Queenstown aerodrome price proposal for night operations and building upgrade.

For aircraft over five tonnes

29 October 2014

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1 Purpose

This document outlines Airways' proposed price increase for new lights and building upgrade at Queenstown (QN) Aerodrome which are required to enable QN to move from a regional low volume airfield, to an international airport that meets the demands of NZ's fourth busiest, and fastest growing international destination. This is a critical initiative to facilitate sustainable growth at QN.

The proposed investment is to:

1. Increase QN capacity by enabling night operations in time for the 2016 winter season. The aerodrome has resource consent to operate from 6am to 10pm. The lights would allow airlines to operate up to 10pm during the winter months. This investment includes;
    a. Lighting equipment.
    b. A proportion of a new building to house the additional lighting and power equipment required for the lights.
2. Move QN Air Traffic Control (ATC) Service from regional to international service standards. This investment includes additional building space to;
    a. Accommodate the additional air traffic control and technical staff required for the increased hours of service.
    b. Remove the asbestos, and reduce the operational and workplace safety risks of the existing building.
    c. House a backup power centre to bring service reliability up to Airways international tower standard of 99.95%.
    d. Bring the equipment rooms up to Importance Level 4 (IL4) earthquake standards, increasing service availability to the international towers availability target of 99.95%.

2 Consultation Process

The key steps in the consultation process are set out in figure 1.

Figure 1: Consultation timetable

Task or Milestone	Date
Consultation documents released	29 Oct 2014
Presenting the proposed lighting and building to airline customers	29 Oct 2014 to 7 Nov 2014
Closing date to request additional information	14 Nov 2014

Task or Milestone	Date
Deadline for submissions	28 Nov 2014
Airways' decision	25 Feb 2015
Publication of any price changes	3 Mar 2015
Any resulting price changes come into effect	1 Apr 2016

3 Guide to making a submission

Airways welcomes feedback on this proposal. To make a submission, please read through the document and respond in writing by 28 November 2014. All submissions will be carefully considered before prices are finalised and published on 3 March 2015.

Please send submissions, or lodge enquiries on this proposal to: Submissions@airways.co.nz

Alternatively you can mail to:

Queenstown Aerodrome Charge
Airways Corporation of New Zealand
100 Willis St,
PO Box 294
Wellington, 6140

Important note for submissions

All submissions will be made available to the public on Airways' website. However, you can request the removal of content as commercially-sensitive or confidential and Airways will remove the information prior to publication. Submitters should highlight in their submissions any comments or contents that are commercially-sensitive or confidential.

4 Background

During the 2013 – 2016 Air Navigation Services (ANS) pricing consultation process the QN lighting and building upgrade projects were removed from the current price path, to be addressed in a separate consultation. The investments of $1.8m for the lights and $2.2m for the building were removed after considering airline feedback that the consultation should be delayed until the Civil Aviation Authority (CAA) approved the safety case for night operations into QN. This safety case was approved by the CAA in July 2013.

Airways is working with QN Airport on the proposal to enhance the lighting at QN Airport to allow night operations and landing in lower visibility conditions in time for the 2016 winter season.

The existing equipment room and office at QN was originally built in 1968 as a flight service station when QN Airport operated as a small regional aerodrome. The control tower cab was added in 1993. QN Airport is now the fourth busiest airport in New Zealand by passenger traffic and handles over 50 international movements per week during the peak winter season. Over the past five years total IFR movements at QN have grown on average 5% p.a., including international movement growth of 29% p.a.

Airways now requires 11 air traffic controllers and two technicians to cater for the rapidly increasing volumes. The current buildings at QN are now too small to fit the increased number of staff and the extra equipment that was added when multilateration surveillance and the first phase of the lighting was introduced. Figure 2 below illustrates the airport growth around Airways' tower. The footprint of the tower has changed very little while the airport has grown rapidly around it.

Figure 2: Queenstown Aerodrome growth from 1968 to 2014

Furthermore, the current buildings have asbestos in the external and internal walls and very steep stairs which are a workplace safety hazard.

The lighting upgrade project will also require additional space in the QN equipment room and within the power centre. The additional power centre requirements needed for the lights will also force the redeployment of the technicians and creates a need for new workshop space for them.

Appendix 1 provides descriptions and photos of the current building illustrating the need for more appropriate buildings.

While airline customers will be aware of the proposed lighting enhancements, the additional building requirements, asbestos removal and health and safety adjustments required in the existing building were not part of the initial proposal that was removed in the last pricing round. The consultation for both the lights and the buildings has been combined so the overall impact on QN prices is transparent.

