undertaken a thorough review of its aeronautical business and aeronautical charging levels, consistent with the ACCC's economic regulatory framework and precedents in other regulated industries. The ACCC's "building block" approach to revenue determination has been used as the basis of the review, consistent with the framework established for electricity, gas and telecommunications.

ES2.1. Draft Proposal – December 1999

In December 1999, SACL circulated a Draft Aeronautical Pricing Proposal to its airline customers, industry representatives and the ACCC for the purposes of consultation. The Draft Proposal included:

- a comprehensive description of the proposed regulatory environment and approach;
- details of the analysis underlying the then proposed changes to price levels and structure, including the independent expert advice received in key areas of valuation and forecasting; and
- substantial supporting information about SACL's aeronautical business.

ES3. Summary of Consultation

ES3.1. Consultation Program

Extensive consultation with airline and other aviation customers was undertaken between December 1999 and August 2000. Additionally, SACL will continue consultation throughout the consideration of the Revised Draft Proposal.

During consultation, additional information was released including an operational financial model and the full details of SACL's independent asset valuation.

The amount of information disclosed by SACL to its customers is understood to be unprecedented in the Australian regulatory context.

The consultation program included:

- introductory meetings for different customer groups on 8, 9 and 10 December 1999;
- a tour of the international terminal and associated facilities with airline customers and their advisers;
- a two-day workshop in February 2000 attended by over 40 airline customers and representatives which included presentations on, and discussion of, all elements of the Draft Proposal;
- three further "full" consultation meetings in March, May and July 2000, which concentrated on key economic questions and significant cost and valuation issues;
- two working group meetings with smaller representative groups to discuss operating cost issues in detail;
- a number of working group meetings and conference calls, attended by SACL and airline engineering advisers, to discuss asset valuation issues in detail;
- the establishment of "data rooms" in both Sydney and Melbourne for airline customers and their advisers to examine detailed supporting documents to the independent engineering valuation of fixed assets; and
- nearly 200 separate pieces of correspondence to and from airline customers (additional to the general distribution of the Draft Proposal to over 80 customers), many of which included answers to questions and other additional information.

The consultation covered all elements of the draft proposal. There was particular focus on the key economic issues of methods of land value, and the merits of a "single till" approach to determining prices. Fixed asset valuation, cost of capital, operating costs, forecasts and pricing structure were also discussed in detail.

It is disappointing to report that, despite repeated requests during more than 8 months of consultation, airline customers have not submitted any consolidated comments on SACL's December 1999 Draft Proposal.

ES3.2. Land Valuation

Independent experts, Jones Lang LaSalle, valued Sydney Airport aeronautical land using a methodology consistent with both the opportunity cost and the optimised replacement cost of the land. The result was a value of \$115 per square metre. This is considered conservative when compared to recent land sales around the airport (for non-airport related purposes) averaging around \$400 per square metre.

The airlines and their advisers have argued that the existing land at Sydney Airport has a zero value for regulatory purposes, while new land purchases should be incorporated at market value.

The Revised Draft Proposal demonstrates that land at Sydney Airport (both existing and new) is a valuable asset. This conclusion holds whether land is valued on the basis of its opportunity cost, or on the basis of its optimised replacement cost (consistent with opportunity cost), or using an alternative approach such as historical cost.

Valuing land at its opportunity cost (ie, its value in the next best alternative use) will encourage efficient use of the land by both airport users and by Sydney Airport, and will encourage efficient investment in new airport capacity. In contrast, an assumed zero value of existing land would result in distorted incentives for both the use of, and investment in, airport land.

Setting aeronautical charges below their economic value is likely to lead to excess demand and increased congestion, increasing the pressure for new investment in capacity before it is economically efficient. Furthermore, low charges and 'grand-fathered' slot arrangements create incentives for incumbent airlines to occupy more landing slots than are necessary, thereby inhibiting new entrant airlines from entering the market and competing effectively.

A zero land valuation is not consistent with the behaviour observed in competitive markets. The value of land at Sydney Airport reflects locational or scarcity factors and is entirely consistent with competitive market outcomes.

The airlines' proposal to value existing and new land differently would provide distorted incentives to SACL by encouraging it to maximise non-aeronautical activities on existing airport land (where market-based prices provide a return on the value of the land), and aeronautical activities on new land.

Two papers on land value issues commissioned by the ACCC suggested alternative valuation methods, including:

- auctioning slots; and
- adopting land values from Commonwealth acquired land at Badgery's Creek that is under consideration as a location for additional future airport capacity.

SACL does not consider a slot auction to be practicable, although the resulting land value is likely to be higher than the replacement cost estimated by SACL. The use of Badgery's Creek land values assumes that an airport at Badgery's Creek would provide the same service as an airport based at Mascot. SACL does not believe this assumption holds as the location of

Sydney Airport is of material benefit to travellers who save both time and money in transferring to and from the airport.

A further alternative valuation method is historic cost. The Commonwealth purchased the then 61 hectare aerodrome in 1921 (the aerodrome was originally developed by private interests and opened in 1920). To create the current 886 hectare airport, significant investments have been made in additional land purchases, in diverting the Cooks River and Alexandra Canal, in building up the site to prevent flooding and then creating additional land by expanding into Botany Bay. A precise cost has not been determined as historical records in SACL's possession are incomplete and the choice of indexation factor that would apply to land values over this period is problematic. While it is clear that the land has a substantial historic cost to the Commonwealth, economic principles and regulatory precedents do not support use of an historic cost methodology.

After consideration of all issues, SACL has concluded that the approach taken in the Draft Proposal, ie to value land in a manner consistent with its replacement cost and opportunity cost, is robust and reasonable. A zero land value, as suggested by airlines, is inconsistent with the workings of competitive markets.

ES3.3. The "Single Till"

The airlines have argued for a "single till" approach to pricing at Sydney Airport, where the revenue from non-aeronautical services is taken into account in setting aeronautical charges.

The Revised Draft Proposal demonstrates that the dual till approach proposed by SACL offers substantial efficiency benefits compared with a single till approach. For prices to provide efficient signals for the use of capacity, and investment in new capacity, they must reflect the underlying cost (including the opportunity cost) of providing that service. The single till approach does not ensure that prices for separate services reflect their costs, and is therefore inefficient.

The single till approach can result in subsidised or under-priced aeronautical services, leading to increased demand and exacerbating congestion.

SACL maintains that the "dual till" approach taken in the Draft Proposal is clearly superior to a "single till" in encouraging efficiency and is consistent with Government policy and precedents in other regulated industries.

There are many Australian examples of regulated businesses that face interdependencies in the provision of regulated and non-regulated services (eg, telecommunications, electricity).

A single till approach has not been proposed or adopted in any other regulated industry – rather, regulators ensure appropriate ringfencing and cost allocation arrangements are put in place. This is frequently referred to as 'unbundling'.²

² The discussion of 'single till' issues and the approach adopted in other regulated industries is covered in detail in section 5.5 of the full Revised Draft Proposal.

ES3.4. Fixed Asset Valuation

The December 1999 Draft Proposal included a complete schedule of SACL's fixed assets as valued by consulting engineers Maunsell McIntyre as at 1 July 1998. The value of new investment was estimated to be its construction cost.

Airline customers requested access to the detailed working papers of Maunsell McIntyre to undertake a review of the methodology and outcomes. While SACL is not aware of customers receiving this level of access to detailed information in previous regulatory processes, a detailed review was agreed. As the valuation covered all assets, including commercial assets subject to leases to third parties, a confidentiality agreement was required.

The detailed review by airline customers and their engineering and other advisers has been underway since May 2000. The process has included a tour of facilities, a number of meetings where further detailed questions have been answered, and on-going dialogue between advisers.

It is disappointing to report that no feedback has been received by SACL to date. Recent questions and information requests have become increasingly detailed, going beyond the information required to value the assets on an optimised depreciated replacement cost (ODRC) basis.

The Revised Draft Proposal is based on the 1 July 1998 valuation, with updated values of new investment based on actual costs. Other minor changes have been made in relation to allocations between aeronautical and non-aeronautical services.

SACL has commissioned a 1 July 2000 update of its fixed asset valuation. This valuation will incorporate the new assets and update the existing asset valuation. This valuation will also benefit from a substantial body of work on asset condition undertaken over the past 12 months.

Initial draft results from the 1 July 2000 valuation are consistent with the value estimates in the Revised Draft Proposal. The final valuation will be made available to the ACCC prior to the final notification.

The total value of aeronautical assets in the Revised Draft Proposal of \$1.69 billion has been reduced by \$70 million from the December 1999 Draft Proposal. The reductions have resulted from new projects being completed under budget, a number of minor budgeted projects having been postponed and from the reallocation of certain assets from aeronautical to non-aeronautical. The most significant reallocation has been the exclusion of landside roads and associated ground access infrastructure from aeronautical assets.

SACL's independent fixed asset valuation has been reviewed in detail by both airline customers and SACL's advisers and is being updated as at 1 July 2000. Values have also been updated to reflect actual construction costs.

ES3.5. Operating Efficiency and Costs

The December 1999 Draft Proposal estimated operating costs based on actual costs during 1998-99, indexed for likely movements over time, and allocated between aeronautical and non-aeronautical services using a detailed activity based costing model.

Airline customers prepared a presentation comparing SACL's operating costs to other Australian airports. This analysis was found by SACL to be very selective and shallow as it did not recognise any differences between airports.

As a result, SACL commissioned an independent operating cost benchmarking study from US based airport experts, Leigh Fisher Associates. That study found that SACL's operating costs compare favourably to other airports in many areas, while in other areas they are appropriate given its operating environment and circumstances. Some of the factors recognised in the study are:

- heavy international and total peaking of services;
- Sydney Airport's role as Australia's leading gateway, with a large number of international carriers and a high proportion of international passengers;
- runway operating restrictions as a result of environmental management;
- high regional labour costs; and
- the existence of various levels of management agreements and other forms of outsourcing at privatised Australian airports.

SACL has agreed during consultation to adjust the 1998-99 operating cost base downwards to reflect the non-recurring nature of some expenses including those related to Y2K preparation and bad debts from parking infringement notices. The Revised Draft Proposal also includes, however, an allowance for necessary special project expenditure that was not included in the 1998-99 base. This includes an allowance for masterplanning and aeronautical pricing, and other regulatory management costs.

Contrary to airline customer claims, SACL's assumptions include significant improvements in efficiency. The Revised Draft Proposal assumes falling staff numbers in 2000-01. As the released financial model covers only one year, the trend of future expected efficiency gains is not fully evident. These expected gains are partly responsible for SACL targeting a revenue level significantly below allowable revenue.

The shallow, selective criticism of SACL's operating efficiency by airline customers has been considered in a professional independent benchmarking study by Leigh Fisher Associates. This study finds that SACL's costs are reasonable and appropriate to its operating environment.

ES3.6. Weighted Average Cost of Capital (WACC)

The Capital Asset Pricing Model (CAPM) has been used extensively to estimate an appropriate WACC for regulated businesses. A number of changes to market based parameters (inflation and bond rates) since the Draft Proposal has resulted in a reduction in the estimated WACC from 8.0% to 7.7% post tax real using the “vanilla approach”.

Airline advisers have argued that a lower risk estimate (beta) should be used and that the other generally accepted parameters should be reviewed. SACL has considered each of these issues in detail, including commissioning additional advice from National Economic Research Associates, and does not consider significant changes are justifiable. In fact, recent evidence from UK regulatory authorities puts the asset beta of BAA Plc at 0.90, compared with SACL’s proposed level of 0.70.

SACL notes that the recent pressures on interest rates and inflation, and instability in exchange rates may influence WACC parameters in the final proposal.

The WACC has been revised from 8.00% down to 7.7%. The revisions predominantly relate to changes in the forecast inflation from 2.5% to 2.6% and a change in the risk free rate from 6.31% to 6.12%. Other assumptions remain robust following consultation and further analysis.

ES3.7. Price Structure

The December 1999 Draft Proposal included significant changes to the pricing structure to improve both efficiency incentives and to more closely align charges with costs.

The airlines have suggested that price structure, rather than price level, should be the focus for ensuring efficient capacity allocation. SACL agrees that price *structure* is important in ensuring efficient behaviour by airport users, and the draft pricing notification incorporates a number of proposed changes to pricing for individual services at Sydney Airport.

Airline advisers argued that SACL should adopt time of day, or peak/off peak, pricing to improve allocative efficiency. It is noted, however, that some airline customer representatives were very concerned about this suggestion. While SACL has acknowledged the potential additional benefits, the December 1999 Draft Proposal noted that any move to peak pricing would require thorough analysis and additional consultation. In the interim period, SACL has introduced a system of discounts for new off-peak services through its Conditions of Use.

The Revised Draft Proposal demonstrates that the price *level* is no less important than price structure in ensuring efficiency, by affecting airline decisions regarding the frequency and size of flights, the use of different airports as a “hub”, and their tendency to “bank” landing slots.

Notwithstanding, a number of airline customers suggested that the cost based level of aircraft parking charges proposed in the 1999 Draft Proposal was high by world standards and inequitable for airlines that have long lay-overs due to restricted international bilateral agreements, curfew and other commercial factors.

SACL has decided to reduce the level of the parking charge in a revenue neutral rebalance with the international terminal charge. The parking charge has been reduced from \$55 to \$35 per 15 minutes and the international terminal charge increased from \$9.00 to \$9.50 per passenger.

Finally, SACL notes that charges to recover the costs of providing the Government mandated counter terrorist first response (CTFR) capability have been excluded from the Revised Draft Proposal. A separate proposal will be submitted in due course to recover the direct costs of CTFR, consistent with the ACCC's recent preferred position in relation to other Government mandated security charges.

The pricing structure in the Draft and Revised Draft Proposals has significant efficiency benefits over the current structure. SACL does not consider it appropriate to move to a full peak pricing structure without further analysis and consultation. As a result of consultation, the level of some charges have been rebalanced to recognise the concerns of some airline customers.

ES3.8. Traffic Forecasts

During the period of consultation, SACL received and adopted updated forecasts from Tourism Futures International (TFI). The Managing Director of TFI presented the revised forecasts to airline customers at a consultation meeting. The main points for 2000-01 are as follows:

- positive factors for international traffic include the Olympics, the potential ongoing Asian recovery and exchange rates (for visitors);
- positive factors for domestic traffic include new airlines, the Olympics, income tax cuts, and NRMA stock float;
- negative factors for both international and domestic traffic include the slowing of Australian (4.5% to 3.5%), USA (4.5% to 3.8%) and New Zealand economies; the impact of the GST (particularly on travel packages including hotels, meals, car hire etc); fuel prices and exchange rates (for residents); and
- other issues considered included:
 - further alliance developments, including the relationship between Ansett/Air New Zealand and Singapore Airlines; and
 - changes to aircraft type usage, with Boeing 747s being used almost exclusively for long haul; smaller aircraft being used on Trans Tasman routes and the growth of mid-sized aircraft usage in Asia.

The net result of these factors has been a marginal reduction in total forecast landed tonnes and an increase in forecast international passenger numbers relative to the forecasts underlying the December 1999 Draft Proposal.

Airline customers have not challenged the traffic forecasts provided by Tourism Futures International. A detailed review during the consultation period resulted in updated forecasts for the Revised Draft Proposal.

ES4. Financial impact of changes in the Revised Draft Proposal

The following table shows SACL's allowable revenue for 2000-01 derived from the building blocks approach, comparing the December 1999 Draft Proposal and the Revised Draft Proposal.

Table 2

Allowable Revenue 2000-01	Draft Proposal December 1999	Revised Draft Proposal September 2000
Average total assets (2000-01)	\$1,766,315,412	\$1,690,349,305
x WACC	x 8.00%	x 7.73%
= Cost of capital	= \$141,305,233	= \$130,699,102
+ Depreciation	+ \$44,056,709	+ 46,694,098
+ Operating and maintenance costs	+ \$71,029,082	+ 64,222,528
= Sub-total	= \$256,391,024	= \$241,615,728
+ Tax liability	+ \$34,141,086	+ \$32,457,045
- Assumed capital gain on land	- \$41,317,027	- \$14,662,776
- Benefit of dividend imputation	- \$17,070,543	- \$16,228,522
= Allowed revenue from aeronautical charges	= \$232,144,540	= \$243,181,474

Notes to Table 2

The changes to the building blocks are described in detail in relevant sections of the Revised Draft Proposal. In summary, the material changes are as follows:

- the reduction in average total aeronautical assets and WACC are explained in the relevant sections above;
- the cost of capital has been reduced due to the cumulative effects of lower asset value and a lower cost of capital;
- depreciation has increased marginally. The model supporting the December 1999 Draft Proposal used a simplified method that calculated depreciated on the diminishing value of assets. The Revised Draft Proposal now more accurately calculates depreciation using prime cost. Other minor changes in depreciation are the result of a more refined examination of appropriate depreciation categories on completion of new projects – the December 1999 Draft Proposal used conservative assumptions;
- the major reason for the fall in operating costs is the exclusion of Counter Terrorist First Response costs of \$6.6 million as a result of this service being removed from the Revised Draft Proposal. Other changes are noted in the *Operating Efficiency and Costs* section, above;
- the calculation of the assumed capital gain on land has changed materially from \$41 million to \$15 million. The December 1999 Draft Proposal assumed that the full *nominal* increase in land value could be treated as income. Further analysis has shown that it is the real gain (of 3%) that is the relevant gain. Further, changes to the treatment of capital gains in the Ralph Report on Business Taxation will result in any gain being taxed at the corporate rate (30%) on the *nominal* value of the gain. Combined, these factors significantly reduce the post tax benefits to SACL of any increase in land value. These factors were advised to airline customers in February 2000 and were considered by Professor Kevin Davis in his review of SACL's WACC (commissioned by the ACCC) and
- tax liability and the benefits of dividend imputation are calculated using circular references to relate allowable revenue to post tax return.

ES5. Quality of Service

The quality of the services and facilities provided are an important part of the value received by airline customers and travellers using Sydney Airport. SACL reports to the ACCC annually on a range of quality of service indicators including the results of a passenger survey.

A passenger survey conducted in June 2000 demonstrated that passengers are very satisfied with the quality of services and facilities at Sydney Airport. The results of this survey have been provided to the ACCC.

SACL has also initiated a discussion with airline customers on the issue of Service Level Agreements (SLAs). SLAs would cover in some detail the mutual obligations of the airport, airlines and third parties (Government agencies, commercial service providers, contractors etc).

The development of SLAs at Sydney Airport will be world's best practice as there are few examples of SLAs at any airports in the world at present. Current service levels at Sydney and other airports are specified in aviation related legislation, in lease documents, and through the Airport Conditions of Use and other explicit and implicit terms and conditions that may exist for particular services.

The Revised Draft Proposal is based on setting reasonable charges for the current service levels that are in fact provided whether or not they are formally agreed in the various documents outlined above. Approval of the proposal will then establish a reasonable baseline for SLAs to consider differential service levels, charges and other terms around these levels.

ES6. Impact on Customers

SACL's charges are amongst the lowest in the world at present and will remain below average for comparable international airports following implementation of the proposed charges.

With substantially expanded and upgraded facilities, Sydney Airport will continue to provide excellent value for its customers. The location of Sydney Airport close to the Sydney CBD provides savings for travellers in both time and ground access costs.

The medium to long term impact of price changes will be overwhelmingly positive for the community and the majority of customers. Efficient pricing signals and reasonable returns will create a viable aviation business that receives an appropriate degree of maintenance, and upgrading.

Realistic charges will also provide appropriate incentives for efficient use of facilities, including slots, providing for the entry and expansion of additional competition. Competition has a very significant impact on airfares, as evidenced by the recent entry of Impulse and Virgin in the domestic market.

Due to the small impact of any price changes to be passed onto consumers, the impact on business travel and tourism is expected to be minimal. It is disappointing to report that, during the consultation process, airline customers did not share with SACL their reported analysis of the potential impacts on airfares or airline profitability.

The following table demonstrates that the proposed changes, if fully passed onto the travelling public by the airlines, would only justify airlines increasing the price of an airline ticket by a small amount – significantly less than 1% in many cases.

Table 3: Estimated Impact on Ticket Prices

Example origin/ destination	Aircraft	MTOW (weight) tonnes	Assumed Passengers (Pax)	Existing Charges		Revised Draft Charge		Economy fare (one-way) \$ (est.)	Justified increase in fare %
				Per M'ment \$	Per Pax \$	Per M'ment \$	Increase per pax \$		
Dubbo	Dash 8-200	16.5	22	49.77	2.26	65.85	0.73	192	0.38%
Melbourne	B 737-400	68.05	90.3	113	1.25	286	1.92	291	0.66%
London	B 747-400	396.9	280	2,224	7.94	4,611	8.52	1,299	0.66%

Table 3 Assumptions:

- the full change is passed directly to passengers;
- a landing, turn-around and take-off equals two movements;
- international and domestic aircraft have a 70% load factor - regional aircraft have a 60% load factor;
- London service has a 4 hour turn-around time (for apron parking charges); and
- Estimated airfares are for substantially unrestricted fares quoted by airlines and/or travel agents on 20 September 2000.

ES7. Revised Draft Proposal

The Revised Draft Proposal contains a detailed analysis of the issues addressed in this executive summary. The Revised Draft Proposal has been prepared to be read together with the December 1999 Draft Proposal.

The December 1999 Draft Proposal and the Revised Draft Proposal discuss the regulatory environment and background to the proposal in detail. They also contain significant detail with respect to the pricing methodology and the analysis undertaken both in preparing the initial draft and in responding to issues raised in consultation. This executive summary is not a complete representation of SACL's proposal.

A copy of the Revised Draft Proposal can be requested using the contact details below.

ES8. Final Proposal and Notification

Consistent with the process contained in the ACCC's April 1998 draft Statement of Regulatory Approach to Price Notifications, SACL expects that:

- the ACCC will consult airline customers and other interested parties on the contents of the Revised Draft Proposal (recognising the extensive consultation that has already been undertaken directly by SACL);
- the ACCC will discuss the issues raised by airline customers and others with SACL;

- the ACCC will issue a draft decision and statement of reasons;
- airline customers and other interested parties will have an opportunity to respond to the draft decision and statement of reasons;
- SACL will then lodge a formal notification (or final proposal); and
- the ACCC will then issue its final decision.

Timing of each step will be discussed with the ACCC following submission of the Revised Draft Proposal. In addition to this process, SACL remains willing to continue to consult directly with airline customers.

ES9. Further Information and Contact Details

For further information, or to request a copy of the Revised Draft Proposal, please contact:

Aeronautical Pricing Co-ordinator
Sydney Airports Corporation Limited
Email: aeronautical.pricing@syd.com.au (preferred)
Phone: +61 2 9667 6438
Facsimile: +61 2 9667 6112
PO Box 63
MASCOT NSW 2020
AUSTRALIA

1. PREFACE

This Revised Draft Aeronautical Pricing Proposal ("Revised Draft Proposal") should be read together with the Draft Aeronautical Pricing Proposal ("December 1999 Draft Proposal") released in December 1999.

The December 1999 Draft Proposal was distributed widely to customer airlines and other aviation customers, airline and aviation industry organisations and the Australian Competition and Consumer Commission (ACCC) for consultation purposes. The extensive consultation over a period in excess of 8 months has resulted in a large number of refinements in the Revised Draft Proposal. However, the basis of the Revised Draft Proposal remains unchanged from the December 1999 Draft Proposal, ie the "building blocks" approach to revenue determination advocated by the ACCC remains the basis of the proposed charges.

The December 1999 Draft Proposal remains the primary source of material on the economic regulatory framework, the approach taken and source documents. The Revised Draft Proposal builds on that base with additional information that has arisen as a result of:

- information supplied by airline customers and others during consultation;
- consideration of the views put forward by airline customers and others during consultation, particularly in relation to key economic issues;
- updated information that has become available as a result of the effluxion of time, including updated capital and operating costs;
- other additional analyses by Sydney Airport Corporation Limited (SACL) and its advisers, including revised traffic forecasts; and
- other more general changes in the environment, including movements in external parameters such as interest rates and inflationary expectations and developments in the ACCC's approach to issues including security charges.

The various changes discussed in the Revised Draft Proposal are quantified in a detailed financial model that generates the individual proposed charges contained in the Draft Notification in section 3.

2. INTRODUCTION

This Revised Draft Proposal marks a significant milestone in the regulatory process for SACL to vary the level and structure of its aeronautical prices at Sydney Airport.

2.1. Background

Background information on SACL and Sydney Airport is covered in some detail in section 2 and Appendices B to G of the December 1999 Draft Proposal.

A brief summary of events leading to the December 1999 Draft Proposal is as follows:

May 1998 The ACCC's decision on Federal Airports Corporation (FAC) Proposed Determination 13 approved a revenue neutral rebalancing of charges, but did not approve increased charges proposed for future years for a number of stated reasons. However, the ACCC recognised that investment expenditure at Sydney Airport was required and undertook to allow increases in charges for aeronautical services sufficient to justify the investment.

1 July 1999 SACL, a Commonwealth owned company, acquired a long-term lease over Sydney Airport. Shortly thereafter, SACL commenced a detailed review of aeronautical pricing issues, including the issues raised by the ACCC in its May 1998 decision. This review included:

- conducting a detailed examination of the regulatory regime, including the relevant precedents arising from regulatory decisions in other regulated industries;
- seeking independent expert advice on economic, valuation, cost of capital, traffic forecasting and other issues;
- reviewing the pricing approaches, structures and levels of comparable international airports;
- assessing cost allocation issues;
- analysing expected future operating costs;
- conducting detailed financial modelling;
- assessing the potential impact on airline customers and the travelling public of any change in price level and/or structure;
- designing an open and transparent consultation program to enable customer airlines and other interested parties to contribute to the further development and refinement of proposals; and
- holding preliminary discussions with airline customers, industry associations and the ACCC on the developing approach.

December 1999 A detailed draft proposal was released to airline customers and other interested parties for the purpose of consultation. Details of the consultation process and proposed changes arising from it are addressed throughout this Revised Draft Proposal. The consultation process is described in section 9.

2.2. Structure of the Revised Draft Proposal

As discussed in the Preface, this Revised Draft Proposal should be read together with the December 1999 Draft Proposal. To assist this, the structure of the Revised Draft Proposal has been aligned with that of the December 1999 Draft Proposal to the greatest degree possible.

Sections 5 and 6 constitute the body of this Revised Draft Proposal, dealing respectively with the economic framework for pricing and the building blocks used to determine allowable revenue. The consultation process focused heavily on a number of key economic issues. Accordingly, the discussion of these issues in section 5 of this Revised Draft Proposal is considerably more detailed than the corresponding section of the December 1999 Draft Proposal.

The following table provides an overview of the structure of this Revised Draft Proposal, with a reference to the relevant section of the December 1999 Draft Proposal.

Revised Draft Proposal	Title	Reference to the December 1999 Draft Proposal
Section 1	Preface	n/a
Section 2	Introduction	Section 2
Section 3	Draft Notification	Section 1
Section 4	Regulatory Environment	Section 3.2
Section 5	Economic Framework for Pricing	Section 3.3
Section 6	Building Blocks – Allowable Revenue	Sections 4 – 9
Section 7	Quality of Service	Section 2.3
Section 8	Impact on Customers	Section 11
Section 9	Consultation	Section 12
Section 10	Additional Information	n/a

Additional detailed analyses in various areas and source documents, including meeting transcripts, additional information provided and major correspondence, are included as appendices.

3. DRAFT NOTIFICATION

3.1. General

A notification under section 22(2)(a) is the formal instrument to satisfy the requirements of *Prices Surveillance Act 1983* (PS Act) and the subordinate Ministerial instruments under that Act. At the final proposal stage, the notification will consolidate the results of SACL's analysis of all of the issues raised throughout the process into a final pricing proposal.

A draft section 22(2)(a) notification is included in this Revised Draft Proposal (in the same way as an earlier version was included in the December 1999 Draft Proposal) primarily for consideration by the ACCC to ensure that the format meets the relevant statutory requirements.

3.1.1. Aeronautical Charges Excluded from the Revised Draft Proposal

The final notification, when approved by the ACCC, will be incorporated into the Sydney Airport Conditions of Use document. The notification will not, however, cover all Sydney Airport aeronautical charges as this Revised Draft Proposal does not address the following aeronautical services declared under the PS Act:

- Counter Terrorist First Response (CTFR);
- International Passenger Screening;
- International Checked Baggage Screening;
- Domestic Common User (Domestic Express) Passenger Terminal Use; and
- Domestic Common User (Domestic Express) Terminal Passenger Screening.

The reasons for excluding these charges are discussed in subsection 3.3, below.

3.2. Issues Raised During Consultation

No specific feedback was received on the format of the draft notification from airline customers. Not surprisingly, however, the numbers contained in the draft notification were the subject of considerable discussion. This feedback and the proposed changes to the levels of various charges are addressed under the relevant sections in the remainder of this Revised Draft Proposal.

3.3. Other Changes Arising During the Consultation Period

The draft notification in the December 1999 Draft Proposal contained references to a number of issues that had been only recently decided or were under active separate consideration at the time the Draft Proposal was circulated in December 1999. These include the treatment of Government mandated security charges, the new *Domestic Express* common user terminal and the treatment of the Goods and Services Tax (GST) from 1 July 2000.

3.3.1. Security Charges

3.3.1.1. *Passenger and Checked Baggage Security Screening*

ACCC approval was obtained in November 1999 and June 2000 for international passenger and checked baggage security screening charges, respectively.

The approach adopted by the ACCC for these Government mandated security requirements was to allow airports to pass on the direct costs of service provision to airline customers. The actual costs and revenues are to be reconciled in annual reviews and rates adjusted to ensure only direct cost recovery.

A residual issue from this process is the future structure of these charges. SACL has indicated that it is willing to consider moving the basis of these charges from weight based (Maximum Take-Off Weight - MTOW) to passenger based. These issues will be addressed separately with airline customers.

3.3.1.2. *Counter Terrorist First Response (CTFR)*

On 11 December 1998 SACL notified the ACCC of its intention to increase the CTFR charge to the level required to recover CTFR costs. The ACCC advised on 13 January 1999 that it objected to an increase in the CTFR charge at that time.

The ACCC found that the calculation of the proposed charge was accurate and was satisfied that SACL was intending only to recover 100% of direct costs. However, the ACCC considered timing to be the primary issue in its objection and believed it would be better to consider increases in the CTFR charge in the context of overall price increases.

A number of developments have occurred since that time. Notably, the ACCC has finalised its treatment of cost pass-through for Government mandated security requirements and new charges for passenger and checked baggage security screening have been approved. In addition, a competitive tender process has resulted in a new three year fixed lump-sum contract (albeit with some provisions for payment for additional requirements) with the Australian Protective Services.

SACL included an increase in the level of CTFR charges in the December 1999 Draft Proposal. However, the issues that arise in relation to CTFR are more closely aligned to those of passenger and checked baggage security screening. On 5 May 2000, SACL advised attendees at a consultation meeting of its intention to uncouple the CTFR issues from the Revised Draft Proposal.

SACL will therefore prepare a separate notification to recover the direct costs of providing the Government mandated CTFR capability, reconciling actual costs and revenues from July 1998, consistent with the approach to other Government mandated security issues.

3.3.2. *Domestic Express Terminal Charges*

SACL has constructed a common user *Domestic Express* terminal for new entrant domestic airlines. In May 2000 the ACCC approved a terminal and passenger screening charge for this

facility. The approval was consistent with arrangements negotiated by SACL with Impulse Airlines and Virgin Blue, the current users of the facility. Given the recent nature of this approval, it has not been reviewed in the preparation of the Revised Draft Proposal.

3.3.3. Impact of a Goods and Services Tax (GST)

The introduction of A New Tax System (ANTS) on 1 July 2000 required SACL to undertake analysis of its aeronautical costs to ensure compliance with the Government's price exploitation arrangements.

SACL took a pro-active approach to this issue and prepared a Public Compliance Commitment that was accepted by the ACCC.

After taking account of possible cost savings as a result of the removal of indirect taxes, SACL's aeronautical prices were reduced on a GST exclusive basis. As most of SACL's customers are businesses that claim input tax credits for the 10% GST, this resulted in a real cost saving for airline customers.

The revised Sydney Airport Conditions of Use Schedule 5 states aeronautical charges on both a GST exclusive basis and a GST inclusive basis. This approach has similarly been adopted for the Draft Notification below.

3.4. Revised Instruments under the PS Act

On 30 June 2000 (with effect from 1 July 2000), the Hon Joe Hockey MP, Minister for Financial Services and Regulation, revoked Declaration No 85 under the PS Act and replaced it with Declaration No 89. The Minister similarly issued a revised section 20 Direction specifying the matters to which the ACCC was to give special consideration when reviewing notifications in respect of services declared under Declaration No 89, and also issued a revised section 27A Direction in respect of prices monitoring at major Australian airports, including Sydney Airport. For the purposes of the Revised Draft Proposal, these changes are not considered significant, although they are briefly discussed in subsection 4.2. The draft notification below has been amended to refer to the replacement Declaration.

3.5. Draft Instrument

PRICES SURVEILLANCE ACT 1983

Notice pursuant to section 22(2)(a)

This notice is given to the Australian Competition and Consumer Commission by Sydney Airports Corporation Limited ACN 082 578 809 ("**SACL**") pursuant to section 22(2)(a) of the *Prices Surveillance Act 1983*.

SACL hereby notifies the Commission that it proposes to supply services of the following description:

"aeronautical services" as defined in Declaration No 89, made by the Minister for Financial Services and Regulation pursuant to section 21(1) of the *Prices Surveillance Act 1983* on 30 June 2000

on the following terms and conditions:

1. subject to payment of the following fees:

Runway Charge: Fixed wing powered and unpowered aircraft

For each fixed wing powered and unpowered aircraft, a charge per runway movement (take-off or landing) of \$4.00 (GST exclusive) and \$4.40 (GST inclusive) per 1,000kg MTOW pro rata, subject to a minimum charge per movement of \$50.00³.

International Passenger Terminal Use Charges

For aircraft utilising the international passenger terminal facilities, owned or leased and operated by SACL, a charge per arriving and departing passenger of \$9.50 (GST exclusive) and \$10.45 (GST inclusive).

Bussing/Stand-off position discount

For aircraft utilising the international passenger terminal facilities, owned or leased and operated by SACL, and embarking or disembarking passengers by means other than an aerobridge, a discount per movement of \$200.00.

³ At SACL's discretion, a reduced minimum charge will be offered for regular public transport operations of regional airlines as follows (exclusive of GST):

- Scheduled regional airline services (MTOW 0-5 tonnes) - \$19.9091 per movement; and
- Scheduled regional airline services (MTOW 5-10 tonnes) - \$41.0625 per movement.

Helicopter charge

For each rotary wing aircraft arriving or departing from any part of Sydney Airport, including leased or licensed premises, a fixed charge per movement of \$25.00 (GST exclusive) and \$27.50 (GST inclusive).

Aircraft Parking Charge

- a) For each aircraft parked in a designated general aviation parking area for a period in excess of two hours, a charge of \$60.00 (GST exclusive) and \$66.00 (GST inclusive) per day or part thereof.
- b) For any other aircraft parked in a designated aviation parking area between 6am and 11pm (non curfew hours), a charge of \$35 (GST exclusive) and \$38.50 (GST inclusive) per 15 minute period or part thereof.

In paragraph (b), "designated aviation parking area" means an aircraft parking area owned or leased by SACL other than:

- (i) a designated general aviation parking area;
- (ii) a designated domestic terminal parking area; or
- (iii) an aircraft parking area which is the subject of a current lease or licence granted by SACL or our predecessors.

2. and otherwise subject to the ordinary terms and conditions on which aeronautical services are provided at Sydney (Kingsford Smith) Airport. These terms and conditions include those contained in the Sydney Airport Conditions of Use document. The approved charges will be incorporated into Schedule 5 in the Conditions of Use document, to replace the following existing charges, only:

- a) Landing Charge
- b) International Passenger Terminal Use Charges
- c) Aircraft Parking Charge

DRAFT ONLY

Signed by:

for and on behalf of
Sydney Airports Corporation Limited

Dated: /

4. REGULATORY ENVIRONMENT

4.1. General

This section addresses the statutory regulatory framework that applies to SACL's Sydney Airport aeronautical prices. Section 5 addresses in detail the economic issues associated with interpreting issues within the statutory framework.

The December 1999 Draft Proposal (subsection 3.2) described the legal framework that was applicable to Sydney Airport at that time. The only substantive change since then has been the revocation and replacement of the Declarations and Directions under the PS Act. In practice, this process was undertaken to make a number of relatively minor amendments. These are discussed in subsection 4.2 below.

During consultation, the two issues that were raised in relation to the statutory framework related to:

- the legal implications of the Government's policy not to mandate a 'single till'; and
- the applicability of the 'Necessary New Investment' (NNI) criteria to the Sydney Airport proposal.

These issues are discussed in subsection 4.3 below.

4.2. Revised Declaration and Directions

The relevant instruments signed by the Hon Joe Hockey MP, Minister for Financial Services and Regulation on 30 June 2000 (with effect from 1 July 2000) are listed below, along with the instruments they have replaced.

Revised Instrument	Date of Effect	Former Instrument	Date of Effect
Declaration No 89	1 July 2000	Declaration No 85	9 July 1998
Direction No 18	1 July 2000	Direction No 15	9 July 1998
Direction No 19	1 July 2000	Direction No 16	9 July 1998
Revocation No 27	1 July 2000	n/a	

Copies of the instruments are available on the ACCC's internet site at: <http://www.accc.gov.au/airport/treasurer.html>.

SACL understands that the predominant purpose of the changes made on 30 June 2000 was to enable airports subject to price caps to pass on the net costs of ANTS to airport users. The opportunity was taken, however, to make a number of other amendments. SACL was not consulted on the changes or their rationale. Below is a discussion of the major areas of change and SACL's assessment of the implications for the Revised Draft Proposal.

4.2.1. Declaration No 89

Declaration No 89 is the instrument which imposes the requirement for SACL to notify the ACCC of its intention to increase the price of any declared *aeronautical service*. The Declaration defines the term *aeronautical service*. The current draft form of notification that SACL is proposing in accordance with this Declaration is set out in section 3, for information.

There are a number of minor changes between former Declaration No 85 and new Declaration No 89 that SACL considers not to be of any material consequence to this Revised Draft Proposal. For example, the new instrument makes it clear that the reference to 'grounds' under *aircraft movement areas and facilities* refers only to 'airside grounds'.

Of more significance generally, a new paragraph (5) has been included which states:

- (5) The facilities and activities referred to in subparagraphs 4(a) and 4(b) do not include, in relation to an airport, the provision of a service which, on the date the airport lease was granted, was the subject of a contract, lease, licence, or authority given under the common seal of the Federal Airports Corporation.

Note: This exclusion extends to a contract, lease, licence, or authority exercised under an option in a contract, lease, licence, or authority given under the common seal of the Federal Airports Corporation.

SACL understands that this addition was primarily intended to clarify the treatment of domestic terminal facilities which, while significantly aeronautical in nature, are not under the control of SACL due to the existence of long term leases to Qantas and Ansett granted by the former FAC. As the Revised Draft Proposal does not include domestic terminal lease fees, or other charges for which FAC contracts, leases, licences or authorities made provision, the amendment is of no direct relevance in this case.

4.2.2. Direction No 18

Direction No 18 requires the ACCC to give special consideration to a number of matters in the course of exercising its powers in relation to SACL aeronautical prices. This Direction specifically covers:

- quality of service information; and
- criteria to guide assessment of proposals to increase charges as a result of Necessary New Investment.

4.2.2.1. Starting Point Prices

Direction No 15 required the ACCC to give consideration to starting point prices, being the FAC's approved prices as at 30 June 1998.

Starting point prices are relevant to the assessment and enforcement of price cap arrangements that involve agreed movements over time. This issue is not relevant to Sydney Airport prices because no price cap is applicable. Further, as SACL's Revised Draft Proposal is

based on an assessment of allowable revenue using the ACCC's "building block" approach, starting prices are similarly considered not to be relevant.

In any event, given the range of notifications approved by the ACCC since 30 June 1998, the implications of referring to starting point prices in a 1 July 2000 instrument would have been complex.

4.2.2.2. Other Changes

As with the other instruments made by the Minister on 30 June 2000, the opportunity was taken to tidy up the wording of other areas of the Direction. A rewording of paragraph (1), which specifies the way in which the ACCC is to treat information on the quality of services outside the airport's direct control, is not considered material in relation to the Revised Draft Proposal.

Direction No 18 also states that the ACCC will provide a statement of reasons for its determination, a change from Direction No 15 which only required such a statement where the ACCC did not approve a price increase.

4.2.3. Direction No 19

Direction No 19 requires the ACCC to monitor the supply of certain *aeronautical related services*. While Direction No 16, which it replaces, dealt solely with SACL, Direction No 19 is common to all 12 core regulated airports.

The Revised Draft Proposal does not address aeronautical related charges. However, a brief comparison of the two instruments is provided below for the purpose of completeness.

Direction No 19 is more specific than its predecessor about the issues to be monitored. It states that the ACCC is to "*undertake formal monitoring of the prices, costs and profits related to the supply of aeronautical related services...*". This is consistent with existing SACL reporting and the practice of the ACCC in monitoring prices in prior years.

Additionally, "Aircraft refuelling" has been removed from the definition of *aeronautical related services* in Direction No 19.

4.3. Issues Raised During Consultation

4.3.1. Government Policy on the 'Single Till'

There is a significant discussion of the economic issues associated with the 'single till' in subsection 5.5, interdependency of aeronautical services, below.

