

Air New Zealand Limited/Qantas Airways Limited
Proposed Strategic Alliance

20 January 2003

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Dear Sirs

Air New Zealand Limited / Qantas Airways Limited Proposed Strategic Alliance

I Introduction

1. On 25 November 2002, Air New Zealand Limited (“Air New Zealand”) announced its intention to enter into a Strategic Alliance Agreement (“the SAA” or the “Alliance”) with Qantas Airways Limited (“Qantas”). As a pre-condition of the Alliance, Qantas will acquire a 22.5% ‘cornerstone’ shareholding in Air New Zealand (together “the Transactions”).
2. With Air New Zealand and Qantas (“the Alliance parties”) being the major participants in the Australasian aviation market, the proposed Alliance will remove an element of competition. As such, the New Zealand Commerce Commission (“the NZCC”) and the Australian Competition and Consumer Commission (“the ACCC”) (together “the Authorities”) will consider the effect on competition and public benefits of this Alliance.
3. As part of their submissions to the Authorities, the Alliance parties have commissioned Network Economics Consulting Group Pty Limited (“NECG”) to undertake an independent economic analysis of the competitive detriments and public benefits of the Alliance.
4. This report provides an independent review (to the extent described below) of the economic analysis prepared by NECG for submission to the Authorities in respect of the Transactions.

Purpose and Use of Report

5. This report has been prepared in accordance with the attached engagement letter dated 29 July 2002 (Appendix 1), solely in relation to the submissions made jointly by Air New Zealand and Qantas to the NZCC and ACCC. This report should be read in conjunction with Appendix 2.

Sources of Information

6. The principal sources of information which we have had access to and relied upon are listed in Appendix 2. In some instances, only limited historical information was available to support the economic analysis inputs utilised by NECG. These are discussed within the body of the report.

Scope

7. In conducting this assignment we have:
 - (a) reviewed the methodology applied by NECG and assessed whether it appears reasonable in the circumstances;
 - (b) reviewed all material input assumptions to the Cournot Model and other benefit/detriment calculation models (“the Models”) (subject to comments in Paragraph 10 below) and established the basis for those assumptions. Where possible we have attempted to cross check the input assumptions utilising alternative verification sources;
 - (c) considered the reasonableness of outputs from the Models in light of the input assumptions, including performance of sensitivity analyses; and
 - (d) tested the accuracy of the operation of the Models used as far as that is possible.
8. We have specifically, at the time of this report, not considered:
 - (a) modelling or assessment of the impacts associated with proposed undertakings that may be provided by the Alliance Parties;
 - (b) scenario or sensitivity analysis of the Model outputs performed by NECG. We have undertaken independent sensitivity analysis, which is discussed in more detail within our report;

- (c) the basis for the number of additional tourists which are expected to be generated under the Alliance as estimated by Qantas Holidays or the forecast additional promotional expenditure incurred by Qantas Holidays to secure these tourists. We have been advised that these forecasts are subject to independent review and were instructed to accept these numbers; and
 - (d) the appropriateness of the discount rate applied in estimating the present value of the net benefits, as we doubt that any approval decision will turn on this issue.
9. We note that the outputs from the models which we have reviewed differ from those included in NECG's report dated 8 December 2002, as a consequence of adjustments made to the models subsequent to that date. These adjustments are detailed in NECG's letter to the NZCC, dated 20 January 2003. This report is issued based on the adjusted figures.
 10. We were provided with briefings on the operation of the economic model by NECG management. All questions concerning the economic model and analysis were directed in the first instance to NECG economists and analysts, namely Mr Henry Ergas, Ms Alexis Hardin, Mr John Zeitsch, Mr Olivier Renard and Mr Max Reilly. In addition we have also sought and received information and explanations from Air New Zealand and Qantas management. Further our review of the forecast tourism benefits involved discussions with Mr Bob Cain of Tourism Futures International ("TFI").
 11. In some cases, historical information on route pricing is not available and in those instances our work was therefore necessarily limited to a reasonableness review of projected pricing without reference to past history. We note that our review was largely completed before United Airlines announced its withdrawal from the Auckland route and accordingly the report does not consider its impact.
 12. While we have carried out our standard testing procedures to establish, as far as possible, the integrity of the operation of NECG's models, it is not possible to test a computer model such that it can be guaranteed to be error free.
 13. Further, we have only tested one of the five annual models in detail since NECG advises that they are all the result of applying one generic template.
 14. Our review has been based on the report and Excel based models described below and the conclusions set out in this report apply solely to these models.

Overall Conclusions

15. Subject to the specific matters raised in the body of the report and based solely on the work we have carried out as described in the report, we confirm that:
 - (a) nothing has come to our attention to suggest that the Models used are not reliable or appropriate for their purposes;
 - (b) nothing has come to our attention to indicate that the inputs applied to the Models are not reasonable for their intended purpose; and accordingly;
 - (c) we have no reason to consider that the calculations supporting NECG's conclusions are not reliable.

II Background

16. The economic report and models, prepared by NECG in support of the applications to the Authorities by the Alliance parties consider the net benefits associated with the Alliance during the first five years of operation.
17. NECG considers that the following total benefits and detriments will accrue during the first five years of the Alliance:

	Benefits (NZD)						Detriments (NZD)		Net Benefit (NZD)
	Cost Savings	Scheduling	Direct Flights	Tourism	Engineering	Freight	Dead Weight Loss	Net Transfer	
Year 1	\$6	\$22	\$0	\$100	\$39	\$2	\$78	-\$14	\$105
Year 2	\$154	\$9	\$14	\$221	\$37	\$0	\$28	\$1	\$406
Year 3	\$289	\$4	\$16	\$217	\$35	\$5	\$49	-\$19	\$536
Year 4	\$272	\$4	\$15	\$203	\$33	\$5	\$48	-\$27	\$510
Year 5	\$257	\$3	\$15	\$189	\$31	\$5	\$47	-\$26	\$478
Total	\$978	\$41	\$60	\$931	\$174	\$15	\$250	-\$84	\$2,035

Discrepancies in figures due solely to rounding issues

18. Base assessments (factual and counterfactual, or with and without the Alliance) of:
 - (a) price per passenger per route; and
 - (b) passenger numbers by route;
 are produced by applying the Cournot model, discussed below.
19. These outputs are then used (with other inputs) to calculate:
 - (a) cost savings;
 - (b) tourism and detriments (part of net tourism benefit);
 - (c) dead weight loss; and
 - (d) net transfers.
20. In addition, NECG has estimated gains from:
 - (a) better scheduling and direct flights;
 - (b) tourism (part);

(c) engineering; and

(d) freight;

by application of such formulae and bases which it considered reasonable for these purposes.

Model Description

21. NECG has developed models which model two scenarios:

(a) the counterfactual, which models expectations for the Australasian aviation market, in the sense that Air New Zealand and Qantas remain independent competitors; and

(b) the factual, which analyses the effect of Air New Zealand and Qantas engaging in the Alliance and thereby reducing market competition.

The Model calculates the Cournot outputs, dead weight loss, net transfer and cost savings.

22. The Models consist of five separate, but generic Microsoft Excel workbooks, each analysing one year of the five year period under both the counterfactual and factual scenarios.

23. The Alliance is anticipated to alter the services provided to a number of the geographic markets served by the Alliance parties. To enable NECG to review the effect of the Alliance on individual sector route groups the Model breaks down the New Zealand and Australian aviation markets as follows:

(a) Tasman;

(b) New Zealand Domestic;

(c) Short Haul Pacific;

(d) Asia;

(e) Atlantic; and

(f) Long Haul Pacific.