5 Proposed improvements to Airways' operations at Queenstown Airport

The proposed improvements will enable QN to move from a regional low volume airfield, to an international airport that meets the demands of NZ's fourth busiest, and fastest growing international destination. This is a critical initiative to facilitate sustainable growth at QN.

The proposed project is to upgrade the existing lights at QN to allow night operations and replace the existing equipment room and office space with a new purpose-built IL4 facility containing an equipment room, office space, meeting and training space, and staff facilities.

The total project is expected to cost $6.2m, made up of $2.2m for the lights upgrade and $4.0m for the building upgrade. This equates to an annual cost of $1.0m in the first year, which includes depreciation, maintenance and a capital charge. Further details of the investment are included in figure 3 below.

Figure 3: Total project cost

Investment detail	Cost
Increase capacity: - Lighting equipment - Proportion of new building to house additional lights	 $1.4m $0.8m
Move to international service standard: - Accommodate additional staff, reduce operational and workplace safety risks of the existing building - Improve service reliability	 $2.2m $1.8m[1]
Total Costs	**$6.2m**

[1]This is an incremental cost. The improvements in service reliability cannot be achieved independently of the additional staff accommodation.

5.1 Customer Benefits

The proposed investment will deliver improvements to capacity, reliability, and safety as outlined in sections 5.1.1 to 5.1.5.

5.1.1 Increased capacity

The aerodrome has resource consent to operate from 6am to 10pm. During winter months the hours of service are restricted to daylight hours.

The introduction of lights included in this proposal will enable the hours of service during the winter months to be the same as summer.

The proposed changes to the hours of operation can be covered by existing ATC rosters. There are no extra ATC costs included in this proposal.

The new lights would also facilitate operations throughout the night if required, however this would require resource consent and an increase in air traffic control numbers which is not included in Airways' current pricing or in this proposal.

5.1.2 Increased service reliability

To move QN from a regional to international service level the proposed new building will provide additional space for a backup power supply which would provide 99.95% service availability. Without the backup, enabled by the new building, the lights are reliant on the mains power only. There is also a reduced seismic risk to lighting and southern multilateration equipment, by providing a purpose built IL4 equipment room.

5.1.3 Allows for current and future growth

The proposed new building increases the size of the equipment room to house the new lighting equipment and provide capacity for future growth. The equipment room at QN is currently at capacity and it is expected that future growth would have required a new equipment room to be built within the next five years regardless of the introduction of night operations. New equipment in the future capital plan includes electronic flights strips and potentially remote tower technology.

5.1.4 Housing additional staff and improving operational safety

Since the move from flight service to full air traffic control in the early 1990's the number of Airways' staff at Queenstown has increased from four to 14. There is currently no room in the existing building for meetings and training – this takes place in the control cab and risks distracting the controllers.

5.1.5 Improves workplace safety

The proposed new building will replace the existing building which has an asbestos issue[2] and dangerous stairs that are a workplace safety hazard. The proposed building improvements will avoid an estimated cost of $0.5m to remove asbestos from the existing building while maintaining operations. Appendix 1 illustrates some of the health and safety concerns with the current building.

5.2 Net Present Value (NPV) of benefits and payback period

Figure 4 below summarises the quantifiable customer benefits that Airways expects this investment to provide. These benefits have also been used to calculate a payback period which is two years. It is important to note that the benefit calculation is a high level estimate only. Airways understands that airlines have access to better information and will be able to provide a more accurate assessment.

Figure 4: Estimated benefits from investment

Investment detail	Cost	Estimated benefits	NPV	Benefit description
Increase capacity	$2.2m	$22.2m[3]	$11.1m	Estimated increased airline operating margin
Move to international service standard Future costs avoided for asbestos removal & equipment storage	$4.0m	$4.4m[4] $0.7m[5]	$2.1m	Avoided lost airline operating margin from service disruptions
Total	**$6.2m**	**$27.3m**	**$13.2m**	

[2] Asbestos present in both the internal and external walls which poses a threat if disturbed.

[3] Key assumptions: a) Eight additional international flights per week during the peak winter season of 12 weeks, increasing by 8% p.a. b) 4,400 extra pax in year 1 assuming 80% loading on a mix of A320 & B737-200 aircraft. c) Average fare of $850, and airline yield of 3.5% d) Maximum additional weekly flights is 30 per week e) NPV calculated over the life of the asset. f) Average inflation of 2.5% g) Discount rate of 7.8%.