However, at this point it is appropriate to note the policy statement by the Commonwealth Government that it "will not mandate the use of a single till approach to airport pricing. This will remain a matter for operators."⁴

SACL understands that, in expressing this policy view, the Government sought to convey its decision that the 'single till' approach should not be adopted within the legal regulatory framework it was then establishing. That is, SACL understands that the Government did not intend to confer on the ACCC a discretion to adopt or not adopt a 'single till' approach in exercise of its own judgement. Rather, SACL understands that the Government intended that the ACCC should approve pricing proposals in relation to declared aeronautical services without regard to the prices charged for, or earnings generated by, non-aeronautical services.

SACL further understands that the words 'not mandate' were used to allow *airport operators* to incorporate elements of single till in notifications at their own commercial discretion. A policy that prohibited use of a single till would potentially have restricted the range of potential commercial outcomes.

4.3.2. Necessary New Investment (NNI)

Direction 18 includes a number of criteria to guide assessment of proposals to increase charges as a result of 'Necessary New Investment' ("the NNI criteria"). During consultation, airline customers questioned the inclusion of certain assets in SACL's asset base on the basis they do not appear to meet the NNI criteria.

4.3.2.1. SACL's Understanding of the NNI Criteria

SACL understands that the NNI criteria, and their interpretation by the ACCC, are based significantly on the understanding that was assumed to exist between the Commonwealth and bidders for Phase 1 and Phase 2 airports.

In the case of price capped privatised airports, the Commonwealth made it clear that the airports were offered for lease on the basis that a CPI-X price cap would apply for the first five years, predicated on the then prevailing FAC prices. Accordingly, the prices tendered by potential bidders factored in cash flows at that level. It was only the mutual desire of the Commonwealth and successful tenderers to support new investment and thereby enhance service capacity and levels that required any specific provision to allow investment-related price increases.

The resultant NNI criteria provide a mechanism for the costs of new investments to be recovered to remove the disincentives to invest that would otherwise exist in a completely fixed pricing environment. As such, the criteria are designed to deal with incremental investment above an existing base. SACL also notes that the exclusion of replacement assets

⁴ Department of Transport and Regional Development, *Pricing Policy Paper*, November 1996.

from the ACCC's interpretation of the NNI criteria is not supported by the majority of airports and would appear to distort investment decisions⁵.

Like other parts of the airport's pricing regulatory regime, the NNI criteria have a life of 5 years, after which they are to be reviewed.

4.3.2.2. *SACL's Proposed Approach*

As a result of the above factors, SACL believes that the NNI criteria have only limited application to the Revised Draft Proposal. SACL seeks to establish a reasonable pricing base for Sydney Airport following a history of network based pricing and under-recovery of aeronautical investment, originally by the Commonwealth and, most recently, the FAC.

While the ACCC may consider certain elements of SACL's Proposal in terms of the NNI criteria, there is no legal or policy impediment to the ACCC also considering existing assets and new assets that may or may not meet the NNI criteria using the building blocks approach to revenue determination. Indeed, SACL believes that the broader public (as opposed to narrow sectional) interest requires that the ACCC should adopt this approach.

SACL prepared the December 1999 Draft Proposal, and the Revised Draft Proposal, using the building blocks approach to revenue determination consistent with the ACCC's approach to price regulation in the electricity and gas industries. The building blocks provide a comprehensive (as opposed to incremental) approach to determining appropriate revenues, consistent with principles observed in competitive markets.

The assessment undertaken by the ACCC for new assets that meet the NNI criteria is broadly consistent with the building block approach. It is noted, however, that NNI proposals are not subject to the optimisation tests that exist in SACL's proposals. Accordingly, the issue of whether individual assets are existing, 'new' (as defined by the ACCC under the NNI criteria) or replacement assets is of secondary importance. For SACL to attempt to separate 'new' assets from other assets in the pricing proposal, and for the ACCC then to determine whether they meet the NNI criteria on an asset by asset basis, would be of little benefit.

The information set out in the body of SACL's proposal demonstrates that the new investment in aeronautical assets undertaken at Sydney Airport while under SACL's ownership fully meets the NNI criteria. But those criteria do not provide an appropriate or adequate basis for assessment of the validity of SACL's entire proposal. The building blocks approach, together with the detailed factual information presented to the ACCC in the Proposal, provides a proper basis for ensuring that SACL is able to earn an appropriate return on the entirety of the aeronautical asset base which it deploys to provide aeronautical services at Sydney Airport.

⁵ These issues were discussed in SACL's submission on the Commission's Draft Position Paper on *New Investment Cost Pass-Through*, 31 January 2000.

5. ECONOMIC FRAMEWORK FOR PRICING

5.1. Introduction

This section focuses on the economic issues raised during consultation between SACL and its airline customers in relation to the draft price notification and the issues raised in papers commissioned by the ACCC.

During the course of consultation, the airlines have argued that SACL's proposal is inconsistent with sound economic principles and, in consequence, that SACL's proposed aeronautical charges:

- provide incentives for the inefficient over-expansion of aeronautical capacity at Sydney Airport;
- create the scope for inefficient investment in capacity at other airports in the Sydney basin; and
- would not be sustainable in a competitive market.

At the consultation workshop on 15 March 2000, the airlines and their advisers argued that SACL's treatment of land at Sydney Airport, and its treatment of aeronautical and non-aeronautical⁶ revenue were of particular concern. In discussions at the workshop, the airlines' advisers also raised questions about the relevance and measurement of opportunity cost, and SACL's choice of aeronautical price structure. The airlines' advisers reiterated these concerns during the consultation workshop on 5 May 2000, providing further analysis to support their claims, and also raised the additional matter of the appropriateness of valuing assets at historic cost.

Since these consultation workshops the ACCC has issued four independent consultancy reports to assist interested parties in their consideration of aeronautical prices proposed by SACL. The papers have been prepared for the ACCC by independent advisers on key issues raised in SACL's draft aeronautical pricing proposal, ie, land valuation, dual-till versus single-till and the weighted average cost of capital (WACC).⁷

⁶ In this paper "aeronautical" services are defined as those whose prices must be approved by the ACCC, as provided under Declaration No 85, made under the Prices Surveillance Act 1983. These services are the subject of Sydney Airport Corporation's draft price notification. "Non-aeronautical" services are defined as other services provided by SACL, including aeronautical related services (whose prices are monitored by the ACCC), and other services (which are not subject to either price approval or price monitoring).

⁷ These papers are Network Economics Consulting Group, *'Dual Till' at Sydney Airport*, Final Report, May 2000; Network Economics Consulting Group, *Land Valuation at Sydney Airport*, Final Report, May 2000; Professor Rohan Pitchford, Australian National University, *Sydney Airport Land Valuation: An Assessment*, January 2000; and Professor Kevin Davis, University of Melbourne, Report on *"Weighted Average Cost of Capital for Sydney Airport"*, January 12, 2000.

The purpose of this section is:

- to summarise SACL's understanding of matters raised in relation to the economic framework for the draft price notification released in December 1999, including the arguments made by the airline's representatives and the ACCC's consultants;
- to clarify SACL's position; and
- to provide further analysis of the issues raised.

Whilst this section responds to the issues contained in the papers prepared by the ACCC's consultants, SACL commissioned National Economic Research Associates (NERA) to comment specifically on the papers prepared by the ACCC's consultants⁸.

This section is structured so as to address each of the concerns raised by the airlines and their advisers. Each section begins by summarising SACL's understanding of the primary concerns of the airlines, and SACL's response to those concerns. This is followed by a more detailed description of the issues put forward by the airlines. Finally, each section assesses the merits of those issues, having regard to the economic principles that normally govern pricing and investment decisions, including those in relation to aeronautical services.

Subsection 5.2 provides an overview of SACL's proposed approach. Subsection 5.3 focuses on the arguments relating to the value of land. Subsection 5.4 discusses more broadly the concept of opportunity cost. Subsection 5.5 discusses the interdependency between aeronautical and non-aeronautical services, and the guidance economics provides in the pricing of such services.

The related issues of allocative efficiency and choice of price structure are discussed in subsection 6.4.

5.2. Overview

The prices proposed by SACL offer substantial gains in the efficient use of Sydney Airport, and will encourage increased competition in airline services, to the benefit of airline and other aviation customers.

The prices currently charged by Sydney Airport for aeronautical services are below those that would apply in a competitive market, and those that would face a new entrant. That is, if a new airport operator were to enter the market and replicate the aeronautical services provided by Sydney Airport, their efficient costs could not be recovered from the revenue provided by existing aeronautical charges.

In circumstances of excess capacity and relatively inelastic demand, the efficiency losses from pricing sunk infrastructure asset services at or below the level implied by their replacement

⁸ Refer to section 10 for details of how to request these documents.

cost may be small. However, neither of these conditions apply at Sydney Airport. In fact, demand for services provided by Sydney Airport is at or is near full capacity, particularly in relation to landing slots and runway capacity. Slot capacity has already been reached at certain times of the day, resulting in airlines potentially not being able to land and/or take off at their most preferred time. As the period in which slots are fully utilised widens over the next few years, peak periods will be considered 'full'.

SACL has completed a major program of capital works known as SA2000, delivering an expanded international terminal and supporting infrastructure to meet projected demand for 3 to 5 years. The total cost of SA2000, associated projects and other recent projects is \$800 million, of which \$500 million is related to aeronautical services. Even with this significant expenditure, significant further expansion will be required within 5 years. Expansions at the current airport site are experiencing *increasing* average costs due to the progressively more intensive use of the limited area available.

The current pricing framework at Sydney Airport is both inefficient and detrimental to competition in the airline industry. Current prices at Sydney Airport are well below the economic value of aeronautical services provided. Increasing prices as proposed by SACL will assist in managing demand for the existing capacity, and encourage capacity to be used by those who value it most. There is strong evidence that the level of prices can affect airline scheduling and fleet sizing decisions, both of which have the potential to improve the efficiency with which the existing facility is used, eg, through the use of larger planes with lesser frequency.

Through their impact on the use of landings slots, the proposed prices are likely to encourage increased competition in the airline industry. Incumbent airlines currently retain grandfathered rights to landing slots, at subsidised prices, while potential new entrants have difficulty gaining access to Sydney Airport at peak times. This acts as a significant barrier to competition in the air travel industry. An increase in the level of prices towards their economic value will discourage incumbent airlines from retaining slots which they do not value highly. This will free up slots for other airlines to enter the market and offer competitive airline services.

In light of the shortage of capacity at Sydney Airport, a new airport facility is being considered by the government at Badgery's Creek. This facility will have higher unit costs than both the existing aeronautical charges at Sydney Airport, and those proposed by SACL. If prices at Sydney Airport are not increased, a second airport development (or an expansion at Bankstown) could not hope both to recover its costs and offer aeronautical charges attractive enough for airlines voluntarily to use it, given the locational advantage enjoyed by Sydney Airport.

Even when the prices proposed for Sydney Airport are introduced, there may not be sufficient price incentive for airlines to use additional capacity at another airport, when it is eventually built. In that event, there may be a need for an explicit subsidy for aeronautical services at the new airport, financed by way of a levy or tax on aeronautical charges at Sydney Airport.

The pricing approach proposed by SACL reflects sound economic principles, offers significant gains in the efficient use of Sydney Airport, and increased competition in the airline sector. These gains can be expected to flow through to reduced prices for travellers.

5.3. Valuation of Airport Land

5.3.1. Summary

The airlines and their advisers have argued that the existing land at Sydney Airport has a zero value for regulatory purposes, while new land purchases should be valued at their market value.

This subsection demonstrates that land at Sydney Airport (both existing and new) is a valuable asset. This conclusion holds when land is valued on the basis of its opportunity cost, or on the basis of its optimised replacement cost (consistent with opportunity cost), or using an alternative approach such as historical cost.

Valuing land at its opportunity cost, ie, its value in the next best alternative use, will encourage efficient use of the land by both airport users and by Sydney Airport, and will encourage efficient investment in new airport capacity. In contrast, the approach proposed by the airlines would result in distorted incentives for both the use of, and investment in, airport land.

Setting aeronautical charges below their economic value is likely to lead to excess demand and increased congestion, increasing the pressure for new investment in capacity before it is economically efficient. Furthermore, with incumbent airlines able to "shepherd" their existing rights to landing slots, new entrant airlines are inhibited from entering the market and competing effectively.

A zero land valuation (as proposed by the airlines) is not consistent with the behaviour observed in competitive markets. The value of land at Sydney Airport reflects locational or scarcity factors – not monopoly rents - which is entirely consistent with competitive market outcomes.

The airlines' proposal to value existing and new land differently provides distorted incentives to SACL by encouraging it to maximise non-aeronautical activities on existing airport land, and aeronautical activities on new land.

5.3.2. Issues Raised During Consultation

SACL's understanding of the airlines' position in relation to the value of aeronautical land is that:

- airport land has no alternative use, because it is a condition of SACL's lease and the Airports Act 1996 that Sydney Airport land be used as an airport;
- in any case, it is "highly unlikely" that Sydney Airport might cease operation as an airport, particularly given the infrastructure that has been established to support Sydney Airport as an appropriate airport site;⁹

⁹ Dr Woodbridge, *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Workshop*, 15 March 2000, p63.

- given the legal restrictions on alternative use, the value of airport land for the purposes of SACL's draft price notification should be zero; and
- SACL's approach "would not be sustainable in a competitive market", and "will not create efficient pricing signals for the expansion of capacity of other airports in the Sydney basin".¹⁰

At the 5 May 2000 workshop, the airlines advisers' further clarified their position, and argued that a distinction should be made between SACL's existing land holdings and future land acquisitions. The airlines' advisers argued that future land acquisitions should be reflected in aeronautical charges at market value, while existing land holdings should not be included in aeronautical charges, because the opportunity cost of existing land holdings is zero.¹¹

5.3.3. Assessment

5.3.3.1. Context

Most of the difficulties surrounding the appropriate valuation of land at Sydney Airport arise from the fact that the original decision to develop the Sydney Airport site was not taken in a commercial or competitive market environment. Rather, development of the airport over its eighty year life has involved a succession of investment decisions generally brought about by government decree, and supported by taxpayer funded subsidies. Whatever the merits of history, it is clear that a competitive market would not and could not have delivered the existing facility, and made it available to users at the current level of aeronautical charges.

If the involvement of government in a manner that has characterised the development of Sydney Airport to date had been absent, economic theory suggests that developers of infrastructure facilities involving highly specific assets generally seek long term financial commitments from prospective customers through the use of contracts¹². The alternative (and more usual) approach to supporting infrastructure development is regulatory oversight of the terms and conditions for use of a facility, under an annual tariff¹³ regime.

Against this background, the context for SACL's December 1999 Draft Proposal is the transition from an environment of taxpayer subsidy and government decision-making to one where prices are set by a regulator, in accordance with the principles emerging from

¹⁰ Frontier Economics, *Presentation at Sydney Airports Corporation Aeronautical Pricing Workshop – Economic Issues*, 15 March 2000, p19.

¹¹ Frontier Economics, *Presentation at SACL Workshop – Valuation of Land at Sydney Airport*, 5 May 2000.

¹² Examples of privately financed infrastructure development in Australia supported by long term contracts include the development of toll roads, most gas fields, and some gas pipelines.

¹³ The most important distinction between a tariff-based regime and long term contracts is that, under the former, individual users do not make long term financial commitments, and so are free to increase or reduce their use of the facility as they require. The corollary, however, is that incumbent users have no prior rights over new entrants.

competitive markets. It is precisely these principles which preclude an approach to aeronautical pricing that treats Sydney Airport land¹⁴ as a free good.

5.3.3.2. *Opportunity cost and competitive markets*

To ensure aeronautical charges are struck at a level that encourages the efficient use of land, from the perspective of both users and the service provider, SACL has applied the fundamental economic principle of opportunity cost. This principle applies equally in a competitive market; indeed, economic theory tells us that opportunity cost pricing is the outcome of competitive market processes. As noted by the Bureau of Industry Economics:

... the prices generated by markets characterised by some degree of competitive pressure are considered to be efficient in the sense that they provide the best possible guide to the community's ongoing assessment of the opportunity costs of supply.¹⁵

The ongoing provision of aeronautical services at Sydney Airport (or any other airport) requires a substantial amount of land. By choosing to use this land as an airport, SACL and its lessor forgo the opportunity to put the site to some *alternative use*, eg, residential or light commercial development. Providing SACL and its lessor continue to receive returns that compensate them for the opportunity forgone, competitive market principles ensure that aeronautical services will continue to be provided. Furthermore, economic principles dictate that this is efficient from society's point of view, providing users are willing to pay aeronautical prices that reflect the opportunity cost of land.

As noted by the Productivity Commission:

A pricing regime for airports should suit an environment of growing demand with periodic 'lumpy' investment. The central feature of such a pricing regime is that charges for the use of facilities should reflect their opportunity cost (the return forgone by using resources in their current form rather than in the most valuable alternate use). The available capacity would then be used by those who value it most highly.¹⁶

This approach is very much consistent with arguments put forward by the ACCC, in relation to the treatment of electricity easements.¹⁷ In its May 1999 Draft Statement of Principles for the Regulation of Transmission Revenues, the ACCC notes that:

The question is how to introduce such assets into the regulatory framework in a consistent way. One consistent approach would require:

¹⁴ That is, both SACL's existing land holdings and future land acquisitions.

¹⁵ Bureau of Industry Economics, *Issues in Infrastructure Pricing*, Research Report 69, August 1995, p10.

¹⁶ Productivity Commission, *International Air Services*, Inquiry Report, Report No. 2, 11 September 1998, p187.

¹⁷ Electricity easements are "access corridors", which provide a network service provider the right to construct, operate and maintain a power line. To obtain this right, either lease arrangements are made between the network service provider and the land owner, or compensation is provided to the land owner. See ACCC, *Draft Statement of Principles for the Regulation of Transmission Revenues*, May 1999, p45-46.

The contribution to the RAB [regulatory asset base] be based on the actual cost to the TNSP [transmission network service provider] of obtaining the easement rights updated periodically in line with what would be the DORC (depreciated optimised replacement cost) based valuation of easements. On the basis of legislated mechanisms for purchase of easements both of these valuations would normally be in line with what was considered the loss of amenity to the previous owner of conceding the easement right (that is its social cost).¹⁸

Indeed, the airlines' own advisers agree conceptually with the 'alternative use' or opportunity cost approach, although the reasoning is from a dynamic efficiency perspective:

to encourage the continuing use of the current airport site as an airport, the airport owner must have the expectation of receiving at least the return it could receive from the next best alternative use of the land (opportunity cost).¹⁹

The ACCC has also recognised the relevance of opportunity cost in recent draft decisions on new investments at Brisbane, Melbourne and Canberra airports. It has allowed a "rental amount" in relation to the land used for the new investments, on the basis that "there is a cost to [the airport] in switching this [non-aeronautical] land to an aeronautical use."²⁰

However, the ACCC draws a distinction between land that is already being used for aeronautical purposes, and land that is either purchased or transferred from non-aeronautical use. SACL believes that, properly applied, the concept of opportunity cost would result in the same land valuation whether land is already used for aeronautical purposes, whether it is newly purchased, or whether non-aeronautical land is converted for aeronautical use. The opportunity cost is the value of the land in its alternative (next best) use, which will be the same under any of these scenarios.

Furthermore, drawing an artificial distinction between new and existing land results in distorted incentives for SACL in relation to its land-use and investment decisions, as discussed in subsection 5.3.3.9 below.

An alternative approach to determining the value of aeronautical land would be for SACL to offer rights to use aeronautical services (such as landing slots at Sydney Airport) by way of auction. This would allow a competitive market process to determine the value of Sydney Airport land in its *existing use*, by reference to the opportunity cost for users (rather than the service provider).

¹⁸ ACCC, *Draft Statement of Principles for the Regulation of Transmission Revenues*, May 1999, p45. We note that the ACCC also proposed that any variations in easement value over time should be reflected in depreciation allowances. This is consistent with the approach used by Sydney Airports.

¹⁹ Frontier Economics, *Presentation at SACL Workshop – Valuation of Land at Sydney Airport*, 5 May 2000, p10. We note however, that the airlines' advisers proceeded to argue that given the current restrictions on land use, there is no alternative use of the land and therefore the opportunity cost is zero. The reasonableness of this argument is addressed below.

²⁰ ACCC, *Melbourne Airport, Multi-User Domestic Terminal, New Investment Draft Decision*, June 2000, p4.

This is the approach now used to manage radiofrequency spectrum in Australia by the Australian Communications Authority. In the early 1990s, the traditional central planning approach had been found to be causing widespread inefficiency, which led to the proposal and introduction of a market based system of spectrum management:

From the analysis of spectrum use undertaken by BTCE [Bureau of Transport and Communication Economics], it was evident that the supply of spectrum for specific uses, through the planning process, had not resulted in an even distribution of occupancy. Avoidable mismatches in supply and demand led to obvious efficiency losses. Not only could sections of the spectrum left lying idle be used to provide more services, but additional costs borne by users in congested bands could also be avoided by their relocation to less congested spectrum . . .

Further inefficiencies in spectrum use resulted from assigning spectrum to users on a 'first come, first served' basis, combined with virtual use in perpetuity. This meant that there were limited mechanisms for potential users to obtain existing assignments, other than to wait for frequencies to be relinquished or to purchase the company holding the licence. Such an approach tended to favour established applicants. If latecomers were more efficient but are unable to gain access or must accept lower quality access, the outcome is reduced economic efficiency.

... The BTCE's proposed solution was to introduce a market based model of spectrum management, and to substantially reform administrative aspects of licensing ... The BTCE argued that an economically efficient solution would be to allow trade-off between the number of services and the quality of signals in accordance with changes in demand patterns, technology and methods of operating services ... The BTCE suggested that the market price mechanism would ration spectrum, and those who paid the highest price would be those who placed the highest value on the resource as an input to production.²¹

The UK Civil Aviation Authority provides a useful view of UK airport regulation in the context of capacity constraints (as exist currently at Sydney Airport):

Airport regulation is different from the standard regulation of the utilities in that it is faced with likely long-term capacity constraints. In taking this into account, the distinction between monopoly rents and scarcity rents becomes crucial. Economic regulation aims to achieve the same outcome as under competitive conditions where undesirable monopoly rents arising from market power would disappear. On the other hand, competition does not erode scarcity rents which are the result of the uniqueness of a specific location that cannot be expanded. There are many examples of prices which contain comparable scarcity rents, eg rents in Oxford Street or the funds raised in the recent UMTS spectrum auctions. Mobile frequency spectrum or city ground space cannot (or only at a prohibitive price) be increased, but as demand attributes a high value to them a mechanism to allocate the scarce resource must be applied.²²

²¹ Hayne, Ian, *Spectrum property rights and practical auction design: the Australian experience*, a paper for the Industry Economics Conference, plenary session 1, invited paper 11, 1997, p173-4.

²² Civil Aviation Authority, *Issues for Airport Reviews, Consultation Paper*, July 2000, p7.

There are many similarities between the issues relating to the management of spectrum and those facing Sydney Airport. Indeed, slot auctions are often raised as a potential solution to the airport pricing and capacity problem. SACL has considered such an approach to aeronautical pricing, however, it believes that significant further work would be required to overcome the many co-ordination problems associated with the formal auctioning of landing slots. Indeed, it may be argued that these issues are insoluble due to the complex interrelationships of individual outcomes at airports around the world. An auction process for determining the value of Sydney Airport land is not therefore advocated at this time.²³

Nonetheless, this discussion highlights the importance of recognising the distinction between monopoly rents (and the proper application of regulation to prevent such rents), and the increase in value that arises due to locational or scarcity factors, which is entirely consistent with competitive market outcomes. The airlines and their advisers have failed to recognise this crucial distinction, and as a result their proposed approach to pricing at Sydney Airport is based on erroneous assumptions.

5.3.3.3. *Opportunity Cost and Optimised Depreciated Replacement Cost (ODRC)*

SACL's approach to land valuation has focused on its opportunity cost, ie, its value in the next best alternative use. In fact, the opportunity cost of providing the service on a greenfields or new entrant basis is equivalent to an ODRC valuation. The ODRC valuation is the maximum amount a new entrant would be willing to pay for the assets, in order to provide the same service.

Using ODRC as the basis for asset valuation is widely accepted in regulated industries in Australia and is widely supported as approximating the outcome of a competitive market. Indeed, the ACCC has signalled that they prefer an ODRC approach to the valuation of electricity easements²⁴. In its May 1999 Draft Statement of Principles for the Regulation of Transmission Revenues, the ACCC notes that:

The advantage of this approach [the DORC approach] is that valuation remains comparable to the costs faced by a potential entrant while maintaining cost of service pricing which takes full account of the social cost of the resources employed. Inclusion of the easement value within the RAB [regulatory asset base] provides the incentive for the TNSP [transmission network service provider] to acquire easement rights to expand the network as required. If the value in the alternative use of the easement (its social value) exceeds the cost of alternatives – such as underground cabling – the TNSP has an incentive to realise its market value and adopt a lower cost alternative since the DORC basis for the RAB means that it will only reflect the lower cost alternative.²⁵

²³ In any event, it is probable that a valuation on the basis of users' willingness to pay (ie, slot auction) would be much higher than a valuation based on the opportunity cost of providing increased aeronautical capacity in the Sydney basin.

²⁴ The ACCC refers to ODRC as DORC.

²⁵ ACCC, *Draft Statement of Principles for the Regulation of Transmission Revenues*, May 1999, p46.

In their presentation to the ACCC's asset valuation forum of 16 June 2000, Henry Ergas and Mike Smart of the Network Economics Consulting Group (NECG) state that:

If one were to adopt a forward-looking pricing approach based on the maximum price that prevents inefficient bypass, consistent with ODRC, one should not adopt *in situ* replacement cost as presented by SACL. Rather, one should adopt the efficient replacement cost, which (abstracting from third-party effects) is likely to be represented by a green field airport sited on relatively cheap land.²⁶

Ergas and Smart suggest that this would involve setting the land valuation on the basis of the opportunity cost of land at Badgery's Creek.

Whilst correct as a matter of principle, Ergas and Smart have over-simplified the valuation that would need to be undertaken to value Sydney Airport assets on a greenfields basis. Importantly, the service offered at Sydney Airport is not the same as that which would be offered at Badgery's Creek. Sydney Airport is located close to the city centre and is thus offering a superior service. While a train from Sydney Airport takes 10 minutes to the centre of the city, estimates for Badgery's Creek are closer to 45 minutes.²⁷ To compare the service offered at Mascot with that offered at Badgery's Creek, it is necessary to add in the additional costs imposed on customers at Badgery's Creek, in terms of travel time and travel costs.

Further, an optimally designed airport may locate on cheaper land, but would also involve a greater amount of land, as indicated by the designs put forward for Badgery's Creek (Sydney Airport has a total of 886 hectares for both aeronautical and non-aeronautical activities, while the Badgery's Creek options involve between 1,700 and 2900 hectares of land). In addition, there are trade-offs between land size and the cost of other assets (and operating costs), so any comparison also needs to take these trade-offs into account. Clearly, where land is valuable (as it is at the current site), costs may be minimised by having a smaller site, with more expensive building costs (such as multi-story terminals). In contrast, where land is relatively cheap (as at Badgery's Creek), costs are minimised by using more land, and cheaper building costs. As shown in subsection 5.4.3.2, the cost per passenger movement in SACL's Revised Draft Proposal is consistent with the cost per passenger movement that would be likely at Badgery's Creek.

5.3.3.4. *Historic Cost Valuation*

During consultations, airline representatives and their advisers sought information regarding the historic cost valuation of Sydney Airport's assets.

Sydney Airport has not undertaken a full historic cost valuation of its land and other assets. To do so would require substantial resources, since the information is not readily available (if it can be retrieved at all). Such a commitment of resources would only be worthwhile if the historic

²⁶ Ergas, H and M Smart, *Land and Easement Valuation in Pricing for Networked Businesses - a Critical Appraisal*, 16 June 2000, p14. Presented to the ACCC Asset Valuation Forum, 16 June 2000.

²⁷ *Second Sydney Airport Proposal Environmental Impact Statement*, Supplement, p19-24.

cost valuation was central to ensuring an appropriate pricing framework for aeronautical services. SACL does not believe this is the case.

Historic cost valuations can provide a useful cross-check of valuation on a current-cost basis, subject to some limitations. In fact, SACL's valuation already does this to a significant degree.

For example, new assets for the period from 1 July 1998 to 1 November 2000 of around \$800m have been included in the Revised Draft Proposal at actual cost (or estimated actual costs for assets not yet complete). This is approximately 53% of the written down value of SACL's asset base (excluding land assets) as at 1 November 2000. In addition, a number of land parcels have recently been purchased in the region surrounding the airport site, and these have been incorporated at their actual historic cost.

However, the relevance of an historic cost valuation declines the further back in time one goes. In order to correctly apply an historic cost valuation, the original purchase price needs to be inflated by an appropriate index. A general measure of inflation is not appropriate, because relative prices in the economy are likely to change over long periods of time. Therefore, historic cost valuations from many years in the past need to incorporate appropriate price indices, which are not straightforward to estimate.

SACL also notes that, in estimating the historic cost valuation of gas distribution assets in Victoria, the Office of the Regulator-General adjusted the historic cost valuation of assets by the extent of "economic depreciation". This analysis was undertaken to test the hypothesis that the valuation of the former Gas and Fuel Corporation's existing assets using DORC did not lead to the over-recovery of sunk costs.

Economic depreciation was defined as the residual revenue in each year, after recovering all costs and a reasonable return on the asset base. It was estimated by constructing a cash flow model for past years (from 1957-58 to 1996-97). The written down value of the assets was then equal to the value of all capital expenditure, less economic depreciation.

The resulting valuation estimated the value of the assets at almost \$8 billion²⁸, compared with a proposed initial capital base (based on an adjusted DORC valuation) of \$2.2 billion, and a DAC value (depreciated actual cost) of \$1.3 billion.²⁹

An equivalent analysis in the case of Sydney Airport would be a difficult and time-consuming undertaking, and seems unlikely to add significant value in determining an appropriate valuation of aeronautical assets. Nonetheless, SACL has undertaken substantial research into the historic development of Sydney Airport and, where possible, has isolated the historic cost of its land.

²⁸ With a range of -\$1.3 billion and \$11.3 billion.

²⁹ For a discussion of the analysis undertaken see: Office of the Regulator-General, Victoria, *Access Arrangements – Multinet Energy Pty Ltd & Multinet (Assets) Pty Ltd, Westar (Gas) Pty Ltd & Westar (Assets) Pty Ltd, Stratus (Gas) Pty Ltd & Stratus Networks (Assets) Pty Ltd*, Final Decision, October 1998, page 52-55.

The following table summarises significant land purchases and developments that have occurred from the 1920s, when the airport occupied only 66 hectares, until the third runway construction in the 1990s, creating the current 886 hectares. Where available, costs are noted.

Summary of Major Land Works at Sydney Airport

Date	Description of Works	Cost
1921	Acquisition of Mascot site	15,500 pounds
1930s	Additional land purchase	94,000 pounds
1940s	Major runway development	
Post-war	Diversion of the Cooks River	\$1.36m
	Raising of two new flight strips; dredging of Botany Bay	\$2.72m
	Diversion of General Holmes Drive	\$580,000
	Construction of a new bridge across the diverted Cooks River	\$400,000
1963-66	Extension of the north-south runway, involving reclamation of land from Botany Bay.	\$6.3m
	Construction of a tunnel for General Holmes Drive	\$4.111m
1966-72	Foreshore Protection	\$1.726m
1966-69	Diversion of Alexandra Canal	\$2.3m
1966-67	Site preparation for the new international terminal, including removal of unsatisfactory material and replacement with sand dredged from Botany Bay.	\$4.442m
1969-72	Further extension of the north-south runway	\$19.79m
1992-94	Construction of the third runway, including a 6.8km reinforced earth seawall, dredging and landscaping.	\$239.4m

This table demonstrates that the construction of Sydney Airport has been costly - it has involved land purchases, land reclamation and land improvements. It is noted that this analysis has several data gaps, for example where additional land was purchased in 1947.

Considerably more analysis would be required to provide an historic cost valuation, including determining appropriate price indices to bring the valuation to today's dollars. However, the analysis confirms that using an historic cost valuation, Sydney Airport land has substantial value.

5.3.3.5. *Legal restrictions on land use*

The Board of Airline Representatives of Australia (BARA) and its advisers have argued that, in reality, there is no opportunity forgone in the case of land at Sydney Airport because existing legal arrangements mandate that SACL's leased land be used as an airport. BARA likens SACL's proposal to an owner of zoned rural land, seeking returns based on its value in some other use:

I'm an owner of land, say a piece of rural land, zoned rural and I want to rent it out to somebody else, and I say – a farmer comes along and says: look I'd like to run some cows

over your pasture and I say: look, I'd really like to charge you rent based on the assumption that land could be used for commercial and residential property, what would the farmer do? He would go next door and go somewhere so a market could not sustain a price or rent of the land inconsistent with the restrictions on the use of land. It does not happen. So you wouldn't be able to sustain it in a competitive market.³⁰

This example misconstrues the concept of opportunity cost. SACL is not proposing that aeronautical land be valued on the basis of an assumption that land be used in an activity of *greater* economic value than an airport. Rather, it is proposing to adopt a *lesser*, 'next best' approach. In the case of the rural landowner in BARA's example, the next best use is for the owner to make the land available to another farmer.

Of course, if the rural land in BARA's example was sufficiently close to an urban area so that conversion to residential use represented a more attractive option for society, one might expect the landowner to seek a change in its zoning, and to sell the land for residential and commercial development. Examples of land use changing to reflect the dynamic needs of society occur all the time. The recent Commonwealth government decision to sell defence land as part of its budget plans demonstrates that the government can and does choose to re-zone land when it believes it is no longer being used for its highest and best use. Other pertinent examples include changes to restrictions on activities and land use in water catchment areas and national parkland.

Continuing with BARA's example, the one outcome that a competitive market would not deliver is for the rural landowner to allow a farmer to run his cows for no rent at all. However, this seems to be the position advocated by BARA when they propose that aeronautical land should be valued at zero simply because it is currently deemed for use as an airport:

I'm saying that in setting regulatory prices, yes, it [land] should be valued at zero.³¹

The land at Sydney Airport can be likened to the compulsory acquisition of land by governments for road construction. The possibility of land resumption is pre-planned, and proceeds on the basis of market value, ie, the expected selling price if road construction was not to go ahead. Governments do not invoke their rights to alter land use restrictions, and then acquire that same land based on it no longer having an alternative use, yet this is what BARA seem to advocate.

The current legal restrictions on the use of Sydney Airport land simply reflect the prevailing view of the Commonwealth that the optimal use of the existing site is as an airport, ie, the value of the land is highest in its current use. Like all land use restrictions, however, these can be altered if at any future time it became clear that society would be better off by allowing the existing use of Sydney Airport land to be changed. Over the last ten years, several major

³⁰ Dr Graeme Woodbridge, *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Workshop*, 15 March 2000 p63-64.

³¹ Dr Graeme Woodbridge, *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Workshop*, 5 May 2000, p109.

international airports³² have been relocated precisely for this reason - and debate continues in regard to Essendon Airport's best use.

Indeed, the airlines' view that legislative restrictions on the use of Sydney Airport land present some kind of permanent, independently determined constraint puts the cart before the horse.³³ Planning requirements, land zoning restrictions, etc, reflect the needs and economic circumstances of the society of the day, and evolve over time as those needs change. Laws do not dictate the priorities of society in some exogenous fashion.

SACL believes it to be a reasonable working assumption that the Commonwealth will continue to act in the interests of society as a whole in administering the legislative framework governing airports and the use of airport land. SACL agrees that use of Sydney Airport land for airport purposes is in the overall interests of society, and represents the highest and best use of the land. In line with the ACCC's own principles, SACL is simply proposing that aeronautical charges should reflect:

. . . the loss of amenity to the previous owner of conceding the easement right [the right to use it] (that is its social cost).³⁴

Even if the land use restrictions are viewed as permanent, in no sense do they imply that Sydney Airport land has no economic value as an airport. The difficulty for pricing purposes, however, is that the value of land in its existing use cannot be independently established (other than by a slot auction). Like other regulated businesses, the market value of SACL's assets is dependent on future regulated revenues, and a circularity arises between the determination of regulated revenue and the regulatory asset base.

To overcome these difficulties, SACL has assessed the value of land by reference to its *next best* alternative use. This is precisely the cost that the developer of a competing airport facility could expect to pay to acquire land in order to provide a similar service. It is completely consistent with the outcome of a competitive market.

In adopting this approach, SACL is by no means suggesting or advocating that Sydney Airport should be shut down or relocated. Neither is SACL suggesting that this prospect is a pre-condition for establishing that land has a positive value. Rather, SACL's proposal involves a valuation of the assets for pricing purposes that reflects the opportunity cost to society of the

³² There are many international examples of airport relocation or down-sizing. For example, Munich Riem is being redeveloped as a "Trade Fair City", involving mixed industry and housing development. Denver airport has also been relocated, and the old Stapleton site has been designated for housing and commercial development. Hong Kong airport was recently relocated. At Athens, the new airport will open next year, and the existing site will revert to urban uses. The plan in Berlin is similar with the existing airports at Tegel and Tempelhof to close when the major expansion of Schonefeldt is complete. Another example is Oslo where the close-in airport at Fornebu has closed, and the bulk of the land has been released for housing and industry development (a small proportion of the land is being used for sea-planes). At Osaka, the old airport continues in use, but only for domestic flights. In addition, several small airports in the UK have closed down.

³³ As distinct from land that does not have an alternate use for practical reasons, such as severely polluted land.

³⁴ ACCC, *Draft Statement of Principles for the Regulation of Transmission Revenues*, May 1999, p45-46.

land that the site occupies. To suggest there is no other possible use of the site, and never will be, defies common sense. The airlines' position is equivalent to saying: "my house has no value, because I do not intend to sell it."

5.3.3.6. *Land use restrictions in SACL's lease*

Setting aside legal restrictions on land use, the airlines have also argued that the terms of SACL's lease prevent it from using Sydney Airport land for any other purpose and so the opportunity cost of land to SACL is therefore zero.

This argument, too, is fallacious. The lease between SACL and the Commonwealth is merely a financing and legal instrument, which has the effect of allocating property rights between the lessee and lessor. It is a voluntary contract, entered into by two related parties, which does not alter the economic value of the facility. The lease terms can be changed by agreement at any time, as and when the need arises.

The airlines' argument pre-supposes that the current lease terms (and, likewise, the provisions of the Airports Act) would not and could not be altered if, at any time, it became clear that an amendment to the lease terms was in the interests of both parties. Indeed, the fact that SACL has not yet been privatised increases the likelihood that the lease terms will be altered, particularly if they were to assume disproportionate weight in regulatory decisions on aeronautical pricing.

If SACL were a privatised business, the economic arguments regarding the appropriate valuation of land would be the same. However, if at the time of privatisation regulated prices reflected a land valuation of zero, there may be concern that the owner of the privatised facility would obtain a windfall gain from any increase in prices to reflect the opportunity cost of land. In these circumstances, it would still be appropriate to set prices that reflect the opportunity cost of land but, to avoid any windfall gain to the facility owner, the terms of the lease with the Commonwealth could be revised at the same time.

5.3.3.7. *Efficient pricing signals*

Prices have two fundamental roles in the economy: they provide a means of allocating existing capacity between different potential users, and they send signals to service providers about the timing and scope of investment in additional production capacity. The airlines' representations about the role and value of land in aeronautical pricing decisions do not sufficiently address either of these issues.

5.3.3.8. *Allocative pricing efficiency*

A failure to incorporate any allowance for the cost of land in determining aeronautical prices would send a signal to users of aeronautical services that land has no value, and that the limited remaining capacity at Sydney Airport is neither scarce, nor valuable. This is clearly not true, particularly given the imminent need to expand aeronautical facilities in the Sydney basin, using either land adjacent to the current site, or at an alternative location.

It is also wrong to assert that setting aeronautical charges on the basis of a positive land value would:

provide incentives for inefficient over-expansion of aeronautical capacity at Sydney Airport.³⁵

In fact, the reverse is more likely to be true. If prices at Sydney Airport are set below their economic value, airlines will not have appropriate signals to use the airport facility efficiently. Prices set at a level below the opportunity cost of providing the service, will lead to excess demand for the facility and increased congestion (eg, through airlines scheduling smaller, more frequent flights). This will *bring forward* the need for new airport capacity, and therefore result in inefficient over-expansion of facilities.

In advocating aeronautical charges be set at below their economic value, while at the same time shepherding their grand-fathered rights to existing landing slots, incumbent airlines are in fact seeking to use their monopoly rights in landing slots to create a barrier to entry for new airlines, and thereby distort competition in airline services.

As noted by the Productivity Commission, in its inquiry into international air services:

The current administrative system of allocating slots entrenches the position of incumbent airlines at airports. DTRD [Department of Transport and Regional Development] noted that:

The inability of the committee based slot allocation process to provide adequate provision for new entrants is a fundamental weakness of the system.

'Grandfathering' provisions ensure that the peak time slots held by incumbents are generally not made available to new entrants. The issue of slot availability particularly concerns new entrant airlines. An executive from Virgin Atlantic argued that:

The costs for the travelling public of maintaining grandfather rights are huge. These costs represent a direct subsidy from consumers to those dominant airlines fortunate enough to have acquired slot holdings in the past as gifts from their government-owners. That should be unacceptable in a free market. (Humphreys, 1997, p3).³⁶

Indeed, airline participants in the Productivity Commission inquiry identified constraints at Sydney Airport, particularly the availability of landing and takeoff slots at peak periods, as a significant operational constraint for their business.³⁷

The current beneficiaries of low aeronautical charges are mainly the incumbent airlines and their owners. Final customers see none of the apparent benefit of artificially low aeronautical charges when there is excess demand for popular slots, and rights are conferred on the basis of existing use. In fact, it is not in the interests of the incumbent airlines to provide new

³⁵ Frontier Economics, *Presentation at Sydney Airports Corporation Aeronautical Pricing Workshop – Economic Issues*, 15 March 2000, p9.