24. The sector route groups above are then further broken down to their component city-pairs. One identified benefit of the factual scenario is the introduction of four new city pair routes.
25. NECG has concluded the affected routes exhibit oligopolistic characteristics and accordingly has modelled oligopolistic behaviour under Cournot competition. The Cournot model assumes that competing firms use output rather than price as their main strategic variable.
26. The Cournot model relies on a number of inputs which have been exogenously determined for each of the five financial years considered. The key inputs to the Model are:
 - (a) variable unit costs by region and aircraft for each alliance airline;
 - (b) elasticity of demand with respect to price and capacity;
 - (c) natural demand growth;
 - (d) VBA cost differential;
 - (e) average passenger revenue and passenger numbers by sector; and
 - (f) operating capacities by airline by sector.
27. All modelling was undertaken by NECG in Australian dollars in real 2002 dollar terms with all conversions to New Zealand dollars at a flat rate of A\$0.87 to NZ\$1. As this report has been prepared for the NZCC, the figures presented are expressed in New Zealand dollars.

28. Benefits/detriments accruing from the Alliance are allocated to the parties in the Model as follows:

Benefit/Detriment	Allocation Basis
Cost Savings	Strategic Alliance Agreement (“SAA”)
Scheduling	Origin City of Flight
Direct Flights	50:50 Split
Tourism	Tourist Destination
Engineering	100% New Zealand
Freight	Various Splits – Aircraft Origin
Dead Weight Loss	Passenger Numbers
Wealth Transfers	
- from Consumers to Producers	Passenger Numbers
- from Producers to Consumers	Strategic Alliance Agreement

Note: The SAA provides for cost savings to be split 60% based on capacity and the balance in equal shares.

Calculation of Net Benefits

Cost Savings

29. Five year forecast counterfactual and factual flight schedules were determined on a city pair basis by aircraft type for each route included in the Alliance. Counterfactual schedules were provided to NECG by the Alliance parties on a confidential basis, and to an extent tested by NECG. The factual schedules involve joint co-ordination of flight schedules between Air New Zealand and Qantas. The schedules provided estimate the entire market based on all airlines’ capacity for each city pair.
30. Initial capacities, passenger levels, block hours and average fares for each route were then calculated based on June 2002 market statistics provided by Air New Zealand and Qantas.
31. The Cournot competition formula was applied to the counterfactual and factual operating scenarios to estimate passenger and average fares for each city pair.
32. Total variable operating costs under each scenario were calculated based on historical passenger, departure and block hour costs for 2002.
33. The total operating costs under each scenario were then compared to determine cost savings from the Alliance on a route group basis. Any cost saving associated with passenger decreases (i.e. passenger variable costs) as a consequence of price increases were properly eliminated.

Wealth Transfers and Dead Weight Losses

34. Wealth transfers and dead weight losses as a result of price increases and passenger reductions were calculated from the Cournot outputs.

Tourism Benefits

35. Under the proposed alliance substantial tourism benefits within both Australia and New Zealand are forecast. These benefits are additional to forecast market growth. Both airlines expect tourism benefits to be generated from:
- (a) additional tourism from Qantas Holidays' ability to sell Air New Zealand services, and the promotion of New Zealand as a destination individually and in conjunction with Australia;
 - (b) improved promotional effectiveness through combined efforts of the airlines sales channels and national tourism bodies; and
 - (c) new fares and services offered under the Alliance.
36. The passenger impact of each of the above has been determined as described below and the net tourism benefit/detriment calculated by multiplying passenger changes by average tourists' expenditure. Where tourists no longer undertake travel, the expenditure is added back to the domestic market as a benefit.

Qantas Holidays' Benefit

37. The number of additional tourists Qantas Holidays estimates will be generated by increased marketing initiatives has been reviewed by TFI. We have relied on their confirmation of this estimate and consider the additional tourist expenditure has been applied appropriately to the additional tourism numbers.

Improved Promotions

38. NECG has calculated the increase in passenger volumes attributable to the effectiveness of joint marketing activity between Air New Zealand and Qantas. This has been calculated by applying an economic estimation of the effect of promotion expenditure. We have examined this model and are satisfied that the inputs and calculation methodology is reasonable.
39. Again, expenditure estimates have been applied to the forecast tourist increase.

New Fares

40. The change in fares under the Alliance as forecast by the Cournot model will influence total passenger levels. The net benefit/detriment on each city pair basis has been calculated as the lost passenger expenditure from incoming tourists less expenditure diverted back to the domestic markets for those who forego international travel.
41. Our review indicates the Cournot model calculations are reasonable and accordingly, we consider the tourism benefits have also been calculated based on reasonable inputs.

Engineering and Maintenance

42. Qantas has indicated to NECG that under the Alliance it could provide annual exports of engineering and maintenance services to Air New Zealand of around NZ\$45 million p.a., representing 80% of its total external maintenance and that these purchases could be as low as 10% (NZ\$6 million) if the Alliance does not eventuate.
43. The selection process undertaken by Qantas to select an external supplier involves assessing a range of technical evaluation criteria in addition to commercial evaluation criteria. In particular, Qantas advised that its recent use of Air New Zealand maintenance services is at an historical high, based not only on Air New Zealand's technical competence, but also on the excess capacity that Air New Zealand had at short notice as a result of the failure of Ansett, which coincided with an expansion of Qantas' fleet and a consequent increase in its own maintenance requirements.
44. Qantas has advised that its planning for future requirements will be much more structured. In the absence of the Alliance, based on current labour rate differentials alone, it appears unlikely Air New Zealand would benefit from cost advantages over competing suppliers of engineering and maintenance services. As a result, Qantas has a number of options open to it and has advised that it would direct the bulk of its externally sourced work to suppliers other than Air New Zealand.
45. With the Alliance, Qantas and Air New Zealand consider that there will be a sound commercial basis for developing a closer relationship in respect of engineering and maintenance services. In particular, the Alliance presents a number of opportunities to achieve efficiencies through the ability to share maintenance workload planning, job scoping, manpower planning for more productive use of time, and in particular lower overtime costs. Taken together, Qantas considers that this provides the necessary incentive for committing engineering and maintenance services to Air New Zealand.

46. In the longer term, we would expect Qantas to place its external maintenance work with the most net cost efficient provider which is able to meet Qantas' required technical standards. Clearly, Qantas' share of the profits accruing to the Alliance from placing the work with Air New Zealand would be deducted in arriving at the net costs, in Qantas' assessment of the commercial impact of using Air New Zealand.

Scheduling and New Direct Flight Savings

47. In this analysis the benefits under the Alliance flight schedules including improved flight scheduling, enhanced flight connectivity and new direct flights have been assessed.
48. Modelling has been undertaken to estimate the time savings as a result of improved wait times, more optimal departure times and elimination of certain multi sector flights through introduction of direct flights. These time improvements are measured as the difference between the counterfactual and factual schedules for given city pairs.
49. Estimates of the value of passenger time split between business and leisure travellers are then applied to the time benefits. We consider that the methods adopted by NECG to calculate these benefits are reasonable.

Freight Benefits

50. NECG has estimated the benefits of new efficient freight services. As the amounts involved are small relative to other benefits, we have not considered this benefit in any detail.

III Application of Cournot Model

51. NECG has adopted an Oligopoly model under Cournot competition to undertake economic modelling of the Alliance. This assumes that the firms use output rather than price as their main strategic variable. NECG notes that, *“This assumption is widely used in the aviation industry and has found empirical support in the literature.”*

Rationale for use of Cournot Model

52. The Cournot Model is a well-established economic model used for analysing oligopolistic industries.
53. The markets under consideration have properties that lead to it being characterised as an oligopoly. More specifically, the following standard oligopolistic assumptions are fulfilled to varying extents:
- (a) limited entry possible;
 - (b) a limited number of firms;
 - (c) interdependence between firms; and
 - (d) price setting ability.
54. In the current context, there exist three main models of oligopolistic competition:
- (a) Cournot competition – where the firms’ strategic variable is quantity.
 - (b) Bertrand competition – where the firms’ strategic variable is price.
 - (c) Stackelberg – where one firm can lead on quantity setting.
55. Of these three models we concur with NECG’s view that, the Cournot competition model best reflects the nature of the relevant markets because the operation’s key strategic decision is quantity (or capacity).