³⁶ Productivity Commission, *International Air Services*, Inquiry Report, Report No.2, 11 September 1998, p194-5. Italics denote the Productivity Commission quoting DTRD ("*Administrative System of Slot Allocation*" Study Paper, Canberra, 1997, p4) and "an executive" from Virgin Atlantic (Humphreys, B. "*Slot Allocation: the need to dump grandfather*", Aviation Strategy, November, 1997, p2-3) respectively.

³⁷ op cit, p185.

capacity at a second airport, or to price the existing capacity at Sydney Airport at its opportunity cost. To do so would make it increasingly difficult for incumbent airlines to hold onto existing slots, thereby providing greater opportunities for competitors to secure landing slots and increase competition in airline services.

This is largely due to the fact that inter-airline competition on many routes is not sufficiently strong to ensure that the benefits of low input costs are passed on to passengers. Reducing the barriers to entry created by the shortage of airport capacity would mean that, in the longer term, air travellers could be expected to benefit from the increased effectiveness of airline competition.

The potential benefits of domestic airline competition are well recognised. For example, in the context of Compass's entry in 1991 and again in 1992, the ACCC noted that:

Deregulation of Australia's domestic airlines has delivered substantial benefits in terms of air fares and service for passengers, according to an Australian Competition and Consumer Commission survey of developments since the dismantling of the two-airline policy in October 1990.

Fares are lower, there is a bigger array of ticket options, the frequency of flights has improved, especially on the main routes, seating capacity has expanded and the airlines now fly to more destinations,

Acting ACCC Chairman, Mr Allan Asher said today.

The report concludes that the airlines are now far more responsive to the varying demands of passengers.

However, the biggest gains for consumers were achieved in the periods of intense competition when there was a third airline operating in the market. The report tracks the impact of the Compass airlines on fares, flight arrangements and market shares.³⁸

Lack of access to airport infrastructure, primarily terminals, was widely discussed as a contributing factor to the downfall of Compass I and Compass II. While terminal access has been provided for domestic new entrants at Sydney Airport, runway capacity may become a big issue for the growth of competition in both domestic and international markets.

More recently the prospective entry of Impulse and Virgin airlines into the domestic travel market indicates significant scope for incumbents' airfares to fall from their current levels. For example, a spokeswoman for Virgin Blue Airlines recently announced that Virgin's airfares would be competitive with Impulse, which is offering \$149 one-way fare between Brisbane and Sydney. This compares to last year's Ansett and Qantas standard economy airfare of about \$600 return, over the same route.

³⁸ ACCC, *Air fares: before and after Compass*, Media Release, 24 April 1996. During the period over which Compass operated, average airfares reduced by over 30 percent, which resulted in a large increase in the demand for air travel.

This suggests that the pro-competitive aspects of SACL's proposal will ultimately be far more important for the final price of air travel than the increased aeronautical charges imply for airline costs.

5.3.3.9. *Dynamic pricing efficiency*

The valuation of land will affect the investment incentives provided to SACL, both in relation to the expansion of aeronautical facilities, and the choice between alternative uses of existing and new land. In an article related to rail services in Japan and the impact of land valuation on investment and congestion, Kidokoro notes that:

book-value-based ROR [rate of return] regulation will cause various economic distortions to the extent that the book value differs from the market (ie, shadow economic) value of the assets.³⁹

Kidokoro explains that, where previous investments in railroad right of way are not revalued after a change in the market price of land, investors are "discouraged from investing in railroad right of way", and that this "can upset the AJ [Averch-Johnson] effect, resulting in underinvestment in railroad right of way when land prices rise."⁴⁰ This, in turn, worsens congestion. As noted by Kidokoro:

Although the immediate motivation for our analysis comes from the congestion in Japanese urban railways in the context of rapidly rising land prices, our analysis can readily be extended to other regulated industries such as electricity and telecommunications.⁴¹

The analysis is equally applicable to airports. Airports will be reluctant to invest in purchases of new land to expand aeronautical capacity if there is no provision for future revaluation of that land to reflect changes in market prices. As Kidokoro recognises, "the present opportunity cost of the investment is the present land rent."⁴²

If existing aeronautical land is valued differently to new land purchases, the incentives for use of the land will also be distorted. The scarcity of aeronautical capacity at Sydney Airport is being addressed by both short and medium term initiatives. At Sydney Airport itself, SACL is currently in the process of acquiring additional land adjacent to its current site. There is a degree of choice about whether this land is utilised for the provision of aeronautical or non-aeronautical services. As noted by a representative of SACL:

. . . some of those existing freight operators operate now on the central part of the airport to the north of the international terminal building and by relocating those users, it will free up the ability to have more aircraft parking and potentially further terminal development in the

³⁹ Yukihiro Kidokoro, *Rate of Return Regulation and Rate Base Valuation*, Regional Science and Urban Economics, 28 (1998), p629.

⁴⁰ Op cit, p631.

⁴¹ Op cit, p631.

⁴² Op cit, p631.

future. So essentially we are taking off site commercial activities to allow for development of further aeronautical activity on the site . . .⁴³

Furthermore,

. . . many of Sydney Airport's staff that are not required to run the terminal actually operate from off-airport to provide more capacity on-airport.⁴⁴

Adopting the airlines' proposed approach, aeronautical prices would be based on new land valued at full market rates, and existing land at zero.⁴⁵ Under a pricing rule of this sort, however, SACL would have the incentive to concentrate non-aeronautical facilities on the existing land – where customers are happy to pay prices based on the market value of land – and, to the greatest extent possible, provide aeronautical facilities using newly acquired land on adjacent sites. This would encourage sub-optimal outcomes.

In fact, an optimal outcome is likely to be the reverse of this situation. As aeronautical demand increases on the constrained Sydney Airport site, society's needs are likely to be met best by relocating non-aeronautical activities to adjacent sites, and concentrating aeronautical activities on existing land – around the runways and taxiways. The airlines' approach, if adopted, would distort the incentives to deliver such an outcome.

In the medium term, additional aeronautical capacity is likely to involve another site – inevitably at an inferior (more remote) location relative to Sydney Airport. In order for such an investment to be undertaken, the developer will need some assurance that the revenues derived from the second airport will be sufficient to recover the (opportunity) cost of developing the site. However, if aeronautical charges at a second airport are set to reflect the opportunity cost of that site (including the cost of land and other fixed assets), while charges at Sydney Airport do not incorporate the full opportunity cost of land (and other fixed assets) at the existing site, customers will be reluctant to shift to a second airport.

Such an outcome would be inconsistent with the fundamental role of prices in ensuring the efficient allocation of aeronautical capacity between users (allocative efficiency). If administrative allocation measures – such as mandates requiring certain users to land at the second airport – are allowed to supplant the role of prices, this will confer windfall economic rents to those airlines having the right to land at the better-located airport for a below-market

⁴³ Mr Steven Fitzgerald, *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Workshop*, 15 March 2000, p38.

⁴⁴ Mr Steven Fitzgerald, *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Workshop*, 15 March 2000, p38.

⁴⁵ The proposal to use this pricing approach was explicitly made at the 5 May 2000 workshop, see Frontier Economics, *Presentation at SACL Workshop – Valuation of Land at Sydney Airport*, 5 May 2000. The concept was also implied at the 15 March 2000 workshop, see, for example, *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Workshop*, 15 March 2000, p36. In response to a statement that the relevant opportunity cost of land is the price of land "across the road", Dr John Fallon (adviser to BARA) states ". . . that relates to expansion, not the existing infrastructure". See also p89 of the *Transcript of Proceedings*, where Dr Fallon concurs with the statement that land needed for expansion has a value.

price. This in turn would distort airline competition, and be detrimental to the interests of airline passengers.

On the other hand, if aeronautical charges are set to reflect the opportunity cost of land at each location, operators would have an incentive to alter fleet sizing, scheduling and route expansion decisions, each of which can assist in deferring the need to expand capacity and thereby delivering efficiency savings, in net present value terms. This is precisely the outcome that could be expected from the competitive market paradigm advocated by the airlines and their advisers.

5.3.4. Views of the ACCC's Consultants

The ACCC engaged Dr Rohan Pitchford and NECG to consider SACL's treatment of land valuation in its December 1999 Draft Proposal. This subsection sets out SACL's view on the broad arguments made by the consultants. It draws on advice provided by NERA, who were commissioned by SACL to provide a critique of the papers by the ACCC's consultants.

5.3.4.1. Dr Rohan Pitchford's paper

In his paper to the ACCC, Dr Pitchford argues that SACL's approach to land valuation is based on "surrounding use", and it represents the "opportunity cost of location" for Sydney Airport, which is only relevant for assessing whether or not to move the airport.⁴⁶ While Dr Pitchford supports the general principle of opportunity cost, he does not agree with "the logic behind the surrounding land value" as the determinant of opportunity cost:

I am in agreement with the Sydney Airport [December 1999] *Draft Aeronautical Pricing Proposal* ... that the concept of opportunity cost is relevant for assessing the value the land on which the airport is built. However the logic behind the use of surrounding land value as the determinant of opportunity cost is flawed.⁴⁷

Rather, for regulatory purposes, Dr Pitchford argues that the land valuation should be based on customers' valuations, and that an economically efficient valuation of assets for airport assets should be derived from the discounted sum of prices that result in efficient usage of the airport.⁴⁸ Dr Pitchford suggests an approach for approximating customers' valuations, but notes that it may give SACL an "excessive incentive" to convert or sell land.

Dr Pitchford recognises that Sydney Airport has a peak demand problem, and suggests efficiency would be enhanced by having differential peak and off-peak prices. He notes that one method of determining peak prices would be to auction slots.

⁴⁶ Dr Pitchford also notes that any such analysis would need to consider additional costs associated with relocating Sydney Airport.

⁴⁷ Dr Rohan Pitchford, Australian National University, *Sydney Airport Land Valuation: An Assessment*, January 2000. The paper does not contain page numbers.

⁴⁸ Dr Pitchford states that efficient prices are those prices which are as low as possible, but still allow for the recovery of operating and maintenance costs and a return on new land acquisitions.

NERA's analysis of Dr Pitchford's paper commends Dr Pitchford's analysis in a number of respects, namely his recognition of opportunity cost as a relevant concept; the relevance of customer valuations; and the importance of ensuring appropriate incentives for both SACL and airport users.

However, NERA also highlights the inadequacies of Dr Pitchford's analysis. First, SACL's valuation of land is not based on any decision about the optimal location of the airport, and nor does it need to be in order to use the concept of opportunity cost. Rather, it focuses on the value of land in its *alternative use* – exactly the valuation that would arise in a competitive market, and the appropriate valuation in the context of the draft price notification.

Furthermore, the land valuation in the December 1999 Draft Proposal does not rely on surrounding land values – it is a notional calculation based on a similar parcel of land in a similar location. SACL's draft notification values the land at \$115/m², well below the current price of land adjacent to Sydney Airport of around \$400/m².

While Dr Pitchford believes that the service provided by SACL should be valued using customer valuations, he does not provide a practical approach to deriving these valuations. A slot auction is likely to be a first-best approach, by valuing the land (and the service) in its existing use rather than its alternative use. A slot auction would ensure that slots were held by those airport users who valued them most highly, and this would discourage incumbent airlines from "hoarding" grandfathered slots, which in turn inhibits new entrants and competition in airline services.

However, SACL does not believe that a slot auction is practical at this stage, given the complex interrelationships between airport timetables and landing slots around the world. In the absence of a first-best approach to customer valuation, a practical alternative must be found, yet Dr Pitchford fails to provide such an alternative. Given the constraints on capacity at Sydney Airport, SACL believes the valuation approach adopted in the December 1999 Draft Proposal is likely to be less than would result from a customer valuation approach.

As NERA points out, Dr Pitchford has failed to recognise the role of price levels in encouraging efficient use of the airport, and has furthermore failed to recognise the move towards differential peak/off peak pricing at Sydney Airport.

Dr Pitchford's proposal to value new land differently to existing land would result in distorted incentives, with Sydney Airport encouraged to retain non-aeronautical land on the existing site, and move aeronautical services off-site as far as possible, irrespective of whether this is efficient. Furthermore, Dr Pitchford does not address whether new land purchases should be revalued in the future. If they are not, then Sydney Airport would have an incentive to sell its existing land where possible, and to lease rather than purchase new land.

5.3.4.2. *NECG's paper*

NECG argues that SACL's draft notification has a number of "potential shortcomings". In particular NECG argues that:⁴⁹

- the proposal results in large revenue transfers from airlines to SACL, and therefore must have clear efficiency gains to proceed; and
- SACL has not provided sufficient evidence that the proposed changes in aeronautical charges will encourage efficient *supply* decisions, ie, that the change will promote the most efficient use of land, from the perspective of the development of a new airport in the Sydney basin.

NECG maintains that SACL is not the relevant 'decision maker' for the relocation of the airport, and therefore an opportunity cost approach to land valuation is not appropriate for regulatory purposes. Rather, as the Commonwealth government is the most likely decision maker, a full cost-benefit analysis should be used to decide whether a second airport is built. Moreover, NECG argues that land values at Sydney Airport, and aeronautical prices at Sydney Airport, will not impact on this decision making process.

NECG's arguments focus exclusively on the supply side, or the dynamic efficiency of airport investment decisions. While these are important (and indeed, SACL's pricing proposal offers significant benefits in this regard as set out in subsection 6.4), the allocative efficiency implications are equally important and also have the potential to influence supply side dynamic efficiency.

NECG argues that:

In our view, until a viable substitute airport is in operation, or at least is a viable option that would allow SACL's customers to switch in the event of SACL price changes, efficiency benefits are unlikely to arise from demand side responses.⁵⁰

These arguments are based on several false presumptions. The first is that Sydney Airport land has no alternative use or opportunity cost. For the reasons set out previously in this section, SACL is of the view that this is an unreasonable position.

Second, NECG appears to assume that the only demand response airlines can make in response to aeronautical prices is to switch to another airport in the Sydney basin. This is a naïve simplification. Airline scheduling and fleet sizing decisions involve complex trade-offs between timing, hubbing and aircraft type; they are not merely about using one airport versus another. These arguments are further developed in subsection 6.4.

⁴⁹ Network Economics Consulting Group, *Land valuation at Sydney Airport*, Final Report, May 2000.

⁵⁰ Op cit, p2.

Third, NECG appears to believe that Sydney Airport is not congested, and so no additional capacity is required (or perhaps, will not be provided) in the Sydney basin. On this basis, NECG argues that land should be treated as a sunk cost, and valued at a level just sufficient for the resultant revenue to cover forward looking costs associated with the land, including the cost of debt⁵¹. SACL does not believe that 'no possibility for a second airport to be constructed' is a realistic scenario. The facts are that Sydney Airport capacity is close to full utilisation, and some addition to capacity (however defined) will soon be required. The fact that the question of when, where and how big a second Sydney airport will be developed has been under active consideration for some years underlines the point.

SACL believes the view that capacity augmentation is relevant for Sydney Airport is uncontroversial. It also believes that aeronautical prices can and will affect airline behaviour, and the timing of capacity augmentation. In particular, if aeronautical prices are set at a level below the opportunity cost of providing the service, this will lead to excess demand for the facility, *bringing forward* the need for new airport capacity, and resulting in inefficient over-expansion of facilities. Furthermore, given that grandfathering of landing slot rights is in place, prices set at a level below opportunity cost will be detrimental for airline competition.

Under the assumption that there is a real prospect of a second airport replacing Sydney Airport, NECG argues that a "properly applied" ODRC valuation of land may present the Commonwealth with "appropriate signals" to construct a second airport, and therefore an appropriate return may foster supply side efficiency. NECG argues that:

. . . a properly applied ODRC can be viewed as replicating the returns that the business could expect to earn in a contestable market, with the maximum value of assets at SACL when used as an airport being no more than the net present value of the revenues it could expect to earn in a contestable market for aeronautical services. That value, in turn, would be constrained by the efficient long run costs of supply of the relevant services in the Sydney region.⁵²

A "properly applied" ODRC valuation of land, NECG argues, would involve a greenfield paradigm, ie, the minimum efficient costs of an optimally sized, optimally located airport providing the same aeronautical services as SACL. In practice, NECG argues that this would involve setting the land valuation at Sydney Airport "on the basis of the opportunity cost of land at Badgery's Creek".⁵³ For the reasons set out in subsection 5.4, describing the comparative costs of Sydney Airport, Badgery's Creek and other expansion options, we believe that SACL's approach is completely consistent with these arguments.

⁵¹ In suggesting that the value of land – or indeed any asset – should depend on the debt associated with it, NECG have failed to recognise the fundamental distinction between the economic value of an asset, and the way it is financed. The two concepts are quite different, and independent. To link them in the way suggested by NECG would encourage the perverse outcome where a regulated business sought to increase its debt in order to increase its regulatory asset value.

⁵² Network Economics Consulting Group, *Land valuation at Sydney Airport*, Final Report, May 2000, p12.

⁵³ Op cit, p13.

5.4. Marginal Cost Pricing and the Building Block Approach

5.4.1. Summary

The airlines suggest that SACL has effectively adopted an “average cost” approach to pricing, that long run marginal cost pricing would only include increments in capacity, and that the long run marginal cost of landing at Sydney Airport is zero.

This subsection explains the building block approach adopted by SACL, which is consistent with the regulation of other utility businesses in Australia. The valuation of land and non-land assets is consistent with their ODRC, which is widely accepted as approximating the outcome of a competitive market.

If SACL were to set aeronautical charges on the basis of long run marginal cost, where the increment is an expansion to the existing site, charges would be much higher than the average unit costs proposed in the draft price notification. Where the increment is an entirely new facility, the costs are consistent with those contained in the draft price notification.

An alternative approach, using short run marginal cost (SRMC), would align prices closely with costs, but would lead to volatile prices, would involve high transactions costs, and may therefore be less practical.

5.4.2. Issues Raised During Consultation

During consultation with the airlines, a number of questions were raised in relation to the interpretation and application of “opportunity cost” in the context of SACL’s draft price notification. SACL’s understanding of the arguments put by the airlines’ advisers is that:

- the draft notification has been prepared on the basis of the opportunity cost of the “whole asset base” – in effect, “the proposal is average cost pricing”;⁵⁴
- estimating long run marginal costs would be a purely forward-looking calculation and would only include changes (increments) in capacity and changes (increments) in demand;⁵⁵ and
- long run marginal cost pricing is only relevant for users who require increased capacity, and therefore “the marginal cost of landing someone at Sydney Airport is zero”.⁵⁶

⁵⁴ Dr John Fallon, *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Workshop*, 15 March 2000, p43; and Dr Graeme Woodbridge, op cit, p40.

⁵⁵ Dr John Fallon, op cit, p43.

⁵⁶ Dr John Fallon, op cit, p40.

5.4.3. Assessment

5.4.3.1. *Building block approach and ODRC*

SACL's Revised Draft Proposal has been prepared using an accrual "building block" approach based on forecasts of the cost of service, an approach adopted by all Australian network infrastructure regulators, including the ACCC. SACL's notification incorporates a return on fixed assets valued on an ODRC basis, and on land valued at its opportunity cost. SACL has valued its land on the basis of a "greenfields" replacement of the airport, consistent with its ODRC.

The building block approach – including assets valued on an ODRC basis - is widely accepted as approximating the price that would be delivered by a competitive market for the relevant service. In its 1998 decision in respect of the Victorian gas access arrangements, the ACCC states that:

This is the maximum price that a firm would be prepared to pay for 'second hand' assets with their remaining service potential, higher operating costs, and (old) technology given the alternative of installing new assets which embody the latest technology, generally have lower operating costs, and which will have a greater remaining service potential. Therefore, if prices reflect a value that is in excess of DORC, then users would be better off were the existing system scrapped and replaced by new assets. Similarly, if assets are sold for prices above the DORC valuation, then this implies that scarce investment funds are being [used] inefficiently: in this case, it would have been a more efficient use of investment funds for the existing assets to be scrapped and a duplicate system installed.⁵⁷

Indeed, the airlines' own advisers have publicly supported the DORC approach as approximating the outcome of a competitive market:

We think that market value in a competitive market is the appropriate value. That's the value that is consistent with the optimal value to society. It is the value that will give the right signals to users and the right signals to investors.

What this exercise [the regulatory review] should be about is trying to approximate market value in a competitive market. *We think that DORC is the best way to do that*⁵⁸.

In its recent decisions regarding Perth, Adelaide and Brisbane airports, the ACCC has also applied a building block approach to determining prices for new investment, including an allowance for a return on investment.

The building block approach, as applied by SACL, is also very similar in concept to *total service* long run incremental cost (TSLRIC), as applied in telecommunications regulation in Australia and many other jurisdictions. In the paper that sets out its intended approach when dealing

⁵⁷ ACCC, *Final Decision on Victorian Gas Access Arrangements*, October 1998, p63.

⁵⁸ Dr John Fallon, *Testimony on behalf of the Mineral's Council*, Transcript of proceedings at the Expert's Session on Rail Access Regime, The Independent Pricing and Regulatory Tribunal's Review of Aspects of the NSW Rail Access Regime, 15 December 1998, p127. Emphasis added.

with arbitrations of disputes on access prices and approving undertakings in telecommunications, the ACCC states that:

TSLRIC is the incremental or additional costs the firm incurs in the long term in providing the service, assuming all of its other production activities remain unchanged. It is the cost the firm would avoid in the long term if it ceased to provide the service. As such, TSLRIC represents the costs the firm necessarily incurs in providing the service and captures the value of society's resources used in its production . . .

An access price based on TSLRIC is consistent with the price that would prevail if the access provider faced effective competition, and usually best promotes the long-term interests of end-users.⁵⁹

5.4.3.2. *Marginal or opportunity cost*

The building block approach to determining total revenues and, in turn, to determining tariffs for individual services provided within that total revenue, is *consistent with* (but not exactly the same as) the application of (long run) marginal cost⁶⁰ principles to both production and consumption decisions, providing the following circumstances prevail:

- the cost structure of the facility exhibits constant returns to scale - which is typically the case for electricity, gas and telephone networks above some minimum size; and
- the facility is neither congested, nor operating at well below its existing capacity - which is also typically the case for network businesses which tend to expand in modest increments, in response to growing demand.

The circumstances at Sydney Airport, however, do not readily satisfy these conditions. Sydney Airport is nearing its maximum capacity and, for expansion on the existing site, faces a steeply rising cost curve. This implies that long run marginal or incremental costs - properly calculated - where the relevant increment is an expansion of the existing site, would be much higher than the average unit costs in SACL's draft price notification.⁶¹

Evidence to this effect can be seen in the price of land adjacent to Sydney Airport, which costs around \$400/m², versus a value for aeronautical land of \$115/m² assumed in SACL's Revised Draft Proposal. Similarly, for expansions to terminal space, the construction cost is increased by a range of factors, including:

- the need to keep the facility operating while additional capacity is built;

⁵⁹ ACCC, *Access Pricing Principles – Telecommunications*, August 1997, Chapter 6.

⁶⁰ Marginal cost and opportunity cost amount to the same concept, providing the relevant margin or opportunity forgone is assumed to be the same. Which margin or forgone opportunity is appropriate for any particular pricing decision is a more relevant question than whether there are differences between the two concepts.

⁶¹ Note that TSLRIC may differ to long run marginal cost due to the increment that is being considered - under TSLRIC the total service is the increment being considered, while under long run marginal cost the increment is a forward looking expansion of the service provided.

- the need to relocate commercial facilities; and
- the need for innovative (and costly) designs to maximise capacity on constrained land, including multi-level facilities.

An alternative 'margin' for pricing purposes is the cost of building an entire new facility. SACL believes this is a more relevant interpretation of 'opportunity cost' since the building of a new facility is likely to be the least cost solution to society for addressing the medium term capacity shortage at Sydney Airport. The practical relevance of this decision is evidenced by the various proposals currently being evaluated regarding the size, location and timing of a second Sydney Airport.

The Environmental Impact Statement (EIS) for the potential site at Badgery's Creek provides indicative cost estimates for possible expansion options for the second Sydney Airport. The EIS contains a "stage one" plan and a "master plan" for development of the airport, under three different options. The stage one plan provides for facilities that have a capacity of about 10 million passengers a year, while the master plan provides facilities for around 30 million passengers a year (compared with around 8.3 million passenger movements currently at the Sydney Airport international terminal).⁶²

The EIS suggests that the total airport development costs would be in the order of \$1.65 to \$1.78 billion for stage 1, or \$3.6 to \$4.0 billion for the master plan.⁶³ Our estimates indicate that the total cost, per passenger movement, of international passengers at Sydney Airport is about \$21.⁶⁴ By contrast, our estimate of the likely cost at Badgery's Creek is approximately \$27 per passenger movement for the stage 1 development, or \$21 per movement for the master plan.⁶⁵

⁶² *Draft Environmental Impact Statement, Second Sydney Airport Proposal*, Volume 1 Main Report, 1997, p9-18.

⁶³ *Draft Environmental Impact Statement, Second Sydney Airport Proposal*, Volume 1 Main Report, 1997, Tables 9.5 and 9.6, p 9-31 to 9-32. These costs do not include the costs of commercial/support facilities to be developed by the airlines and other tenants (eg, retail). Nor do they include the cost of land already purchased by the Commonwealth. They are in 1997 dollars.

⁶⁴ The estimate of \$21 per passenger movement at Sydney Airport is based on recovering the total costs of Sydney Airport, as calculated by Sydney Airports Corporation. However, the prices proposed in the draft price notification recover a smaller total revenue. As a result, the revenue per passenger movement will be less than \$21.

⁶⁵ These estimates value the land already purchased by the Commonwealth at Badgery's Creek by using the average per hectare cost of new land purchases at Badgery's Creek. The value of land and other assets at Badgery's Creek have been inflated from 1997 to 2000/01 values using actual and estimated inflation. The calculation assumes that 74% of total land at Badgery's Creek is used for aeronautical services, which corresponds to land use at Sydney Airport. Operating costs for Badgery's Creek are assumed to be 30% less (per passenger movement) than those at Sydney Airport, to account for airport design efficiencies at the new site relative to Sydney Airport.

5.4.3.3. *Short run marginal cost (SRMC)*

SRMC represents yet another alternative approach to aeronautical pricing. Indeed, as Professor Kahn notes in his expert evidence on aeronautical pricing at Heathrow airport:

As I pointed out in The Economics of Regulation, "Short run marginal costs (SRMC) are the place to begin," because the ideal is for every individual consumption decision, at every instant, to reflect the marginal cost to society at that particular point in time.⁶⁶

A characteristic of short run marginal costs is that they are likely to be very low when there is spare capacity, and very high when capacity is insufficient (because they include the costs of congestion).⁶⁷ This means that SRMC and long run marginal cost, averaged over periods of time, will be aligned. As noted by Professor Alfred Kahn:

Moreover, the two alternative measures of marginal cost [ie, long run marginal cost and short run marginal cost] are closely linked, and should on average correspond closely to one another, because the signal that an expansion of capacity is economically efficient is an increase in short-term marginal cost (including congestion cost) to such a point that the marginal costs of expanding capacity are lower than of operating with existing capacity. Conversely, it is more efficient to operate with existing capacity when the short run marginal cost of doing so is lower than the cost of abating congestion by adding to capacity.⁶⁸

Correspondingly, however, applying SRMC pricing at Sydney Airport is likely to result in prices that are highly volatile - by the time of day, week, and season. The fluctuations that would arise from the use of such a pricing structure would be problematic for both airport operators and customers, with only limited offsetting benefits. Furthermore, the transaction costs involved in administering a SRMC pricing arrangement would be considerable – for both SACL and its customers. In reality, therefore, it is not always practical to put in place a pure SRMC pricing arrangement. In his evidence on the appropriate approach to pricing at Heathrow, Professor Kahn draws this same conclusion:

Short run marginal cost will vary from one moment to the next, in a world of perpetually changing demand. It could be prohibitively expensive for sellers to put into effect the highly refined and constantly changing schedules reacting instantaneously to and reflecting those constantly changing costs, and that kind of pricing would be highly vexatious to buyers. The kind of averaging over time and the greater degree of stability provided by prices based on LRIC [long run incremental cost] are likely to have considerable value in terms of minimising supplier costs and customer vexation.⁶⁹

⁶⁶ Professor Alfred E Kahn, *Evidence on Behalf of the Government of the United Kingdom of Great Britain and Northern Ireland*, US/UK Arbitration Concerning Heathrow User Charges, May 1991, p12.

⁶⁷ Congestion costs comprise the marginal cost of *crowding* and *crowding out*. In airports these are experienced in the first instance as queuing, discomfort, unscheduled delay or, at the extreme, the inability of some potential users - whose willingness to pay exceeds the published tariff - to access the airport at their preferred time.

⁶⁸ Professor Alfred E Kahn, *Evidence on Behalf of the Government of the United Kingdom of Great Britain and Northern Ireland*, US/UK Arbitration Concerning Heathrow User Charges, May 1991, p13.

⁶⁹ Op cit, p14.

The potential benefits of pricing at long run marginal cost were also recognised by the UK Civil Aviation Authority in its recent Consultation Paper as part of the review of airport pricing at four airports in the UK:

The main advantage of LRMC pricing of airport charges is that it sets efficient dynamic incentives to provide the right capacity over time because with this approach the airports are able to assess whether users are prepared to meet the costs of additional facilities.⁷⁰

Nevertheless, the desirability of pricing at SRMC – which goes to the heart of pricing in line with opportunity costs – remains a fundamental underpinning of SACL's pricing proposal. As noted by Kahn, in his landmark text on regulation:

. . . the practically achievable benchmark for efficient pricing is more likely to be a type of average long run incremental cost, computed for a large, expected incremental block of sales, instead of SRMC, estimated for a single unit of sale. This long run incremental cost (which we shall loosely refer to as long run marginal cost as well) would be based on (1) the average incremental variable costs of those added sales and (2) estimated additional capital costs per unit, for the additional capacity that will have to be constructed if sales at that price are expected to continue over time or to grow. Both of these components would be estimated as averages over some period of years extending into the future.⁷¹

5.4.3.4. *Uniform treatment of new and existing capacity*

In applying opportunity cost concepts to pricing decisions, economic efficiency requires there be no distinction between a service provided by a brand new or an existing facility, assuming the service delivered by both is exactly the same. The identical toll applying to motorists irrespective of whether they use the Sydney harbour bridge or the much newer harbour tunnel is a pertinent example.

Similarly, where a facility is congested there is no case for different treatment of users according to whether they are incumbent (eg, a motorist has driven across the bridge every day for years) or a new entrant (ie, a motorist is using the bridge for the first time). Without prior commitment by way of long term contract, economic efficiency does not allow an incumbent user to claim a reduced tariff on the basis they have 'already paid for' the facility.

The apparent suggestion by the airlines' economic adviser, Dr Woodbridge, that the users of new or expanded aeronautical facilities should be treated differently from incumbent users of existing facilities is completely inconsistent with either dynamic or allocative efficiency:

Do you think that is a universal principle? [ie, for the same service users pay the same price] ...I was thinking that there is economic principles where if you are going to cover a set of costs you can do it in a whole lot of ways. I just don't think that principle can really be generalised.⁷²

⁷⁰ Civil Aviation Authority, *Issues for the Airport Reviews, Consultation Paper*, June 2000, p18.

⁷¹ Kahn, Alfred E., *The Economics of Regulation*, MIT Press, 1988, p85.

⁷² Dr Woodbridge, *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Workshop*, 15 March 2000 p28

5.4.4. Conclusion

SACL has undertaken what is, in practice, an average unit cost calculation to derive its proposed tariffs. Whether or not these tariffs are exactly in line with marginal cost depends upon the size of the margin that is estimated, and many other detailed assumptions about the future.

For a small assumed margin - involving expansion at the existing site - marginal cost is likely to be far in excess of SACL's proposed average unit cost. By contrast, for a larger assumed margin - involving an entire new facility - the marginal cost (in per unit terms) is likely to be of a similar order of magnitude to SACL's proposed average unit cost.

Under a SRMC approach, prices for a congested facility - such as Sydney Airport - would be determined by willingness to pay. Such an approach is likely to result in prices that are very volatile, and is unlikely to provide a practical basis upon which to set charges.

While price estimates using these approaches could be made, the results would be highly sensitive to assumptions about the future, and so are unlikely to be a very helpful basis for decision-making. Rather, SACL has adopted an approach that has been based on what is practical, and relevant to real world decision-making, ie:

- that some expansion of aeronautical capacity is needed in Sydney;
- that the timing of this expansion is well within the planning horizon of both the facility provider and users - who make fleet mix/sizing, scheduling, and route development decisions having regard to the level and structure of aeronautical charges; and
- the allocation of capacity between alternative users requires both new and old capacity to be priced at its opportunity cost.

5.5. Interdependency of Aeronautical Services

5.5.1. Summary

The airlines have argued for a "single till" approach to pricing at Sydney Airport, where the revenue from non-aeronautical services are taken into account in setting aeronautical charges.

This subsection demonstrates that the dual till approach proposed by SACL offers substantial efficiency benefits compared with a single till approach. For prices to provide efficient signals for the use of capacity, and investment in new capacity, they must reflect the underlying cost (including the opportunity cost) of providing that service. The single till approach does not ensure that prices for separate services reflect their costs, and is therefore inefficient.

The single till approach can result in under-priced aeronautical services, leading to increased demand and exacerbating congestion.

There are many examples of regulated businesses that face interdependencies in the provision of regulated and non-regulated services (eg, telecommunications, electricity). In none of these

circumstances has a single till approach been proposed or adopted – rather, regulators ensure appropriate ringfencing and cost allocation arrangements are put in place.

5.5.2. Issues Raised During Consultation

SACL's understanding of the propositions put by the airlines during consultation is that:

- there is interdependency between the provision of aeronautical services and the returns of non-aeronautical services, given that demand for non-aeronautical services is driven by the demand for aeronautical services;
- in determining whether to make investments in aeronautical assets, an efficient airport operator would take into account the total returns to the investment, ie, returns from aeronautical charges and the *consequential increase in returns* from non-aeronautical assets;
- ignoring the interdependency would not be sustainable in a competitive market, and would create inefficient pricing signals for the expansion of capacity at Sydney Airport; and
- incorporating the returns from non-aeronautical activities does not involve subsidising aeronautical prices, because a subsidy only occurs when price falls below *incremental* cost.

5.5.3. Assessment

SACL provides a wide range of services at Sydney Airport, some of which are fundamental to the function of an airport – such as aeronautical services - and others which are complementary - such as leasing retail space and car parking facilities. SACL's December 1999 Draft Proposal covered aeronautical charges as defined by the then applicable Direction 85, and in deriving the proposed charges SACL has applied principles directed at achieving economic efficiency, ie:

The most fundamental corollary of the principles of efficient pricing is that to the extent goods or services have separate or separable costs, they must, to the greatest extent feasible have correspondingly separate prices based on these costs.⁷³

As noted by the Prices Surveillance Authority (PSA):

Where separate goods or services are produced by a multiproduct enterprise, economic efficiency requires that each good or service be priced separately. If this is not the case, revenue from one service (or group of services) may be used to subsidise another service (or group of services). Such cross subsidisation is inefficient.⁷⁴

Pricing services on the basis of separate costs is universally accepted in regulated industries in Australia, and is the same approach that can be expected from competitive markets.

⁷³ Professor Alfred E Kahn, *Evidence on Behalf of the Government of the United Kingdom of Great Britain and Northern Ireland*, US/UK Arbitration Concerning Heathrow User Charges, May 1991, p3.

⁷⁴ Prices Surveillance Authority, *Inquiry into the Aeronautical and Non-aeronautical Charges of the FAC*, August 1993, p63.

Establishing prices in accordance with this economic principle ensures that the most fundamental role of prices will be achieved; that is, prices will:

- provide signals for investment in new/expanded capacity; and
- ensure that capacity is allocated to those who value it most.

By contrast, SACL believes that the airlines' proposed treatment of interdependencies will result in non-aeronautical services *subsidising* the provision of aeronautical services, with the resultant prices failing to achieve both the aims above.⁷⁵ The basis of this view is explained in the remainder of this section.

5.5.3.1. *Investment signals*

SACL's primary business purpose is to meet the needs of airlines and their passengers, through the provision of aeronautical services. Without aeronautical facilities there would be no airport and no non-aeronautical services, while the reverse does not apply.

SACL may choose to provide non-aeronautical services, as it believes appropriate. As a matter of principle, however, there is no reason why non-aeronautical services need be provided by SACL, as opposed to an alternative service provider. Indeed, some non-aeronautical activities are currently undertaken by other businesses in the airport region, which could potentially be provided by SACL on airport land (such as hotels).

Instead of providing non-aeronautical services itself, SACL could choose to contract out its activities through franchises (eg, for refuelling, car parks), or through a single lease of its entire retail space. SACL could also decide to divest all its non-aeronautical assets (including land) to other parties who may be interested in providing the service. The provision of non-aeronautical services by SACL is fundamentally a separate, optional investment decision.

The opportunity cost of providing non-aeronautical services includes the returns on the value of the assets employed, including land. This applies whether land in close proximity to the airport is owned by SACL or not. In contrast to SACL's regulated, aeronautical activities, returns in competitive markets are always measured by reference to the market value of the assets employed. It follows that what the airlines and their advisers perceive to be an "increase in the returns"⁷⁶ consequent upon investment in aeronautical assets is in fact an *increase in the value of land* in close proximity to the airport. This change in land value takes place *because of the airport*.⁷⁷

⁷⁵ A subsidy occurs where prices fall below incremental costs, which includes the opportunity cost of land and capital. This is discussed further below.

⁷⁶ Dr Graeme Woodbridge, *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Workshop*, 15 March 2000, p73.

⁷⁷ As the economy grows and consequently land becomes more scarce, land inevitably becomes more valuable. Moreover, land that offers a locational advantage to investors, such as the land adjacent to the airport, may become even more valuable.

A recent newspaper article highlights this effect. In presenting land value estimates for various alternative business locations in greater Sydney, the article places South Sydney as one of the most attractive (and valuable) locations:

Rezoning and new transport links have promoted Sydney's inner south as the likely corporate park address to compete with the north-west and west – at competitive rental rates.

The south's obvious attractions are the airport and planned transport infrastructure links that will improve access to the CBD [central business district]...⁷⁸

However, the airlines' advisers appear to have overlooked this important point. At the 5 May workshop, the airlines' advisers attempted to quantify the "excess" return or revenue from car parking and retailing.⁷⁹ In the analysis presented, the airlines' advisers make the assumption that 1998-99 non-aeronautical revenues provide for an "adequate return" on existing assets. However, at no point in the analysis was an attempt made to define "adequate return", or indeed to set out the principles for valuing "existing assets". Without being clear about the basis for valuing existing assets, it is misleading to draw conclusions about the way in which returns on asset value change over time.

The phenomenon that has been identified as "excess returns" by the airlines' advisers is in fact the dynamic impact of changing locational values – exactly as identified by the Sydney Morning Herald. Whilst the existence and growth of the airport is clearly a contributor to that dynamic, the locational impact of the airport is much wider and more complex than the airlines and their advisers recognise, for example:

- office space, car parking and other facilities utilised by airlines, and firms servicing the needs of airlines (eg, catering), is more expensive (because of the higher value of land) than if the airport did not exist, or was located elsewhere;
- hotel and other facilities incur higher lease costs (and enjoy higher revenues) by being located near to the airport; and
- other land – perhaps that under flight paths - is likely to reduce in value, due to aircraft noise, etc.

As noted by the UK Civil Aviation Authority:

The logic of the 'single till' assumes supernormal profits from commercial activities but an airport might be able to extract higher income from its commercial facilities because of the superiority of the site locations, because of superior performance or the ability to offer duty-free goods.⁸⁰

⁷⁸ Sydney Morning Herald, "The South will rise again – Good transport links and competitive rents put south Sydney on the map for IT business relocation." 5 April 2000.

⁷⁹ Economic Insights, *Stylised Model of SACL Retail and Car Parking Profitability*, Presentation, 5 May 2000.

⁸⁰ Civil Aviation Authority, *Issues for the Airport Reviews, Consultation Paper*, June 2000, p12.

Furthermore:

Depending on the level of commercial profits, the 'single till' may result in the commercial activities bearing a substantial share of an airport's common costs. It may even result in cross-subsidisation of the aeronautical activities if these fail to cover their incremental costs.⁸¹

The fact that SACL owns some land that is not being used for aeronautical purposes does not establish a case for using any of the locational value of non-aeronautical land to *subsidise* the provision of aeronautical services. The logical extension of the airlines' argument is that all land within a certain distance of the Sydney Airport terminal facilities should be taxed, and used to subsidise aeronautical charges. Alternatively, if only SACL-owned land is to be taxed in order to subsidise aeronautical charges, the airlines' position amounts to an invitation for SACL to divest itself of all its non-aeronautical assets.

The dysfunctional nature of both these conclusions underlines the importance of considering each separable investment decision on its own merits, even though interdependencies may exist in the provision of some services. The UK Civil Aviation Authority has noted that:

The 'single till' might perhaps also lead to poor incentives to develop the aeronautical business because the total of airport charges is reduced below the stand alone/incremental costs at the margin, which is relevant for investment decisions.

The view that treatment of interdependencies should not artificially discriminate against asset ownership or corporate form is completely consistent with the "no disadvantage test" put forward by the Department of Transport and Regional Services (DoTRS) when the ACCC sought to clarify the regulatory regime applying to the recovery of costs incurred to provide government-mandated security requirements. DoTRS note that the regime should not "artificially favour the lease or hire methods of financing over direct ownership". The ACCC also notes that such an approach is consistent with an economic interpretation of the term "direct cost", which is to apply to the recovery of costs incurred to provide security requirements at airports in Australia.⁸² Such an approach is also consistent with the broader principle of competitive neutrality, an integral part of the National Competition Policy agenda endorsed by all Australian governments in April 1995.

As noted above, economic efficiency requires that each separable investment decision must be evaluated with regard to the opportunity cost of the capital employed, where this opportunity cost includes both the market value of the assets, and the returns thereon. Similar principles can be applied to the two market examples cited by the airlines' advisers, ie, the offer of free car parking by some supermarkets, and the apparent offer of free mobile phone handsets by telecommunications service providers.⁸³

⁸¹ Op cit, p11.

⁸² ACCC, *Government-Mandated Security Requirements: The meaning of "direct costs" as it relates to the price cap pass-through provisions*, Position Paper, March 2000.

⁸³ Dr Graeme Woodbridge, Transcript of proceedings, 15 March 2000, p 67-68.

Supermarket owners must decide whether or not to offer carparking (some do and some do not, depending upon the attractiveness of their location), and whether or not to charge for carparking (again, some do and some do not). These decisions are taken with regard to the opportunity cost of offering carparking, ie, the cost of land, and the incremental benefits in terms of increased demand by customers. For example, a supermarket located in the central business district (CBD) is less likely to offer free parking, given the high opportunity cost of the land (relative to the benefits of attracting customers). Suburban supermarkets, however, are much more likely to offer free carparking, given the lower opportunity cost.

In the case of mobile phones, the main reason service providers are able to offer cheaper handsets is that users are committed to fixed term contracts for network usage – in effect, handsets are paid for in instalments. Of course, mobile network service providers offer a range of tariff structures which involve different combinations of up-front payments, contract term, minimum monthly charges, call tariffs, etc. These are examples of service providers who have market power seeking to segment demand by Ramsey pricing. It is misleading to suggest that, amongst all of this complexity, handsets are somehow 'free'. It is also misleading to hold up the market for mobile network services as being highly competitive.

Finally, SACL concurs with the airlines' economic advisers' claim that subsidy-free aeronautical prices would be those that at least cover incremental cost. However, incremental cost includes the value of land (in some alternative use) as well as capital that is utilised in providing aeronautical services, ie, if aeronautical services were not provided, the cost of the land being used could be saved. Subsidy-free aeronautical prices therefore include the cost of aeronautical land at its current market value, as well as the cost of capital and the on-going cost of operations and maintenance.

5.5.3.2. *Allocation of capacity*

The second fundamental problem with the airlines' proposition that returns from non-aeronautical services should be used to fund the provision of aeronautical services is that it ignores the role of price as a mechanism for allocating capacity amongst users and uses.

Prices have a crucial role in allocating capacity when there is strong competition between both potential users (ie, for landing slots, terminal capacity, apron space), and potential uses (eg, more carparks, hotels, retail space or additional terminal/apron capacity). This becomes particularly important where different services compete for scarce land – as is the case at Sydney Airport.

To the extent that aeronautical prices are artificially constrained to below the opportunity cost of providing aeronautical services, due to the inclusion of returns from non-aeronautical prices, this encourages artificially high demand for aeronautical services.⁸⁴ This is the fundamental, and well established deficiency of the 'single till' approach.

⁸⁴ For example, this might take the form of schedules involving increased frequency by smaller aircraft.

In the UK, the 'single till' has been employed in airport regulation. However, the approach has received much criticism due to the congestion at London airports, particularly Heathrow and Gatwick. In a recent visit to Australia, Mr Bob Cotterill, a Director with the UK Civil Aviation Authority, shared his experience of the single till:

The main criticism of the single till has been that, contrary to the considerations of economic efficiency, it forces down charges at congested airports below market clearing levels and may well reduce them to below the actual resource costs of providing airport services . . .

Given heavy congestion at London's two main airports, current price regulation fails to provide efficient signals for the use of existing capacity. The administrative slot allocation system encourages airlines to use slots whether they value them at their full opportunity cost or not. Incumbent airlines gain an advantage as access to slots is allocated using historical precedence with access secure provided only that the slot was used sufficiently in the previous year.⁸⁵

No Australian regulator employs an equivalent approach to the single till. Interestingly, Mr Cotterill noted in his presentation that the forthcoming regulatory reviews of London and Manchester airports will be the first since the present government made clear its intention generally to remove unnecessary differences of approach between the utility regulators and specifically to put airports on the same institutional footing as the regulated utilities. The trend in the UK seems likely to move away from the single till.⁸⁶

A recent article in a UK newspaper notes this potential move away from the single till approach and suggests that:

Analysts believe that a "dual till" approach, whereby BAA's airport charges are ring-fenced from its retail revenues, will be broadly positive, giving the company greater incentive to develop retail operations and transport links such as the Heathrow Express.⁸⁷

Another article notes that the low prices at Heathrow that result from landing charges being subsidised by the profits from retail operations:

creates massive distortions in transport planning and investment priorities, sucking ever more passengers into the South-east, thereby creating ever more congestion....There is a powerful case for ring-fencing the amount BAA raises by charging airlines to land and park from the revenues generated by its retail activities.⁸⁸

⁸⁵ R.M Cotterill, *Experience with Price Caps in UK Airport Regulation*, Paper delivered at the ACCC's Incentive Regulation and Overseas Developments Conference, November 1999, p4.

⁸⁶ Op cit, p9.

⁸⁷ Michael Harrison, *UK: Air Passengers Face Fare Rises in Overhaul of BAA Charges*, Independent, 5 July 2000, p17. We note that both this article and the following one suggest that there will be pressure to increase airfares if a dual till is introduced. However, Sydney Airports Corporation believes that the empirical evidence regarding Heathrow airfares and slot values suggests that current fares are already at 'market' prices, and that currently the rent from underpriced landing fees is captured by airlines.

⁸⁸ *UK: Outlook – The Case for Breaking BAA's South-East Monopoly*, Independent, 5 July 2000, p19.

SACL believes that the principles applied in arguing against the single till for use in regulating charges at London airports are equally applicable to Sydney Airport. The consequence of incorporating returns from non-aeronautical services in aeronautical charges at Sydney Airport would be aeronautical charges set below the cost of service. This would further exacerbate congestion problems at Sydney Airport and would provide inappropriate signals about the efficiency of investment in additional capacity.

The airlines advisers' assertion - with claimed support from the literature⁸⁹ - that a multi-till approach to pricing is unlikely to be optimal, is based on a false premise. The analysis purporting to show a single till is optimal with or without airport congestion, is predicated on the fundamental assumption that an airport faces economies of scale. When marginal costs are falling, there may be logic in attempting to recover a greater proportion of total revenues from non-aeronautical services, to encourage increased use of an aeronautical facility. Sydney Airports however, faces rising marginal costs. In this circumstance there is absolutely no support in the literature for outcomes that set aeronautical charges below marginal cost, even though a single till approach leads to precisely that outcome.

5.5.4. Views of the ACCC's Consultants

The ACCC commissioned NECG to provide an economic analysis of the proposal by SACL to use a "dual till" approach to pricing airport services.⁹⁰ The NECG paper examines the economic efficiency implications of the dual till approach compared with the single till approach. The paper's conclusions are that:

- prices for regulated services will be higher under a dual till than under a single till approach, leading to potential allocative efficiency losses. This price difference is the result of:
 - the airport's incentive under a dual till approach to allocate proportionately more common costs to regulated services than unregulated services, raising the price of regulated services,
 - the Averch-Johnson effect, providing an incentive to reduce prices of capital intensive services under the 'single till' approach, where the estimated cost of capital exceeds the business' true cost of capital;

⁸⁹ The airlines' advisers cited Zhang and Zhang, in *Transportation Research*, Vol 33, 1997, to support their claim. However, Zhang and Zhang's findings are based on the presumption that there are increasing returns to scale in airport operations and that there is a constraint on increases in aeronautical charges (due to political pressure, or the dominance of airline lobbying power). The question that Zhang and Zhang are trying to answer is in fact: should the airport operator be allowed to supplement aeronautical prices with funds from non-aeronautical revenues or should the airport receive financial assistance from the government? This is a fundamentally different question to that at hand here, which is about the first-best approach: 'separate-till' or 'single-till'. Under the assumptions relevant to Sydney Airport, the Zhang and Zhang paper provides support for increasing aeronautical prices to reflect the marginal (or incremental) cost of service.

⁹⁰ Network Economics Consulting Group, *'Dual Till' at Sydney Airport*, Final Report, May 2000.

- under a dual till approach, prices for unregulated services will be set above costs, to the extent that competition is ineffective in restraining prices, again resulting in allocative inefficiency;
- under a single till approach, the Averch-Johnson effect may lead to productive inefficiency, as a result of incentives to over-invest in capital intensive services;
- the dual till approach will result in a greater level of dynamic efficiency, through encouraging commercially viable investment in non-regulated services. In contrast, there may be a possible under-investment in non-regulated services under a single till approach.

SACL commissioned NERA to review the NECG paper, and this will be separately submitted to the ACCC. NERA's analysis demonstrates that, while a number of the conclusions drawn by NECG have merit, there are significant weaknesses in the NECG analysis, resulting in misguided conclusions regarding the relative merits of the dual till compared with the single till approach. Some of the arguments put forward by NECG are no more than unsubstantiated assertions. Some reflect challenges that are faced in any regulated business environment, and are not specific either to airports or to whether a single or dual till is adopted. Others reflect flawed economic logic, as explained below.

First, the incentive to shift common or joint costs from the unregulated parts of a business to the regulated parts is common to any number of regulated businesses. For example, electricity network/distribution businesses are regulated in relation to their network revenue, but often have an associated retail business that operates in a competitive market. Cost allocation is just as important in this case as in the case of airports, yet it is not commonly suggested that the distribution and competitive retail businesses should be regulated as a "single till". SACL recognises the potential incentives to allocate costs to the regulated part of the business, but believes that this should be and has been addressed through careful attention to the cost allocation methodology and the process of consultation thereon. Furthermore, the ACCC has previously noted its role in ensuring appropriate allocation of costs.⁹¹

NECG's analysis appears partisan in its emphasis. For example, they state that:

[t]he outcome often observed under the [dual till model] - that is, high aeronautical charges relative to the outcomes produced by the single till approach - is consistent with some degree of over-recovery of costs.⁹²

On the contrary, SACL notes that the outcome often observed under a single till approach is consistent with 'some degree of cross-subsidisation' of aeronautical services by non-aeronautical revenues.

Later in their paper NECG argues that:

⁹¹ See ACCC, *Economic Regulation of Airports – An Overview*, July 1998, p28.

⁹² Network Economics Consulting Group, *'Dual Till' at Sydney Airport*, Final Report, May 2000, p2.

The cross-subsidy floor test ...requires that the marginal revenue to the enterprise for each functionally distinct service is no less than the marginal cost of providing those services.

Consequently, the single till is not necessarily inefficient if the revenues generated from aeronautical charges are less than the incremental cost of those services.⁹³

In comparing marginal revenue to marginal costs, it is important to ensure that *all* costs are incorporated. This includes the additional scarcity value which arises where capacity is constrained, and the value attached to a location. Thus SACL contends that the additional revenue arising from an increase in non-aeronautical services reflects the incremental costs of that service, *when* the full incremental costs (including the scarcity value) are incorporated. This is the outcome of the competitive market. Therefore, where non-aeronautical revenues are used to reduce aeronautical charges below their incremental costs (properly calculated), it must be the case that the total incremental cost of providing the two services is greater than the incremental revenue generated under the single till approach.

Second, NECG suggests that prices will be set above costs where competition in unregulated services is not effective. It is an elementary economic principle that prices will tend to exceed competitive levels where there is a lack of competitive pressures. What is not clear is why NECG considers this relevant in the case of Sydney Airport. NECG's paper does not provide any analysis of whether they believe that any unregulated services are not provided in a competitive market, given their location. NECG's statement regarding excess prices is therefore unsubstantiated.

The regulatory framework makes clear those services that should be considered aeronautical (and subject to price regulation), and those that should be considered non-aeronautical. NECG does not appear to have adopted this framework or, alternatively, provided any analysis that would support modifying the framework.

In competitive markets, prices reflect a range of service characteristics including, importantly, the value of location. For example, the cost of commercial leases in the CBD of Sydney generally exceeds that in suburban locations. This reflects the logical workings of a competitive market, where a city location is relatively more scarce, and valued more highly, than an otherwise identical lease offered in a less popular location. Similarly, Sydney Airport is a highly-valued location for non-aeronautical services such as shops, and as a result the competitive prices that arise reflect the locational benefits that exist. As noted earlier, many other businesses and consumers operating near the airport also transact goods and services at prices that reflect the value of the location. Indeed, this principle applies to any activity in the economy that utilises land.

NECG's comment regarding the investment incentives existing where the allowed rate of return is set too high represents another simple truism. This is known as the "Averch-Johnson" effect. One could equally say that there is an incentive to under-invest if the allowed rate of return is set too low. The risk of setting the allowed rate of return too high or too low exists in

⁹³ Op cit, p7.

any regulated business - it is not unique to the airport sector, nor is it unique to the "dual till" approach.

In fact, SACL believes that a single till approach raises more difficult analytical questions in relation to setting an appropriate WACC, than under a dual till approach. Under a single till approach, the WACC would need to reflect the risk characteristics of both aeronautical services and non-aeronautical services.

Furthermore, while an allowed rate of return that is higher than the cost of capital provides an incentive for excess investment, the capacity of a firm to over-invest depends on the procedures by which additional investment becomes included in the regulatory asset base. The scrutiny of the regulator is an important factor.

SACL notes that, in any case, NEGC recognises the potential for the Averch-Johnson effect to be of particular concern where there is a single till (compared with a dual till), noting that the single till is likely to result in:

a productive inefficiency, which will likely be large relative to any allocative efficiency gains.⁹⁴

Finally, SACL notes NEGC's comment that:

Eliminating the substantial risk of regulatory failure [in relation to determining the optimal level of investment in competitive services] is an important aspect of the dual till system. This feature of the dual till system is likely to encourage a greater level of dynamic efficiency in the provision of competitive non-aeronautical services compared with the single till alternative.⁹⁵

SACL concurs with this view.

5.5.5. Conclusion

SACL acknowledges that interdependencies exist in the provision of aeronautical and non-aeronautical services, as they do for many other multi-product businesses. The fact that they exist however, does not undermine basic economic principles, ie:

- that separable investment decisions must be taken with regard to their separable opportunity costs; and
- that prices are important for solving the allocation problem, and particularly important where a monopoly facility is nearing full capacity.

⁹⁴ Op cit, p6.

⁹⁵ Op cit, p4.

There are many examples of regulated companies that face interdependencies in the provision and pricing of regulated and non-regulated services, eg:

- telecommunications companies generally provide internet and mobile services, which are unregulated, but utilise customer fixed lines which are price controlled;
- most electricity networks are able to support the provision of telecommunications infrastructure, and many provide this as a separate service; and
- electricity distribution networks and gas pipelines are regulated, but the network company may also provide competitive retail services.

In none of these circumstances do regulators suggest that revenues or returns from one business should be used to subsidise the prices of another. Rather, regulators generally focus on ensuring that adequate 'ring-fencing' arrangements between the regulated and non-regulated businesses prevail, often involving guidelines on appropriate cost allocation between them. In some cases the regulated business has been separated from the non-regulated business, and there is no opportunity for revenue from one activity being used to lower the prices of another. For example, electricity distribution businesses have been separated from the retail businesses in New Zealand and in South Australia, whilst gas network businesses operating a 'covered' pipeline in Australia are required to be separate legal entities and are not allowed to undertake related business activities.

SACL sees no reason why such distortions should be permitted in the provision of aeronautical facilities. Indeed, imposition of a single till would encourage a range of sub-optimal responses by SACL, for example:

- capitalising the returns from non-aeronautical assets by disposing of land and other business assets (car parks, retail terminal space); and
- the squeezing of aeronautical activities, eg, through failing to relocate SACL staff operations off-site, so as to accommodate expansion of aeronautical facilities close to runways.

As noted by Professor Kahn:

. . . it does not suffice from the standpoint of economic efficiency that the services collectively or in aggregate be priced in a way that total revenues are equated to total costs; it is essential – indeed, from the standpoint of economic efficiency, even more essential – that the separate services provided by airports be priced separately on the basis of their individual marginal costs.⁹⁶

And finally, equity concerns arise if non-aeronautical services are used to subsidise aeronautical services. Some users of aeronautical services do not use non-aeronautical services, but would

⁹⁶ Professor Alfred E Kahn, *Evidence on Behalf of the Government of the United Kingdom of Great Britain and Northern Ireland, US/UK Arbitration Concerning Heathrow User Charges*, May 1991, p3.

nonetheless benefit from prices below their economic value. As recognised by the PSA in its discussion of single till issues in 1993:

“Equity considerations reinforce the principle of separate prices for separate services as equity requires that users of a service should not pay for facilities they do not use (or do not want to use).”⁹⁷

⁹⁷ Prices Surveillance Authority, *Inquiry into the Aeronautical and Non-aeronautical Charges of the FAC*, August 1993, p63.

6. BUILDING BLOCKS – ALLOWABLE REVENUE

6.1. Asset Valuation and Asset Roll Forward

6.1.1. Summary

The December 1999 Draft Proposal included a complete schedule of SACL's fixed assets as valued by consulting engineers Maunsell McIntyre as at 1 July 1998. The value of new investment was estimated to be its construction cost.

Airline customers requested access to the detailed working papers of Maunsell McIntyre to undertake a review of the methodology and outcomes. While SACL is not aware of customers receiving this level of access to detailed information in previous regulatory processes, a detailed review was agreed. As the valuation covered all assets, including commercial assets subject to leases to third parties, a confidentiality agreement was required.

The detailed review by airline customers and their engineering and other advisers has been underway since May 2000. The process has included a tour of facilities, a number of meetings where further detailed questions have been answered, and on-going dialogue between advisers.

Disappointingly, no feedback has been received by SACL to date. Recent questions and information requests have become increasingly detailed, going beyond the information required to value the assets on an optimised depreciated replacement cost (ODRC) basis.

The Revised Draft Proposal is based on the 1 July 1998 valuation, with updated values of new investment based on actual costs. Other minor changes have been made in relation to allocations between aeronautical and non-aeronautical services.

SACL has commissioned a 1 July 2000 update of its fixed asset valuation. This valuation will incorporate the new assets and update the existing asset valuation. This valuation will also benefit from a substantial body of work on asset condition undertaken over the past 12 months in preparation for privatisation.

Initial draft results from the 1 July 2000 valuation are consistent with the value estimates in the Revised Draft Proposal. The final valuation will be made available to the ACCC, on completion, prior to the final notification.

The total value of aeronautical assets in the Revised Draft Proposal of \$1.69 billion has been reduced by \$70 million from the December 1999 Draft Proposal. The reductions have resulted from new projects being completed under budget, a number of minor budgeted projects having been postponed and from the reallocation of certain assets from aeronautical to non-aeronautical. The most significant reallocation has been the exclusion of landside roads and associated ground access infrastructure from aeronautical assets.

6.1.2. Issues Raised During Consultation

It is noted that the substantive economic discussion of land valuation issues is discussed in detail in subsection 5.3, above. Subsection 5.3 also discusses the general issue of historic cost valuation that was the subject of a number of information requests during consultation.

The primary issue raised in relation to non-land assets during consultation was requests for access to all of the detailed supporting documentation to the optimised depreciated replacement cost (ODRC) valuation undertaken by Maunsell McIntyre as at 1 July 1998.

At the consultation meeting on 15 March 2000, airline customers presented a range of issues they had identified that require further consideration. These issues included:

- questions of fact such as what the international terminal superstructure consists of;
- whether certain assets are included as aeronautical in (the then current) Declaration 85 under the PS Act, for example whether SACL staff car parks are aeronautical assets;
- whether all assets meet the NNI criteria⁹⁸ and, as such, whether the costs of refurbishment of large areas of international terminal building are recoverable from airlines;
- the costs of grass, trees and shrubs in the December 1999 Draft Proposal;
- the allocation of certain assets, including plant and equipment and check-in related assets to aeronautical;
- the depreciation rates applied to artwork; and
- contingencies for projects.

The December 1999 Draft Proposal included an allowance for capital expenditure of \$30 million per annum to cover the cyclical replacement of assets and was referred to as 'maintenance expenditure'. This allowance for maintenance expenditure during 2000-01 was questioned on the basis that all future expenditure should require separate approval under the NNI criteria.

SACL's approach to optimisation (as part of the independent ODRC valuation) was also raised, although no clear position was put forward by airline customers.

6.1.3. Assessment

The comments made during the early part of consultation were addressed in correspondence. In most instances, these queries have been overtaken by more recent events, including:

- the detailed review of the 1 July 1998 valuation by airline customers and their advisers;
- the completion of most of the new projects and their capitalisation and detailed allocation in the Activity Based Costing (ABC) model; and

⁹⁸ The applicability of the NNI criteria to SACL's Revised Draft Proposal is discussed in Section 4.3.2.

- the 1 July 2000 updated valuation that is currently being undertaken by Maunsell McIntyre.

These issues are discussed below.

6.1.3.1. *Detailed Review by Airline Customers and Advisers*

While SACL is not aware of customers receiving the requested level of access to detailed information in previous regulatory processes, a detailed review was agreed. Access to the detailed working papers of Maunsell McIntyre was agreed to enable airline customers and their advisers to "peer review" the methodology and outcomes.

As the valuation covered all assets, including commercial assets subject to leases to third parties, a confidentiality agreement was required. Airline legal advisers had some difficulties with SACL's standard form consultancy agreement and requested substantial changes. While airline customers and BARA have claimed that SACL delayed commencement of the process, the record shows that the draft agreements were under consideration by airline legal advisers for a majority of this period.

The detailed review by airline customers and their engineering and other advisers has been underway since May 2000. The process has included:

- a series of meetings involving SACL and its advisers to answer detailed follow-up questions from airline advisers;
- an extensive tour of the international terminal and associated facilities; and
- data rooms established in both Sydney and Melbourne to facilitate the review by Melbourne based advisers.

Disappointingly, no feedback, by way of constructive advice or commentary, has been received by SACL to date. Recent questions and information requests have become increasingly detailed, going beyond the information required to value the assets on an optimised depreciated replacement cost (ODRC) basis.

6.1.3.2. *Updated Valuation as at 1 July 2000*

SACL advised airline customers at the meeting on 15 March 2000 of its intention to commission an updated valuation as at 1 July 2000.

The 1 July 2000 valuation is being undertaken, in particular to:

- review the findings of the 1998 valuation, including any comments received from airline customers and their advisers on that valuation;
- incorporate the new assets since 1 July 1998 at their ODRC value, addressing any concerns about using actual construction costs as a proxy for ODRC value; and
- update the valuation for any changes in market conditions over the past two years, including the introduction of GST.

In accordance with SACL's accounting policies, property, plant and equipment are revalued at least every three years. Therefore, this process is simply bringing forward a required valuation by 12 months.

The valuation will benefit from a substantial body of work on asset condition undertaken over the past 12 months in preparation for privatisation. This work has also been performed by Maunsell McIntyre.

Initial draft results from the 1 July 2000 valuation are consistent with the value estimates in the Revised Draft Proposal. The final valuation will be made available to the ACCC prior to the final notification.

6.1.3.3. *Future Minor Capital Expenditure*

The December 1999 Draft Proposal included an allowance for annual capital expenditure of a maintenance nature. While the details were intended to be discussed during consultation, an annual consultation and reconciliation process with customers was envisaged.

In view of the objections of airline customers and the general uncertainty of the future regulatory regime that will apply to SACL, the allowance for minor capital expenditure has been removed from the Revised Draft Proposal.

SACL notes that the allowable revenue calculation is based on a reducing capital base and the calculated return does not allow for any further capital expenditure during the year. Accordingly, SACL expects to reach an understanding with airline customers and the ACCC prior to committing any capital expenditure beyond that included in the Revised Draft Proposal.

6.1.3.4. *Depreciation*

Depreciation issues were raised indirectly during consultation in references to the general valuation treatment of certain assets. SACL's general depreciation policy, including the significant changes from FAC policies were not questioned by the airlines.

Depreciation and the useful lives of fixed assets remain unchanged in the Revised Draft Proposal, subject to the outcome of detailed reviews of individual assets.

6.1.3.5. *Indexation*

Indexation of assets to generate a 'real' (current cost) model was not questioned during consultation. The indexation rate is the Consumer Price Index (CPI). Movements in the assumed CPI are discussed in subsection 6.2.3.

6.1.3.6. *Optimisation*

There was some general discussion during consultation, including in the Fixed Asset Valuation Working Group, of the extent of optimisation in the December 1999 Draft Proposal.

This subsection discusses the level of optimisation incorporated in the ODRC valuation methodology adopted by SACL and the possible implications of extending optimisation to site layout. The ultimate level of optimisation, considering changed location, is addressed in subsection 5.3, valuation of airport land. The discussion in subsection 5.3 notes the significant locational advantages of Sydney Airport⁹⁹.

6.1.3.6.1. Optimisation in ODRC Valuation

SACL's proposal has optimised asset values for its specialised assets. In its independent valuation report, Maunsell McIntyre states the following in relation to optimisation:

Four levels of optimisation have been applied to SACL's assets, in accordance with the Valuation Methodology, these being:

1. reproduction of existing assets
2. surplus assets eliminated
3. obsolescence eliminated
4. over design eliminated

The optimisation did not consider site reconfiguration nor changed location.

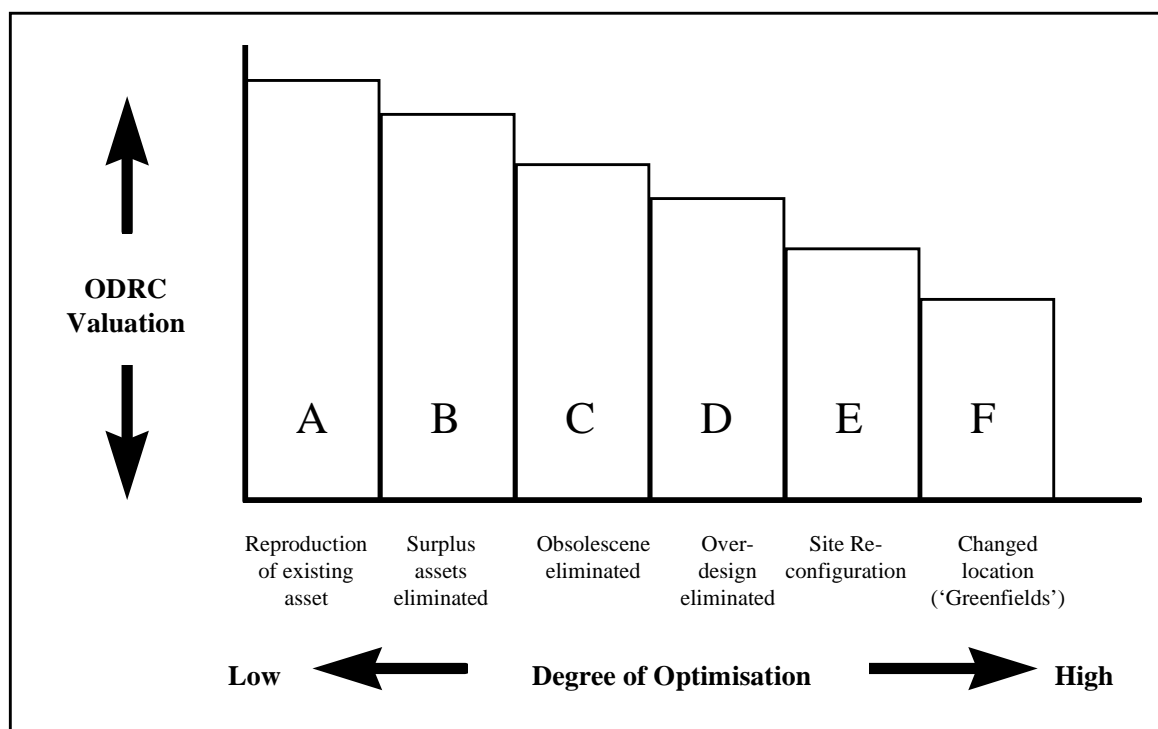
ODRC is calculated based on the gross replacement cost of modern equivalent assets, adjusted for over design, over capacity and redundant assets, less an appropriate allowance for depreciation (and major periodic maintenance, where appropriate) to arrive at the optimised depreciated replacement cost. This is also consistent with assuming an optimised position in respect of the technical capability and capacities of the assets. This is also a reasonable assumption to be applied in cases where specialised assets are built up progressively to arrive at a contiguous specialised asset position as opposed to developing a single specialised asset.

The ODRC measures the minimum cost of replacing or replicating the service potential embodied in the assets with modern equivalent assets in the most efficient way practicable given the service requirements, the age and condition of the existing assets and replacement in the normal course of business.

The greater the level of optimisation, the lower the implied ODRC value of an airport. Possible degrees of optimisation are illustrated in the chart below. Bar A is the reinstatement cost value of the existing airport assets adjusted for depreciation only. Bar F reflects the highest degree of optimisation, and involves adjustment for technological obsolescence, over-design, surplus floor area, site reconfiguration and relocation of the airport.

⁹⁹ There are strong arguments to suggest that, despite the high opportunity cost and/or replacement cost of land, and environmental issues, Sydney Airport's location is optimal. The proximity to the CBD provides very substantial benefits for business and leisure travellers that are likely to outweigh any additional locational costs.

Scales of Optimisation



Bar F can also be seen as the least constrained optimisation. The optimal airport configuration and site location are chosen and valued without limits on location or asset grouping. Scenario E is, effectively, option F restricted to the existing site while scenarios D, C, B and A become progressively more constrained.

A key element of the ODRC process is the extent of optimisation. Most such valuations utilise 'incremental optimisation'¹⁰⁰ which allows progressive or incremental optimisation to the extent that such incremental growth occurs in the normal course of business. Under-utilised assets are 'replaced' by assets of lower capacity, and redundant assets are 'removed', but the historical configuration of the network of assets is 'retained'. The concept is often referred to as 'brownfields' in contrast to 'greenfields'.

The incremental ODRC approach recognises that there is always some degree of sub-optimality and allowance for growth in future demand. It also reflects the historical development of the existing business, the time lag in asset planning and construction, the very long lives of the assets and the replacement of its components, in the normal course of business. As systems expand and change, a degree of sub-optimality at any point of time is inevitable and is part of the total cost of output.

¹⁰⁰ As referred to by Sinclair Knight Merz in its ODRC valuation of the Victorian gas transmission network and part of the evidence considered by the Australian Competition and Consumer Commission and the Victorian Office of the Regulator-General in their final decisions on the Victorian access arrangements for natural gas pipelines (October 1998).

Greenfields optimisation attempts to value the replacement cost of assets based on what is the most cost effective, or optimal, set of assets to achieve the required level of service potential (in terms of capacity, service quality and useful life). Greenfields optimisation therefore assumes the capacity to design and build an entirely new optimal network of assets for the entity, regardless of the historical constraints which may have applied.

In practice, a greenfields replacement cannot occur in the normal course of business (except in rare circumstances). Furthermore, a greenfields replacement is rarely feasible, given the constraints imposed by the existing assets and customer access. Such would appear to apply at Sydney Airport.

The incremental (or brownfield) and greenfield ODRC approaches assume no improvement in performance or service. Therefore, the ODRC value of the existing assets, although based on modern equivalent assets, does not reflect higher service and quality standards or a greater capacity than is presently the case.

Examples of optimisation include the assumed use of best practice design and construction methods for both pavements (runways, taxiways and aprons) and buildings. Very few surplus or obsolete assets were identified in the valuation process which is consistent with expectations given the heavy usage of SACL assets. As SACL did not commission an 'unoptimised' valuation, direct quantification of the impact of optimisation is not possible. It was observed, however, that the value of the international terminal building was reduced significantly relative to FAC book value.

Significant optimisation is also implicit in the land valuation undertaken by Jones Lang LaSalle. The replacement of Sydney Airport land in its current form implies that substantial land reclamation would need to be undertaken and land defences (sea walls) constructed. The approach adopted assumed that an optimum site existed, ie that it is level and does not require reclamation.

As an aside, the reclaimed runways in Botany Bay arguably could be considered optimal given they occupy a minimal land surface area. Land based airports would have additional land between, on either side and at the end of runways to provide a safety and noise buffer. If, therefore, an optimal location is considered to be land based (for construction cost reasons), a larger land area should be included. SACL has been conservative in NOT adopting this approach. SACL has assumed both the lack of additional construction of a land based site and the smaller surface area of the current configuration.

6.1.3.7. *Site Reconfiguration*

In view of SACL's optimisation approach in the ODRC valuation stopping short of site reconfiguration, it may be reasonable to consider the implications of potential scale and/or scope economies from a site reconfiguration. In particular at Sydney Airport, what would be the impact of assuming an integrated international and domestic terminal operation.

To answer this question, it may be helpful to consider three basic alternative configurations, as follows:

- i. The existing layout (two separate terminal areas, one international and one domestic);
- ii. Two separate terminal areas, both serving domestic and international traffic; and
- iii. A single integrated terminal area located between parallel runways.

The following discussion compares the net capital and operating efficiency (at a conceptual level) of the existing layout to configurations ii and iii.

In today's Sydney Airport environment, configuration ii probably assumes a Qantas/One World terminal on one side of the airport and an Ansett/Star terminal on the other. This configuration would allow for a large proportion of domestic and international interconnection to be achieved within the same terminal. This would create efficiencies in terms of time and cost of transferring connecting passengers between terminals.

Offsetting any efficiency gains may be:

- the duplication of specific infrastructure required for international operations (such as customs, quarantine and immigration facilities, checked baggage security screening);
- the market dynamics created for 'independent operators' by dominant groupings;
- the reduced flexibility of existing infrastructure (for example, excess international capacity may exist in one terminal while the other terminal is significantly congested); and
- while a degree of choice remains in the market, some passengers will always require transfer between terminals.

The overall costs of maintenance, utilities, cleaning, management, etc are assumed to be the same between configurations i and ii.

Configuration iii is consistent with the layout adopted at a number of new airports, including the preliminary plans for a second Sydney airport being considered for Badgery's Creek. There would be the potential for scale and scope economies if all activity were centralised in a single terminal between parallel runways (with a cross-wind runway at one end to ensure year-round operations). There would be further opportunities for airline and traveller efficiency benefits from shorter taxiing times.

However, integrating the international and domestic terminals would also require significant additional land. The Badgery's Creek proposal envisages significantly more land than exists at Sydney Airport (886 hectares at Sydney Airport and between 1,700 and 2,900 hectares at Badgery's Creek). While some costs would fall somewhat at Sydney Airport as a result of integrated optimising the layout of the terminals, the land area required would increase significantly. Given the cost of land at Sydney Airport, any savings from integrating the terminals would be more than offset by the increased cost of land.

As an example using direct (SACL) benefits and costs, if we assume for indicative purposes that SACL's aeronautical operating costs could be reduced by 20%, savings of \$14m per annum would result. If an increase in land area of 1000 hectares is required to achieve this layout, the investment in the hypothetical airport would need to be \$1.15 billion greater (@\$115/m²). The additional capital cost would be in the order of \$100m per annum. In this

example, the net result of the integrated terminal would be significantly higher required airport revenues.

In view of the above, it is not clear that the existing airport layout is sub-optimal given the value of land in the Sydney Airport region and the unresolved issues related to separate international/domestic terminals.

6.1.4. Other Changes During the Consultation Period

The December 1999 Draft Proposal was based on the 1 July 1998 independent ODRC valuation plus the estimated cost of new investment between 1 July 1998 and 1 November 2000. The estimated new investment projects were allocated broadly to aeronautical cost categories or to non-aeronautical assets within the financial model that was provided to airline customers in February 2000.

Since December 1999, the following has occurred:

- the majority of new projects completed have been capitalised and allocated more precisely to the activities (aeronautical or non-aeronautical) that they support;
- estimated costs of the remaining projects have been updated;
- SACL has reassessed the treatment of land-fill around the runways that extend into Botany Bay, resulting in a reduction of land value and increase in fixed assets; and
- ground access infrastructure assets have been excluded from the asset base for the purposes of the Revised Draft Proposal.

Each of these changes is explained below.

6.1.4.1. Assets Completed 1 July 1998 to 30 June 2000

A significant majority of the \$800m of planned new investment was completed prior to 30 June 2000. This includes the \$420m fixed lump sum component of the Sydney Airport 2000 (SA2000) project. As a result, actual costs are known and the approximately 2000 individual assets¹⁰¹ have been capitalised into SACL's asset register.

As well as being capitalised, the assets have also been assigned ABC codes based on their specific uses and contribution to various activities and services.

The following table shows the indexed written down value of assets (excluding land) by account code as at 30 June 2000, with separate disclosure of the assets that existed as at 1 July 1998 and new investment in the subsequent two years to 30 June 2000.

¹⁰¹ The December 1999 Draft Proposal was based on new asset *projects*. The Revised Draft Proposal, following completion of many of the projects, is now based on individual asset assessments.

The table also shows the results of the allocation of assets between various aeronautical and non-aeronautical services using the ABC model.

Indexed Written Down Value - 30/06/00				
Account Code	Asset class	Existing assets @ 1 July 1998	Additions 1 July 98 to 30 June 2000	Closing position 30 June 2000
500220	Land (incl. some landscaping)	-	124,184	124,184
501220	Land at valuation	-	-	-
510220	Runways, taxiways and aprons ¹⁰²	557,008,716	104,252,391	661,261,107
515220	Roads & carparks	81,178,999	61,782,334	142,961,332
516220	Fences & gates	2,687,824	1,223,842	3,911,666
520220	Lighting & visual Aids	10,824,120	18,161,306	28,985,426
530220	Passenger terminal buildings	173,734,554	318,067,420	491,801,974
540220	Other permanent buildings	51,615,739	14,172,885	65,788,624
550220	Temporary buildings	819,504	92,705	912,208
560220	Main services	32,378,959	35,694,772	68,073,731
570220	Aerobridges	3,859,483	28,741,676	32,601,159
580220	Fixed plant & equipment	33,484,793	76,527,582	110,012,375
590220	Movable plant & equipment	518,680	551,537	1,070,217
600220	Motor vehicles – heavy	589,259	336,270	925,529
610220	Motor vehicles – light	931,239	1,059,656	1,990,895
620220	Computers and related equipment	118,936	7,841,115	7,960,051
630220	Other office equipment	148,937	346,902	495,839
640220	Furniture & fittings	1,412,394	9,956,734	11,369,128
645220	Computer software	-	5,420	5,420
650220	Leasehold improvements	-	89,112	89,112
		\$951,312,136	\$679,027,842	\$1,630,339,978
		58.4%	41.6%	100.0%
Current capital assets as at 30th June,2000 have been allocated between Aeronautical and Non-aeronautical services in the following manner:				
ABC Codes	Service Description	Closing position 30 June 2000		
S005	Aircraft landings	603,500,674		
S006/7/8	Common User Aprons	141,057,264		
S018-20	International Terminal Aeronautical Services	418,363,295		
S035	General aviation	4,349,009		
	Total Aeronautical assets (excl. land)	\$1,167,270,242		
	Non – Aeronautical assets (excl. land)	463,069,736		
	Total Written Down Value assets as at 30th June, 2000 (excl. land)	\$1,630,339,978		

¹⁰² See the discussion of the treatment of land-fill, below, for an explanation of the increase in existing (as at 30 June 1998) and total (as at 30 June 2000) Runway, Taxiway and Apron assets.

6.1.4.2. *New Assets 1 July 2000 to 30 November 2000*

The total asset position included in the Revised Draft Proposal model also includes \$101.6 million for the estimated cost of new assets that are expected to be capitalised between 1 July 2000 and 1 November 2000. These projects were part of either the 'parallel capital works' or 'other capital projects' in the December 1999 Draft Proposal. The \$420m fixed lump sum component of the SA2000 project was completed and capitalised as at 30 June 2000.

A large proportion of the new assets (\$34.5m) relates to checked baggage security screening equipment which is not included as aeronautical for the purposes of the Revised Draft Proposal¹⁰³.

In total only \$27.7m (or 27%) of the new assets to be completed in the 4 months to 1 November 2000 are considered aeronautical for the purposes of the Revised Draft Proposal. These aeronautical, or partly aeronautical, projects include:

- further runway/taxiway resheeting (\$4.2m);
- widening of Northern perimeter (airside) road (\$3.0m);
- completion of the refurbishment of aerobridges (\$2.4m);
- international terminal toilet block refurbishment (60% aeronautical - \$1.7m);
- 2nd zone sub-station (60% aeronautical - \$1.1m); and
- flight information display monitors/housing replacement (\$0.8m).
- other minor projects (\$14.5 million)

A number of these projects were near complete at 30 June 2000.

Full details of the additional capital projects to be completed between 1 July 2000 and 1 November 2000 are included in the detailed financial model that will be released with this Revised Draft Proposal.

It is noted that a small number of projects included in the December 1999 Draft Proposal are either not proceeding or have been deferred.

¹⁰³ As discussed in Section 3.3, Checked Baggage Screening charges are aeronautical charges but have been excluded from the Revised Draft Proposal due to the recent ACCC approval of a pricing and review mechanism based on recovery of direct costs.

6.1.4.3. *Treatment of Land-fill*

As part of the 1 July 1998 valuation, Maunsell McIntyre valued the replacement cost (ODRC) of the sea walls and land-fill around both runways that extend into Botany Bay. Given the relatively recent land reclamation undertaken as part of the construction of the third runway, these values are understood to be robust.