56. We note that under the factual scenario the Alliance, with up to 100% share on a number of routes may exhibit some characteristics of a dominant firm, but facing a competitive fringe, as described by NECG. We are satisfied with NECG's reasoning that it would not be appropriate to use a dominant firm model in this instance on both theoretical and practical grounds.

IV Model Inputs

57. We review below each of the key inputs and assumptions critical to the net public benefits calculated by NECG under the Alliance.

Variable Costs

58. A significant portion of the Alliance net benefits result from cost savings derived through rationalisation of competing flight schedules and more effective utilisation of a combined fleet of aircraft. These cost savings represent the total variable and aircraft capital cost differentials between the counterfactual and factual scenarios.
59. Operating costs have been sourced from the 2002 financial records of each airline and then allocated to one of three cost drivers, namely passengers, block hours or departures according to the nature of each cost. The historical unit cost for each driver was then calculated by sector route group and by aircraft type.
60. Forecast variable costs under each of the scenarios are then calculated based on the passenger numbers as derived from the Cournot equations, flight schedules as provided by the Alliance parties and block hour estimates for each city pair.
61. Aircraft capital costs were calculated based on the aircraft fleet requirements under each scenario. The annual capital cost of each aircraft is calculated as the sum of straight line depreciation plus a cost of capital charge of 8%. Aircraft values were determined by NECG using Avitas aircraft value schedules and fleet information as provided by the Alliance parties. To the extent that the 8% allowance covers borrowing costs then it is likely to be reasonable. To the extent that it is intended to reflect a cost of capital charge, it is likely to be understated and therefore also understate cost savings.
62. As part of our review of unit costs we have:
- (a) compared unit costs applied to historical information for 2001 by aircraft by sector group where available;
 - (b) compared unit costs between Air New Zealand and Qantas for consistent allocation;
 - (c) reviewed the allocation of costs to cost drivers;
 - (d) considered the impact of September 11 2001 on full year 2002 results; and

(e) agreed the 2002 unit costs provided to management reporting systems for either airline.

63. The unit costs applied within the modelling for each airline are shown in the table below (shown in NZD). **[CONFIDENTIAL]**

64. **[CONFIDENTIAL]**

65. **[CONFIDENTIAL]**

66. **[CONFIDENTIAL]**

[CONFIDENTIAL TABLE]

67. Both airlines consider that the 2002 financial results as recorded best reflect cost expectations for the future.

68. Comparison to costs before 2001 is not possible due to changes in systems (reporting formats since that time). We have, however, compared the 2002 costs to the prior year.

69. The results of this analysis are summarised at Appendix 3. While we have observed a number of large movements in individual account lines between the two years, our analysis suggests that these primarily occur on routes or aircraft with a limited number of departures or which have experienced a significant increase or decrease in capacity. Further, Air New Zealand also advised that some variances will also be attributable to changes in reporting systems and structures.

70. We have also substituted 2001 unit costs into the Model, holding other inputs constant to determine the impact on key outputs. The net benefits under this scenario are shown at Appendix 4 and are not materially different to those results forecast assuming a 2002 cost base.

Comparison of Air New Zealand and Qantas Unit Costs

71. We have also compared historical unit costs between the Alliance parties. We have restricted our analysis to the Tasman, Domestic and Long Haul Pacific routes as these represent the routes Qantas has historically provided services to.

72. We have discussed with representatives of both airlines the material unit cost differences we have identified. The following items were identified as major areas contributing to cost differentials between the airlines:
- (a) Labour rates for flight crew, cabin crew and ground staff are higher for Qantas than Air New Zealand, which is consistent with general wage trends between Australia and New Zealand;
 - (b) Engineering and maintenance costs are dependent on aircraft age. Air New Zealand operates a fleet that is, on average, younger than the Qantas fleet. Additionally, both airlines allocate their maintenance costs pools based on different drivers, although both approaches adopted are reasonable;
 - (c) Qantas has significantly higher distribution costs than Air New Zealand. During the 2002 year Air New Zealand introduced new commission structures which are lower than those paid by Qantas and in some cases (eg. Domestic New Zealand) there are zero commissions; and
 - (d) Allocation of costs within multi-sector flights such as Auckland – Sydney – Los Angeles. Both airlines have attempted to split costs consistently to the appropriate sector, but there may be some offsetting differences between the two.

Impact of September 11 2001 Terrorist Attacks on Historical Results

73. As a further test of the use of the 2002 cost information for the base year inputs, we discussed with both airlines the September 11 terrorist attacks and attempted to quantify if there was any impact on financial performance.
74. Typically for both airlines, the second and third quarters (October – March) are similar in performance terms and the strongest quarters of the year. Following September 11, both airlines observed significant reductions in revenue levels and passenger numbers during the second quarter of 2002. This impact was, however, significantly less pronounced than that felt by some European and North American carriers. With costs such as crew and landing rights being negotiated several months in advance, cost reductions in all areas could not be immediately implemented to offset declining revenues, although certain rationalisations were made.
75. Third quarter results were, however, strong as a portion of traffic displaced in the later half of 2001 travelled in early 2002. Additionally, fuel prices dropped in the second half of the 2002 financial year, reflecting price reductions because of a decline in global demand as airlines worldwide reduced services.

76. Following our discussions with both airlines we obtained quarterly results for Air New Zealand for the 2002 year and substituted third quarter results with those reported for the second quarter. We also examined 2001 quarterly results provided by Air New Zealand on a route group basis and observed similar performance levels across the two quarters. Therefore, we consider it reasonable to adjust the reported 2002 results as described above.

[CONFIDENTIAL TABLE]

77. The table above details the adjusted Air New Zealand unit costs. On comparison with the unadjusted 2002 costs, there appears to be only marginal impacts resulting from September 11. We, therefore, are of the opinion that the 2002 actual costs provide a reasonable basis for net benefit quantification.
78. Additionally, as part of our analysis we reviewed the appropriateness of the allocation of individual cost lines against the passenger, block hour and departure drivers. We obtained allocation methodologies documentation from both airlines and overall these were consistent with the allocations adopted for modelling purposes. While some costs have mixed cost drivers, the allocations utilised by NECG form a reasonable basis to utilise in deriving costs on a “bottom up” basis.

Average Passenger Revenue

79. Average passenger revenue is a key input to the Cournot calculation and directly influences the Model outputs and each market airlines’ marginal cost function.
80. For the purposes of the modelling undertaken by NECG, average passenger revenue has been calculated on a city pair basis from 2002 passenger and revenue data supplied by both airlines. This does not reflect the average city pair fare as it is not feasible to obtain revenue data for all competing airlines on each route. However, on a substantial number of routes, Air New Zealand and Qantas combined command a majority market share position.
81. Each city pair passenger fare has been calculated as a passenger weighted average of both airlines average 2002 year fare. In the case of domestic New Zealand city pairs, a discount of 20% has been applied to the average fare, reflecting the current fare structure marketed by Air New Zealand’s VBA+ offering NZ Express and matched by Qantas NZ. In light of the threat of VBA entry on domestic and Tasman routes we consider the discount applied to be reasonable.

82. Overall, given the volatile and uncertain nature of the aviation industry it appears reasonable to assume recent price levels are probably as good a benchmark as any for modelling purposes. Additionally, the majority of market commentary suggests that with the potential for VBA entry, FSAs are likely to ensure they maintain competitive pricing structures. Sensitivities we have performed surrounding price are included in Section VI.