In the December 1999 Draft Proposal, SACL recognised that there is an overlap between the ODRC value of sea walls and land-fill and the replacement cost value of land. To ensure that no double counting occurred, SACL:

- included the value of sea walls in fixed assets and deducted the same amount from the value of land in the Draft Proposal; and
- excluded land fill completely from the fixed assets.

There is no clear reason why sea walls and land reclamation costs should be treated differently from a valuation perspective. Accordingly, the Revised Draft Proposal includes both sea walls and land-fill in fixed assets and deducts both values from the net land value.

The impact of the change is to:

- increase the value of fixed assets related to Runways, Taxiways and Aprons by \$188,820,450 as at 1 July 1998; and
- reduce land value by the same amount to a net \$427,579,550.

Land-fill has a zero depreciation rate, although its value is indexed at assumed CPI in line with the treatment of all other assets in the financial model.

6.1.4.4. *Exclusion of Ground Access Assets*

There has been significant recent debate concerning ground access charges at a number of privatised airports. SACL does not have a defined position on the implementation of ground access charges at Sydney Airport.

SACL's position generally in relation to charges in the Revised Draft Proposal is to look for a high degree of cost relatedness. In relation to ground access infrastructure, a case can be made for the costs of landside roads, taxi holding areas and associated paving, landscaping etc to be recovered directly from the users/beneficiaries of the services and facilities, rather than from indirect beneficiaries such as airlines.

As a result of the current uncertainty surrounding these issues, SACL has excluded \$48.4m of assets related to ground access facilitation from the aeronautical assets in the Revised Draft Proposal. These assets were largely allocated to airfield costs in the December 1999 Draft Proposal.

6.1.5. Conclusion

A detailed review by the airlines of the independent asset valuation as at 1 July 1998 is underway, along with an updated valuation as at 1 July 2000. This information will be added to the process as soon as it is available. Initial indications from SACL's advisers suggest that some movement of individual values is expected in both directions, however, the overall result is unlikely to change materially.

The total value of aeronautical assets in the Revised Draft Proposal of \$1.69 billion has been reduced by \$70 million from the December 1999 Draft Proposal. The reductions have resulted from new projects being completed under budget, a number of minor budgeted projects having been postponed and from the reallocation of certain assets from aeronautical to non-aeronautical. The most significant reallocation has been the exclusion of landside roads and associated ground access infrastructure from aeronautical assets.

6.2. Weighted average cost of capital (WACC)

6.2.1. Introduction

As set out in the December 1999 Draft Proposal, the return on capital is a critical element in the building block approach. It represents the reward to investors for committing capital to the business, and reflects the opportunity cost of the capital invested, ie, the (risk-adjusted) return that could be achieved using the capital for another purpose.

This section sets out SACL's revised approach to the estimation of its WACC, in light of market changes, evidence emerging from recent regulatory decisions, issues raised during SACL's consultation with its customers, and issues raised by Professor Kevin Davis in his paper to the ACCC on SACL's December proposal.

SACL has decided to continue to adopt:

- a 'vanilla' post-tax WACC formulation;
- an estimate of the cost of tax as a recoverable expense in the cashflows; and
- a *real* formulation of the WACC.

However, in light of recent market events and a number of issues raised during consultation, SACL has chosen to revise a number of parameters. The table below sets out the parameters proposed by SACL, as well as the parameters used in December to allow easy comparison.

The outcome of SACL's updated analysis is a real, post-tax WACC estimate of 7.7 percent, which is a little below the rate proposed in December.

Summary of SACL Parameters

Parameter	Proposed Value	
	<i>December 1999</i>	September 2000
Risk-Free Rate	<i>6.31%</i>	6.12%
Inflation Rate	<i>2.5%</i>	2.6%
Market Risk Premium	<i>6%</i>	6%
Asset Beta	<i>0.7</i>	0.7
Debt Beta	<i>0.08</i>	0.08
Equity Beta	<i>1.30</i>	1.30
Corporate Tax Rate	<i>30%</i>	30%
Debt Gearing	<i>50%</i>	50%
Debt Premium	<i>1.0%</i>	1.0%
Nominal Cost of Equity	<i>14.1%</i>	14.0%
Nominal Cost of Debt	<i>7.3%</i>	7.12%
Post-tax, nominal WACC	<i>10.7%</i>	10.5%
Post tax, real WACC	<i>8%</i>	7.7%

To arrive at this WACC estimate, SACL has continued to work closely with its shareholder, and its advisers Westpac Corporate Finance and NERA.

SACL's reasoning behind its treatment of each aspect of the WACC estimation, including the reasons for any changes since December, is provided in more detail below. As with other chapters in this revised pricing notification, this chapter is to be read in conjunction with Chapter 6 of the December 1999 Draft Proposal.

6.2.2. WACC Formulation

SACL has made no change to the WACC formulation since December. SACL has:

- derived its cost of equity estimate using the CAPM, recognising that some judgement is required in the determination of several key parameters;
- used a post-tax, real WACC, adopting a vanilla post-tax WACC formulation (with all tax adjustments being captured in the cashflows),¹⁰⁴ ie:

¹⁰⁴ In contrast to the often quoted "Officer" post tax WACC formulation. (See, Officer, R.R. (1994) "The Cost of Capital of a Company Under an Imputation Tax System", in Accounting and Finance, May, pp 1-17.) This WACC formulation captures the tax benefit of debt interest deductibility and the benefit to equity investors of imputation credits in the WACC itself. The corresponding cash flows include the cost of tax before taking into account the impact of imputation credits and before allowance for the tax deductibility of interest. For further (continued...)

$$WACC = re(E/(E+D)) + rd(D/(D+E))$$

where: re = required rate of return on equity, after company tax;¹⁰⁵

rd = pre-tax weighted average cost of debt;

E = value of equity; and

D = value of debt.

This nominal formulation has then been adjusted to a real rate using the Fischer equation.¹⁰⁶

Consistent with this, in deriving its allowable revenue SACL has modelled its projected corporate tax expenses *after* taking into account differences between depreciation adopted for the purposes of this notification and that deductible for tax purposes, as well as the benefit of interest deductibility and of imputation credits. This is discussed at length in the December draft of SACL's pricing notification, and further in subsection 6.2.7 below.

In his paper¹⁰⁷ to the ACCC on SACL's WACC, Professor Kevin Davis notes that this "approach has a good deal of merit". Davis does note however, that several issues associated with the approach warrant attention, particularly SACL's treatment of land appreciation and calculation of capital gains tax. These issues are addressed further in subsection 6.6.¹⁰⁸

The reasoning behind SACL's choice of parameters in this WACC formulation, as well as detail on the tax cash flow modelling, is provided below.

6.2.3. Risk-Free Rate

In December, SACL assumed a nominal risk-free rate of return of 6.31 percent. This was based on the forty-day average of the observable five-year government bond rate, in line with the method used by the ACCC in its 1998 decision on the Victorian gas access arrangements. To derive a real rate, SACL used an inflation assumption of 2.5 percent.

As set out in the December draft of the pricing notification, the application of the risk free rate in regulatory decision-making in Australia has been subject to two main areas of debate:

discussion, please refer to the December draft of Sydney Airports Corporation's pricing notification. The 'vanilla' form has most recently been adopted by the Office of the Regulator General in Victoria in its recent draft decision on Victorian electricity distribution. See Office of the Regulator General, *2001 Electricity Distribution Price Review*, Draft Decision, May 2000.

¹⁰⁵ That is, $re = rf + \beta e(rm - rf)$, as estimated under CAPM,

where: rf = risk free rate;

βe = equity beta; and

rm = market risk premium.

¹⁰⁶ Real WACC = $(1 + \text{Nominal WACC}) / (1 + \text{Inflation}) - 1$

¹⁰⁷ As at 30 November 1999.

¹⁰⁸ Davis, Kevin, *Report on "Weighted Average Cost of Capital for Sydney Airport"*, prepared for the ACCC, 14 January 2000, p1.

- what is the appropriate term or maturity to be used, ie, 5-year bond rate versus 10-year bond rate?
- to what extent should there be historical averaging or other forms of smoothing to account for cyclical variations in the cost of borrowing?

As established in the December draft of the pricing notification, most of the regulatory decisions note that for practical purposes the choice between the nominal five-year rate and 10-year rate is largely immaterial given that the small difference between the two rates currently. This is the view put forward by the ACCC in its May 1999 draft Statement of Principles for the Regulation of Transmission Revenues, and most recently in its decision in relation to Perth Airport:

The Commission is not convinced that it should diverge from the approach of the Victorian Gas and Adelaide decisions in respect of the risk-free rate. Therefore, a five-year rate will be applied. The Commission notes, as have most of the submissions, that the difference between the yields of the two bond is typically not significant.¹⁰⁹

Davis concurs with this approach, stating in his paper to the ACCC that the approach "seems reasonable".¹¹⁰

Given that the difference between the nominal five and ten-year rates of interest is very small,¹¹¹ SACL has decided to continue to use the nominal five-year bond rate for the purposes of this pricing notification. Furthermore, SACL has continued to use a forty-day average, which is consistent with the cost of capital being a forward-looking concept and is in line with the ACCC's views with respect to smoothing observed daily rates. The result, given current market conditions, is a nominal risk free rate of 6.12 percent.¹¹²

Prevailing real yields on index linked Commonwealth government bonds are between 3.0 and 3.2 percent (for 5-year and 10-year bond rates respectively), implying an inflationary expectation of between 2.9 and 3.1 percent.¹¹³ However, market practitioners have recently observed that the current yields on indexed linked bonds are being distorted by the impending spike in inflation associated with the introduction of GST. Westpac have argued that this stems from the fact that:

. . . If real yields had remained unchanged pre- and post the announcement of the GST, the inflation spike would generate a windfall gain to investors in CPI bonds as the spike would feed directly into the cashflows received from CPI bonds. The financial markets, being

¹⁰⁹ ACCC (2000) Final Decision: Perth Airport – Proposal to increase aeronautical charges to recover the costs of necessary new investment, April, p30.

¹¹⁰ Davis, Kevin, *Report on "Weighted Average Cost of Capital for Sydney Airport"*, prepared for the ACCC, 14 January 2000, p9.

¹¹¹ At the time of estimating the risk-free rate, the difference between the 5 yr and 10 yr rates was 0.06 percent.

¹¹² As at 15 August 2000, the 40-day average for the 5-year nominal bond rate was 6.12 percent. Source: Reserve Bank of Australia.

¹¹³ Applying the Fisher equation.

efficient, have forced real yields lower to ensure that no windfall gain accrues to CPI bond holders when the GST spike actually occurs. As a rule of thumb, a 3% spike in inflation in the future will add 3% to the price of indexed bond when the spike actually occurs.¹¹⁴

Westpac also note that the government's current expectation is that the GST will result in a 3.1 percent spike in inflation, which is broadly in line with the market expectation.¹¹⁵

This suggests that the underlying rate of inflation is closer to 2.5 to 2.7 percent, relative to the 2.9 and 3.1 percent implied by the current difference between real and nominal bond yields. This is also consistent with the Reserve Bank's target inflation range of 2 to 3 percent.¹¹⁶

On this basis, SACL has assumed an inflation rate of 2.6 percent for deriving the real WACC.

6.2.4. Cost of Debt

In December, SACL assumed a debt premium – that is, the amount over and above the risk free rate or cost of sovereign debt – of 1.0 percent.

A 1 percent premium is supported by the airlines. For example, the ACCC notes in its final decision on Perth airport that "BARA considers that the maximum premium for medium to large airports with secure markets would be 1 percentage point over the 10 year Commonwealth bond rate." The ACCC also note in this decision that Ansett supported BARA's conclusion of the suitability of a 1 percent debt margin.

Davis also notes that the assumption does "not seem unreasonable", although he notes that it "may be somewhat high for a Federal Government authority".¹¹⁷ However, as SACL noted in its December draft of its pricing notification:

SACL recognises that recent regulatory decisions have tended to use industry-wide benchmarks for the cost of debt rather than allowing for the specific debt position of the regulated company – reflecting regulators' desire to provide incentives for the regulated business to source and manage their capital as efficiently as possible. From an economic viewpoint, SACL believes that this principle is sound, and is consistent with an incentive-based approach to utility regulation.

In the December 1999 Draft Proposal, SACL also argued that a 1.0 percent debt premium assumption lies within the industry benchmark range of 0.8 to 1.3 percent implied by recent

¹¹⁴ See evidence submitted to the Office of the Regulator General in Victoria by Westpac. David Van Ryan, Senior Manager - Head of CPI Sales, *The Impact of GST on Real Yields*, letter to Dr John Tamblyn dated 3 August. The letter is available on www.reggen.vic.gov.au

¹¹⁵ op cit.

¹¹⁶ see RBA, *The Economy and Financial Markets*, August 2000, at www.rba.gov.au/

¹¹⁷ Davis, Kevin, *Report on "Weighted Average Cost of Capital for Sydney Airport"*, prepared for the ACCC, 14 January 2000, p10.

regulatory decisions,¹¹⁸ and in any event, an assumption of 1.0 percent is in line with SACL's recently concluded borrowing program.

Hence, SACL does not see sufficient reason to change its 1 percent assumption. Given the current risk free rate, this results in a nominal cost of debt of 7.12 percent.

6.2.5. Cost of Equity

The cost of equity is calculated under CAPM as the risk free rate, adjusted for the risk faced by SACL (captured by the equity beta and the market risk premium). SACL has assumed a market risk premium of 6 percent, and an asset beta of 0.7, which results in a nominal cost of equity of 14.0 percent.

6.2.5.1. Market risk premium

In December, SACL adopted a 6 percent market risk premium.

As noted in the draft notification:

The market risk premium is the difference between the expected return on the market portfolio, or a proxy for it, and the return on a risk free asset, both defined over the same holding period. While the concept of the WACC and its application for determining regulated revenues is unambiguously forward-looking, estimates of the future cost of equity are not readily available. Practical applications of the CAPM therefore rely on analysis of historic returns to equity to estimate the market risk premium.

As discussed in the December draft of SACL's pricing notification, in recent years, the weight of opinion and analysis has been shifting towards a view that the market risk premium is falling both in Australia and elsewhere, and that the traditional long-term average range of 6.0 to 8.0 percent is no longer appropriate. In recent decisions, Australian regulators have concurred with this view, and have stated in recent decisions that the market risk premium is most likely to lie in the range of 5.0 to 7.0 percent.

The table below highlights recent regulatory decisions in Australia on the market risk premium, all of which use a market risk premium consistent with 6 percent.

¹¹⁸ For example, the ORG used a debt premium of 1.2% recently in its draft decision on Victorian electricity distribution (May 2000). The ACCC used a debt premium of 1% in its final decision on NSW/ACT electricity transmission (January 2000) and also in its final decision on Brisbane airport (April 2000), although it used a debt premium of 1.3% in its draft decision on Canberra Airport (June 2000) and its final decision on Perth airport (April 2000) – because “the experience in Australia suggests that a 1.3% debt margin is a reasonable benchmark for BBB-rated companies such as Perth international airport”. IPART used a debt premium of 0.8-1.0% in its decision on NSW electricity distribution (December 1999).

Regulatory Decisions on the Market Risk Premium

Recent Regulatory Decision	Market Risk Premium
ACCC Final Decision on Victorian Gas Distribution (October 1998)	6%
ACCC Final Decision on Adelaide Airport (October 1999)	6%
Independent Pricing and Regulatory Tribunal (IPART) NSW Electricity Distribution Final Decision (December 1999)	5-6%
ACCC Final Decision on NSW and ACT Transmission Revenues (January 2000)	6%
ACCC Final Decision on Perth Airport (April 2000)	6%
ACCC Final Decision on Brisbane Airport (April 2000)	6%
The Victorian Office of the Regulator- General (ORG) Victorian Ports Price Review, Draft Decision (May 2000)	6%
ORG 2001 Electricity Distribution Price Review Draft Decision (May 2000).	6%
ACCC Draft Decision Canberra Airport (June 2000)	6%
ACCC Draft Decision Melbourne Airport (June 2000)	6%

Similarly, Professor Davis, in his paper to the ACCC, notes that the adoption of 6 percent "seems reasonable."¹¹⁹

In a recent consultation workshop however, drawing on "empirical evidence", the airlines argued that an assumption of 5 percent is more appropriate than 6 percent for the market risk premium.¹²⁰ The airlines' advisers refer to market data since October 1987 and studies such as Kortian (1998), as quoted in the Independent Pricing and Regulatory Tribunal (IPART) NSW's discussion paper on rate of return for electricity distribution networks, as evidence of a market premium of around 3 to 4 percent.¹²¹

However, the airlines' advisers have not acknowledged that care needs to be taken in any assessment of empirical information relating to the market risk premium. There are many factors which need to be considered in an assessment, such as:

- whether the average of the historic returns should be the arithmetic mean, or the geometric mean, or something in between; and

¹¹⁹ Davis, Kevin, *Report on "Weighted Average Cost of Capital for Sydney Airport"*, prepared for the ACCC, 14 January 2000, p9.

¹²⁰ Economic Insights, Presentation: "*SACL Cost of Capital Parameters*", 5 May 2000, p13.

¹²¹ Independent Pricing and Regulatory Tribunal, *The Rate of Return for Electricity Distribution Networks – Discussion Paper*, November 1998, p15-17.

- the time period over which the premium is measured, particularly whether the data utilised pre-dates the introduction of dividend imputation in Australia (ie, pre-1988).¹²²

There are no “right” historical time periods to use for estimating the equity risk premium. The equity risk premium for use in cost of capital calculations is a forward looking concept, measuring the returns that investors require to compensate for market equity risks. Ideally, any estimate of the equity risk premium would also take into account analysts forecasts of expected returns. We note that regulators in the US and the UK generally rely more heavily on “ex ante” evidence, such as analyst forecasts in estimating the equity risk premium.

In the absence of analysts’ forecasts and other “ex ante” evidence, SACL believes it is hard to argue that the equity risk premium has changed significantly.

As noted above, 6 percent is acknowledged by regulators as the best estimate of the market risk premium at this time, as endorsed by Professor Davis in his paper to the ACCC on SACL’s December 1999 Draft Proposal. SACL also remains of the view that 6.0 percent is the most appropriate assumption for the market risk premium.

6.2.5.2. *Beta*

In December, SACL used an asset beta of 0.7. The asset beta was then “re-levered” to estimate SACL’s equity beta using the Monkhouse formula and a debt beta of 0.08,¹²³ resulting in an equity beta of 1.30.

As set out in the December draft of the pricing notification, arriving at a beta estimate for a company such as SACL is largely a matter of judgement. In practice, the estimation of the equity beta would require the regulated entities to be listed on a stock exchange, and observations over a few years would need to be collected.¹²⁴ This is clearly not possible for SACL.

¹²² This has implications for the definition of the market risk premium, which is conventionally defined in Australia as the premium that would exist in the absence of dividend imputation (ie, under a classical tax system). When market data post 1988 is used, the raw estimate of the market risk premium should be adjusted upward to account for the assumed value of franking credits.

¹²³ ie, $\beta_e = \beta_a + (\beta_a - \beta_d) (1 - rd / (1 + rd) T) * D/E$,

where: β_e = equity beta
 β_a = asset beta
 β_d = debt beta
 rd = cost of debt
 T = corporate tax rate
 D/E = debt/equity

¹²⁴ Note that these estimates would need to be adjusted for non-regulated activities of the business (if applicable), and for changes in future expectations relative to the period over which the beta was estimated (given that the WACC is inherently forward-looking).

In practice then, a proxy beta needs to be determined, drawing on information on the beta estimates of other firms operating in similar operating environments, making adjustments for market differences as appropriate (including differences in industry, customers, and the regulatory framework). Also, and as noted recently by the Office of the Regulator-General in Victoria, "one relevant point of comparison when determining a proxy asset beta is the proxy betas that have been used in other regulatory decisions."¹²⁵

SACL's December estimate was based on the regulatory decisions that had been made at that time, coupled with an assessment of the risk of airports relative to energy utilities, and the betas of several listed international airports. Since December, several additional regulatory decisions have been released, such as the ACCC's decisions on Perth, Brisbane, Canberra, and Melbourne airports. As a consequence a number of issues have arisen.

In recent consultation workshops, the airlines advisers' argued that 0.7 may be inappropriate as a beta estimate for Sydney Airport, given that:

- the asset beta estimate used by the ACCC in its decision on Adelaide airport is "too high" for statistical reasons;
- less passenger variability at Sydney Airport compared to Perth and Brisbane is likely to mean a lower asset beta for Sydney Airport compared to Perth and Brisbane airports;
- Sydney Airport is larger than Adelaide, Perth and Brisbane airports and the literature suggests that larger firms have lower betas; and
- "other sectors, previous Government Trading Enterprise work and characteristics suggest 0.5 and less for aero".¹²⁶

In addition Davis, in his paper to the ACCC,¹²⁷ notes that:

- in the context of "other airport decisions by the ACCC", SACL's estimate appears "somewhat" high;¹²⁸
- in the context of the betas of listed (international) airports, SACL's estimate appears "slightly" high; and

¹²⁵ Office of the Regulator General, *2001 Electricity Distribution Price Review*, Draft Decision, May 2000, p162.

¹²⁶ Economic Insights, *Sydney Airports Corporation Cost of Capital Parameters*, Presentation, 5 May 2000.

¹²⁷ Davis, Kevin, *Report on "Weighted Average Cost of Capital for Sydney Airport"*, prepared for the ACCC, 14 January 2000.

¹²⁸ Note that Professor Davis' comments were provided to the ACCC in January 2000. At this time, the ACCC had only made a decision on Adelaide airport. Since this time, the ACCC have noted that "The Commission in considering BACL's proposal, and separately, a new investment proposal by Perth International Airport continues to develop an understanding of the systematic risks of returns related to aeronautical activities at Australian airports." See ACCC, *Brisbane Airport – Proposal to increase aeronautical charges to recover the costs of necessary new investment*, Decision, April 2000, p25. The two final decisions used an asset beta estimate of 0.7 (compared to Adelaide's 0.61 estimate).

- the re-levering process used by SACL is unclear, and in particular the 0.08 debt beta assumption appears “inordinately high”.

Each of these issues are addressed below.

6.2.5.2.1. Other regulatory decisions

Set out in the table below is a list of recent regulatory decisions, and the asset beta estimates used in these decisions.

Recent Regulatory Decisions on Asset Beta

Regulator (date)	Industry	Asset beta
ORG (October 1998)	Victorian gas distribution	0.55
ACCC (October 1998)	Victorian gas transmission	0.55
IPART (October 1999) ¹²⁹	NSW gas transmission/ distribution	0.4-0.5
ACCC (October 1999) ¹³⁰	Adelaide airport	0.61
IPART (December 1999) ¹³¹	NSW electricity distribution	0.35-0.50
ACCC (January 2000) ¹³²	NSW/ACT electricity transmission	0.35-0.50
ACCC (April 2000) ¹³³	Brisbane airport	0.70
ACCC (April 2000) ¹³⁴	Perth airport	0.70
ORG (May 2000) ¹³⁵	Victorian electricity distribution	0.50
ACCC (June 2000) ¹³⁶	Canberra Airport	0.65
ACCC (June 2000) ¹³⁷	Melbourne Airport	0.61

¹²⁹ IPART, *Draft Decision – Access Arrangement for AGL Gas Networks Ltd, Natural gas systems in NSW*, October 1999.

¹³⁰ ACCC, *Adelaide Airport - Proposal to pass through the price cap the costs of a Multi-User Integrated Terminal - Decision*, October 1999.

¹³¹ IPART, *Regulation of New South Wales Electricity Distribution Networks - Determination and Rules Under the National Electricity Code*, 30 December 1999.

¹³² ACCC, *Decision - NSW and ACT Transmission Network Caps 1999/00 – 2003/04*, 25 January 2000.

¹³³ ACCC, *Brisbane Airport – Proposal to increase aeronautical charges to recover the costs of necessary new investment*, Decision, April 2000.

¹³⁴ ACCC, *Perth Airport – Proposal to increase aeronautical charges to recover the costs of necessary new investment*, Decision, April 2000.

¹³⁵ Office of the Regulator General, *2001 Electricity Distribution Price Review*, Draft Decision, May 2000.

¹³⁶ ACCC, *Canberra Airport – Proposal to increase aeronautical charges to recover the costs of new apron facilities*, Draft Decision, June 2000.

¹³⁷ ACCC, *Melbourne Airport – Multi-user Domestic Terminal – New Investment*, Draft Decision, June 2000.

6.2.5.2.1.1 *Airport risk versus risk in energy sectors*

Many regulatory decisions have been made in the energy sector. As set out in the December draft of the pricing notification, SACL is of the view that the risk profile of SACL's aeronautical business is fundamentally different, and significantly greater than that of energy network businesses. The main reasons for this are:

- Airports are likely to be more susceptible to downturns in economic circumstances, eg, airline scheduling and passenger numbers are likely to be more sensitive to the state of the economy relative to the demand for gas and electricity; and
- Airport earnings are becoming increasingly volatile as airlines increase flexibility through alliance agreements, fleet evolution and the relaxation of international air services agreements. While in the past airlines have been relatively slow to respond to changes in regional economic conditions, they now respond very quickly.¹³⁸ Airlines face direct substitutes from other forms of transport. There are also increasing alternatives such as video conferencing for business travel.

For these reasons, SACL believes that, contrary to the airlines' arguments, the appropriate asset beta should be higher for airports generally, and for Sydney Airport specifically, compared to regulated energy businesses.

This is supported by the beta assumptions used by the ACCC in its decisions on Australian airports, and regulatory decisions in other jurisdictions. For example, in a recent report by the UK Office of the Rail Regulator¹³⁹, asset betas were provided for a range of industry groups:

- water group¹⁴⁰ 0.66
- National Grid 0.58
- BAA Plc 0.90
- British Gas 0.58
- Railtrack 0.70

¹³⁸ Carrier behaviour in the recent Asian market downturn provides evidence of this. During the economic downturn, carriers made moves to reduce their use of long-haul jets into Asia and on to other routes, which meant they did not come to Australia as often. Instead, carriers used long-haul jets for routes across the Atlantic, which was not possible until recently.

¹³⁹ The Periodic Review of Railtrack's Access Charges: the Regulator's Conclusions on the Financial Framework – Paper 3, Office of the Rail Regulator (UK), December 1998.

¹⁴⁰ ie, Anglian, Pennon, Severn Trent, Thames, Yorkshire, Hyder and United Utilities.

6.2.5.2.1.2 ACCC airport decisions

Consistency in regulatory decision making is an integral part of good regulatory practice. As noted by the Office of the Regulator General, in its recent draft decision on electricity distribution in Victoria:

This review is the first determination by the Office under the legal and regulatory framework established by the Victorian Government at the time it privatised the distributors in 1995. Accordingly, the Office has approached it with careful attention to the guidance given by that framework. The Office is also cognisant of the fact that this is the first electricity distribution determination. As such, it represents an opportunity to establish a range of detailed, working level principles for application in both this and future Price Reviews.

While any regulatory framework can be expected to evolve over time as circumstances change, and as the experience and insight of both businesses and regulators mature, a vitally important function of this review is to lay the groundwork for the future. By setting out clearly the principles it has applied, the Office intends to provide greater certainty and stability about the regulatory environment so that the distributors can focus on the delivery of the best possible service at the best possible price.¹⁴¹

As such, decisions made by regulators, and particularly the ACCC, provide important context to SACL's pricing notification, particularly the ACCC's decisions on other Australian airports.

The airlines have argued that the asset beta used in the ACCC's decision on the Adelaide MUIT is "too high", and should not be used as a precedent for future decisions. The airlines have argued this for a number of reasons:

- firstly, the airlines note that the Adelaide beta was estimated on the basis of "limited" international data;¹⁴²
- secondly, the ACCC used "adjusted betas" in their analysis, and instead the ACCC should have used the raw betas; and
- thirdly, that the ACCC used "airport betas" in the Adelaide decision rather than estimates of beta for aeronautical services.

As noted above, ideally the estimation of an equity beta would involve the regulator observing a regulated firm's listed stock over a considerable period of time.¹⁴³ However, direct stock market data is not available for the Australian airports, and therefore in the absence of this data the estimation of beta is largely subjective, as acknowledged by the ACCC:

¹⁴¹ Office of the Regulator General, *2001 Electricity Distribution Price Review*, Draft Decision, May 2000, p3.

¹⁴² The ACCC used four "airport" asset betas (for four international airports): 0.47 (Copenhagen), 0.56 (BAA), 0.66 (Auckland), and 0.68 (Vienna). The ACCC deemed that the risks facing Adelaide airport were likely to align most closely to the risks facing Auckland airport, and hence chose Auckland's beta to provide a proxy beta for Adelaide.

¹⁴³ For example the Office of the Regulator General in Victoria suggests that observations over three to five years are normally used to estimate equity betas. See, Office of the Regulator General, *2001 Electricity Distribution Price Review – Cost of Capital Financing*, Consultation Paper No. 4, May 1999, p30.

The Commission in considering BACL's [Brisbane airport's] proposal, and separately, a new investment proposal by Perth International Airport continues to develop an understanding of the systematic risks of returns related to aeronautical activities at Australian airports. This process is complicated by the absence of closely comparable businesses listed on the Australian sharemarket.¹⁴⁴

For a number of reasons, SACL believes the airlines over-simplify the apparent 'mistakes' made by the ACCC in the Adelaide decision.

Firstly, it is by no means established that it is raw betas (and not adjusted betas) that should be used in the derivation of a proxy beta. It is widely accepted that prior expectations are relevant in estimating betas and there is a standard procedure for arriving at a weighted average of the empirical estimate and the prior belief. Morin in *Regulatory Finance* states that:

The regression tendency of betas to converge towards one is very well known and widely discussed in the financial literature. Because of this regressive tendency, a company's raw unadjusted beta is not the appropriate measure of market risk to use. Current stock prices reflect expected risk, that is, expected beta, rather than historical risk or historical beta. Historic betas, whether raw or adjusted are only surrogates for expected beta. The best of the two surrogates is adjusted beta.¹⁴⁵

Adjusted betas are commonly reported by commercial beta sources. Different authorities prefer different adjustment procedures. Merrill Lynch, for example, supports Blume adjustments while London Business School supports Bayesian (Vasicek) adjustments. We are unaware of any evidence that categorically shows the Blume adjustment is any better or worse than the Bayesian (Vasicek) adjustment.¹⁴⁶

Secondly, the airlines argue that further international airport betas should have been used by the ACCC to derive the Adelaide proxy beta, and that the Auckland beta was irrelevant as it was based on only 18 months of data.

SACL notes that beta coefficients may be calculated from daily, weekly, or monthly data as long as a sufficient number of data points are used. Theoretically, the length of time interval should not affect the results, although empirical studies have found the value of beta to alter substantially with the choice of interval length, resulting in a wide ranging academic debate.

The longer the time period taken the more data is available but the less relevant the data is to the present circumstances of a firm. The different periods will normally provide different estimates and no single procedure is indisputably superior. They are each estimates of the

¹⁴⁴ ACCC, *Brisbane Airport – Proposal to increase aeronautical charges to recover the costs of necessary new investment*, Decision, April 2000, p25.

¹⁴⁵ Morin, *Regulatory Finance: Utilities Cost of Capital*, PUR, 1994, p.67

¹⁴⁶ Patterson reports a study by Eubank and Zumwalt (1979) that concludes "the Blume model generally outperforms the Vasicek model for shorter estimation periods, with very little difference evidence between the two techniques for longer estimation periods". See Patterson, C. S., *The Cost of Capital: Theory and Estimation*, Quorum Books, 1995, p126.

true underlying beta. As with other statistical estimates, it is helpful to make a considered judgement in the light of all the evidence. In general, one would expect the true beta to lie within the range of estimates rather than be at the top or bottom of the range. As noted above, prior expectations are also relevant.

The beta that is relevant is the one that reflects the position of the company at the time. In practice, this is estimated from past evidence of the relationship between the returns to a company and the returns to the market as a whole.

Inevitably, it will be possible to provide examples of observations on either side of the data used by the ACCC, suggesting there is little merit in trying to discredit the ACCC decision simply by using additional data. For example, the ACCC note in its decision on Perth airport that:

Melbourne Airport stated that the applicant's asset beta range of 0.75 to 0.95 is appropriate for Australian airports, noting "in particular, the fact that both the UK Rail Regulator and the respected London Business School Risk Management Service give equity betas for BAA plc ... of around 1.05, with a corresponding asset beta of about 0.9."¹⁴⁷

In any event, while international information is of indicative value, care should be taken when comparing overseas companies to derive beta assumptions. For example, adjustments for gearing may vary and one also needs to recognise the implicit assumption that the risk of the market portfolio is the same in each country. In fact, two submissions made recently to the Office of the Regulator General recommended explicit adjustments to betas observed in other countries. Professor Gray recommended that equity betas drawn from the US and UK be divided by 0.72 and 0.88 respectively to convert them into Australian equivalent betas. ABN AMRO recommended that US and UK betas be divided by 0.88 and 0.97 respectively.¹⁴⁸

SACL argued in its December 1999 Draft Proposal that Sydney Airport's asset beta should be higher than that for Adelaide on account of its position as a domestic and international hub, and its much higher exposure to the volatility in tourism markets. As noted in December, this is supported by arguments raised by Qantas, BARA and Davis in the context of the ACCC's final decision on Adelaide airport's proposal to pass through the costs of a multi-user integrated terminal.

Similarly, for the reasons set out below, SACL contends that its beta estimate of 0.7 proposed in December is utterly reasonable (albeit conservative) in the context of the recent decisions on other Australian airports.

¹⁴⁷ ACCC, *Perth Airport – Proposal to increase aeronautical charges to recover the costs of necessary new investment*, Final Decision, April 2000, p33.

¹⁴⁸ See Office of the Regulator General, *2001 Electricity Distribution Price Review*, Draft Decision, May 2000, p160.

6.2.5.2.2. Passenger variability

The airlines' advisers have argued that "other things being equal, higher passenger variability is likely to mean a higher beta".¹⁴⁹ This proposition leads the advisers to conclude that, given passenger volatility at Sydney Airport is less than that at Brisbane and Perth (but more than Adelaide), the beta for Sydney "should certainly be no higher than Brisbane and Perth and the extent to which it is lower depends on the size effects and other characteristics".¹⁵⁰

It is important to note that any estimate of beta must be grounded in arguments about fundamental systematic riskiness. With this context, it is not passenger volatility *per se* that constitutes risk, but rather factors that cause fluctuations in earnings relative to fluctuations in earnings of the market portfolio. Passenger variability alone cannot explain why the covariance of a firm's returns with the stock market would be higher.

Equally important are factors such as:

- the composition of demand at Sydney Airport;
- the structure of prices; and
- the 'operating leverage' of Sydney Airport (ie, the extent to which SACL's cost structure is fixed).

The fact that SACL's revenue is significantly more dependent on the inflow of international travellers, whose demand is likely to be more elastic and more susceptible to downturns in the economy, would suggest a higher beta estimate for Sydney Airport relative to the other Australian airports, all else equal.

Similarly the proposed change in the charging basis for the international terminal charge (from a tonnage based charge to a passenger based charge), would also suggest a higher beta estimate for Sydney Airport relative to Perth, Brisbane and Adelaide, all else equal.

An additional factor is the form of regulation. While SACL recognises that this essentially is a firm specific risk (and therefore not explicitly relevant in the estimation of beta in the CAPM framework), given that there is a difference in the regulatory framework that applies to Sydney Airport relative to the Phase I and II airports, this difference warrants exploration in considering the relative risk between the Australian airports.

The regulatory framework that applies to SACL is relatively open-ended and provides the shareholder (and indeed the regulator) with little guidance on the objectives and regulatory principles to be applied. This contrasts to the relatively clear regulatory framework applicable to the other airports, which was devised by the government prior to their privatisation. This

¹⁴⁹ Dr John Fallon, *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Workshop*, 5 May 200, p68.

¹⁵⁰ *op cit*, p69.

would give rise to the shareholder of SACL requiring a higher return to compensate for regulatory risk, all else equal.

Hence, while the airlines have argued that less passenger volatility at Sydney Airport relative to Perth and Brisbane airports supports a similar or smaller asset beta estimate for Sydney Airport, there are other factors which provide support to a higher relative asset beta estimate.

6.2.5.2.3. 'Size' effect

The airlines' advisers have argued that an estimate of beta for Sydney Airport should be lower than an estimate of beta for Adelaide, Brisbane and Perth airports on account of its larger size. Specifically, the airlines argue that the empirical evidence provides a rationale for an:

additional adjustment to the cost of capital or the beta (for Sydney Airport) to allow for this size effect.¹⁵¹

The airlines' advisers cite a number of articles such as Banz (1981), Reinganum (1981), Fama and French (1992), Patterson (1995), Jaganathan and Wang (1996) to support this argument. The airlines summarise their position by quoting Patterson:

There is an extensive literature discussing the "size effect" which indicates a negative relationship between the market value of a firms equity and realised returns even after adjusting for β .¹⁵²

SACL sought advice from NERA on the validity of the airlines' advisers' arguments. The results of NERA's analysis is at subsection 6.2.8, below. NERA has considered the empirical evidence on the "size effect", the conceptual reasons why size may matter for required returns, and also international regulatory practice when estimates of beta are made using evidence on betas for comparator companies of different sizes. In short, NERA's analysis demonstrates that the airlines have presented a partial view of the literature, contrary to the airlines' advisers' claim that:

I don't think you could [find articles that say that the size effect is ambiguous]; I think you are wrong.¹⁵³

Firstly, the empirical evidence concerning the size effect *is* ambiguous and *is* strongly contested in academic circles. Patterson – in the same article cited by the airlines' advisers - makes this point directly:

To sum up, tests of the CAPM using realised returns as proxies for the ex ante variables in the model are at best ambiguous, with results dependent on the periods used and the techniques employed . . .¹⁵⁴

¹⁵¹ Economic Insights, *Sydney Airports Corporation's Cost of Capital Parameters*, Presentation, 5 May 2000.

¹⁵² Patterson, C. S., *The Cost of Capital: Theory and Estimation*, Quorum Books, 1995, p 68.

¹⁵³ Dr John Fallon, *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Workshop*, 5 May 2000, p75.

Other widely quoted texts make the same point. The seminal textbook by Brealey and Myers, for example, concludes that:

. . . if you look long and hard at past stock returns you are bound to find some strategy that just by chance would have worked in the past. This practice is known as “data mining” or “data snooping”. Maybe the size and beta results are simply chance results, the effects of data snooping.¹⁵⁵

To the extent it is believed to exist, empirical evidence on the size effect is strongest for the lowest 10th percentile of companies. However, neither Adelaide, Brisbane, Perth nor Sydney Airport are likely to have a market capitalisation that was anywhere near the modest threshold implied by this figure. The size effect being referred to simply does not apply within the range of companies being considered.

Secondly, even if there is sufficient empirical evidence of a “size effect”, the implications do not support the airlines’ advisers’ argument that the betas for smaller companies are higher than larger companies, everything else equal. What the empirical literature actually shows is that even if it is shown that smaller companies can have larger betas, the CAPM still underestimates the ex post realised returns observed by small companies. In other words, the implication of all these articles is that small firms produce higher returns than those which can be explained by an estimate of their systematic riskiness (ie, beta).¹⁵⁶

None of the empirical evidence cited by the airlines’ advisers supports an adjustment to beta for the size of the company. Any such adjustment would be completely arbitrary. If size really were a factor then it would be necessary to estimate the sensitivity of a stock to the size factor and then multiply this by the claimed size premium. There would be no justification for relating size risk (if it truly exists) to the general equity market premium.

Third, any estimate of beta must be grounded in arguments about fundamental systematic riskiness. Size alone (like passenger variability) cannot explain why the covariance of a firm’s returns with the stock market would be higher. It is possible that a smaller firm’s profits may be more volatile owing to greater exposure to individual shocks. If these individual shocks are related to the market cycle then this would be a reason why a particular smaller company has a higher exposure to systematic risk and hence beta is higher. However, this point needs to be argued from fundamentals and not simply postulated on the basis of size.

¹⁵⁴ Patterson, C. S., *The Cost of Capital: Theory and Estimation*, Quorum Books, 1995, p.58.

¹⁵⁵ Brealey and Myers, *Principles of Corporate Finance*, Third Edition McGraw-Hill Book Company, 1988, Chapter 13, p.188.

¹⁵⁶ Indeed, any evidence of the size effect leads to the conclusion that the CAPM is not the right model for estimating the required returns. Fama and French specifically propose a 3-factor model where beta is not an explanatory factor at all. If this position was widely accepted then the models such as the three-factor model proposed by Fama and French would be preferred instead. However, there is much controversy surrounding whether size and book-to-market are useful in cost of capital calculations given first the recent empirical evidence which finds size is not important and the lack of theoretical justification for their inclusion.

For these reasons SACL rejects the arguments made by the airlines during the consultation process that Sydney Airport should have a lower asset beta than Brisbane and Perth airports.

6.2.5.2.4. Conclusion on asset beta

In December SACL argued that an asset beta value representing the risks facing aeronautical revenues at Sydney Airport is likely to fall in the range 0.7 to 0.8. SACL remains of the view that this range is appropriate. Arguments presented by the airlines have not been sufficiently convincing, and, on that basis, SACL has chosen to retain the 0.7 beta estimate, as proposed in December.

6.2.5.2.5. Beta conversion

As set out in the December draft notification, there are several ways in which to convert an asset beta to an equity beta, all of which are defensible. The approach adopted can have a noticeable impact on the assumed relationship between the asset and equity betas.

As noted above, SACL adopted a 50% gearing assumption, a debt beta of 0.08, and the Monkhouse formula to convert its proxy asset beta to an equity beta.

In his paper to the ACCC, Davis questioned SACL's use of an "inordinately high" debt beta of 0.8. However SACL notes that this concern was the result of a misunderstanding over the assumption in the December draft, which was actually 0.08. The latter assumption does not appear out of line with assumptions used by the ACCC.¹⁵⁷

On this basis, SACL has not chosen to revise its re-levering approach from December. The result is an equity beta of 1.30.

6.2.6. Gearing

In December SACL adopted a 50 percent gearing level (of the ODRC value of assets), for the reason set out in the December 1999 Draft Proposal. Neither Davis nor the airlines have questioned the assumption, and therefore SACL sees no reason to change it.

6.2.7. Treatment of Taxation

The December draft of the pricing notification sets out in some length its reasoning and approach to the treatment of tax. As noted in the introduction, SACL remains of the view that a post-tax WACC approach is most appropriate. In line with this, SACL has explicitly developed and incorporated into its cash flow projections, as an additional component of allowed revenues, expectations of SACL's future tax liabilities.

¹⁵⁷ For example, the ACCC used 0.08 and 0.13 recently, in its final decisions on Brisbane and Perth airports respectively (April 2000).

6.2.7.1. *Tax forecasts*

The December draft notification also sets out the methodology SACL used to model tax payments.¹⁵⁸ SACL has continued to adopt this general methodology, ie:

- SACL has first made an estimate of total allowable revenue for aeronautical services, exclusive of the cost of tax. This comprises operating expenses, regulatory depreciation (consistent with the regulatory asset base and asset life assumptions, incorporating the real appreciation of land) and the allowed post-tax return, based on the regulatory asset base and SACL's estimated post-tax WACC;
- SACL has then estimated its future cost of company tax, for incorporation into its total allowed revenue. This requires an adjustment to the initial estimate of regulatory profits for the difference between depreciation allowed for regulatory purposes and that allowed for tax purposes. SACL's depreciation for tax purposes has been based on its "book" value of aeronautical assets, and has been derived in historic cost, nominal terms. Forecasts of depreciation allowances for tax purposes have also incorporated changes that will come into effect as a consequence of the Ralph inquiry's review of company tax. Also, using this adjusted estimate of taxable profit, before interest, SACL has then subtracted its forecast interest costs using the benchmark assumption of 50% gearing and a nominal cost of debt of 7.12%, thereby deriving an estimate of taxable profit, after the cost of interest; and
- lastly, the prevailing company tax rate, adjusted downwards for the franking benefit of imputation credits, has been applied to SACL's forecast of taxable profits (after interest) to estimate the net amount of tax payable. However, this process itself takes into account the relationship between the required increase in regulatory revenues to allow for tax and the consequential further increase in the tax liability that those revenues give rise to.¹⁵⁹ This net amount of tax payable is then added to the initial projections of regulatory profits and other operating expenses to arrive at the proposed total allowable revenue for aeronautical services.

6.2.7.2. *Tax rate*

In line with its assumption in December, and in line with the recommendations of the Ralph inquiry, SACL has projected its future cash flows assuming a 30 percent corporate tax rate.

6.2.7.3. *Imputation*

In December SACL adopted a franking credit assumption of 0.50 in the modelling of cash flows. However Davis, in his report to the ACCC, suggests that:

¹⁵⁸ The methodology is in line with that set out by Professor Kevin Davis in his paper to the ACCC on Sydney Airports Corporation's December draft notification.

¹⁵⁹ This can be done by either 'goal-seeking' after tax returns (so that tax and the target post-tax return equates to the required after tax return), or by calculating tax as $(T/(1-T)) * (\text{post-tax return less tax deductions})$.

Despite a 0.5 valuation being the "conventional wisdom" the evidence from dividend drop-off studies on which this is based, is relatively flimsy. ...If anything the available evidence is more compatible with a value closer to unity than lower than 0.5.¹⁶⁰

Davis also notes that SACL is owned by the Federal government, "which creates some conceptual problems". Nevertheless Davis states that:

It is my preliminary assessment that a value of 1 is appropriate.¹⁶¹

The airlines agree with Davis' claim, and suggest that an imputation credit value of close to one is appropriate.¹⁶²

As noted in the December 1999 Draft Proposal, SACL's existing shareholder cannot derive any explicit benefit from tax imputation credits. The fact that the Federal government is the receiver of both corporations tax payments and dividends from SACL means that the role of franking credits is somewhat artificial.

Furthermore, SACL's high effective tax rate means that a significant portion of SACL's available imputation credits would not be able to be made available to an investor, implying that the 50 percent assumption for the utilisation of franking credits is likely to be very conservative (ie, high), relative to other regulated businesses in Australia.

However, the Australian regulatory regime is subject to the competitive neutrality principles established by National Competition Policy. This implies that it is not the specific tax circumstances of the regulated business which bear on regulatory decisions, but rather the tax circumstances of a regulated business owned by a typical average investor in Australian equities.

We note that the empirical evidence on which a franking credit assumption of 50 percent is based dates back to Elton and Gruber¹⁶³ and concerns the behaviour of stock prices around ex dividend dates where it has been shown that share prices do not fall by the full amount of the dividend on ex dividend dates.¹⁶⁴ Elton and Gruber interpreted this fact as reflecting differences in marginal tax rates on dividends and capital gains. Their theory, known as the tax

¹⁶⁰ Davis, Kevin, *Report on the Weighted Average Cost of Capital for Sydney Airport*, Prepared for the ACCC, 14 January 2000, p10.

¹⁶¹ Op cit., p11.

¹⁶² Economic Insights, *Sydney Airports Corporation's Cost of Capital Parameters*, Presentation, 5 May 2000.

¹⁶³ Elton, E. and M.J. Gruber, Marginal stockholder tax rates and the clientele effect, *Review of Economics and Statistics* 52, 1970, p 68-74.

¹⁶⁴ Brown and Walter provide such evidence regarding the Australia market, where they show that the ex dividend drop off to be significantly less than one. See, Brown and Walter "The ex-dividend day behaviour of Australian equity markets". *Asia Pacific Journal of Management* 11, 275-287.

clienteles theory, has received substantial empirical support. It has been used as the basis for determining the value of franking tax credits in Australia.¹⁶⁵

It should be noted however, that additional theories (in addition to the "tax clienteles theory") also exist. These attempt to explain share price behaviour around ex dividend dates as being the result of factors such as transaction costs, market microstructure and "discreteness" in the behaviour of prices. Davis cites two particular papers by Frank and Jagannathan (1998) and Bali and Hite (1998) from the *Journal of Financial Economics* which can explain the behaviour of dividends using two different alternative theories.

Additional theories to explain share price behaviour around ex dividend dates are not new. These additional theories have not generally gained as much support as the tax clienteles effect theory.¹⁶⁶ The two papers cited by Davis however, do not provide evidence that can refute the tax clienteles effect theory, but only show that alternative explanations for share price behaviour at ex dividend dates also exist. As Bali and Hite acknowledge:

At minimum we can conclude that the tax-induced dividend hypothesis is not the only hypothesis capable of explaining the data.¹⁶⁷

The robustness of these theories must also remain in question until they have been tested more widely on range of stock markets over different periods of time.¹⁶⁸

Davis also cites Walker and Partington (1999) as another recent study which used evidence on trading prices for shares cum dividends during the ex dividend period, in an attempt to eliminate the importance of tax effects net of transaction costs. As Davis states, Walker and Partington's study estimates values of gamma of 0.96 and 0.88. In commenting on these estimates the authors note that:

the estimates are not precise and should be treated as provisional estimates only.¹⁶⁹

Davis also cites Lally¹⁷⁰ who estimates gamma (referred to as U) by taking an average of the proportion of tax exempt investors and taxed investors, the latter of whom can fully utilise their

¹⁶⁵ For example, Hathaway and Officer used this theory to conclude that the market value of the franking credit in the Australian market is approximately \$0.50 per dollar of face value. See Hathaway, NJ, and Officer R.R., *The Value of Imputation Credits*, manuscript, 1992.

¹⁶⁶ As Frank and Jagannathan acknowledge, "all that one can safely conclude...is that any change in the relative pricing of dividends and capital gains observed in the data can be interpreted as evidence of the changing importance of different trading groups."

¹⁶⁷ Bali, R. and Hite G.L., "Ex-Dividend day stock price behaviour: discreteness or tax-induced clienteles?" in *Journal of Financial Economics* 47, 1998, p.156

¹⁶⁸ The two studies are also based on Hong Kong stock market data (Frank and Jagannathan) and US data (Bali and Hite) over relatively short periods of time.

¹⁶⁹ Walker S. and G. Partington, "The value of dividends: Evidence from cum-dividend trading in the ex-dividend period", in *Accounting and Finance*, November, Vol 39, No 3, 1999, pp 275-296.

¹⁷⁰ Lally, M, "The Cost of Equity Capital and its Estimation", Volume 3 of TJ Brailsford and R.W. Faff (eds) *McGraw Hill Series in Advanced Finance*, Sydney, 1999.

tax credits while the former cannot. Lally's analysis, however, overlooks an important issue. When estimating the cost of capital, it is relevant to consider the returns required by the *marginal* investor not the *average* investor.

SACL notes that a franking credit value of 50 percent continues to be used in regulatory decisions to reflect empirical estimates for the Australian market as a whole. Furthermore, the evidence presented by Davis for Sydney Airport is essentially the same as that submitted previously to the ACCC. In relation to Perth Airport, for example, the ACCC concluded that:

Given the lack of consensus surrounding a value for gamma, and in the absence of a clear trend emerging, the Commission sees no reason to depart from the Draft Decision's assumption of 0.50 for gamma.¹⁷¹

On this basis SACL considers that its assumption of 50 percent is reasonable.

6.2.8. The effect of firm size on beta

6.2.8.1. Introduction

The specific issue addressed in this subsection is whether an estimate of beta for Sydney Airport should be lower than an estimate of beta for Adelaide Airport on account of its larger size. On this question, SACL sought the advice of NERA, which has been reproduced below.

Firstly, we look at the empirical evidence on the "size effect". We look specifically at the articles that are quoted by the airlines' advisers in their presentation of 5 May 2000, and consider additional relevant evidence.

Secondly, we consider the conceptual reasons why size may matter for the required returns from investment and whether or not this impact would on the systematic riskiness of a company.

We also comment on international regulatory practice when estimates of beta are made using evidence on betas for comparator companies of different sizes.

We then present our conclusions.

6.2.8.2. What is the "Size Effect"?

6.2.8.2.1. Airlines Evidence

The airlines' advisers cite a number of articles such as Banz (1981), Reinganum (1981), Fama and French (1992), Patterson (1995), Jagannathan and Wang (1996). The airlines' advisers summarise a quote by Patterson as:

¹⁷¹ ACCC, *Perth Airport – Proposal to increase aeronautical charges to recover the costs of necessary new investment*, Final Decision, April 2000, p.37.

There is an extensive literature discussing the "size effect" which indicates a negative relationship between the market value of a firm's equity and realised returns even after adjusting for β .

The airlines use the evidence as a basis for arguing that the beta for Sydney Airport should be lower than the beta for Adelaide airport on the basis that Sydney Airport is larger. Specifically, the airlines' advisers argue that the empirical evidence cited above provides a rationale for an "*additional adjustment to the cost of capital or the beta (for Sydney Airport) to allow for this size effect*".

6.2.8.2.2. NERA Review of Empirical Evidence

We first review the empirical evidence and then comment on the implications for an estimate of beta for Sydney Airport.

NERA agree that there is a sizeable empirical literature on the "size effect" in relation to empirical testing of the CAPM. It is important to be clear about exactly what this literature says before making a comment on the application to the Sydney Airport case.

The size effect originated with the paper by Banz (1981) who examined the empirical relationships between the return and total value of NYSE stocks. Banz shows that small firms have larger risk adjusted returns than large firms. He points out that we do not know whether the factor is size itself or whether size is a proxy for one or more true factors correlated with size. The subsequent studies referred to above, most notably Fama and French (1992), conduct more rigorous tests to look at the explanatory power of additional variables to explain asset returns.

It is important to be clear about exactly what this empirical evidence shows. All studies are concerned with mismeasurement of the cost of equity for small companies using the CAPM. The central argument of such studies is that CAPM and beta underestimate the cost of equity for small firms. The definition of small firms in these studies generally relates to firms in the lowest 10-percentile size category.

NERA's review of the empirical evidence suggests that the evidence cited by the airlines is extremely selective. Our review shows that the empirical literature is mixed, a point that was also noted by Patterson (1995 p.57). Several studies including (Handa (1993), Black (1993), MacKinlay (1995), Breen and Korajczyk (1994), Kothari, Shanken and Sloan (1995) and Jagannathan and Wang (1993) have illustrated that the size effect is due to data mining. For example, Jagannathan and Wang (1993) reject Fama and French's conclusions arguing that "most of Fama and French's studies are attributable to data mining" and that "the empirical support for the CAPM is very strong."

In an important article, Berk (1995) shows that size related regularities are not anomalies. In particular, he shows that size will explain part of the cross-section of expected returns left

unexplained by an incorrectly specified asset pricing model even if size and risk are unrelated.¹⁷²

Patterson (1995) concludes:

To sum up, tests of the CAPM using realised returns as proxies for the ex ante variables in the model are at best ambiguous, with results dependent on the periods used and the techniques employed.

Other widely quoted texts make the same point. The seminal textbook by Brealey and Myers (1998), for example, concludes that:

If you look long and hard at past stock returns you are bound to find some strategy that just by chance would have worked in the past. This practice is known as “data mining” or “data snooping”. Maybe the size and beta results are simply chance results, the effects of data snooping.

Brealey and Myers then suggest that the recent evidence which does lend support to a size effect also suggests that it has become less important in recent years.

One of the empirical results from the more recent evidence suggests that a number of other variables other than size may be better explanators of ex post returns. In a more recent article than the one cited by the airlines, Fama and French (1995) state:

In recent years the size effect has been displaced as the prime embarrassment of the CAPM. There is much evidence that other variables (like earnings/price, cashflow/price, Book Equity /Market Equity and past sales growth) add even more significantly to the explanation of average return.

We note also that Fama and French’s response to their findings is to recommend that the CAPM be abandoned, since they argue that beta had no ex post explanatory power.¹⁷³ Fama and French recommend a multi-factor model to estimate the cost of equity. This model is not widely used by practitioners.

Another important point to note is that the early empirical studies of Reinganum (1981), Banz (1981) and Fama and French (1992) were conducted using evidence on betas computed back to 1926. Other more recent articles that have analysed historical returns using more recent data shows that the empirical evidence on the size effect may not exist when data is examined on returns over recent years. Ibbotson’s widely quoted *Stocks, Bills and Inflation Yearbook*

¹⁷² In addition, Ferson, Sarkissian, and Simin (1999) show that portfolios constructed as the return spread between small and big firms (and high and low book-to-market) can appear to explain the cross section of returns. This is the case even when the attributes used in the sorting of the stocks into portfolios have no relationship to risk.

¹⁷³ The Fama and French (1992) article which found little explanatory power in beta provoked the “beta is dead” debate.

(1999) shows that small company stocks have actually under performed large company stocks for ten of the last twenty years.¹⁷⁴

The appearance and disappearance of the size effect is consistent with the notion that the expected returns on small firms may vary over time. For example, the traditional evidence regarding the existence of a size effect was established using an unconditional version of the CAPM where expected returns are assumed to be constant. More recent evidence illustrates that expected returns time-vary (see for example, Harvey (1989), Ferson and Harvey (1991)). If small firms are more sensitive to variations in expected returns then a size factor may well capture this in an unconditional version of the CAPM. Ferson and Harvey (1999) estimate a conditional version of Fama and French's three-factor model and find no support for the Fama and French model. They find that modelling time variation in expected returns makes size a redundant factor.

The notion that the size effect can be captured by variations in expected returns is illustrated further by recent studies that trace the effect of a size premium onto the tighter credit market restrictions imposed on small firms that translates into a higher risk of default and hence higher risk premium. It has also been argued that investors' premiums on small firms is particularly high in recessions when consumers are more credit constrained and firm collateral is low. This leads to a cyclical asymmetric risk premium on small firms.¹⁷⁵

A recent paper by Bradley and Alles (1999) looks specifically at the influence of beta and book-to-market anomalies on the Australian stock market, which actually contradicts the size effects. They find that:

There is little evidence of the size effect. When the influence of the stock market crash is removed, a negative premium on firm size is observed . . .

This is consistent with the notion that the size effect is related to cyclical variations in expected returns which are a function of other economic risk factor(s) that size proxies for.

The existence of a size effect is also sensitive to the estimation methods chosen. A recent study by Clare, Priestley and Thomas (1998) uses UK data to examine the size effect. They show that the relationship between the cross-section of returns and size is sensitive to the empirical methodology used to estimate the relationship. In particular, the two-step estimation method used in Fama and French is inefficient. The use of a more efficient estimator makes size redundant at least for UK data.

Other empirical literature shows that the premium on firm size is largely due to high returns on the stock of small firms in January.

¹⁷⁴ Ibbotson defines small stocks as those in the lowest size decile among NYSE stocks, with size defined as the dollar value of shares outstanding. The size trigger point occurs at a market value of \$60m.

¹⁷⁵ See Cooley and Quadrini (1997), Quiros and Timmerman (1999).

Perhaps one of the most telling criticisms of the Fama and French three factor model in terms of using it to estimate the cost of capital is its complete lack of theoretical justification. Take for instance book-to-market, which is advocated along with size in the Fama and French model. One implication is that by simply altering the firm's book value the capital costs of the firm can be changed, all else equal.

We summarise our review of the empirical literature as follows:

- the existence of a "size effect" is based mainly on evidence from the US market based on examination of historical returns since 1926;
- studies which show the existence of a "size effect" are generally based on firms in the lowest 10th percentile of market capitalisation;
- studies quoted by the airlines have been superseded by studies which show other variables are more important than size in explaining ex post returns;
- other studies that examine historical returns over the last three decades do not support the existence of a size effect. In many empirical studies, actually the opposite situation is observed;
- there is no theoretical justification for the inclusion of size;
- size seems to disappear once variation in expected returns is accounted for; and
- empirical literature for the Australian market does not show any evidence of a size effect.

6.2.8.2.3. Implications of the Empirical Results for Beta and the CAPM

It is useful to look at the implications of the empirical studies that have been conducted into the "size effect" and the conceptual arguments that have been put forward on whether size affects systematic risk.

Roll (1981) first argued that the size effect was a statistical mirage where size was proxying for the effect of a number of missing economic variables.¹⁷⁶ Roll argues that small stocks provided less utility to an investor and require higher returns.

Others argue that empirical observations of the size effect relate to information costs. Chew (1999) argues that:

¹⁷⁶ One of the main conceptual challenges to the empirical literature on the size issue is that it is based on ex post analysis of historical returns whereas the CAPM specifies a relationship between expected returns and beta. Roll (1977) argues that test of the CAPM based on historical data is subject to the criticism that betas are highly subject to the index which represents the market portfolio. If the index used as a proxy for the market is not a good representation of the market then the betas estimated using the CAPM will be wrong. Although Roll's critique is formidable as a defence of the CAPM, it does not overcome the question as from a practical point of view it is argued that it is more important is whether an estimate of beta can be derived which reliably predicts investors required returns.

Information costs are a likely candidate for explaining the small firm effect, the tendency of small firms to produce higher returns. Such firms tend to have small analyst followings, presumably because the cost of acquiring and processing information is large relative to the amounts invested in them. Investors may rationally require higher returns (than those predicted by the CAPM) to compensate for their higher information costs.

Morin in "Regulatory Finance" reports that the size effect is likely to be the result of two things, higher information costs and lack of liquidity:

One plausible explanation for the size effect is the higher information search costs incurred by investors for small companies relative to large. This effect is likely to be negligible for all but the very small public utilities whose equity market value is less than \$60m . . .

The size effect is most likely the result of a liquidity premium, whereby investors in small stocks demand greater returns as compensation for lack of marketability and liquidity . . . (p.330)

6.2.8.3. *Regulatory Practice*

CAPM is widely used in regulatory applications in the US, UK, Europe and Australia. The empirical evidence on the size effect would point to its abandonment. Were it to be taken seriously in a regulated context, it could be expected that other models would be used such as those of Fama and French's where the cost of equity is estimated using a three factor model, with beta as one of the factors and variables such as market/book ratios, cashflow ratios and sizes as other variables. We are not aware of any regulators that prefer using such models to the simple CAPM.

Of the UK utility regulators, only Ofwat make an adjustment to the estimate of the cost of capital for companies within a sector based on company size. This is largely owing to the inability of small firms to access debt capital markets owing to market restrictions - for example public bond issues are very difficult for less than £75m in the UK market. However, the presence of debt market restrictions would not be a reason why beta would be higher for small firms. Ofwat's estimate of beta is exactly the same as the estimates of beta for the large water companies.

There are no adjustments for size in the betas for regional electricity companies in the UK even though the sizes of Regional Electricity Companies (RECs) differ widely.

In the US where comparable earnings models are used more widely to estimate the cost of equity for regulated utilities size is not normally used as a measure of "comparability". The risk screening criteria normally uses fundamental measures of riskiness such as coverage ratios, earnings volatility, stability of dividends, and Value Line safety rankings. Very rarely, analysts impose a minimum size constraint - but this is only to exclude very small companies.

6.2.8.4. *Implications for Estimating a Beta for Sydney Airport*

There are a number of reasons why the airlines' advisers arguments from size and the cost of capital for Sydney Airport should be rejected:

First, the empirical evidence concerning the size effect is ambiguous and is strongly contested in academic circles. Patterson makes this point directly. If anything, the empirical evidence on the size effect is strongest for the lowest 10th percentile of companies. Both Adelaide or Sydney Airport would likely have a market capitalisation that was significantly above this.

Second, even if we accept that there is empirical evidence of a "size effect", the implications do not support the airlines' argument that the betas for smaller companies are higher than larger companies - everything else equal.

What the empirical literature actually shows is that even if we take account of the fact that smaller companies can have larger betas, the CAPM still underestimates the ex post realised returns observed by small companies. In other words, the implication of all these articles is that small firms produce higher returns than can be explained by an estimate of their systematic riskiness using beta.

Any evidence of the size effect leads to the conclusion that the CAPM is not the right model for estimating the required returns. Fama and French specifically propose a 3-factor model where beta is not an explanatory factor at all. If this position was widely accepted then the models such as the three-factor model proposed by Fama and French would be preferred instead. However, there is much controversy surrounding whether size and book-to-market are useful in cost of capital calculations given first the recent empirical evidence which finds size is not important and the lack of theoretical justification for their inclusion.

None of the empirical evidence cited by the airlines supports an adjustment to beta for the size of the company. Such an adjustment would be completely arbitrary. If size really were a factor then it would be necessary to estimate the sensitivity of a stock to the size factor and then multiply this with the size premium. There would be no justification for relating size risk (if it truly exists) to the general equity market premium. Therefore we strongly recommend that the process of changing the equity beta to reflect size risk is abandoned.

Third, we believe that any estimate of beta must be grounded in arguments about fundamental systematic riskiness. Size alone cannot explain why the covariance of a firm's returns with the stock market would be higher. It is possible that a smaller firms' profits may be more volatile owing to greater exposure to individual shocks. If these individual shocks are related to the market cycle then this would be a reason why a particular smaller has a higher exposure to systematic risk and hence beta is higher. However, this point needs to be argued from fundamentals and not simply postulated on the basis of size.

Finally, our review of regulatory practice shows that the procedure recommended by the airlines to be inconsistent with best regulatory practice, both in Australia and elsewhere.

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6.3. Operating Expenditure

6.3.1. Summary

The December 1999 Draft Proposal estimated operating costs based on actual costs during 1998-99, indexed for likely movements over time, and allocated between aeronautical and non-aeronautical services using a detailed ABC model.

Airline customers prepared a presentation comparing SACL's operating costs to other Australian airports. This analysis was found by SACL to be very selective and shallow as it did not recognise any differences between airports.

As a result, SACL commissioned an independent operating cost benchmarking study from US based airport experts, Leigh Fisher Associates (LFA). That study found that SACL's operating costs compare favourably to other airports in many areas, while in others, where differences occur, they are appropriate given its operating environment and circumstances. Some of the factors recognised in the study are:

- heavy international and total peaking of services;
- Sydney Airport's role as Australia's leading gateway, with a large number of international carriers and a high proportion of international passengers;
- runway operating restrictions as a result of environmental management;
- high regional labour costs; and
- the existence of various levels of management agreements and other forms of outsourcing at privatised Australian airports.

SACL has agreed during consultation to adjust the 1998-99 operating cost base downwards to reflect the non-recurring nature of some expenses including those related to Y2K preparation and bad debts from parking infringement notices. The Revised Draft Proposal also includes, however, a provision for required special project expenses that were not included in the 1998-99 base. This includes an allowance for masterplanning and aeronautical pricing, and other regulatory management costs. An estimated allocation of \$1.8m (from a total estimate of \$3m) is considered reasonable to reflect the estimated average annual impact of expenses that will be cyclical in nature¹⁷⁷. The actual 2000-01 costs for these items is expected to be above this level, with further increases in 2001-02 before the cycle reduces for two to three years.

Contrary to airline customer claims, SACL's assumptions include significant improvements in efficiency. The Revised Draft Proposal assumes falling staff numbers in 2000-01. As the released financial model covers only one year, the trend of future expected efficiency gains is not fully evident. These expected gains are partly responsible for SACL targeting a revenue level significantly below allowable revenue.

The shallow, selective criticism of SACL's operating efficiency by airline customers has been considered in a professional independent benchmarking study by LFA. This study finds that SACL's costs are reasonable and appropriate to its operating environment.

6.3.2. Issues Raised During Consultation

A Working Group was set up to examine operating cost issues in detail. The Operating Cost Working Group met on 24 March 2000 and 1 June 2000. The main outcomes of these

¹⁷⁷ The Airports Act 1996 requires master plans to be prepared and updated on a five year cycle. Major regulatory reviews are expected to be on a similar cycle. These will be major multi-year tasks given the complexity of the Sydney Airport environment.

meetings were requests for additional information. These included, progressively, requests for:

- a line by line breakdown of aeronautical and non-aeronautical costs;
- descriptions of the items included under each line item;
- a “micro breakdown” of individual items in each category and their individual costs, including, for example, the number of newspapers purchased and who reads them.

On 4 July 2000, at the full consultation meeting, BARA presented its analysis of operating cost issues. These issues were also included in BARA’s July and August newsletters. The Assessment section below responds to the issues alleged by BARA in detail. In summary, the allegations are as follows:

- a monopoly supplier does not have the incentives that exist in competitive firms to reduce operating costs;
- based on ACCC 1998/99 Regulatory Reports
 - Sydney Airport has the highest aeronautical share of total revenue,
 - Sydney Airport has low passengers per employee,
 - Sydney Airport has the lowest aircraft movements per employee,
 - Sydney Airport is considerably less productive than Brisbane & Melbourne, and
 - Sydney Airport has the highest average salary per employee;
- a number of other costs appear high on a per employee basis;
- there are variances between SACL’s 1998-99 ACCC Regulatory Accounts and the information in the December 1999 Draft Proposal, as well as changes in the aeronautical percentages on a line by line basis when details were provided; and
- SACL has not provided all the information requested or agreed.

BARA concluded that SACL’s operating costs could be reduced by \$17.9m per annum by:

- reducing staff costs by 33%;
- eliminating all but \$0.5m of consultancy costs; and
- reducing other costs by 20%.

6.3.3. Assessment

BARA’s claims about SACL’s operating efficiency are mostly based on what it describes as “benchmarking” against other Australian airports using ACCC Regulatory Statements.

Effective benchmarking requires a balanced view, recognising, and/or adjusting for, any factors that differ between airports, and interpreting or understanding the reasons for those differences.

6.3.3.1. Leigh Fisher Associates (LFA) Benchmarking Study

In view of the recognised complexity of effective benchmarking, SACL engaged LFA to provide an independent assessment of the aeronautical operating costs of Sydney Airport in comparison with Melbourne, Brisbane and Perth airports.

LFA is a US based consulting firm specialising in airport management. Over the past 55 years, the company has conducted financial and facility planning projects for more than 400 international and regional airports on six continents. LFA has extensive experience with airports in Australia, providing advice to a number of bidders during Phases 1 and 2 of Australia's airport privatisation program.

The objectives of this review were to:

- identify the likely drivers of any differences between the costs of Sydney Airport and other airports;
- estimate how much these differences impact Sydney Airport's operating costs and cost metrics; and
- examine whether cost differentials among the airports have historical precedence.

It was recognised that comparisons among airports will be general in nature since limited financial information is publicly distributed by Australia's privately-held airport companies. In addition, varying accounting standards and policies among different airport companies will, in some cases, make specific comparisons of detailed financial information inappropriate.

To improve the robustness of the analysis LFA requested financial and other measures from airports beyond financial or ACCC reporting requirements. In a number of instances this information was provided on an 'in-confidence' basis. As a result, the LFA report is a confidential document. However, the key findings and the results necessary to address airline customer concerns are included below, without compromising confidentiality obligations.

6.3.3.2. Sydney Airport Operating Environment

LFA found that operationally, Sydney Airport falls in a uniquely challenging environment, characterised by:

- substantial limitations on the full use of airfield capacity;
- significant activity peaking;
- major site and property constraints which impose unique management and operational challenges;
- regional labour costs, on average, 8.0% higher than in comparison areas;

- high percentages of international traffic; and
- a higher average age of terminal buildings.

LFA knows of few major international airports, worldwide, with this combination of characteristics. These factors are discussed further, below.

A comparison of operating environments at Australia's major commercial airports is provided in the table, below. (Auckland International Airport is also included in this table because it is located nearby and has national gateway status.)

OPERATING CHARACTERISTICS OF MAJOR COMPARATIVE AIRPORTS					
Operating Characteristics	Airports				
	<i>Sydney</i>	<i>Melbourne</i>	<i>Brisbane</i>	<i>Perth</i>	<i>Auckland</i>
Operating curfew	✓	-	-	-	-
Separate terminal buildings	✓	-	✓	✓	✓
Imposed constraints on airfield capacity	✓	-	-	-	-
Heavy international peaking	✓	✓	-	-	✓
Heavy total peaking	✓	-	-	-	-
Strong transfer activity	✓	-	-	-	✓
Numerous non-local airlines	✓	-	-	-	-
Terminal age	✓	✓	-	-	-
Major capacity development programme	✓	-	-	-	-

Source: Leigh Fisher Associates, June 2000.

LFA also found that Sydney Airport's unique operating characteristics arise from its status as Australia's national gateway, airline demand, its facilities, and operational constraints:

6.3.3.2.1. National Gateway Status

Sydney Airport's role as the primary gateway airport is unique among Australian airports. The operating characteristics inherent to such an operation are more directly comparable to gateway airports located outside of Australia than to other airports within the Commonwealth.

LFA's experience is that leading gateway airports typically have higher costs per passenger than do secondary gateways. These higher costs arise from a common set of factors, including:

- A high share of international activity:
 - international passengers are typically processed through airport-operated terminals and inspection facilities, which require higher-than-average amounts of terminal space and staffing. In contrast, non-gateway airports typically have low shares of international activity and lower-than-average costs per passenger,

- international terminal facilities tend to be higher quality (and higher cost) than domestic terminal facilities,
 - high administrative costs associated with hosting a multitude of international (non-local) airlines,
 - SACL is responsible for managing, operating and maintaining international terminal facilities for 37% of total airport passengers. (At the other airports, the operator is responsible for smaller shares of international passengers: 21% at Melbourne, 28% at Brisbane, and 34% at Perth.) As such, total costs per passenger would be expected to be higher at Sydney Airport than at other airports;
- airline operating characteristics and passenger demand at gateway airports, which cause peak loading of facilities;
 - providing service for a multitude of airlines (with small market shares) requires development of additional facilities. Common-use check-in facilities reduce, but do not eliminate, this facility inefficiency; and
 - high costs to provide adequate levels of customer service, due to the increased diversity of nationalities and languages of passengers using the airport.

In Australia, terminal facilities for most domestic airline operations are managed, operated and maintained by the airlines, while airport operators are responsible for international operations¹⁷⁸.

6.3.3.2.2. Activity Characteristics

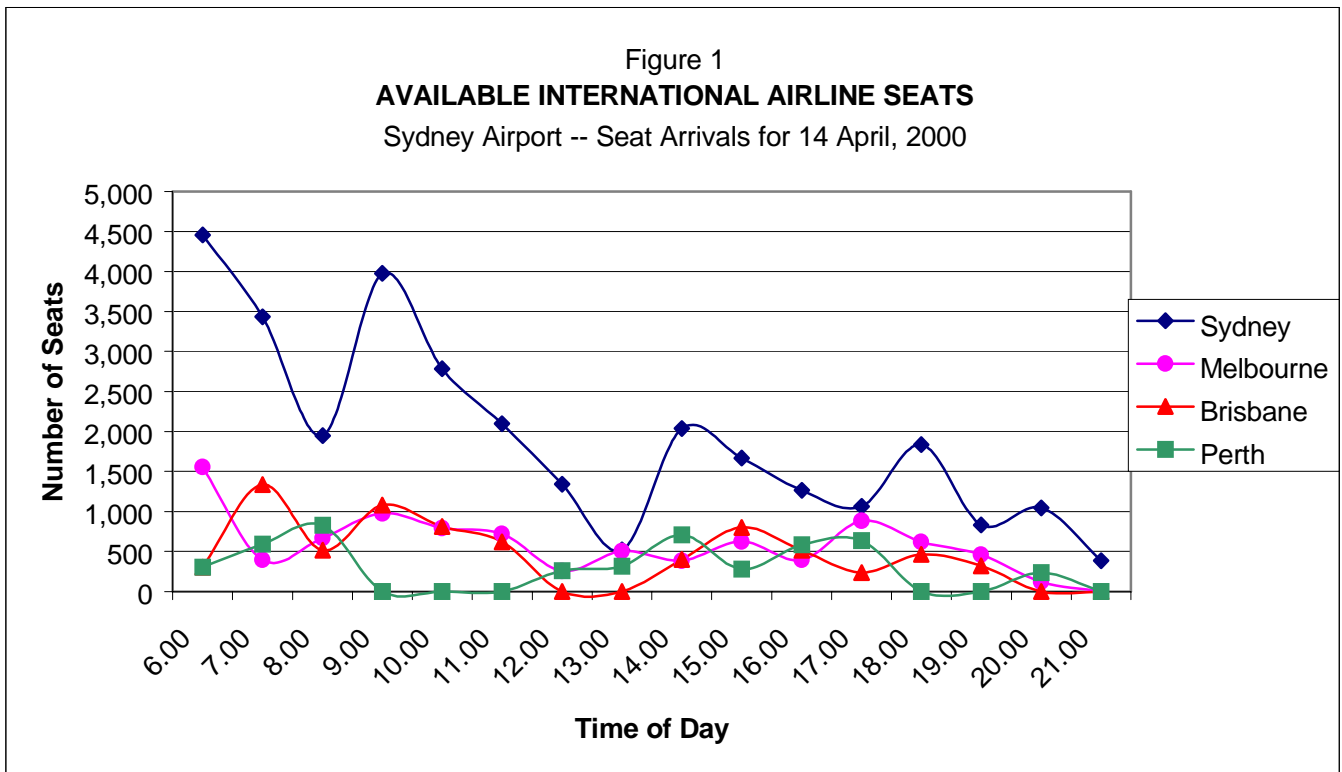
Air traffic activity at Sydney Airport is subject to significant international peaking activity compared with other Australian airports due to:

- Sydney Airport's role as the primary international gateway for Australia;
- airline scheduling practices; and
- noise and operational curfews at Sydney Airport and the origination/destination airports.

As shown below – a representative international flight arrival schedule – Sydney Airport faces heavy arrival demand between the hours of 5 a.m. and 10 a.m. This activity drives the need to provide international terminal facilities sufficient to accommodate the peak traffic. (Approximately 60% of Sydney Airport's aeronautical operating and maintenance [O&M] costs are driven by its international terminal building complex.) The peak demand activity in the early morning hours is compounded by the overnight jet curfew at the Airport, which prohibits

¹⁷⁸ SACL operates a small, common-use domestic terminal that opened in mid-2000. At some other Australian airports, a very small number of domestic activity operates from international facilities.

arrivals before 5 a.m. over Botany Bay, and all other arrivals before 6 a.m. The other major Australian airports do not experience such pronounced peaking activity.



LFA also found that unique factors affecting Sydney Airport require that SACL address many of its passenger processing constraints with operating solutions rather than through the development of capital projects. Other airports, most notably new airports in Asia, have expended huge sums of money developing facilities that are designed not only to accommodate forecast growth, but also to reduce potential operating cost inefficiencies through the development of larger, less congested facilities.

6.3.3.2.3. Facility characteristics

The LFA study found that the following facility characteristics are significant and impact the operating costs of the Airport.

Potentially imminent development of a Second Sydney Airport. Over recent years, prior to the SA2000 program, certain facility upgrades and replacements at Sydney Airport have been postponed, with the expectation that some Sydney Airport activity would shift, to a new, second Sydney airport. These deferrals have contributed to a greater preponderance of ageing facilities, with consequentially high costs to operate and maintain.

Emphasis on developing other Australian airports. While under FAC control, substantial new facilities were constructed at the major airports—other than Sydney Airport—as part of an overall strategy to prepare these other airports for privatisation. At Sydney Airport, facilities have been updated, but not necessarily replaced with new and more efficient ones. As a result, Sydney’s generally older facilities require higher costs to maintain than those found at the other airports.

Logistics of developing on a constrained inner city site. Unlike airports developed at more remote green-field sites, which have substantial land area/capacity to easily accommodate the development or expansion of facilities, Sydney Airport is located on a site constrained by water, roadways, and urban development. As a result, the logistics of developing facilities at the Airport frequently requires “stacking” of facilities as opposed to “spreading” activities resulting in higher (non-land¹⁷⁹) capital and operating costs.

Maintenance of facilities used by others. SACL is responsible for maintaining Giovanni Brunetti Bridge (Marsh Street), which is adjacent to the international terminal complex and serves as a thoroughfare for commuters travelling to the CBD. Although SACL is responsible for the full operating cost of this infrastructure, approximately 75% of the activity on the roadway is local/through traffic and not affiliated with the Airport.

The circumference road. Sydney Airport is required to maintain the road infrastructure surrounding the Airport, including street lighting, street sweeping and the elevated roadway, for which maintenance costs alone are estimated to be about \$200,000 per year.

Protection of other infrastructure facilities. Several infrastructure elements cross or are located under Sydney Airport (e.g., the South West Sydney Ocean Overflow Sewer [SWSOOS], a methane gas pipeline and communications cables owned by the government). When developing or repairing its own properties, SACL is responsible, and incurs expenses, for protection of these non-SACL facilities.

Cathodic protection. SACL is required to maintain cathodic protection owing to the Airport’s proximity to the sea. The proximity to the sea also impacts on the maintenance and/or lives of plant and other assets.

6.3.3.2.4. Operating Characteristics

24-hour terminal facilities. Sydney Airport’s terminal facilities operate 24 hours a day, year-round, even though passenger airline activity ceases during each evening’s noise curfew. As a result, Sydney Airport incurs terminal expenses (security, for example) each night not necessarily found at other major airports.

Terminal maintenance. As a result of the 24-hour terminal operations, the complexity and staffing requirements, and therefore the costs of preventive maintenance or replacement, are higher.

Runway operating restrictions. The Long-Term Operating Plan (LTOP) imposes mandatory runway assignments during the course of the day. This plan not only requires that all runways be available each day, but also that runway maintenance projects can occur only during the night-time noise curfew. Given the limited time available to conduct the work, and the need to set-up and breakdown the project each evening, higher airfield costs are incurred. As an

¹⁷⁹ The high opportunity/replacement/acquisition cost of land results in “stacking” being an optimal solution for an inner city airport, while “spreading” is likely to be optimal on a site situated in an area with lower land values.

example, a recent runway re-sheet project at Sydney Airport cost an additional \$1 million due to the need to complete work each day by 6 a.m. This additional cost is equivalent to approximately \$0.09 per departing passenger for a one-year period.

Runway/apron proximity. The constrained nature of Sydney Airport's airfield means that the apron is relatively closer to the runway. As a result of this proximity, Sydney Airport incurs additional costs to ensure that runway incursions do not occur.

6.3.3.3. *Incentives to Operate Efficiently*

BARA's presentation on 4 July 2000 uses the following references to question the existence of appropriate incentives for SACL to operate efficiently.

A monopolist may produce at a higher cost than would a competitive firm. Firms in a monopoly situation tend to pay little attention to cost cutting strategies.¹⁸⁰

Private monopolies have a profit incentive to conceal information needed for regulation (eg accurate cost and demand data). Public monopolies may also have an incentive to conceal cost information in order to distribute monopoly profits within the firm in the form of overmanning, higher salaries and wages, and over investment in new technology, or in order to maintain inefficient work and management practices.¹⁸¹

. . . In the absence of regulatory scrutiny, managements may vote themselves unusually large salaries, expense accounts and other perquisites, as well as engage in other methods of exploiting their positions for their personal profit or nonpecuniary advantage, as in fact they have from time to time in the past.¹⁸²

The above references implicitly or explicitly relate to monopoly suppliers that are not subject to appropriate regulatory scrutiny, or are subject to a "cost plus" regulatory environment where all cost can be passed to customers.

Major Australian airports have been subject to extensive regulatory scrutiny for over a decade.

The regulatory practice in Australia has been to focus on various forms of forward looking incentive regulation. While incentive regulation is generally associated with an explicit CPI-X style price oversight arrangement, any forward looking pricing oversight has similar efficiency incentives.