VBA Cost Differential

83. NECG assumes that under the factual scenario, VBA entry occurs on both the Tasman and domestic New Zealand routes. More specifically, under the factual scenario VBA entry is expected to occur on the Tasman in the first year. For domestic New Zealand, it is assumed that VBA entry occurs in the second year of the Alliance.
84. Under the counterfactual scenario, NECG have assumed that VBA entry would only occur on the Tasman. This commences in year 1, with entry forecast to be at a lower level than expected under the factual scenario. Variations to these VBA assumptions have been considered by NECG as sensitivity tests, which we have not examined.
85. Typically, VBAs have been able to enter aviation markets with substantially lower cost structures than their full service counterparts. Analysis, including that undertaken by NECG and both alliance airlines, suggests that VBAs are capable of producing a significantly lower cost base by:
- (a) operating a single model aircraft fleet;
 - (b) operating a single cabin class;
 - (c) reducing passenger in-flight services and eliminating passenger lounges;
 - (d) avoiding the legacy of industrial relations agreements that affect incumbent airlines, focusing on short-haul routes (with potentially low turnaround times);
 - (e) offering a more limited range of fare options; and
 - (f) using ticket-less booking systems.

86. The VBA schedules were determined through consultation with both airlines at the time the counterfactual and factual schedules were developed. In these discussions, the recent statements made by Virgin Blue with regard to their expansion onto the Tasman and domestic New Zealand routes was considered. It is assumed that the VBA would operate a single aircraft type (Boeing 737), consistent with the current VBA business models.
87. It is difficult to determine (and little empirical evidence exists) the exact cost savings a VBA may achieve when compared to a FSA. Aircraft seat configurations and sector lengths differ and VBAs generally only offer single route, rather than network services. Market observers believe the cost differential between VBA airlines and FSAs may be anywhere between 10% and 40% dependent on the airlines being compared. In light of the available information and following discussions with the respective Alliance parties, NECG has assumed a VBA entrant is likely to have unit costs 20% lower than those of Air New Zealand and Qantas.
88. Utilising the 20% cost differential and the forecast VBA schedules, the NECG modelling forecasts that it is likely to prove profitable for a VBA entrant to expand onto the Tasman and domestic New Zealand routes under both scenarios.
89. We consider the assumption that a VBA entrant will likely face significantly lower unit costs than existing FSA operators is valid for a number of reasons. Firstly, history has shown that VBA entrants target only the most profitable routes when entering a new market. Both Alliance airlines provide a comprehensive network service and consequently operate a far more diverse fleet to manage network demands. This brings added maintenance and other costs that are unlikely to be incurred by a VBA. Further, servicing only a narrow range of city pairs requires lower levels of investment in infrastructure.
90. Secondly, NECG has been provided with schedules by both airlines that a VBA entrant would operate all routes with a Boeing 737 aircraft with a capacity of 180 seats on Tasman flights and 144 seats on domestic New Zealand flights. This contrasts to Air New Zealand which currently operates Boeing 737-300 aircraft on the Tasman with a capacity of 114 seats. This assumption appears reasonable in that Virgin Blue, the most likely VBA entrant, currently operates a mixed fleet in the domestic Australian market dominated by the Boeing 737-800, capable of carrying 189 passengers in a one class seating configuration.
91. Thirdly, the VBA is assumed to have a higher seat capacity than Air New Zealand's full service operation.

92. As a result, the NECG models assume that the average cost per seat operated by a VBA will be significantly below the average cost per seat operated by Air New Zealand. The VBA entrant's unit costs are estimated using Air New Zealand's 2002 unit costs reduced by a discount factor of 20%.
93. Air New Zealand has some limited financial information which suggests that it has achieved a 7.5% reduction of its cost base through its recent move to a VBA+ structure in the New Zealand domestic market. This is taken up in NECG's modeling and forecasts.
94. We consider that the 20% cost differential applied is reasonable based on the evidence available. Each market and carrier has unique characteristics which make it difficult to ascertain what a general VBA / FSA unit cost differential is. We note that it is generally accepted in the industry that VBAs operate with a lower average unit cost than an FSA and the estimate utilised by NECG lies in the middle of the range put forward by the Alliance parties. Further, as our sensitivity analysis (below) indicates that the effect of the VBA cost differential does not materially impact the key outputs of the Model, this factor does not warrant further consideration.

Elasticities – Capacity & Demand

95. A fundamental assumption underlying the Cournot model is that competing firms use output rather than price as their main strategic variable. Two key inputs influencing the outputs derived by the Cournot model are:
 - (a) capacity elasticity of demand; and
 - (b) price elasticity of demand.

Capacity Elasticity of Demand

96. Capacity elasticity of demand measures the responsiveness of quantity demanded to a change in capacity.
97. Base case passenger volumes, for each city pair operated by the Alliance, were calculated by taking the average load factors recorded in the 2002 financial year applied to 2002 northern winter operating schedules.
98. NECG then incorporated a capacity elasticity of demand function into the Cournot model to determine the effect of an increase in capacity alone. Based on available research, NECG estimated capacity elasticity of demand at 0.125, i.e. under both the factual and counterfactual scenarios, a 10.00% change in capacity is anticipated to alter base case passenger volumes by 1.25%.

99. NECG has applied an average of the range presented by Gillen, Harris and Oum in their 1997 report titled “Assessing the benefits and costs of international air transport liberalisation.” This report is one of the pre-eminent studies on the relationship between capacity changes and the passenger reactions. In the absence of any specific research into capacity elasticity of demand in the local markets, we consider NECG’s approach to be reasonable and analogous to that which we would use in similar circumstances.

Price Elasticity of Demand

100. Price elasticity of demand is a measure of the responsiveness of passenger demand to a change in price, with all other factors held constant.
101. As noted by NECG, one of the limitations of the Cournot model is that for each city pair a single average retail price is derived. In reality, the pricing of airline tickets is complex, with airline pricing strategies producing a wide range of fare structures for any flight which reflect a range of competing objectives.
102. Following discussions with both airlines, NECG adopted the price elasticity of demand of -0.70 for business customers and -1.65 for leisure customers. Business price elasticity is relatively inelastic compared to estimated price elasticity for leisure passengers and in both cases a price increase will cause a corresponding decline in passenger volume.
103. NECG then calculated a single price elasticity estimate, weighting the business and leisure estimates by the relative passenger share split. The resulting single elasticities by city pair range between -1.0 and -1.6 . A weighted average elasticity approach appears reasonable based on the structure of the Cournot model, where the type of passenger and fare is not differentiated on each city pair.

Price Elasticities

104. Air New Zealand applies the same factors for internal purposes as those applied by NECG. Qantas, in turn, applies a single elasticity factor for Tasman and domestic New Zealand ranging between -1.2 and -1.4 . On Auckland/Los Angeles an elasticity of -1.6 is used as this particular route is almost entirely leisure travellers and for this reason Qantas will only operate a two class service commencing 2003.
105. Neither airline could provide any empirical evidence to support the ‘price elasticities’ used.

106. We therefore examined the information publicly available from the Australian Bureau of Transport and Regional Economics (“BTRE”). The BTRE operates within the Australian Department of Transport and Regional Services and provides transport information and analysis to the Government and community. The BTRE maintains a Transport Elasticities Database (“the Database”) that documents elasticities (as a result of their own research and that of others) for all types of transport. Some of the findings on the Database which appear relevant are:

Source: BTE (1986, table 4.2, page 35)	Price Elasticity
Australia Domestic Air Routes:	
Short Haul (<800km)	-0.55
Medium Haul (800 – 1700km)	-0.73
Long Haul (>1700km)	-0.82
‘Summer Holiday’	-1.45
‘Winter Holiday’	-2.37

Source: Nairn & Hooper (1992, pg 59)	Price Elasticity
Australia:	
Regional	-0.1 to -1.3
Leisure	-2.3

Source: BTCE (1988, pg 88)	Price Elasticity
New Zealand Leisure Travellers (to Australia)	-1.33
New Zealand Business Travellers (to Australia)	-0.56

107. We have also reviewed research and other material providing price elasticity estimates in the United Kingdom (“UK”) and United States of America (“US”) Results of some of these studies are detailed below:

Source: CAA recommendations to the Competition Commission, 2002, Annex pg 7	Price Elasticity
Vacation Travellers	-1.2
Non-vacation Travellers	-0.2

Source: Oum (1990, pg 14)	Price Elasticity (mid point forecast likely range)	Price Elasticity
Most Likely Range:		
Vacation Travellers	-1.9	-1.10 to - 2.70
Non Vacation Travellers	-0.8	-0.40 to - 1.20

108. The various studies and reports we have reviewed provide a wide range of price elasticity estimates. This diversity reflects a number of factors, including:
- (a) the characteristics of the market being studied;
 - (b) the time period reviewed; and
 - (c) the definition of the variables used.
109. Further, many of the studies are quite old.
110. Studies reviewing the impact of the entrance of VBAs such as PeopleExpress in the 1980's and in more recent times Southwest Airlines indicate that the introduction of deeply discounted fares can be very price elastic.
111. We have insufficient hard data to form a definitive view on the appropriate level of price elasticity of demand for present purposes. However, the CAA recommendations to the UK Commerce Commission:
- (a) represent the most recent available conclusions; and
 - (b) were based on a number of different studies (although we recognise that they were probably not studies of the Australian/New Zealand markets);
- and we would tend to weight any judgment of appropriateness of elasticities towards the levels recommended by the CAA.
112. Accordingly, and based on the information available to us as discussed above, the price elasticities which NECG applied appear to fall within a reasonable range. We have, however, extended the sensitivity tests to cover a wider range of sensitivities as the variation of $\pm 0.2\%$ applied by NECG appears small considering the range of possible outcomes.
113. Our sensitivity analysis is detailed in Section VI of this report.

Business/Leisure split

114. Where available, NECG has applied business/leisure splits for each city pair based on Air New Zealand's own historical records for each city pair for the 2002 year. Qantas has confirmed that they have undertaken passenger surveys on trans Tasman routes indicating that on average between 25% and 29% of passengers are travelling for business related purposes. Where no data was available, for a city pair, NECG assumed the split to be 85% leisure and 15% business.

115. A comparison of Air New Zealand's International Statistics with arrival card statistics for New Zealand and Australia is:

	Air NZ Historical Splits %	Splits from Arrival Cards	
		NZ %	Australia %
Business	15 – 39	13	18
Leisure	61 - 85	87	82

116. Given the above, we have no reason to doubt the reasonableness of the Air NZ information used.

Natural Market Growth

117. NECG have assumed that there will be no change in the number of airlines that currently operate on routes affected by the proposed Alliance, excluding a VBA entrant. It is assumed that level of capacity operated by these airlines will increase at the same rate as natural market growth.

118. Natural market growth is assumed in the Model to occur at the following annual rates during the five year period:

Natural Passenger Market Growth	Annual Growth Rate
Tasman	4.4%
Short-Haul Pacific	5.0%
Long-Haul Pacific	4.0%
Atlantic	4.0%
Asia (including Japan)	8.0%
Domestic	3.4%

119. Annual natural growth factors were taken from a recent Tourism Forecasting Analysis undertaken by Covec Limited on behalf of the Tourism Research Council of New Zealand. This piece of research uses standard econometric forecasting to model the future number of international visitor arrivals from New Zealand's 22 largest inbound markets.
120. We have reviewed this report and consider the natural growth factors taken from it and utilised by NECG represent the most reliable estimate of future passenger growth in the New Zealand aviation market.
121. The natural growth factors are applied to both the factual and counterfactual scenarios. NECG has tested the sensitivity of model outputs to a $\pm 2\%$ change in growth rates.

Capacity/Market Share Assumptions

122. As described earlier, each airline had provided to NECG a counterfactual schedule representing their forecast flight schedule in the absence of an alliance. The counterfactual schedule used by NECG assumes other airlines will continue to operate existing city pairs.
123. We have been advised by both airlines that the counterfactuals presented by them represent existing operations adjusted in response to increased and more extensive competition, which is often reflected by large increases in capacity, and to minimise losses associated with operating a global network.
124. The factual schedule provided to NECG represents the combined operations of the two airlines in the situation where an alliance eventuates. This schedule assumes co-ordination of flight operations including scheduling and pricing.
125. For Cournot modelling purposes the following assumptions are made:
 - (a) Each airline's market share is equivalent to its relative capacity share; and
 - (b) Local factors across competing airlines are equal.
126. As a reasonableness check of the schedules provided, we have compared the average daily block hours flown by aircraft class for each airline's fleet. The following tables detail the comparison and indicate that based on flying hours the schedules appear reasonable and largely consistent between the two.

[CONFIDENTIAL TABLE]

127. Additionally, we have compared profitability based on Cournot outputs of each airline under both scenarios prior to benefit sharing and compared these to independent forecasts prepared by each airline. Recognising the Cournot model is not structured to capture and model profitability the comparisons undertaken do not suggest inconsistencies.
128. Overall, we consider the flight schedules represent a reasonable estimate of forecast operations given the fleet assumptions, although we recognise that schedules will constantly change to reflect market demand and we consider the impact of change in capacity within our sensitivity analysis.

Tourism Spend

129. A key driver of total tourism benefits is the assumed tourist spend per additional passenger.
130. TFI on behalf of the applicants has calculated the forecast tourist spend for visitors to Australia and New Zealand based on forecasts prepared on behalf of Tourism Research Council New Zealand and the Australian Bureau of Tourism Research, with the exception of New Zealand travellers to foreign destinations.
131. This value has been based on the relative spend of inbound vs outbound Australian travellers applied to the forecast spend of inbound travellers to New Zealand. This approach appears reasonable in the absence of reliable historical or forecast data.
132. As the estimates provided to NECG have been prepared in 2002 by tourism experts, our review has been limited to confirmation of the forecasts and we have no reason to consider that the estimates are unreasonable. We have considered the impact of changes in tourist spend within our sensitivity analysis.

Time Valuation

133. A significant benefit likely to result under the proposed Alliance is for schedule changes. The rationalisation of services and co-ordination of flight schedules is forecast to achieve benefits as a result of:
 - (a) improved flight frequency;
 - (b) enhanced connectivity; and
 - (c) new direct flights on four city pairs.

134. These benefits have been determined by calculating the time savings associated on a city pair basis, associated with the improved services and valuing this time benefit.
135. This approach is consistent with methods usually adopted in transportation planning.
136. NECG has estimated the value of time as NZ\$23 per hour for leisure passengers and NZ\$115 per hour for business passengers. We have reviewed several international studies which indicate that, adjusting for foreign exchange differences, the time values applied by NECG lie within a reasonable range.

V Model Testing

137. We received the following five final economic analysis models on 11 December 2002:
- (a) ‘021209 Vanilla Model – Year 1.xls’;
 - (b) ‘021209 Vanilla Model – Year 2.xls’;
 - (c) ‘021209 Vanilla Model – Year 3.xls’;
 - (d) ‘021209 Vanilla Model – Year 4.xls’; and
 - (e) ‘021209 Vanilla Model – Year 5.xls’.
138. We have performed the following in respect of each model received, with particular focus on the Year 1 model as we have been advised by NECG that calculations and formulas within each model are based on a generic template:
- (a) checked sheets in the Model for consistent formula repetition, where appropriate, across columns and down rows;
 - (b) identified hard coded entries in cells not clearly identified as input cells, and determined their purpose and effect;
 - (c) reviewed the Cournot model calculations contained in the Model and traced the base assumptions; and
 - (d) reviewed the construction and logic of the worksheets.
139. During our review we have performed a check of each of the key inputs within the Model, a sample check of the internal calculations of the Model and reviewed the reasonableness of the outputs. Further, we have performed sensitivity analysis on the key drivers of the Model. This analysis is documented in section VI.
140. In our review, we have examined all available historical information provided by both airlines. Where historical results have been directly used in the Model, we have examined historical trends and discussed our observations and the comparability and suitability of historical performance with personnel from the respective airlines.
141. Each of the inputs relied upon within the Model or the Alliance net benefit analysis has been traced to source documents where possible. These have largely been provided by Air New Zealand and Qantas.
142. Where possible all other input data has been verified against external sources.