The Revised Draft Pricing Proposal is based on an estimate of future operating expenses to establish prices that will exist for a period of time. As a result, SACL's actual operating cost performance will directly influence the returns achieved.

¹⁸⁰ BARA reference - Jean Tirole, Theory of Industrial Organisation

¹⁸¹ BARA reference - Industries Assistance Commission (now the Productivity Commission):

¹⁸² BARA reference - Professor Alfred Kahn, The Economics of Regulation, Principles and Institutions):

Similarly, the proposal does not provide for the recovery of past under-recovered operating and capital costs¹⁸³. This means that SACL's financial performance in 1998-99 and 1999-2000 has been directly related to its operating cost outcomes.

SACL is accountable to its shareholder, represented by the Minister for Finance and Administration, for its financial performance. The Minister and the Minister's representatives are provided with regular plans, budgets and reports to enable appropriate financial oversight to be undertaken. SACL's corporate planning and budgeting focuses directly on strategies to continuously improve operating efficiency.

The above discussion suggests that it is appropriate for customers to question future cost estimates, rather than the incentives for SACL to actually perform efficiently in the future. The extent of disclosure by SACL during consultation has enabled customer airlines to form views on future cost estimates.

It is also noted that the Revised Draft Proposal targets aeronautical revenue around \$38 million less than allowable revenue. The target revenue is expected to result in a post tax real return of less than 6% (compared to a WACC of 7.7%). As a result, SACL will need to continue to focus on operating efficiency improvements as part of a strategy to move over time towards a reasonable return (equal to SACL's WACC).

6.3.3.4. *BARA 1998-99 ACCC Regulatory Reports Analysis*

The above factors identified by LFA demonstrate that the simplistic (and selective) measures used by BARA should be viewed with some scepticism. The following analysis addresses specific issues raised by BARA in its presentation of 4 July 2000 and July and August newsletters.

6.3.3.4.1. Low Percentage of Non-Aeronautical Revenue

BARA claims that SACL's higher percentage of aeronautical revenue (at 38%, compared to 29-34% at MEL/BRIS/PER) is counter intuitive and the aero pricing proposal would increase this ratio. BARA acknowledges that this does not indicate poor efficiency¹⁸⁴. Revenue from non-aeronautical services should not be a matter of concern to airlines. The Government does not support continuation of the inefficient 'single till' where airline costs are cross-subsidised by commercial revenues.

Over 70% of Sydney Airport's fixed assets and land area are devoted to providing aeronautical services – the revenue percentage of 38% indicates that aeronautical charges are below reasonable levels.

¹⁸³ Government mandated security costs are understood to be recoverable retrospectively based on actual costs, however these are not included in the Revised Draft Proposal.

¹⁸⁴ In the 4 July 2000 consultation meeting, Mr Bennett, Executive Director of BARA, stated in relation to the percentage of aeronautical revenue that "Now again it doesn't refer to efficiency per se but it does provide an indication that we felt was counter-intuitive", Transcript, 4 July 2000, P177.

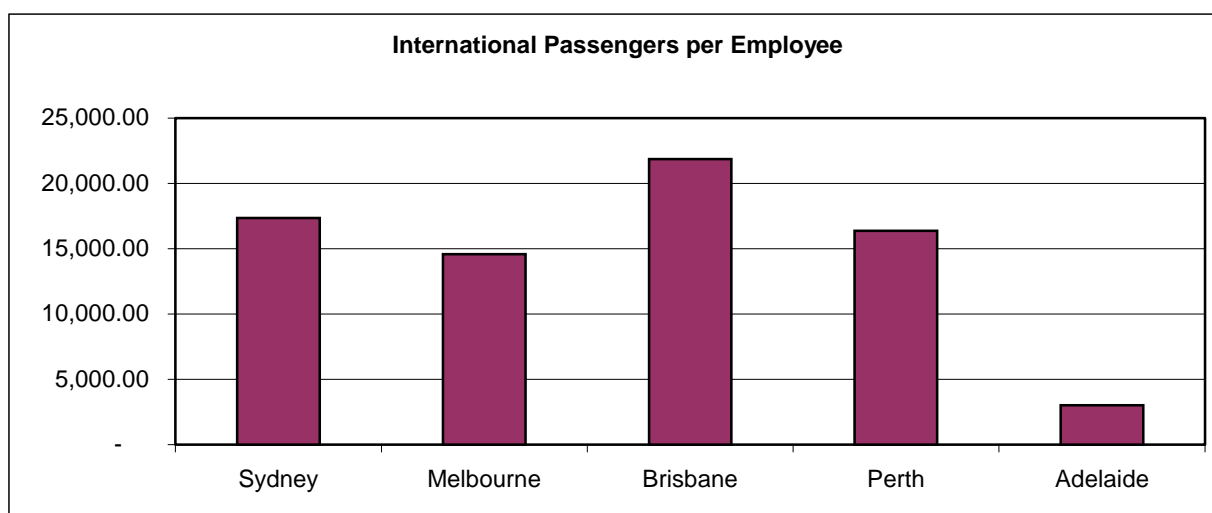
Sydney Airport operates on a significantly smaller site than other airports and therefore has less potential to develop non-aeronautical property revenues. In addition, large areas of non-aeronautical land at Sydney Airport are under long-term lease to the major incumbent airline customers at concessional rental levels, when related to market comparables.

6.3.3.4.2. Labour Productivity Measures

BARA claims that by any productivity measure Sydney Airport performs poorly. Sydney Airport has a low passenger throughput per employee.

As identified by LFA, international passengers impose significantly greater resource pressures on Australian airports than domestic passengers, particularly given that domestic airlines are responsible for their own terminals. Sydney Airport has the highest proportion and absolute number of international passengers of any of the airports compared by BARA.

An alternative productivity measure would be international passengers per employee. Sydney Airport is second to Brisbane in this measure.



Further, there is no uniform approach to outsourcing tasks at airports, which move staff (labour) costs to another category, such as consulting or management fees. LFA found that:

Sydney Airport is estimated to outsource to a lesser degree than other airports, and this increases labour costs relative to maintenance costs. A major reason for this has been the requirement for SACL to prioritise certain major projects that were ongoing during SACL's incorporation in mid-1998, such as SA2000 and the Olympics. The Airport continues to develop outsourcing¹⁸⁵.

¹⁸⁵ Leigh Fisher Associates, Review of Aeronautical Operating Costs, Sydney Airport, September 2000.

Many of the operating environment issues above also impact on this measure. In particular, heavy peaking, 24 hour operation, airfield age and the general complexity of the Sydney Airport environment require additional employees.

6.3.3.4.3. Staff Salaries

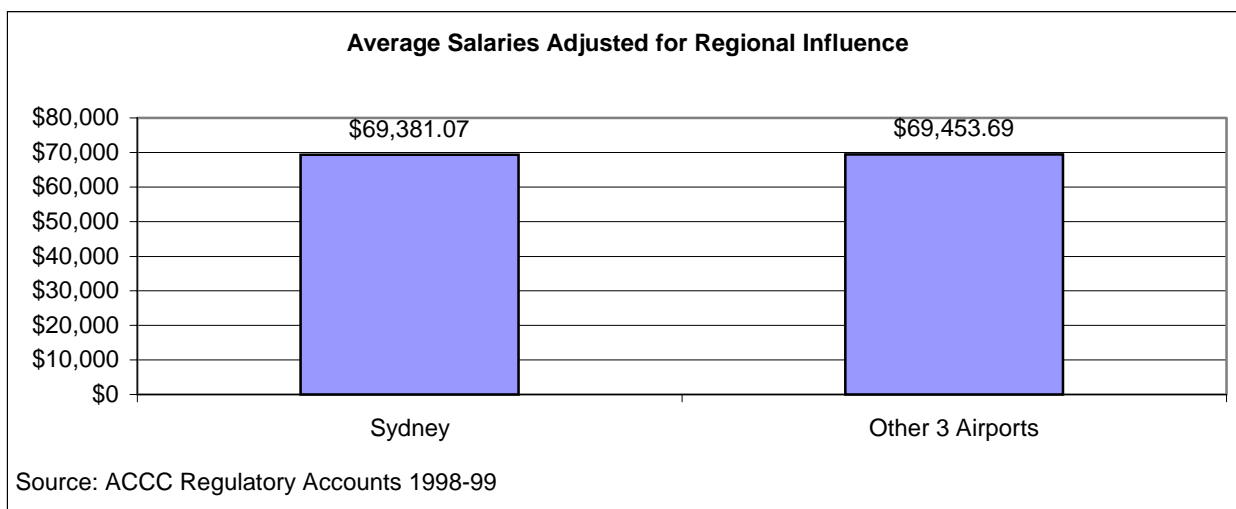
BARA acknowledges that there may be wider economic reasons why we should expect salaries in Sydney to be higher than other cities. However, BARA still claims that SACL’s salaries seem to be too high¹⁸⁶.

LFA examined the likely impact of regional labour rates on average staff salaries. LFA uses data compiled by PriceWaterhouseCoopers as follows:

COMPARATIVE AVERAGE WEEKLY EARNINGS BY STATE		
State	Average weekly earnings	NSW vs. average of 3 other states
New South Wales	\$646.08	+8.0%
Victoria	\$619.14	
Queensland	\$598.15	
Western Australia	<u>\$577.43</u>	
Average of 3 states	\$598.24	

Source: PricewaterhouseCoopers, Property Advisory Services, 20 June 2000.

The central location of Sydney Airport means that the above State based comparison is likely to understate the differences between airport localities. Notwithstanding, the following chart shows that, regionally adjusted, average staff salaries at Sydney Airport are in line with the average of Melbourne, Brisbane and Perth.



¹⁸⁶ BARA Newsletter "Airline Views", July 2000.

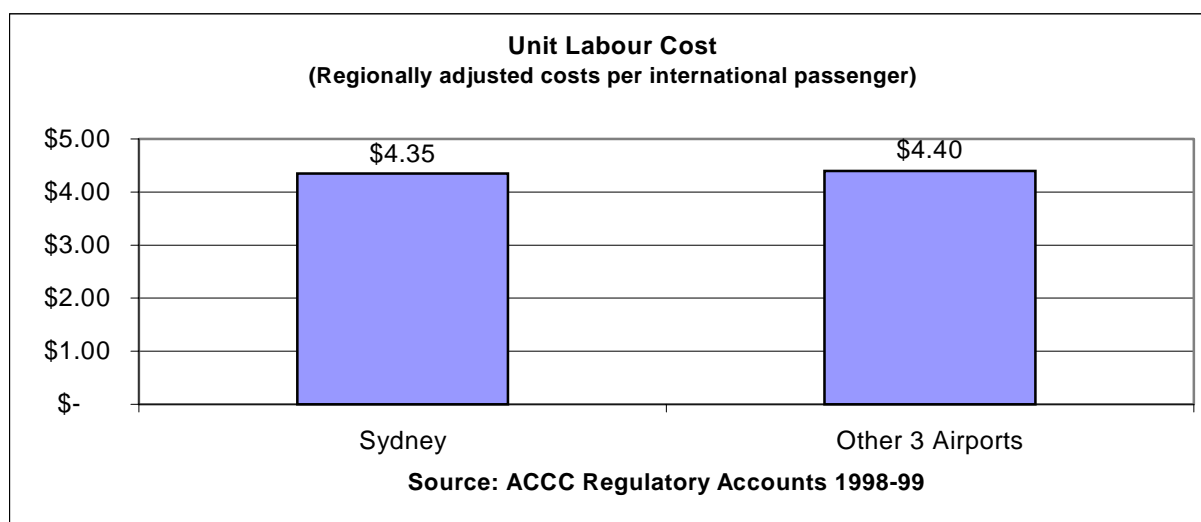
SACL also understands that other major Australian airports have management contracts in place with airport operator companies. These contracts will have the effect of transferring some relatively high salaried management functions to a contract expense.

6.3.3.4.4. Unit Labour Costs

BARA divides total labour cost by total passengers to generate a unit labour cost measure that has Sydney higher than the average of other airports.

Given the very selective and questionable inputs, the resultant new measure requires further analysis.

Combining the adjusted measures of labour costs and international passengers (for the reasons stated above), SACL unit labour costs (measured as regionally adjusted aeronautical labour costs per international passenger) are as shown in the graph below, with Sydney less than the average of Melbourne, Brisbane and Perth.



6.3.3.5. Employee Based Measures of Other Operating Costs

BARA has taken total costs for entertainment, memberships and telephones and communications, converted them to a 'per employee' basis and claims that they are inordinately high.

Airports are capital intensive businesses and, particularly in Australia, have low staff numbers. SACL has over \$3 billion of assets under management by around 400 employees (or \$7.5m per employee). By contrast, airlines have high employee numbers. For example, Qantas has around \$10 billion of total assets under management by around 30,000 employees (\$333,333 per employee).

The costs that BARA highlights have both employee related and corporate related elements, for example:

- domestic entertainment includes a range of corporate activities and administrative functions that have been advised to airlines in detail;

- membership fees include both professional memberships for some staff plus the corporate memberships of SACL such as Airports Council International (ACI), Australian Airports Association, Committee for Sydney, tourism bodies etc. These memberships are not related to employee numbers. Airline memberships of IATA, BARA etc are likely to be significantly more expensive than airport associations given IATA has 600 full-time employees, compared to ACI's 11; and
- it is misleading for BARA to describe telephone and communication expenses as simply 'telephones'. Communications are extremely important on an airport, a fact BARA well knows. Again, costs per employee are more a function of low employee numbers than high total costs for a communications intensive operation such as Sydney Airport.

6.3.3.6. *Reliability of Data*

BARA has questioned the fact that:

- ACCC Regulatory Report 1998/99 differs from original data provided by SACL.;
- in updated data there are differences between accounts from original data supplied by SACL.

SACL's 1998-99 Regulatory Report is completely consistent with the December 1999 Draft Proposal numbers. The differences are a result of the definition of "aeronautical" in Declaration 85/89 under the PS Act differing from the definition of "aeronautical" under Part 7 of the Airports Act. The main differences are the inclusion of check-in counters and domestic terminal infrastructure in the Part 7 definition.

SACL used the ABC model to determine the operating costs attributable to aeronautical and non-aeronautical services. The ABC model does not provide a breakdown of allocations automatically. To determine the aero/non-aero split of a lower level category or individual chart of account requires the exclusion of all other data from the model. This process takes approximately 1 hour per line item.

In preparing the financial model, SACL ran the ABC model for the total costs and each cost category. From these splits, individual chart of account splits were estimated.

At the request of airline customers during consultation, SACL undertook the detailed analysis of aero/non-aero splits on a chart of account line basis using the ABC model. Naturally, there were some variances between the estimates and the precise splits. However, the category totals and overall total remained unchanged.

SACL is concerned that airline customers and/or BARA may not have been acting in good faith, in as much as SACL has provided the maximum level of ABC model analysis possible during consultation and the refinement of information has been used to attempt to discredit the process. During the consultation meeting on 5 July 2000, BARA acknowledged that it was

being partisan and selective in its requests¹⁸⁷. In responding to claims by a consultant representing Qantas that it is a question of credibility, SACL stated:

No, it doesn't go to a question of credibility. We've been through this so many times. It's disingenuous to suggest that you don't understand [the reasons for the refined allocations] after understanding the allocation method that was undertaken initially and then the allocation method that provided a lot more information.¹⁸⁸

6.3.3.7. Provision of Requested Information

SACL has answered airline customer requests for additional information. BARA claims that SACL agreed to provide "micro details" of individual line items are incorrect. This would involve airlines examining individual receipts for goods. This degree of detail is an unreasonable request and unnecessary.

BARA in fact recorded the action items from the working group meeting on 24 March 2000 and SACL responded fully to each of the action items recorded by BARA.

At the consultation meeting on 4 July 2000, airline customer representatives and BARA argued strenuously that SACL agreed to provide "micro detail" of operating costs (which was not covered in BARA's action list from the meeting). The Transcript essentially proves, however, that no such agreement could have been given by SACL. Mr Bennett (BARA) stated:

You will recall that your adviser on the ABC model, that we went through his coloured boxes again and we spoke to him then about getting all the detailed costings associated with those operating expenses and he explained to us on 24 March that it would take huge amounts of computer time, we couldn't do it. So we said, okay, we will select a few categories, you give us the details cost data on that and that was agreed at that meeting, that was what we agreed. We selected the categories, and it was agreed that we would get the detailed cost scale associated with each of those categories to assess the efficiencies of SACL's expenditures, to assess the veracity of the expenditures that you're making in each of those categories to assess the allocation between us and non-aero.

The adviser on ABC could only have discussed the output of the ABC model. This output (and indeed inputs) do not include individual expense items. The process that was advised would take huge amounts of computer time, was to split aero/non-aero costs on an individual chart of account line item basis. This process was actually performed and the results are discussed above.

6.3.4. Conclusion

BARA concluded its presentation on 4 July 2000 with an estimate that SACL's operating costs could be reduced by \$17.9 million. It is alleged that this could be achieved by aligning labour productivity with other major Australian airports and virtually eliminating the use of consultants.

¹⁸⁷ Transcript of Proceedings, 4 July 2000, p 126.

¹⁸⁸ Transcript of Proceedings, 4 July 2000, p 125.

The above analysis demonstrates that SACL's labour productivity is in line with other major Australian airports once basic benchmarking adjustments are made such as for regional labour costs and the proportion of international services.

The alleged cost reductions are not explained and otherwise justified by BARA. The range of areas that SACL uses consultancy support have been provided to airline customers both in correspondence and during consultation meetings.

On 13 June when I wrote to Warren and said ... consulting and professional fees for '98/99 included obtaining specialist advice on business planning, corporate strategy, asset valuation, taxation, treasury issues, customer service, aviation marketing, aeronautical pricing, ground transportation, staffing, aircraft noise, electrical reticulation, food management, airfield lighting, safety and security, apron spills management etcetera.¹⁸⁹

SACL has, however, made a number of significant adjustments to its operating cost estimates to eliminate one-off factors such as Y2K expenditure and some bad debt provisioning during 1998-99.

6.4. Structure of Prices and Allocative Efficiency

6.4.1. Summary

The December 1999 Draft Proposal included significant changes to the pricing structure to improve both efficiency incentives and to more closely align charges with costs.

The airlines have suggested that price structure, rather than price level, should be the focus for ensuring efficient capacity allocation. SACL agrees that price *structure* is important in ensuring efficient behaviour by airport users, and the December 1999 Draft Proposal incorporates a number of proposed changes to pricing for individual services at Sydney Airport.

The Revised Draft Proposal demonstrates that the price *level* is no less important than price structure in ensuring efficiency, by affecting airline decisions regarding the frequency of flights and size of aircraft, the use of different airports as "hubs", and their tendency to "bank" landing slots.

Notwithstanding, a number of airline customers suggested that the cost based level of aircraft parking charges proposed in the 1999 Draft Proposal was high by world standards and inequitable for airlines that have long lay-overs due to restricted international bilateral agreements, curfew and other commercial factors.

SACL has decided to reduce the level of the parking charge in a revenue neutral rebalance with the international terminal charge. The parking charge has been reduced from \$55 to \$35 per 15 minutes and the international terminal charge increased from \$9.00 to \$9.50 per passenger.

¹⁸⁹ Transcript of Proceedings, 4 July 2000, pp 121-122, Mr Fitzgerald.

Finally, SACL notes that charges to recover the costs of providing the Government mandated CTFR capability have been excluded from the Revised Draft Proposal. A separate proposal will be submitted in due course to recover the direct costs of CTFR, consistent with the ACCC's recent preferred position in relation to other Government mandated security charges.

6.4.2. Issues Raised During Consultation

SACL's proposed price structure and its ability to promote allocative efficiency was raised several times during discussions on 15 March and 5 May 2000. The discussion was disjointed and it is difficult to ascertain whether there was consensus amongst the airline representatives regarding the role of prices in influencing airline scheduling and other decisions.

Nevertheless, two important points were raised by the airlines in the context of allocative efficiency and the impact of SACL's proposed prices:

- prices have no role in allocating landing slots, since this function is undertaken by a separate administrative body; and
- capacity allocation issues can be addressed by focusing on changes in aeronautical *pricing structure* (and so without changes to the average *level* of charges).

The equity of the proposed changes to the pricing structure were also questioned, particularly in relation to the proposed introduction of a time based apron parking charge at a cost reflective level.

6.4.3. Assessment

Prices signal costs to users and, as such, aeronautical charges encourage airlines to evaluate the benefits of particular scheduling decisions against the opportunity costs of those decisions. The argument that prices have no potential role in allocating demand for landing slots is simply not credible. The price for using a particular slot, and the charges for one type of aircraft relative to another, do have an impact on the demand for slots – as discussed below.

The slot allocation arrangements at Sydney Airport amount to a co-ordination process. Whilst this process complements the role of prices, it does not substitute for it. The congestion problems at Heathrow, and to a lesser extent Gatwick, coupled with the application of the single till in the UK (despite administrative slot allocation) clearly illustrate the consequences of ignoring the role of price in managing demand.

6.4.3.1. Scope for demand side response

An important element of the potential for allocative efficiency gains is the presumption that at least some of SACL's customers do have the capacity to respond to pricing signals. Airlines often argue that their scheduling decisions are price insensitive, ie, that international scheduling windows are relatively small, that travellers only demand services at certain convenient times, and that airport costs comprise only a small proportion of airline total costs. While this may be true in some cases, in practice there is a range of options available to airlines for managing their demands on an airport.

For example, airlines (and passengers) can:

- schedule larger aircraft with more seats for the same service;
- choose alternative, cheaper time periods in which to travel (if time-based pricing for aeronautical services is in place);
- hub their services from alternative airports; or
- at the extreme, cease to use the airport altogether.

Decisions by airlines are much wider and more complex than whether to come to Sydney Airport or not. Rather, the important choices from an efficiency perspective relate to aircraft type, timing, hubbing, passenger loading, etc. Furthermore, recent announcements by aircraft manufacturers and airport owners demonstrate that these alternatives are realistic, and that the market is actively trying to cater to the needs of the airlines.

One recent example is the current debate between two major aircraft manufacturers, as noted in the Economist:

It is Airbus's view that, with air travel rising steadily at around 5% a year and with limited capacity at big airports, especially in Asia, there is clearly a need for larger aircraft.

. . . It [Boeing] argues that the trend is for more long range, point-to-point air travel in wide-bodied jets . . .¹⁹⁰

Moreover, the recent announcement by the chairman of Emirates Airline highlights that this is very relevant to Sydney Airport. He recently announced that Sydney Airport would be:

One of the first airports at which he would use the A3XX, which seats 550 to 600 passengers, because congestion required maximum use of available landing slots.¹⁹¹

Similarly, arguments made recently by the Managing Director of the owner of Canberra Airport, Capital Airport Group (CAG), about CAG's plan to "develop the airport as an alternative regional hub to Sydney"¹⁹² demonstrates that the market recognises the constraints at Sydney, and that it is actively trying to cater to the needs of airlines (and passengers).

These examples highlight that there is room to redefine scheduling decisions, and that congestion at Sydney Airport is an issue for many airlines, and new entrants in particular. Hence, the aeronautical pricing regime at Sydney Airport can be expected to have a marked affect on the scheduling decisions of airlines, including both incumbent airlines and newer market entrants.

¹⁹⁰ "Super-jumbo trade war ahead" in The Economist, 6 May 2000, p69.

¹⁹¹ "Airbus Offers Qantas Big Discount" in Australian Financial Review, 1 May 2000, p7.

¹⁹² "Qantas in blue over screening", in the Australian Financial Review, 30 May 2000, p4.

In line with this, some airlines argue that aeronautical costs do bear on scheduling decisions. For example, in a submission to the PSA's review in 1993, Ansett argued that:

Airport costs are a substantial component of the costs covered by any airfare. If FAC charges were to drop, the opportunities for considerable stimulus would be created. If they were to materially increase this would have the potential to significantly constrain an operator's pricing flexibility. The point would come where operations could not be sustained and must be downgraded or terminated.¹⁹³

Dr Graeme Woodbridge, speaking on behalf of the airlines, echoed this in his opening speech at the 15 March workshop:

. . . you can't stress too much that what a regulator is doing is setting a price here that is going to affect economic behaviour of airlines, airline travellers and the provider of economic services.¹⁹⁴

SACL believes it is critical that aeronautical prices at Sydney Airport reflect the opportunity cost of providing these services. Aeronautical prices that are struck at too low a level, act to dampen incentives for efficient behaviour.

6.4.3.2. *Reforms to price structure*

SACL agrees with the proposition that the *structure* of prices plays a critical role in promoting allocative efficiency, ie, the allocation of available capacity to its highest use. Indeed, SACL proposes changes to the structure of prices at Sydney Airport that will ensure that charges better reflect the underlying costs of different services, thereby promoting more efficient allocation of scarce capacity. As detailed in section 8 of the December 1999 Draft Proposal, the proposed pricing structure includes the following charges, for discrete services:

- Runway charge, to recover the costs of runways, taxiways and associated airfield costs. This will be based on the MTOW of aircraft movements (landings and take-offs).
- International terminal charge, to recover the aeronautical costs associated with the international terminal (eg, aerobridges, gate lounges, baggage reclaim, etc). This will be based on passenger movements.
- Parking charge, to recover the costs of aprons. This will be a time-based fee in 15 minute intervals.
- Bussing/stand-off discount, to provide a discount where an aerobridge is not used.

¹⁹³ *Ansett Supplementary Submission to the Prices Surveillance Authority's Inquiry into the Aeronautical and Non-Aeronautical Charges of the FAC*, 1993, p3. As quoted by the Prices Surveillance Authority in its report *Inquiry into the Aeronautical and Non-aeronautical Charges of the FAC*, August 1993, p53.

¹⁹⁴ Dr Graeme Woodbridge, *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Workshop*, 15 March 2000 Transcript of proceeding 15 March 2000, p55.

- General aviation parking charge, to recover the costs of specified apron areas. This will be based on a daily charge for parking over 2 hours.

In previous submissions to the PSA, BARA has supported separate charging for individual facilities, in order to:

. . . bring a greater transparency to aeronautical charges, as well as providing better price signals to operators and thus improving airport operating efficiency.

BARA suggested that, as a minimum, there should be separate charges for the following facilities:

- landing (runways and taxiways);
- aprons;
- aerobridges;
- terminals;
- baggage handling.¹⁹⁵

SACL anticipates that the proposed prices could have a significant impact on the demand for some of these services, particularly by more price-sensitive users such as marginal domestic services, and international carriers operating smaller aircraft. The interest shown by one of the smaller international carriers at the February 2000 workshop in the proposed bussing/standoff discount, for example, suggests that prices can and do influence airline behaviour. The change to apron parking charges will provide a significant incentive for faster turnaround and therefore efficient use of scarce apron land.

SACL also anticipates that the proposed pricing structure will encourage substitution from smaller to larger aircraft. In particular, the move to a passenger-based charge will have a relatively greater impact on, say, a Boeing 737 than a 747. Such developments are consistent with the decreasing availability of spare capacity (as measured by movements) at Sydney Airport.

In view of the above issues, SACL has retained the proposed changes to the pricing structure in the Revised Draft Proposal. However, to reflect concerns about the equity of the changes in certain circumstances, SACL has decided to refine the relative level of charges.

6.4.3.3. *Equity Issues in Proposed New Structure*

At the 16/17 February 2000 workshop, comments were made about the impact of the proposed cost based apron parking charge on airlines, particularly international airlines, that have limited choice about the length of time spent on the ground at Sydney Airport. The reasons choices may be limited were highlighted by Mr Stewart Angus of Emirates Airlines, as follows:

¹⁹⁵ Prices Surveillance Authority, *Inquiry into the Aeronautical and Non-aeronautical Charges of the Federal Airports Corporation*, 17 August 1993, p75. The text in italics is from a BARA submission, as quoted by the PSA.

I realise what you are trying to do. By [charging for apron parking] every 15 minutes you are trying to signal and incentivise people to cut short their ground time. Now, I'd like to raise two points there. First of all, the aircraft we are flying in here is worth \$140 million and we have a return on our set targets as well. We have every signal we possibly want to get that aircraft out as quick as possible and it is our most valuable asset. We don't want to have it on the ground, and kind of, whatever parking charge you have or not, we want it out as quickly as possible.

In my case, our aircraft will be on the ground a long time and we are unhappy about that because it's our biggest asset and it's sitting not earning money for us. The reason we are doing that is partly because of the curfew, we'd actually - you know, we're having to mess around our schedule because of the curfew hours. I realise you can't affect that. Secondly, it has to fit in with our hub at the other end. There's actually no point having our aircraft arriving in Dubai when it's just missed all the other flights going the other way. It just defeats the economics of it.

So we really have no choice, and believe me, we are trying to do everything we can to get this aircraft out quicker. You know, regardless of what you put as the parking charges, we have all the incentives in the world to do that. The other restriction is, we know what we'd like to do with the aircraft but we can't get the approval from the Australian government to do it. So, it's a fine theory, but in reality it isn't going to incentivise us to - we have every incentive to get out, we just can't.¹⁹⁶

From a cost and efficiency perspective, these points are of questionable relevance. The fact remains that there is a strong demand for apron space at Sydney Airport and the cost of providing those facilities (whether it be average, marginal or incremental cost) is high¹⁹⁷.

SACL also notes that airlines can (and do) mitigate the impact of undesirable ground time by:

- undertaking required regular maintenance; and
- minimising crew costs by allowing a sufficient rest period for the same crew to depart with the aircraft, saving the cost of carrying additional crew, or basing crew in Sydney.

Notwithstanding, SACL accepts that equity is a relevant consideration. Accordingly the apron parking charge has been adjusted. While the beneficial structural element of the change has been retained the level has been reduced from \$55 per 15 minutes to \$35 per 15 minutes, recognising a balance between equity and efficiency objectives.

As there is no change in allowable revenue as a result of the consideration of equity issues, SACL has proposed to make the change on a revenue neutral basis. As a result, the Revised

¹⁹⁶ Transcript of Proceedings, 17 February 2000, pp74 – 75.

¹⁹⁷ The constrained nature of Sydney Airport results in a long run marginal or incremental cost that is likely to be rising sharply. Locations for new aprons are increasingly costly as the better locations are all occupied. Accordingly, SACL's ODR approach (which is essentially average cost) is likely to understate the long run incremental cost of providing aprons. The existence of congestion also suggests that short run marginal costs are likely to be high.

Draft Proposal has an off-setting increase of \$0.50 per passenger on the international terminal charge (which moves from \$9.00 to \$9.50 per passenger).

6.4.3.4. *Time of day pricing*

SACL acknowledges that there is a case for introducing a peak/off peak differentiation in aeronautical charges, to maximise allocative efficiency. This would also be consistent with the pricing policies of airlines in relation to final customers, ie, air travellers.¹⁹⁸ However, SACL has not explicitly included such a proposal in its December 1999 Draft Proposal – primarily because such a marked change would have a significant, and widely differential impact on airlines. SACL presently believes that moving to such an arrangement should be done gradually, although it would be willing to bring forward consideration of such proposals. It should be noted that a peak/off peak framework could be consistent with maintaining discounted prices to certain "ringfenced" customers.

In the interim, SACL has attempted to address the desirability of achieving some time of use differentiation in charges through arrangements set out in its recently developed Conditions of Use.¹⁹⁹ Schedule 8 of Sydney Airport Conditions of Use invites new and existing airline customers to seek discounts on aeronautical charges for services that operate at off peak times.²⁰⁰ In particular, SACL is willing to consider:

- discounts of up to 50 per cent for new services to a destination not serviced by that operator from Sydney over the previous three years;
- discounts of up to 30 per cent for a service that increases the frequency of a service to any destination by an operator to a level greater than that at any time over the previous three years; and
- discounts for services being relocated from a peak period to an off peak period on a case by case basis.

SACL believes that such arrangements will work effectively in place of an explicit time differentiated price. Already, SACL has had discussions with one operator about the prospects for future discounts.

6.4.3.5. *Price level*

The *level* of prices is no less important in ensuring economic efficiency than the *structure* of prices. Significant differences in the relativity of charges, say, for one aircraft type versus

¹⁹⁸ Airlines' fares are differentiated according to the whether it is a peak or off-peak period, eg, higher fares during holiday periods; reduced availability of discounted fares for flights in peak times of the day, on peak days, or in peak seasons.

¹⁹⁹ Sydney Airport Conditions of Use was provided as part of the draft pricing notification in December 1999 in Appendix A.

²⁰⁰ The services must be scheduled to land and take-off between 10 am and 4pm (on the same day), or 8pm to 7am (the following day).

another, become less and less influential for airline scheduling and fleet mix decisions if the overall level of charges is too low.

The PSA recognised this in its review of the FAC:

Besides the relativities of the peak charges, the absolute levels and the applicable time periods are also important. To develop insights into optimal price level, it is necessary to look at the costs of aircraft delays.²⁰¹

As noted above, SACL is not advocating an explicit congestion pricing approach, and has proposed, as an initial solution, to move towards differentiated peak/off peak pricing by offering discounts to specific customers in off peak periods. However, the absolute level of prices is fundamental to ensuring that customers (ie, the airlines) make efficient use of the existing capacity at Sydney Airport. If the level of prices is too low (relative to their economic value, including the opportunity cost of land and capital), this will lead to inefficient outcomes, eg, through airlines 'banking slots' by scheduling more frequent services using smaller aircraft. By contrast, prices that reflect the opportunity cost of service provision will allocate scarce slots to those that value them most highly, including new entrants.

Furthermore, the level of prices will also affect SACL's incentives in relation to the use of existing capacity (eg, for aeronautical or non-aeronautical services), and investment in new capacity (either on-site or in the airport region), as noted in subsection 5.3.3.7. Where prices are set too low (or too high), these incentives will be distorted.

As noted by the Productivity Commission:

Improving the efficiency and competitiveness of airports is central to realising the full benefits of liberalising international air services. Greater demand for airport services will increase congestion at major Australian airports. Making the best use of the available infrastructure, and providing appropriate signals for new investment are vital to maintaining an efficient and healthy aviation industry.²⁰²

This is one of the important aims of SACL's pricing notification.

6.4.3.6. *Aeronautical Charges Excluded from the Revised Draft Proposal*

This Revised Draft Proposal does not address Government mandated security charges or charges for the newly constructed common user *Domestic Express* terminal. It is noted, however, that these are aeronautical services declared under the PS Act.

Government mandated security charges include:

- Counter Terrorist First Response (CTFR);

²⁰¹ Prices Surveillance Authority, *Inquiry into the Aeronautical and Non-aeronautical Charges of the Federal Airports Corporation*, 17 August 1993, p106.

²⁰² Productivity Commission, *International Air Services*, Inquiry Report, Report No.2, 11 September 1998, p204.

- International Passenger Screening; and
- International Checked Baggage Screening.

The ACCC's approach to considering Government mandated security charges has developed significantly since the December 1999 Draft Proposal. A discussion of these changes and the reasons for excluding all mandated security charges from the Revised Draft Proposal is included in subsection 3.3, above.

The aeronautical charges that apply at the new common user *Domestic Express* terminal are:

- a Domestic Common User (Domestic Express) Passenger Terminal Use charge; and
- a Domestic Common User (Domestic Express) Terminal Passenger Screening charge.

In May 2000 the ACCC approved a terminal and passenger screening charge for this facility. The approval was consistent with arrangements negotiated by SACL with Impulse Airlines and Virgin Blue, the current users of the facility. Given the recent nature of this approval, it has not been reviewed in the preparation of the Revised Draft Proposal.

6.4.4. Basis of Levying Charges

SACL has indicated during consultation that it would consider levying passenger based international terminal and/or security charges on air travellers directly, as a separate unavoidable item on the air ticket.

Various views were expressed during consultation on this issue and there was no clear industry consensus. SACL will seek further industry feedback as part of the on-going consultation.

The willingness of SACL to progress any direct passenger charging will depend upon:

- airlines and/or their agents collecting the charges from passengers at the time of ticket purchase and remitting the amount to SACL, noting,
 - direct collection from passengers by airport authorities is cumbersome and inconvenient for passengers, and
 - other charges, including the departure tax and noise levy are already collected in this way;
- a robust and auditable process being established to ensure revenue integrity, including an assessment of any SACL system development needs;
- advice that this is a preferable method for a majority of airline customers; and
- the arrangement being revenue neutral to SACL.

6.4.5. Conclusion

The concern that some carriers are not in a position to change their scheduling decisions in response to a change in aeronautical charges does not provide a case against a move towards more efficient prices. Rather, since some airlines can and will respond to price signals, it is important that charges reflect the opportunity cost of providing aeronautical services, so as to allocate existing capacity efficiently and to provide signals for future investment. Prices which are kept artificially below the cost of service will only encourage inefficient use of existing facilities, and exacerbate congestion at Sydney Airport.

SACL has responded to concerns expressed by some airlines about the equity of the proposed pricing structure and is willing to consider a change in the basis of charging subject primarily to airline customer preferences.

6.5. Traffic Forecasts

6.5.1. Summary

The traffic forecasts that are independently prepared for SACL by Tourism Futures International (TFI) were not materially challenged during consultation.

Revised forecasts adopted by SACL in March 2000 were provided to airline customers during consultation and the key influences were presented by the Managing Director of TFI.

6.5.2. Issues Raised During Consultation

At the 4 July 2000 consultation meeting, Bob Cain, Managing Director of TFI presented the findings of his then recently completed update of forecasts for Sydney Airport.

The main points for 2000-01 are as follows:

- positive factors for international traffic include the Olympics, the potential ongoing Asian recovery and exchange rates (for visitors);
- positive factors for domestic traffic include new airlines, the Olympics, income tax cuts, and NRMA stock float;
- negative factors for both international and domestic traffic include the slowing of Australian (4.5% to 3.5%), USA (4.5% to 3.8%) and New Zealand economies; the impact of the GST (particularly on travel packages including hotels, meals, car hire etc); fuel prices and exchange rates (for residents); and
- other issues considered included:
 - further alliance developments, including the relationship between Ansett/Air New Zealand and Singapore Airlines, and

- changes to aircraft type usage, with Boeing 747s being used almost exclusively for long haul; smaller aircraft being used on Trans Tasman routes and the growth of mid-sized aircraft usage in Asia.

The net result of these factors has been a marginal reduction in total forecast landed tonnes and an increase in forecast international passenger numbers relative to the forecasts underlying the December 1999 Draft Proposal.

6.5.3. Assessment

6.5.3.1. *Tourism Futures International (TFI) Forecasts*

The December 1999 Draft Proposal (section 9), contains details of:

- TFI's forecasting approach;
- the then forecasting environment, including historical growth trends;
- an assessment of historical outcomes against TFI forecasts; and
- a discussion of other sources of forecasts.

This information remains relevant to the Revised Draft Proposal.

The following tables compare the updated 2000-01 TFI forecasts used in the Revised Draft Proposal with the earlier 2000-01 TFI forecasts used in the December 1999 Draft Proposal. The reasons for the changes are explained in the main points from TFI's presentation to airlines, above.

Passenger Forecasts	2000/01 Draft proposal Dec 99	2000/01 Revised Draft proposal	% Change since original proposal
<i>Passenger Movements ('000s)</i>			
<i>International Passengers</i>			
Origin / Destination Passengers	7,952	8,401	5.6%
Domestic On Carriage	301	332	10.3%
Subtotal Terminal	8,253	8,733	
Transits	609	543	-10.8%
<i>Total International Passengers</i>	8,862	9,276	4.7%
<i>Domestic Passengers</i>			
Domestic	14,590	13,993	-4.1%
Regional	1,408	1,375	-2.4%
<i>Total Domestic Passengers</i>	15,998	15,368	-3.9%
<i>Total Passengers</i>	24,860	24,644	-0.9%

Aircraft Movement Forecasts ('000s)	2000/01 Draft proposal Dec 99	2000/01 Revised Draft proposal	% Change since original proposal
<i>International Movements</i>			
Passenger	47.9	47.2	-1.5%
Freight	0.0	3.4	n/a
<i>Total International Movements</i>	47.9	50.6	5.6%
<i>Domestic Movements</i>			
Passenger	114.6	116.9	2.0%
Freight	3.7	5.9	59.3%
<i>Total Domestic Movements</i>	118.3	122.8	3.8%
<i>Regional and GA Movements</i>			
Passenger	134.1	131.8	-1.7%
Freight	0.0	0.0	0.0%
<i>Total Regional and GA Movements</i>	134.1	131.8	-1.7%
<i>Total Passenger Movements</i>	296.6	295.9	-0.2%
<i>Total Freight Movements</i>	3.7	9.3	151.1%
<i>Total Movements</i>	300.3	305.2	1.6%

Tonnage Forecasts ('000s)	2000/01 Draft proposal Dec 99	2000/01 Revised Draft proposal	% Change since original proposal
<i>International Tonnage</i>			
Passenger	6,778	6,413	-5.4%
Freight	384	372	-3.0%
<i>Total International Tonnage</i>	7,162	6,785	-5.3%
<i>Domestic Tonnage</i>			
Passenger	5,433	5,803	6.8%
Freight	81	80	-1.8%
<i>Total Domestic Tonnage</i>	5,515	5,883	6.7%
<i>Regional and GA Tonnage</i>			
Passenger	644	636	-1.2%
Freight	0	0	
<i>Total Regional and GA Tonnage</i>	644	636	-1.2%
<i>Total Passenger Tonnage</i>	12,855	12,852	0.0%
<i>Total Freight Tonnage</i>	465	452	-2.8%
<i>Total Tonnage</i>	13,320	13,304	-0.1%

6.5.4. Conclusion

TFI is a respected independent forecasting body that uses a detailed and robust methodology that is tested against a number of other forecasting sources. Other forecasts (of a less material nature) are derived from actual results.

SACL notes that airline customers have not challenged these forecasts during consultation.