143. Additionally, we have stress tested key inputs within the Model by substituting these for extreme values. We did not note any exceptions during this testing.

VI Model Outputs

144. The key benefits of the Model are summarised in the table below. The net benefits shown have been discounted post year 1 at a rate of 6%.

Benefits (NZD)							Detriments (NZD)		Net Benefit (NZD)
Cost Savings	Scheduling	Direct Flights	Tourism	Engineering	Freight	Dead Weight Loss	Net Transfer		
Year 1	\$6	\$22	\$0	\$100	\$39	\$2	\$78	-\$14	\$105
Year 2	\$154	\$9	\$14	\$221	\$37	\$0	\$28	\$1	\$406
Year 3	\$289	\$4	\$16	\$217	\$35	\$5	\$49	-\$19	\$536
Year 4	\$272	\$4	\$15	\$203	\$33	\$5	\$48	-\$27	\$510
Year 5	\$257	\$3	\$15	\$189	\$31	\$5	\$47	-\$26	\$478
Total	\$978	\$41	\$60	\$931	\$174	\$15	\$250	-\$84	\$2,035

Discrepancies in figures due solely to rounding issues

145. The critical outputs from the Cournot model are price and passenger levels for each city pair. On a route group basis, these are shown in the following table for the counterfactual and factual scenarios. The price for each route group is a passenger weighted average of each of the city pairs.

Route	Counterfactual Scenario					Factual Scenario					Variance				
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
Average Fare (NZD)															
Tasman	\$292	\$279	\$286	\$287	\$288	\$291	\$288	\$296	\$296	\$299	-0.3%	3.3%	3.2%	3.2%	3.8%
Domestic	\$132	\$132	\$131	\$131	\$132	\$141	\$128	\$126	\$128	\$130	6.3%	-2.8%	-3.7%	-2.5%	-1.1%
Short Haul Pacific	\$284	\$283	\$281	\$284	\$288	\$288	\$289	\$288	\$290	\$291	1.4%	2.1%	2.5%	1.9%	1.2%
Asia	\$1,041	\$1,051	\$1,052	\$1,063	\$1,077	\$1,036	\$1,042	\$1,030	\$1,040	\$1,054	-0.4%	-0.8%	-2.1%	-2.1%	-2.1%
Atlantic	\$686	\$686	\$686	\$686	\$686	\$686	\$686	\$686	\$686	\$686	0.0%	0.0%	0.0%	0.0%	0.0%
Long Haul Pacific	\$1,062	\$1,062	\$1,063	\$1,063	\$1,064	\$1,067	\$1,068	\$1,098	\$1,099	\$1,100	0.5%	0.5%	3.2%	3.3%	3.4%
Passengers (000s)															
Tasman	4,491	4,967	5,134	5,335	5,544	4,403	4,685	4,822	5,027	5,225	-2.0%	-5.7%	-6.1%	-5.8%	-5.8%
Domestic	4,213	4,370	4,527	4,662	4,803	3,422	4,203	4,378	4,506	4,639	-18.8%	-3.8%	-3.3%	-3.3%	-3.4%
Short Haul Pacific	851	894	942	985	1,031	810	848	892	933	977	-4.9%	-5.2%	-5.3%	-5.3%	-5.2%
Asia	1,228	1,327	1,440	1,547	1,662	1,232	1,327	1,441	1,548	1,663	0.3%	0.1%	0.1%	0.0%	0.0%
Atlantic	1,437	1,493	1,552	1,613	1,676	1,437	1,493	1,552	1,613	1,676	0.0%	0.0%	0.0%	0.0%	0.0%
Long Haul Pacific	2,852	2,967	3,082	3,194	3,310	2,828	2,938	2,895	3,002	3,112	-0.8%	-1.0%	-6.1%	-6.0%	-6.0%

146. The outputs overall appear logical and as expected price rises are supported by corresponding declines in passengers. On a number of limited city pairs a large change in capacity stimulates new passenger demand that outweighs the price impacts on passenger levels. As these results appear counter intuitive, we have tested the Model output by eliminating the capacity effect (by setting capacity elasticity to zero) and observed results that are consistent with the price movement.

Model Sensitivity Analysis

147. In order to assess the impact of changes in the key drivers of the Model outputs, we have conducted sensitivity analysis on the following factors:

- (a) unit costs;
- (b) average revenue;
- (c) counterfactual and factual flight schedules;
- (d) capacity and price elasticity;
- (e) VBA vs FSA cost differential;
- (f) business, leisure passenger split; and
- (g) average tourist spend.

148. In each case, we have determined the impact on net benefits of a given change in the variable under consideration.

149. The following table summarises our sensitivity testing:

Sensitivity Analysis					
Variable Adjusted	Variable Adjustment/Value		Net Benefits (NZD)		
	Lower	Upper	Lower	Upper	
Actual Leisure Price Elasticity }	-0.2	-1.2			
Actual Business Price Elasticity }	-0.8	-2.4	1,694	2,120	
Actual Capacity Elasticity	0.05	0.2	2,014	2,055	
Change in Average Fare	+10%	-10%	2,018	2,051	
Actual VBA Discount	10%	30%	1,984	2,084	
Change in Alliance Airline Factual Flight Schedule Capacity	10%	-10%	1,070	2,992	
Change in Alliance Airline Counterfactual Flight Schedule Capacity	-10%	10%	1,008	3,061	
Change in Alliance Airline Factual & Counterfactual Schedules	-10%	10%	1,966	2,097	
Change in Business/Leisure Split	20%	-20%	2,011	2,053	
Change in Average Tourist Spend	-20%	20%	1,838	2,231	

150. Further, in order to analyse the sensitivity of model outputs to changes in the key input drivers and identify transaction critical assumptions and inputs, we have applied Decision Programming Language (“DPL”) software to the outputs generated by the five annual models. A tornado diagram showing the relative sensitivity of net benefits to a +/-10% movement in the underlying input variables is shown at Appendix 5.

VII Summary & Conclusions

151. As instructed, we have:

- (a) reviewed the methodology applied by NECG;
- (b) reviewed material input assumptions to the Models; and verified them to the extent described above;
- (c) considered the reasonableness of the Models' outputs;
- (d) tested the accuracy of the Models' operation.

152. We have not considered:

- (a) the impact of any undertakings which may be provided by the Alliance Parties;
- (b) NECG's sensitivity analysis;
- (c) the reasonableness of expected increased tourism numbers; and
- (d) the reasonableness of the discount rate applied.

153. We have relied on Qantas' assessment that the Alliance will provide the necessary economic and commercial incentives for Qantas to place its Engineering and Maintenance work with Air New Zealand.

154. Subject to the foregoing comments, we confirm that:

- (a) nothing has come to our attention to suggest that the Models used are not reliable or appropriate for their purposes;
- (b) nothing has come to our attention to indicate that the inputs applied to the Models are not reasonable for their intended purpose; and accordingly;
- (c) we have no reason to consider that the calculations supporting NECG's conclusions are not reliable.

Yours faithfully



ERIC LUCAS

Appendix 1 – Engagement Letter

29 July 2002

PRIVATE & CONFIDENTIAL

Mr A Peterson
Partner
Minter Ellison Rudd Watts
P O Box 3798
AUCKLAND

Mr P Taylor
Partner
Bell Gully
PO Box 4199
AUCKLAND 1030

Dear Sirs

Air New Zealand Limited / Qantas Airways Limited Proposed Strategic Alliance

1. Further to Minter Ellison Rudd Watts' letter of 23 July 2002, and our meeting on 26 July 2002, we write to confirm our understanding of the work which you require us to perform on the proposed strategic alliance between Air New Zealand Limited ("Air New Zealand") and Qantas Airways Limited ("Qantas"). The work will be carried out on behalf of Air New Zealand and Qantas and we understand that you are contracting on behalf of those companies.
2. We shall peer review the methodology, modelling and results of the economic analysis prepared by Network Economics Consulting Group Pty Limited ("NECG"). Specifically, we shall:
 - (a) Review all material input assumptions and establish the extent to which they are substantiated. Where possible we will cross check to alternative verification sources.
 - (b) Confirm that the methodology applied is reasonable in the circumstances.
 - (c) Consider the reasonableness of model outputs in light of the input assumptions, including the results of sensitivity analyses.
 - (d) Test the accuracy of the operation of the principal models used as far as that is possible.

- (e) Prepare a report setting out our analysis and conclusions for possible use by Air New Zealand and Qantas in connection with the approval process with the Commerce Commission (“NZCC”) and Australian Competition and Consumer Commission (“ACCC”).
 - (f) Present, if required, the analysis and conclusion to the NZCC and ACCC.
3. You will understand that it is not possible to verify the operation of a spreadsheet model so as to guarantee it contains no errors and we will give no such guarantee.

Staff, Timetable and Fees

- 4. I shall take responsibility for the assignment; the review partner who will provide input into material economic issues will be Suzanne Snively. We will use other staff as required, initially Simon Mann, Ben Campbell and Chris Gould. We may also seek input from one of our Australian partners with experience in submissions to the ACCC, but will discuss this with you in advance to determine whether this is appropriate.
- 5. We shall charge our normal rates for work of this nature, New Zealand partner time will be charged at \$550 per hour, plus GST, junior staff are charged at lesser rates depending on their experience.
- 6. Given the detailed and interrelated nature of much of the modelling, we think it best to use a reasonably small assignment team (named above) so as to minimise the prospect of issues ‘falling between the cracks’, but recognise that you seek some feedback in your briefing meetings on 8 and 9 August. We shall therefore make every effort to identify key issues and complete as much of the review as possible by that time, although we do not expect to complete our formal report by then. There may also remain outstanding issues at that stage depending on the timeliness and adequacy of information which Air New Zealand and Qantas are able to provide.

Terms and Conditions

- 7. The attached terms and conditions set out our respective obligations and duties. The terms and conditions provide that, amongst other things; our liability is excluded in certain circumstances and in other circumstances limit our aggregate liability whether in contract, tort or otherwise to a maximum amount of five times the amount paid by Air New Zealand and Qantas in respect of the Services.
- 8. This letter and the terms and conditions attached comprise the entire agreement (“the Contract”) for the provision of the Services to the exclusion of any other express or implied term, whether expressed orally or in writing, including any conditions warranties and representations. The Contract shall supersede all previous letters of engagement, undertakings, agreements and correspondence regarding this assignment. The terms and conditions should, therefore, be read in full.

Governing Law and Jurisdiction

9. The Contract shall be governed by and interpreted in accordance with the laws of New Zealand. The New Zealand courts shall have exclusive jurisdiction in relation to any claim, dispute or difference concerning the Contract and any matter arising from it.

Reliance on Information

10. Air New Zealand, Qantas and NEG (“the Information Providers”) will need to provide such information and assistance to us as we may reasonably require from time to time to enable us to provide the services (as described above).
11. We will expect that the Information Providers shall use all reasonable care, skill and attention to ensure that all information we may reasonably require to complete the assignment is provided on a timely basis to us and is accurate and complete and we will not check back to source their source documents unless we consider that the information appears questionable. We also expect that they will notify us if they subsequently learn that the information provided is incorrect or inaccurate or otherwise should not be relied upon.
12. Our reports will be based on the information provided. While the engagement may involve an analysis of financial information, the engagement does not include an audit or formal verification of source information provided by Air New Zealand or Qantas. Accordingly we assume no responsibility and make no representations with respect to the accuracy or completeness of any information provided by and on behalf of the Information Providers.
13. In accordance with our normal practice we may seek confirmation of the factual content of our report direct with the Information Providers prior to its completion. We may also require a letter from the Company confirming representations made by you to us.

Acknowledgment and Acceptance

14. If the scope and terms of the engagement are acceptable, please acknowledge your acceptance on behalf of Air New Zealand and Qantas by signing the confirmation attached, returning the enclosed copy of this letter to us at the above address.
15. If you have any questions or amendments please ring me.

Yours faithfully
PricewaterhouseCoopers

ERIC LUCAS

Enclosure

Confirmation of Terms of Engagement

Having read the letter of engagement from PricewaterhouseCoopers dated 29 July 2002 and the Terms and Conditions attached thereto, on behalf of Air New Zealand and Qantas we acknowledge acceptance of and agree to engage PricewaterhouseCoopers upon the terms of the same.

.....
Signed: A Peterson
Partner
On behalf of **Minter Ellison Rudd Watts**

.....
P Taylor
Partner
Bell Gully

.....
Date:

.....
Date

Attachment to engagement letter dated 29 July 2002

Terms of Engagement

This document together with the attached letter (“Engagement Letter”), form the Contract between Air New Zealand Limited, Qantas Airways Limited, and PricewaterhouseCoopers.

1. Services

We will provide the Services described in our Engagement Letter dated 29 July 2002 (“the Services”).

Timescale

We will use our best endeavours to carry out our obligations in accordance with the timescale set out in our Engagement Letter. However, unless both parties specifically agree otherwise in writing, the dates contained in our Engagement Letter are indicative dates intended for planning and estimating purposes only and are not contractually binding.

Changes to Services

Any of us may request changes to the Services as set out in the Engagement Letter or changes to any other aspect of the Terms of Engagement. Changes must be requested in writing with sufficient detail to enable the other party to assess the impact of the requested change on the cost, timing or any other aspect of the Services. Both of us agree to work together to consider and, if appropriate, agree any changes. Until a change is agreed in writing, the latest agreed terms will apply.

2. Reports and Advice

We will report to you in accordance with the terms set out in the Engagement Letter. You may make copies of the report available to those people referred in our Engagement Letter but, unless required by law, you must not provide the report or copies of it to any other third party without first obtaining our written consent. Such consent will only be granted on the terms we deem appropriate which will include that we accept no duty or responsibility to any other party who may seek to rely on our report. In some cases appropriate releases from third parties may be required.

You acknowledge that no reliance shall be placed on draft reports, conclusions or advice, whether oral or written, issued by us as they may be subject to further work, revision and other factors which may mean that such drafts are substantially different from any final report or advice issued.

3. Information

You agree to provide in a timely fashion all information and documents reasonably required to enable us to provide the Services. Unless otherwise stated in the Engagement Letter, we will not independently verify the accuracy of such information and documents and we will not be liable for any loss or damage arising from any inaccuracy or other defect in any information or documents supplied by you.

4. Fees and Payment

How fees will be calculated

Our fees are calculated in accordance with the terms of our Engagement Letter. Alterations to the scope of work or delays beyond the control of PricewaterhouseCoopers may require a re-negotiation of fees.

Performance

Our performance is dependent on you carrying out your responsibilities as set out in these Terms of Engagement and the Engagement Letter. Should this not occur, it may lead to an increase in our fees depending upon the extent to which we have to perform more work ourselves or reschedule our commitments to deliver the agreed Services.