6.6. Financial Modelling and Results

6.6.1. Summary

This subsection describes the changes made to the assumptions of the financial model first presented to the ACCC and airlines on 17 February 2000²⁰³. These changes have been made as a result of the consultation process or due to refinements to the model prepared by SACL.

6.6.2. Issues Raised During Consultation

SACL received few substantive comments on the model itself during consultation. However, all other comments received that have resulted in refinements to the Revised Draft Proposal are incorporated in the updated model.

In addition, SACL has continually reviewed and updated the financial model during the period. Changes made are summarised in this subsection.

6.6.3. Assessment

6.6.3.1. Assumptions

The model has various assumptions that may be varied to run sensitivity cases, several of the assumptions used as the base case for the calculated pricing schedule, together with details of any assumptions since revised, are presented below:

Major model assumptions	2001 – Original (Dec 1999 Draft Proposal)	2001 – Revised Draft Proposal
WACC (refer section 6) real post tax fully cash flow adjusted	8.0%	7.7%
Inflation	2.5%	2.6%
Land value growth (CPI + 3%)	5.5%	5.6%
Asset value growth (CPI)	2.5%	2.6%
Regulatory gearing (as % of regulated assets)	50%	50%
Cost of debt	7.3%	7.12%
Tax rate	30%	30%
Gamma (ability of investors to access benefits of franking credits)	50%	50%
Aero split as % of total terminal area (calculated from drawings/measurements)	60%	60%

Other assumptions since revised in the revised draft pricing proposal are set out below:

²⁰³ While the 17 February 2000 model is generally consistent with the numbers in the December 1999 Draft Proposal, a number of refinements and enhancements had been made. The most material was an adjustment in the treatment of capital gains on land value.

Other model assumptions	2001 – Original (Dec 1999 Draft Proposal)	2001 – Revised Draft Proposal
Assumptions sheet		
Bussing rate (instead of aerobridge usage)	20%	2%
Parking – average number of hours for international turnaround	4 hrs	3 hrs
International Movements/landings/departures (TFI) -	Updated numbers – refer model	
Security – Counter terrorist first response	Removed from proposal	
Taxation adjustments		
Maintenance capex depreciation	Nil as no maintenance capex	
Repairs and maintenance for tax purposes	\$0.4	\$ nil
Unit summary		
A sensitivity function has been added on Summary Results page	Refer model	
Results		
Terminal charge per pax	\$9.00	\$9.50
Apron parking	\$55.00	\$35.00

Traffic Forecasts:

The Revised Draft Proposal incorporates updated, independent traffic forecasts, as described in subsection 6.5.

A revised financial model will be released with this Revised Draft Proposal, in which all assumptions have been detailed.

6.6.3.2. *The Building Blocks Approach*

The approach taken to calculate the proposed aeronautical pricing schedule has been to arrive at an allowable revenue figure using a building block approach which is based on forecasts of the component costs of service over the regulatory period. These costs include:

- the cost of capital on aeronautical assets.
- depreciation of aeronautical assets; and
- aeronautical operating expenses;

The proposed pricing model has been structured using a real, post-tax cost of capital target return framework.

The following subsections describe the approach to modelling each building block in further detail.

6.6.3.3. *Allocation of Aeronautical Assets*

All costs for aeronautical services have been allocated via SACL's ABC Model and are in line with the proposed pricing structure. These have been categorised as follows:

- Aircraft Landings;
- International Terminal Apron Parking;
- Helicopter Precinct;
- Passenger Processing at the International Terminal Building; and
- General Aviation Services.

6.6.3.4. *Asset Values*

The cost of capital is determined by reference to the asset base. Details of the asset base are included in subsections 5.3 and 6.1, above. In summary, the asset base on which this cost has been calculated is comprised of:

- aeronautical land (as valued by Jones Lang LaSalle);
- aeronautical assets as at 1 July 2000 - the Revised Draft Proposal is based on the 1 July 1998 valuation, with updated values of new investment based on actual costs; and
- new aeronautical assets that will be capitalised between 1 July 2000 and 1 November 2000 (at cost).

The total value of aeronautical assets in the Revised Draft Proposal of \$1.69 billion has been reduced by \$70 million from the December 1999 Draft Proposal. The reductions have resulted from new projects being completed under budget, a number of minor budgeted projects having been postponed and from the reallocation of certain assets from aeronautical to non-aeronautical. The most significant reallocation has been in relation to landside roads and associated ground access infrastructure.

The allowance previously made for maintenance capital expenditure in the Draft Proposal has been removed from the Revised Draft Proposal and the pricing submission.

Detailed below are some of the refinements in relation to aeronautical asset values, adopted in the revised draft pricing proposal:

	2001 – Original (Dec 1999 Draft Proposal)	2001 – Revised Draft Proposal
Land assets sheet		
Net aircraft landings land ²⁰⁴	\$540.5 m	\$351.7 m
Current capital assets		
Aircraft landings assets – closing value 2000/01	\$382.9 m	\$601.9 m
New Capex		
Assumptions updated – more accurate and new projects	\$844.4 m	\$101.6 m

²⁰⁴ Land-fill to create the base for runways that extend into Botany Bay (total value of \$189m as at 1 July 1998) has been treated as a fixed capital asset, with a corresponding reduction in net land value to avoid any double counting. See subsection 6.1.4.3 for details.

6.6.3.5. *Cost of Capital*

The cost of capital has been based on a post tax real return of 7.7% which has been derived using the fully cashflow adjusted WACC.

The cost of capital in dollar terms has been reduced in the Revised Draft Proposal due to the cumulative effects of lower asset value and lower cost of capital.

6.6.3.6. *Depreciation Costs*

The costs of depreciation are based on book rates of depreciation adopted by SACL on the basis of an independent engineering assessment. Adjustments to account for differences between SACL's book and tax depreciation are used in the model in order to derive an accurate cash taxation figure which is consistent with the approach to WACC adopted.

Depreciation has increased marginally in the Revised Draft Proposal. The model supporting the December 1999 Draft Proposal used a simplified method that calculated depreciation on the diminishing value of assets. The Revised Draft Proposal now more correctly calculates depreciation using prime cost. Other minor changes in depreciation are the result of a more refined examination of appropriate depreciation categories on completion of new projects – the December 1999 Draft Proposal used conservative assumptions.

6.6.3.7. *Assumed Capital Gain on Land*

Land is an appreciating asset. The capital gain on holding the land is a benefit to the owner that should be considered in determining allowable revenue.

A simple way to think about capital gain on land is as negative depreciation. While depreciation increases allowable revenue, capital gain on land reduces it.

The calculation of the capital gain becomes more complex when tax treatment is considered. For tax purposes, depreciation is assumed to be tax deductible in the year it is incurred (at rates allowable by the Australian Taxation Office). In reverse, capital gains are taxable (at their nominal rate).

The calculation of the assumed capital gain on land has changed materially from \$41 million in the December 1999 Draft Proposal to \$15 million in the Revised Draft Proposal. The December 1999 Draft Proposal assumed that the full *nominal* increase in land value could be treated as income. Further analysis has shown that, under a real pricing approach, it is the real gain (of 3%) that is the relevant gain.

Changes to the treatment of capital gains in the Ralph Report on Business Taxation will result in any gain being taxed at the corporate rate (30%) on the *nominal* value of the gain. Combined, these factors significantly reduce the post tax benefits to SACL of any increase in land value. These factors were advised to airline customers in February 2000 (and were included in the financial model released at the workshop on 17 February 2000).

This issue was also considered by Professor Kevin Davis in his review of SACL's WACC (commissioned by the ACCC). Professor Davis noted that the real gain was the appropriate gain for allowable revenue purposes.

6.6.3.8. *Operating Costs*

Aeronautical operating expenses have been calculated by indexing 1998-99 operating costs by business drivers which are specific to those costs.

The model supporting the Revised Draft Proposal now also provides detail of operating expenses, together with additional detail of the aeronautical and non-aeronautical split for each item of expense.

The Revised Draft Proposal has an adjusted operating cost base excluding Counter Terrorist First Response costs of \$6.6 million as a result of this service being removed from the Revised Draft Proposal.

The Revised Draft Proposal also includes downward adjustments to the 1998-99 operating cost base to reflect the non-recurring nature of some expenses including those related to Y2K preparation and bad debts from parking infringement notices. The Revised Draft Proposal also includes, however, an allowance for required special project expenditure that was not included in the 1998-99 base. This includes an allowance for master planning and aeronautical pricing and other regulatory management costs.

SACL's assumptions include significant improvements in efficiency factored into operating costs. For example, the Revised Draft Proposal assumes falling staff numbers in 2000-01.

6.6.3.9. *Calculating Allowable Revenue*

Allowable revenue has been calculated by ensuring that the post-tax regulatory profit (including unrealised capital gain income from the appreciation of land assets) in 2000/01 is 7.7% of capital assets (ie, the post-tax real WACC).

Allowable revenue results from the application of the return requirement to the asset base in the target year. The asset base in any period is the result of:

- the opening asset values;
- additions to these assets as a result of capital expenditure;
- reductions in the value of these assets as a result of depreciation; and
- indexing to account for the relevant assumed change in value over time, being forecast inflation for fixed assets and a higher rate for land.

Applying the target return on assets to the regulatory asset levels provides the allowable revenue. The components of allowable revenue are shown below:

	Allowable Revenue (aeronautical income from all sources)
less	Operating expenses
less	Depreciation (regulatory basis)
equals	EBIT
add	Unrealised capital gain on land
less	Actual tax paid ²⁰⁵
add	Value of franking credits ²⁰⁶
equals	Regulatory profit (Asset value x WACC)

The model enables this equation to be solved in reverse to derive allowable revenue.

6.6.4. Output

The model provides both an allowable revenue calculation and an assessment of the level of individual charges based on the costs of individual services.

6.6.4.1. Allowable Aeronautical Revenue Profit and Loss statement

Shown below are the updated results generated by the model. The table compares:

- the allowable revenue in the December 1999 Draft Proposal;
- the allowable revenue (\$243.2m) in the Revised Draft Proposal; and
- the target revenue (\$205.4m) in the Revised Draft Proposal.

	Dec 99 Draft Proposal Allowable Revenue	Revised Draft Allowable Revenue	Revised Draft Target Revenue
Allowable Revenue (calculated)	232,139,042	243,181,474	205,413,045
Aeronautical Expenses			
Operating Expenses	71,029,082	64,222,528	64,222,528
Depreciation	44,056,709	46,694,098	46,694,098
Total Aeronautical Expenses	115,085,791	110,916,626	110,916,626
EBIT	117,053,251	132,264,848	94,496,419

²⁰⁵ Tax paid is calculated as: (EBIT less interest paid, plus/minus tax adjustments, plus appreciation of land) x corporate tax rate.

²⁰⁶ Value of franking credits is calculated as tax paid x gamma (rate of assumed imputation credit utilisation).

	Dec 99 Draft Proposal Allowable Revenue	Revised Draft Allowable Revenue	Revised Draft Target Revenue
Taxation and franking value calculation			
Interest			
Statutory Debt %	50%	50%	50%
Statutory Debt	\$883,157,706	845,174,652	845,174,652
Interest Rate	7.31%	7.12%	7.12%
Taxation calculation			
EBIT	\$117,053,251	132,264,848	94,496,419
Net taxation adjustment ²⁰⁷	\$19,992,170	8,731,220	8,731,220
Statutory interest	64,558,828	60,176,435	60,176,435
Unrealised capital gains on land	\$41,317,027	27,370,516	27,370,516
NPBT (for tax calc)	113,803,620	108,190,149	70,421,720
Tax	34,141,086	32,457,045	21,126,516
NPAT	79,662,534	75,733,104	49,295,204
Franking value			
Gamma	50%	50%	50%
Tax paid	\$34,141,086	32,457,045	21,126,516
Value of franking credits	\$17,070,543	16,228,522	10,563,258
Regulatory Earnings			
EBIT	117,053,251	132,264,848	94,496,419
Unrealised capital gains on land	41,317,027	14,662,776	14,662,776
Tax Liability, net of franking credits	17,070,543	16,228,522	10,563,258
Regulatory earnings	141,299,735	130,699,102	98,595,937
Average regulated asset values			
Land	722,234,797	502,444,472	502,444,472
Capital	1,044,080,614	1,187,904,833	1,187,904,833
Average Total Aeronautical Assets	1,766,315,412	1,690,349,305	1,690,349,305
Return on Total Assets (Post Tax)	8.00%	7.73%	5.83%

6.6.4.2. *Target Aeronautical Price Schedule*

As shown above, the allowable revenue from regulated aeronautical services at Sydney Airport in 2000-01 has been calculated to be \$243.2 million.

SACL's pricing proposal targets revenue of \$205.4 million, representing a rounding down (or discount) of around \$38 million on the justified allowable revenue.

The following table shows the proposed structure to recover the target revenue.

²⁰⁷ Net taxation adjustment = Accounting Depreciation – Taxation Depreciation.

Charge	Application	Rate per unit	Units	Forecast Units	Total Revenue
Runway Charge	Landing and take-off of all fixed wing aircraft	\$4.00	Per 1000kg MTOW	26,608,000	\$106,432,000
International Terminal Charge	All arriving and departing passenger aircraft using the international terminal	\$9.50	Per passenger	9,276,000	\$88,122,000
Apron Use Charge	All users of SACL common use aprons, excluding general aviation aprons	\$35.00	Per 15 minutes or part thereof – 6am to 11pm	303,600	\$10,626,000
Bussing/Stand Off Discount	Arriving and departing international passenger aircraft not using an aerobridge	-\$200.00	Per use	944	(\$188,800)
Helicopter Charges	Per helicopter movement	\$25.00	Per movement	9,813	\$245,315
General Aviation Parking	Use of common use general aviation aprons	\$60.00	Per day (>2 hours)	2,942	\$176,530
					\$205,413,045

See section 3 for a full description of the basis of application of each charge and any exceptions such as minimum charges.

7. QUALITY OF SERVICE

7.1. Summary

The quality of the services and facilities provided are an important part of the value received by airline customers and travellers using Sydney Airport. SACL reports to the ACCC annually on a range of quality of service indicators including the results of a passenger survey.

A passenger survey conducted in June 2000 demonstrated that passengers are very satisfied with the quality of services and facilities at Sydney Airport. The results of this survey have been provided to the ACCC.

SACL has also initiated a discussion with airline customers on the issue of Service Level Agreements (SLAs). However, the Revised Draft Proposal is based on setting reasonable charges for the current service levels that are in fact provided. Approval of the proposal will then establish a reasonable baseline for SLAs to consider differential service levels, charges and other terms around these levels.

7.2. Issues Raised During Consultation

Quality of service issues were not raised directly in the context of consultation on the Draft Pricing Proposal. However, quality of service issues are an important issue generally between SACL and its airline customers.

There is no doubt that the investment undertaken by SACL over the past two years has significantly improved the quality of services at Sydney Airport, especially given major current and forecast volumes.

The ACCC's interest in quality of service is clear through the inclusion of quality of service as a relevant factor in Directions under the PS Act and the regular quality reporting obligations on major airports under the *Airports Act 1996*.

SACL advised airline customers in April 1999 that it intends to develop SLAs with them and the other service providers and government agencies directly involved. At that time, it was suggested that the process of SLA development would commence following the completion of the major construction program. SACL has recently written to a number of customers and industry groups to start the SLA development process.

7.3. Assessment

7.3.1. Passenger Survey Results

The recent completion of the major expansion and upgrade of the international terminal, along with other major improvements such as taxiway enhancements, have significantly increased the quality of services at Sydney Airport.

As part of its ACCC quality of service reporting, SACL recently engaged independent research company Marketshare to conduct the "Quality of Service Monitor Survey" using face-to-face interviews and written questionnaires.

The survey of more than 1100 passengers and visitors to the Airport found high levels of satisfaction with new facilities including check-in counters, baggage reclaim, car parking and taxi pick-up.

Compared with the same survey last year, the results show improvements in passenger satisfaction for almost all of the 34 categories tested.

A large proportion of survey respondents rated the baggage system favourably, with 76% rating waiting time at the baggage reclaim area as good or excellent.

Government agency provided services also showed strong improvement with 85% of respondents giving a positive rating (good or excellent) to waiting time for inbound immigration.

Inbound baggage inspection was rated as good or excellent by 93% of respondents. Outbound immigration (89% saying good or excellent) and passenger screening (83%) were also highly rated.

The survey will be used as a benchmark to how SACL can continue to improve the performance of the Airport.

Other features of the survey were:

- 76% of passengers rated waiting times at check-ins as either good or excellent;
- 92% rated the availability of trolleys as good or excellent;
- 72% gave a positive rating (good or excellent) to the availability of carpark facilities, with 59% positive about the standard of parking facilities; and
- 92% rated taxi waiting times at the International Terminal as either good or excellent.

SACL has not received any details of the results of an airline survey that will form part of the same ACCC monitoring report. SACL is hopeful that the aeronautical pricing process and action being taken in the Federal Court by airlines against SACL will not influence the results of this survey.

7.3.2. Service Level Agreements (SLAs)

SLAs are not included in the Revised Draft Proposal. The Revised Draft Proposal will assist the development of SLAs by establishing a reasonable base-line price for current implied service levels.

SACL has initiated a discussion with airline customers on the issue of SLAs. SLAs would cover in some detail the mutual obligations of the airport, airlines and third parties (Government agencies, commercial service providers, contractors etc).

As the provision of airport services becomes increasingly sophisticated, airport operators such as SACL will be able to differentiate service quality according to customer preferences for quality vs cost etc. SLAs may ultimately provide a 'menu' of service standards and prices for customers. A limited example of this is the provision of a low cost *Domestic Express* terminal for new entrant domestic airlines who specified a service level (and associated cost structure) to suit their needs – which SACL provided.

Apportionment of risk between customers and SACL will also be addressed through SLAs. If customers want an airport operator to guarantee very high levels of service and reliability with financial penalties for non-performance, airport investors will expect returns commensurate with this higher level of risk.

The development of SLAs at Sydney Airport will be world's best practice as there are few examples of SLAs at any airports in the world at present. Current service levels at Sydney and other airports are specified in aviation related legislation, in lease documents, and through the Airport Conditions of Use and other explicit and implicit terms and conditions that may exist for particular services.

SLAs will also need to recognise the integrated and complex nature of some airport services where the quality of such services is directly influenced by or is the direct responsibility of the airlines and/or others.

The Revised Draft Proposal is based on setting reasonable charges for the current service levels that are in fact provided whether or not they are formally agreed in the various documents outlined above. Approval of the proposal will then establish a reasonable baseline for SLAs to consider differential service levels, charges and other terms around these levels.

8. IMPACT ON CUSTOMERS

SACL's charges are amongst the lowest in the world at present and will remain below average for comparable international airports following implementation of the proposed charges. In an independently prepared comparison in the 1999-2000 annual report of BAA Plc, Sydney Airport had the lowest charges of the 35 major airports.²⁰⁸

With substantially expanded and upgraded facilities, Sydney Airport will continue to provide excellent value for its customers. The location of Sydney Airport close to the Sydney CBD provides savings for travellers in both time and ground access costs.

The medium to long term impact of price changes will be overwhelmingly positive for the community and the majority of customers. Efficient pricing signals and reasonable returns will create a viable aviation business that receives an appropriate degree of maintenance, and upgrading.

Realistic charges will also provide appropriate incentives for efficient use of facilities, including slots, providing for the entry and expansion of additional competition. Competition has a very significant impact on airfares, as evidenced by the recent entry of Impulse and Virgin in the domestic market.

Due to the small impact of any price changes to be passed onto consumers, the impact on business travel and tourism is expected to be minimal. Disappointingly, although requested during the consultation process, airline customers did not share with SACL their reported analysis of the potential impacts on airfares or airline profitability.

The following two tables demonstrate that the proposed changes, if fully passed onto the travelling public by the airlines, would only justify airlines increasing the price of an airline ticket by a small amount.

The first table:

- compares the existing charges per movement (m'ment) to the increases proposed in the December 1999 Draft Proposal, and the Revised Draft Proposal for various aircraft types (and example routes); and
- converts the current charge and increases proposed in the December 1999 Draft Proposal and Revised Draft Proposal to a per passenger equivalent.

The second table contains an estimate of a on-way economy airfare to each of the example routes and the percentage increase that the Revised Draft Proposal would represent if airlines pass the full increase on to passengers.

²⁰⁸ BAA Plc is a major operator of airports in the United Kingdom, including Heathrow, Gatwick and Stansted airports in London, and has airport interests world-wide including a minority interest in a number of Australian airports.

The assumptions are included in the notes below.

Potential Impact of the Revised Draft Proposal on a Per Passenger Basis

Example origin/ destination		MTOW (weight)	Assumed Passengers (Pax)	Existing Charges		Dec 99 Draft Charge		Revised Draft Charge	
				Per M'ment	Per Pax	Per M'ment	Increase per Pax	Per M'ment	Increase per pax
Aircraft				\$	\$	\$	\$	\$	\$
Singleton	PIPER PA31	3.34	5	19.91	3.98	19.91	0.00	19.91	0.00
Newcastle	BEECH 1900	7.53	11	41.06	3.73	41.06	0.00	41.06	0.00
Dubbo	Dash 8-200	16.5	22	49.77	2.26	65.85	0.73	65.85	0.73
Canberra	SAAB 340 A	13.16	20.4	49.77	2.44	52.60	0.14	52.60	0.14
Melbourne	B 737-400	68.05	90.3	113	1.25	267	1.70	286	1.92
Perth	B 767-200	142.9	140	238	1.70	581	2.46	601	2.60
Wellington	B 737-300	61.25	74.2	343	4.63	1,046	9.47	1,003	8.89
Auckland	B 767-300	184.6	159.6	1,035	6.48	2,433	8.76	2,433	8.76
Singapore	A340	257.5	183.4	1,443	7.87	3,064	8.84	3,036	8.69
London	B 747-400	396.9	280	2,224	7.94	4,631	8.59	4,611	8.52

Percentage Change in Ticket Price

Example origin/ destination	Economy fare (one-way)	Increase per passenger – Revised Draft	% Increase in fare
Singleton	\$140	\$0.00	0.00%
Newcastle	\$115	\$0.00	0.00%
Dubbo	\$192	\$0.73	0.38%
Canberra	\$165	\$0.14	0.08%
Melbourne	\$291	\$1.92	0.66%
Perth	\$733	\$2.60	0.35%
Wellington	\$633	\$8.89	1.40%
Auckland	\$633	\$8.76	1.38%
Singapore	\$978	\$8.69	0.89%
London	\$1,299	\$8.52	0.66%

Assumptions:

- the full change is passed directly to passengers by airlines through fare increases;
- a landing, turn-around and take-off equals two movements;
- all international and domestic aircraft have a 70% load factor, regional aircraft have a load factor of 60%;
- international aircraft with less than 250 seats have a 2 hour turn-around time and use a bussing or stand-off position (attracting a \$200 discount per movement);
- international aircraft with between 250 and 300 seats have a 3 hour turn-around time;
- international aircraft with more than 350 seats have a 4 hour turn-around time;
- estimated airfares are for substantially unrestricted fares quoted by airlines and travel agents on 20 September 2000; and
- the impact of charges in relation to the December 1999 draft proposal detailed above are differ from those in section 11 of the December 1999 Draft Proposal. These charges have been correct for an inadvertent overestimation of parking charges.

During consultation, SACL requested feedback from airline customers on the likely impact on airfares, demand for air travel and airline profitability. No comments were received. As a result, SACL continues to rely on the analysis of demand elasticity, that underpins the conclusions in section 11 of the December 1999 Draft Proposal, that the proposed changes would have a minimal impact on travel.

9. CONSULTATION

9.1. Summary

Extensive consultation with airline and other aviation customers was undertaken between December 1999 and August 2000. Additionally, SACL will continue consultation throughout the consideration of the Revised Draft Proposal.

During consultation, additional information was released including an operational financial model and the full details of the independent asset valuation as at 1 July 1998.

The amount of information disclosed by SACL to its customers is understood to be unprecedented in the Australian regulatory context.

9.2. Objective and Elements of Consultation

The objective of the consultation on the December 1999 Draft Proposal has been to provide airline customers and other interested parties with the opportunity to assist in the development of reasonable aeronautical pricing levels and structures.

To facilitate this process, SACL has:

- provided information relevant to the proposal;
- met requests for additional information that is reasonably required to assess the proposal;
- held a number of meetings over an extensive period;
- entered those meetings with an open mind;
- taken due notice of what has been said and submitted, by way of comments; and
- allowed a reasonable period for comments before deciding on required changes to the proposal.

While the record shows definitively that SACL has conducted a genuine, open and transparent process, customer airlines have alleged that this is not the case. The extent of feedback from customers and their comments on the process are addressed in subsection 9.8.

9.3. Planned Consultation Program

The December 1999 Draft Proposal included a program that exceeded the ACCC guidance contained in its draft Statement of Regulatory Approach to Price Notifications released in 1998.

The draft consultation timetable was as follows:

8 - 10 December 1999	Release of draft notification and SACL Briefing Sessions with Industry Groupings
4 February 2000	Closing date for initial industry representations to SACL
5 - 27 February 2000	SACL consideration of industry submissions
28 February 2000 - 3 March 2000	SACL conducts further meetings with Industry Groupings to provide further information and detail its responses to industry submissions – ACCC invited to attend as observer
6-10 March 2000	SACL advises ACCC and industry of any variations proposed to the draft notification

At the industry briefings on 8, 9 and 10 December 1999, SACL sought feedback from airline customers on the draft timetable. On 23 December 1999, following airline customer feedback, a revised timetable was agreed that included:

- a workshop on 16-17 February 2000;
- further industry feedback by 3 March 2000; and
- an additional industry meeting on 15 March 2000.

The Revised Draft Proposal was scheduled for submission to the ACCC in April 2000.

9.4. Actual Consultation Program

The planned consultation program was initially followed by SACL, as agreed in correspondence on 23 December 1999.

The initial consultation included:

- introductory meetings for different customer groups on 8, 9 and 10 December 1999;
- consideration of customer comments on the draft consultation program and response with revised program on 23 December 1999;
- a two-day workshop in February 2000 attended by over 40 airline customers and representatives which included presentations on, and discussion of, all elements of the December 1999 Draft Proposal; and
- a consultation meeting with broad airline customer representation on 15 March 2000.

9.5. Further Extensions of Consultation

Along with extending the consultation program in late December 1999 to include additional meetings and opportunities to comment, SACL remained open to reasonable requests from customers for additional elements and extensions of the consultation process.

9.5.1. Additional Consultation Meetings

At the consultation meeting on 15 March 2000, SACL and airline customers agreed to:

- hold an additional consultation meeting on 17 April 2000;
- pencilled in a further possible consultation meeting for 17 May 2000; and
- arrange Working Group meetings to discuss detailed operating cost and valuation issues.

At the request of airline customers, SACL subsequently agreed to defer the planned 17 April consultation meeting to 5 May 2000.

At the 5 May 2000 consultation meeting it was agreed to schedule a further consultation meeting for 1 June 2000 to discuss the outcome of SACL's further consideration of the contents of the Revised Draft Proposal.

The three weeks between meetings proved insufficient for SACL to be satisfied that it had fully considered all comments made during previous meetings. As a result, the 1 June 2000 meeting agenda was more suited to an Operating Cost Working Group format.

A further meeting was subsequently scheduled for 4 July 2000.

At the 4 July 2000 consultation meeting, it was agreed that a further meeting would be scheduled for 10 August 2000, subject to confirmation that either the Revised Draft Proposal is in a form to be submitted or has been submitted.²⁰⁹

As the Revised Draft Proposal remained under active consideration by SACL at the end of July, the 10 August 2000 meeting was postponed in accordance with the agreed arrangements.

SACL will attempt to reschedule the consultation meeting to discuss the Revised Draft Proposal at the time of submission.

9.5.2. Operating Cost Working Group

Airline customers requested a line by line breakdown of operating costs. It was agreed at the workshop in February 2000 that a Working Group would be formed to undertake this detailed assessment outside the main consultation meetings.

Meetings of the Operating Cost Working Group were held on 23 March 2000 and 1 June 2000.

The issues considered in this Working Group are discussed in subsection 6.3.

²⁰⁹ Transcript of Proceedings, 4 July 2000, p144

9.5.3. Fixed Asset Valuation Working Group

A further Working Group was established to undertake a line by line assessment of fixed asset valuation issues and the new assets included in the December 1999 Draft Proposal.

This Working Group met on 24 March 2000. The main outcome from this process was an agreement by SACL to provide to airline customers and their advisers fully transparent working papers from Maunsell McIntyre's independent valuation of SACL's fixed assets as at 1 July 2000.

9.5.4. Detailed Review of 1 July 1998 Asset Valuation

The detailed "peer review" agreed in the Fixed Asset Valuation Working Group has involved an extensive addition to the consultation process.

9.5.4.1. Confidentiality arrangements

Due to the inclusion of commercial information (such as the value and condition of assets leased to third parties) in the documents being released, SACL suggested standard confidentiality arrangements.

While the legal advisers to airlines argued forcefully for significantly watered down arrangements, an agreement was reached that provided SACL with a degree of comfort that the confidential information would be appropriately protected.

Airline customers agreed to sign the confidentiality agreements on 25 May 2000 enabling the immediate release of information²¹⁰.

9.5.4.2. Sydney and Melbourne Data Rooms

To facilitate convenient access to the materials by advisers to airlines, SACL established data rooms in both Sydney and Melbourne for the review of the confidential documents.

9.5.4.3. Tour of Facilities

The review has included a detailed tour of the international terminal and associated facilities with airline customers and their advisers. This tour was conducted by SACL's facilities management team, accompanied by Maunsell McIntyre, to assist in the understanding of the facilities.

²¹⁰ SACL notes that significant detailed information was included in the December 1999 Draft Proposal, including a detailed spreadsheet listing all assets that had been valued. This enabled airline advisers to commence the review prior to 25 May 2000.

9.5.4.4. Follow up Requests

Airline customers and their advisers have made a substantial number of requests for clarification and/or additional information. SACL, in consultation with Maunsell McIntyre, has answered each of these requests and released additional information where appropriate.

9.5.4.5. Timing

SACL is concerned that to date no feedback has been received from the detailed review, which has apparently been well resourced by airlines through the engagement of both consulting engineers and quantity surveyors.

Detailed working papers have been available to airline advisers for over 4 months and the general approach has been under review since December 1999.

It was SACL's stated expectation that the review would be completed in 'a few weeks', with results then available to assist consideration of issues for the Revised Draft Proposal. As discussed in section 9.8, this lack of responsiveness has been experienced in other areas of the consultation process.

9.6. Additional information disclosure

The December 1999 Draft Proposal included a detailed description of SACL's approach and a substantial body of supporting information. Through the consultation process, SACL has released a significant body of additional information.

The additional information released is discussed in each of the relevant sections of this Revised Draft Proposal, although it includes:

- a detailed financial model of SACL's aeronautical business for 2000-01;
- additional land plans and area descriptions;
- electronic versions of other spreadsheets contained in the December 1999 Draft Proposal including the JLL calculation of land value and Maunsell McIntyre asset valuation;
- further line by line analysis of operating costs and their allocations from SACL's ABC model;
- detailed descriptions of the items included in operating cost general ledger items; and
- 11 volumes of detailed working papers from Maunsell McIntyre's independent valuation of fixed assets as at 1 July 1998.

In all, along with the consultation meetings, there has been nearly 200 separate pieces of correspondence to and from airline customers (additional to the general distribution of the December 1999 Draft Proposal to over 80 customers). Many of the SACL letters have included answers to questions and other additional information.

SACL understands the level of information disclosure made to customers is unprecedented in the Australian regulatory context.

9.7. Use of Transcripts

A transcript of proceedings at the consultation workshop and meetings was prepared by Auscript²¹¹. At the request of airline customers, SACL facilitated BARA receiving a copy of the transcripts directly from Auscript at the same time SACL received its copy.

The transcript avoided the need to prepare and agree detailed minutes of the meetings, which can sometimes be difficult given the commercial interests involved.

The transcript enabled clarification of a number of misunderstandings on the part of BARA, in particular, of the agreements reached during meetings.

SACL notes that the transcription process is not error free. SACL reviewed each transcript following the meetings and has prepared notes of identified typographical and other errors or omissions in the transcripts.

9.8. Feedback Received from Airline Customers

It is disappointing to report that airline customers have not submitted any written response to the December 1999 Draft Proposal after over 8 months of consultation. SACL has accordingly been required to glean airline positions from:

- discussive comments made during consultation meetings;
- the overview presentations made during consultation meetings;
- some limited points made in correspondence, noting that the correspondence from airlines was predominantly directed to detailed additional information requests or procedural issues; and
- the BARA "Airline Views" newsletter.

The reasons given for the lack of response are questionable, including:

- that SACL has not provided sufficient information;
- that the consultation process has been a matter of "form rather than substance"; and
- that the absence of a submission date for the Revised Draft Proposal has impacted on airline customer's ability to provide comments on the December 1999 Draft Proposal.

As discussed in subsection 9.6, SACL understands the level of information disclosure made to customers is unprecedented in the Australian regulatory context.

²¹¹ Copies of the Transcripts may be requested from SACL – contact details are contained in section 10.

The eight month consultation process has been conducted in good faith by SACL. It has been a genuine process of seeking the views of customer airlines on the contents of the December 1999 Draft Proposal. A less genuine and comprehensive process could clearly have been concluded in a shorter timeframe.

It is not clear what bearing the lack of a submission date for a Revised Draft Proposal could have on an airline's ability to provide a comprehensive written response to the December 1999 Draft Proposal.

9.9. Further Consultation

Airline customers have requested that SACL withhold the Revised Draft Proposal from the ACCC until it has been distributed to airlines and further consultation undertaken. SACL has requested that BARA explain the perceived benefits of this approach, without response.

As discussed in subsection 9.5, SACL has advised airline customers that it is willing to continue direct consultation, including on the contents of the Revised Draft Proposal. There does not appear to be any impediment to the ACCC undertaking its own consultation and assessment in parallel.

9.9.1. Negotiated Outcome

Airline customers have also suggested that increased aeronautical charges require the support of customers.

SACL agrees there would be much merit in securing a negotiated outcome. However, while SACL accepts that it possesses a degree of market power in providing aeronautical services, the incentives for airlines to agree to pay a fair amount for services that are currently being provided at a subsidised price are questionable.

Notwithstanding, SACL has written to BARA welcoming the prospect of a negotiated outcome.

The preparedness of BARA and individual airline customers to enter into a constructive and meaningful negotiation process ahead of a submission to the ACCC appears questionable given they are unwilling to submit a detailed response to the December 1999 Draft Proposal. Notwithstanding, SACL remains ready to consider any reasonable offer at any time prior to final ACCC approval.

Any offer will be considered on its merits in a manner that can run alongside the regulatory process, recognising the ACCC would need to approve any outcome even if all parties were to come to an agreement.

9.10. ACCC Process

Consistent with the process contained in the ACCC's April 1998 draft Statement of Regulatory Approach to Price Notifications, SACL expects that:

- the ACCC will consult airline customers and other interested parties on the contents of the Revised Draft Proposal (recognising the extensive consultation that has already been undertaken directly by SACL);
- the ACCC will discuss the issues raised by airline customers and others with SACL;
- the ACCC will issue a draft decision and statement of reasons;
- airline customers and other interested parties will have an opportunity to respond to the draft decision and statement of reasons;
- SACL will then lodge a formal notification (or final proposal); and
- the ACCC will then issue its final decision.

The timing of each step will be discussed with the ACCC following submission of the Revised Draft Proposal. In addition to this process, SACL remains willing to continue to consult directly with airline customers.

9.11. Conclusion

SACL has undertaken an extensive consultation program supported by the release of what is understood to be an unprecedented level of detailed information to customers.

The consultation program has remained flexible to enable it to best meet its purpose of improving the proposal for reasonable aeronautical charging levels and structure. As a result, a number of significant extensions have been made to the process.

On submission of the Revised Draft Proposal, the ACCC will become more directly involved in the consultation process, although it has been an observer of the process to date. SACL remains willing to continue direct consultation with airline customers as required.

10. ADDITIONAL INFORMATION

10.1. Supporting Documents

The following supporting documents may be requested from SACL using the contact details in subsection 10.3 below.

- *Financial Model of SACL's Aeronautical Business 2000-01*, September 2000 (restricted circulation).
- *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Workshop*, 16 & 17 February 2000.
- *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Consultation*, 15 March 2000.
- *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Consultation*, 5 May 2000.
- *Transcript of Proceedings, Sydney Airport Aeronautical Pricing Consultation*, 4 July 2000.
- *Critique of Dr Rohan Pitchford's Paper on Land Valuation*, National Economic Research Associates, August 2000.
- *Critique of Network Economics Consulting Group's Paper on Land Valuation*, National Economic Research Associates, August 2000.
- *A Critique of the Network Economics Consulting Group Paper Examining The Dual-Till Approach*, National Economic Research Associates, August 2000.
- *Sydney Airport Conditions of Use*, Version 1, 1 January 2000 with Schedule 5, Version 1.1, 1 July 2000.

10.2. Documents Available from The ACCC Website

At the time of writing, the following documents were available from the ACCC's internet site <http://www.accc.gov.au/airport/fs-air.htm>.

10.2.1. ACCC Consultancy Reports

- *Weighted Average Cost of Capital for Sydney Airport*, Professor Kevin Davis, 14 January 2000.
- *'Dual Till' at Sydney Airport*, Network Economics Consulting Group, May 2000.
- *Land Valuation at Sydney Airport*, Network Economics Consulting Group, May 2000.
- *Sydney Airport Land Valuation: An Assessment*, Dr Rohan Pitchford.

10.2.2. Regulatory Framework

- Declaration 89, pursuant to subsection 21(1) of the *Prices Surveillance Act 1983*.
- Direction 18, pursuant to section 20 of the *Prices Surveillance Act 1983*.
- Direction 19, pursuant to section 27A of the *Prices Surveillance Act 1983*.

10.2.3. Regulatory Reports

- *Sydney Airport Regulatory Report 1998/99*, Australian Competition and Consumer Commission, December 1999.

10.3. Contact Details

Aeronautical Pricing Co-ordinator
Sydney Airports Corporation Limited
Email: aeronautical.pricing@syd.com.au (preferred)
Phone: +61 2 9667 6438
Facsimile: +61 2 9667 6112
PO Box 63
MASCOT NSW 2020
AUSTRALIA

GLOSSARY

ABC	Activity Based Costing
ACI	Airports Council International
ACCC	Australian Competition and Consumer Commission
Aeronautical Services	As defined in Declaration No 89, made by the Hon Joe Hockey MP, Minister for Financial Services and Regulation, pursuant to section 21(1) of the <i>Prices Surveillance Act 1983</i> on 30 June 2000 with effect from 1 July 2000
Airport	Sydney (Kingsford-Smith) Airport, New South Wales, Australia
ANTS	A New Tax System
BARA	Board of Airline Representatives of Australia Inc
BTCE	Bureau of Transport and Communication Economics
CAG	Capital Airport Group
CAPM	Capital Asset Pricing Model
CBD	Central Business District
CPI	Consumer Price Index
CPI-X price cap	Where prices move in line with inflation (measured by the Consumer Price Index – CPI) less an efficiency factor (X).
CTFR	Counter Terrorist First Response
December 1999 Draft Proposal	Sydney Airport Draft Aeronautical Pricing Proposal, circulated to customer airlines and other interested parties for consultation in December 1999.
DAC	Depreciated Actual Cost
Declaration 89	Declaration 89, pursuant to subsection 21(1) of the <i>Prices Surveillance Act 1983</i>
Direction 18	Direction 18, pursuant to section 20 of the <i>Prices Surveillance Act 1983</i>

Direction 19	Direction 19, pursuant to section 27A of the <i>Prices Surveillance Act 1983</i>
DORC	Depreciated Optimised Replacement Cost (also referred to as ODRC – Optimised Depreciated Replacement Cost)
DoTRS	Department of Transport and Regional Services
DTRD	Department of Transport and Regional Development, the predecessor of the Commonwealth Department of Transport and Regional Services
EIS	Environmental Impact Statement
FAC	Federal Airports Corporation
Facilities and services	Facilities and services subject from time to time to a declaration made under section 21(1) of the <i>Prices Surveillance Act 1983</i>
GST	Goods and Services Tax
IPART	Independent Pricing and Regulatory Tribunal (NSW)
JLL	Jones Lang LaSalle Advisory Services
LFA	Leigh Fisher Associates
LRIC	Long run incremental cost
MTOW	Aircraft maximum take-off weight as specified by the manufacturer or as approved by the Civil Aviation Safety Authority
NECG	Network Economics Consulting Group
NERA	National Economic Research Associates
NNI	Necessary New Investment
the NNI Criteria	The criteria for assessing Necessary New Investment included in Direction 18, pursuant to section 20 of the <i>Prices Surveillance Act 1983</i>
ODRC	Optimised Depreciated Replacement Cost (also referred to as DORC – Depreciated Optimised Replacement Cost)
ORG	The Victorian Office of the Regulator-General

PSA	Prices Surveillance Authority
PS Act	Prices Surveillance Act 1983.
Revised Draft Proposal	Sydney Airport Revised Draft Aeronautical Pricing Proposal, September 2000 (this document)
RAB	Regulatory asset base
ROR	Rate of return
SA2000	Sydney Airport 2000 investment program
SACL	Sydney Airports Corporation Limited (ACN 082 578 809)
SLAs	Service Level Agreements
SRMC	Short run marginal cost
Sydney Airport	Sydney (Kingsford-Smith) Airport, New South Wales, Australia
TFI	Tourism Futures International
TNSP	Transmission Network Service Provider
TSLRIC	Total service long run incremental cost
WACC	Weighted Average Cost of Capital