Expenses

You agree to pay our reasonable travel and accommodation costs incurred in connection with our services. We also charge a service fee of 3% to cover our costs in respect of photocopying, postage, tolls, taxes, filing fees, stationery, couriers and mileage. Any special expense arrangements will be agreed.

Payment of invoices

Our invoices will be issued either on a fortnightly basis reflecting the status of the assignment or following completion of the assignment. All invoices will be due for payment within 14 days of issue. PricewaterhouseCoopers retains the right to charge a commercial rate of interest on accounts which are overdue by more than one month.

5. Term and Termination

Duration of Contract

The Contract will apply from the commencement date stated in the Engagement Letter, if any, or where no commencement date is specified from the date of signature by both parties. The Contract will continue until all the Services and deliverables have been provided unless it is terminated earlier in accordance with the terms set out below.

Termination

The Contract may be terminated by either party by written notice if either party fails to remedy a material breach of these Terms of Engagement.

6. Confidentiality

To afford the maximum protection to your confidential interest, all employees of PricewaterhouseCoopers are employed under a service contract which contains a clause strictly forbidding the unauthorised disclosure of information. All personnel involved will sign your standard Confidentiality Agreement before starting work. We will provide original signed copies of the Confidentiality Agreement for all such personnel.

7. Third Party Disclaimer

Notwithstanding any other provisions contained herein, PricewaterhouseCoopers expressly disclaims any responsibility for liability to third parties in connection with this engagement. Any reports we issue are solely for the use of Air New Zealand Limited and Qantas Airways Limited and for the purpose for which they are intended. No third party is entitled to place any reliance on the reports, or any other work products we produce.

Any report we issue will be accompanied by a written disclaimer, stating that the statements and opinions expressed in our report have been made in good faith, and on the basis that all information relied upon is true and accurate in all material respects, and not misleading by reason of omission or otherwise.

8. Liability

1. We shall use reasonable skill and care in the provision of the services set out in our Engagement Letter and these Terms of Engagement. We shall accept liability to pay damages for losses arising as a direct result of breach of contract or negligence on our part in respect of services provided in connection with, or arising out of, the engagement set out in this letter (or any variation or addition thereto); but, to the extent permitted by law, any liability of PricewaterhouseCoopers, its partners and staff (whether in contract, negligence or otherwise) shall in no circumstances exceed five times the fees paid in aggregate in respect of all such services.
2. To the maximum extent permitted by law, PricewaterhouseCoopers, its partners or employees, shall in no circumstances be liable for any loss, damage, cost or expense arising in any way from or connected with fraudulent acts or omissions, misrepresentation or wilful default on the part of Air New Zealand Limited and Qantas Airways Limited and its advisers, directors, employees or agents.
3. To the maximum extent permitted by law, all claims, whether in contract, negligence or otherwise, must be formally commenced within two years after the party bringing the claim becomes aware (or ought reasonably to have become aware), of the fact which gave rise to the action and in any event no later than three years after any alleged breach of contract, negligence or other cause of action arises. This expressly overrides any statutory provision which would otherwise apply.
4. You agree that if you make any claim against us, and that loss is contributed to by your own actions, then liability for your loss will be apportioned as is appropriate having regard to the respective responsibility for the loss, and the amount you may recover from us under any cause of action will be reduced by the extent of your contribution to that loss.

9. General

Entire Agreement

The Contract comprising the Engagement Letter and Terms of Engagement and the letter from Minter Ellison Rudd Watts dated 23 July 2002 forms the entire agreement between us relating to the Services. It replaces and supersedes any previous proposals, correspondence, understandings or other communications whether written or oral.

Representations

You acknowledge that PricewaterhouseCoopers has made no warranties or representations in relation to this assignment other than those set out in these Terms of Engagement and the Engagement Letter.

Legal and Regulatory Requirements

You confirm and undertake that you have all necessary powers and have obtained all necessary authorisations, consents and approvals to enter validly and lawfully into the Contract.

Appendix 2 – Restrictions on Use and Principal Sources of Information

1. This report has been written solely to assist Air New Zealand and Qantas in their submissions to the NZCC & ACCC.
 - (a) This report should not be used for any other purpose and should not be reproduced or supplied to any other party without our prior written permission. We accept no responsibility to the Alliance Parties for any reliance that might be placed on this report should it be used for any purpose other than set out above, and in any event accept no liability to parties other than the Alliance Parties in respect of its contents.
 - (b) We reserve the right, but will be under no obligation, to revise or amend our report and the conclusions contained therein if any additional information, which was in existence on the date of our review but was not brought to our attention in preparing our report, subsequently comes to light.
 - (c) The procedures we have performed do not constitute an audit examination conducted in accordance with Auditing Standards promulgated by the Institute of Chartered Accountants of New Zealand (“ICANZ”) or a review in accordance with RS-1, Statement of Review Engagement Standards issued by ICANZ. We do not express an audit opinion or any assurance on the achievability of assumptions which we have examined.

Principal Sources of Information

2. Discussions with management of both Alliance airlines, their respective advisors and NECG.
3. Management accounts for Air New Zealand and Qantas by route group by aircraft for the years ending 30 June 2001 and 2002.
4. The NECG Report on the Competitive Effects and Public Benefits from the Proposed Alliance between Qantas and Air New Zealand, dated 8 December 2002.
5. Economic models provided by NECG.
6. International Visitor Arrivals to New Zealand 2002-2008, August 2002, Tourism Research Council of New Zealand.

7. International Length of Stay and Expenditure Forecasts 2002-2008, August 2002, Tourism Research Council of New Zealand.
8. The Elasticity Database of the Bureau of Transport and Regional Economics (Australia), <http://dynamic.dotars.gov.au>
9. Heathrow, Gatwick and Stanstead Airports' Price Caps, 2003:2008, CAA recommendations to the Competition Commission, February 2002.
10. A Survey of Recent Estimates of Price Elasticities of Demand for Transport, Oum, Waters and Yong, January 1990.
11. Australian Tourism Overview, Tourism Futures International, November 2002.
12. Other publicly available information.

Appendix 3 – Detailed Unit Cost Analysis

Air New Zealand Costs – 2001 vs 2002

[CONFIDENTIAL TABLE]

Qantas Costs – 2001 vs 2002

[CONFIDENTIAL TABLE]

Appendix 4 – Net Benefits – 2001 Unit Costs

Benefits - 2001 Unit Costs (NZD)							Detriments (NZD)		Net Benefit
	Cost Savings	Scheduling	Direct Flights	Tourism	Engineering	Freight	Dead Weight Loss	Net Transfer	(NZD)
Year 1	\$7	\$22	\$0	\$100	\$39	\$2	\$78	-\$14	\$117
Year 2	\$139	\$9	\$14	\$221	\$37	\$0	\$28	\$1	\$402
Year 3	\$270	\$4	\$16	\$217	\$35	\$5	\$49	-\$19	\$527
Year 4	\$254	\$4	\$15	\$203	\$33	\$5	\$48	-\$27	\$502
Year 5	\$257	\$3	\$15	\$189	\$31	\$5	\$47	-\$26	\$487
Total	\$926	\$41	\$60	\$931	\$174	\$15	\$250	-\$84	\$2,036

Variance vs 2002 Unit Costs							Detriments		Net Benefit
	Cost Savings	Scheduling	Direct Flights	Tourism	Engineering	Freight	Dead Weight Loss	Net Transfer	
Year 1	10.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.5%
Year 2	-10.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.1%
Year 3	-6.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.5%
Year 4	-6.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.5%
Year 5	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.0%
Total	-5.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%

Appendix 5 – DPL Tornado Diagram

Net Benefits Sensitivity Analysis

Impact of Independent +/-10% Change in Variable