[4] Estimated impact of moving from 99.8% to 99.95% service availability.

[5] Made up of $0.5m avoided asbestos removal costs and $0.2m NPV savings from efficiencies of a single build (avoided duplicate design and project cost).

5.3 Other options considered

Many options were considered, with the next best option being refurbishing the existing building and building a new office block behind the existing building.

This option would enlarge the equipment room enough to house the additional lighting equipment, but there would be insufficient room to house the equipment required to bring service reliability to 99.95% or accommodate future growth. Under this option further building would be needed within the next five years to house additional equipment required for electronic flight strips, and technology to support the additional ATC positions at an estimated cost of $2.5m - $3.0m. It is more cost effective to build a future proof building now, as part of one project. A second building would lead to duplication of project and design costs, and the future building would need to be constructed around existing operations which is more costly.

A comparison of this option is summarised in figure 5:

Figure 5: Comparison of options considered

Considerations	Upgrade lights & construct new facility (proposed solution)	Upgrade lights & refurb existing equip room & new office
Costs	$6.2m	$4.4m
Estimated benefits	$27.3m	$22.7m
NPV (20 years – life of the asset)	$13.2m	$9.9m
Payback Period	2 years	12 years
Provide night operations	**Yes**	**Yes**
Deliver international service reliability (99.95%)	**Yes**	**No**
Deliver required IL4 seismic standard	**Yes**	**No**
Deliver QN staff training and meeting requirements	**Yes**	**Partially**
Remove dangerous stairs	**Yes**	**Yes**
Remove asbestos risk	**Yes**	**Partially**
Cater for growth in equipment needs	**Yes**	**No**

6 Proposed changes to Airways' prices at Queenstown Airport

It is proposed that the cost of the lighting upgrade will be recovered by increasing the Aerodrome Service price for aircraft over 30 tonnes as these are the aircraft expected to be equipped to fly night operations by 2016. This excludes the ATR 600 aircraft which we understand are currently not equipped to be able to use the lights.

The weights the proposed prices are applied to, and the volume assumptions will be revisited as part of the 2016 – 2019 pricing consultation. Prices will be adjusted from 1 July 2016 if aircraft lighter than 30 tonnes are able to use the lights.

The cost of the building replacement will be recovered by increasing the Aerodrome Service price for all aircraft over five tonnes. En-route and Approach Service charges are not affected by this proposal.

The proposed price increases come into effect from the later of 1 April 2016, or when night operations begin. The proposed price increases are summarised in figure 6.

Figure 6: Proposed price increase

Proposed price increase assuming the building cost is recovered from all aircraft over 5 tonnes and the lighting cost is recovered from aircraft over 30 tonne.

	5 – 30 tonne aircraft	over 30 tonne aircraft
QN Aerodrome Service Charge	14%	29%
Total Airways Charges[6]	7%	14%

The price assumes a 4.9% volume increase which is based on the past five year average volume growth. It has been assumed that the increase in service hours will enable this growth rate to continue.

The proposed charges have been set at a level that will enable Airways to recover:

a) Airways' capital costs (lighting equipment is depreciated over 20 years, and buildings are depreciated over 30 years),

b) Airways' ongoing operating costs,

c) Airways' cost of capital.

The financial information to support the calculation of the price changes is in Appendix 2.

[6] Total Airways charges take into consideration the average En-route and Approach Service charges that would be incurred by a flight into Queenstown. Note the proposed pricing increases only apply to the Aerodrome Service charge.

6.1 Proposed prices for Queenstown Aerodrome Services

The proposed price increase will be applied to the weight rate, from the later of 1 April 2016, or when night operations begin.

The minimum price, base rate and weight rate are provided in figure 7.

Figure 7: Pricing table

Queenstown aerodrome prices	1 April 2016 to 30 June 2016	
	Current prices	Proposed prices
Minimum price	$7.55	$7.55
Base rate	$14.00	$14.00
Weight rate for 5 - 30 tonne aircraft	$16.35	$18.74
Weight rate for over 30 tonne aircraft	$16.35	$21.02

The above changes will be subject to subsequent adjustments in line with Airways' general three-yearly price reviews. Airways three year pricing rounds take into account changes in volumes at specific locations. The next price review will take effect from 1 July 2016.

6.2 Future price changes

If the volumes continue to increase, then the price for this service may come down when prices are set as part of Airways' normal pricing rounds.

Figure 8 illustrates the potential impact on the proposed price if the 4.9% growth rate continues. This analysis excludes any changes in other operating costs and assumes prices are calculated using Airways' current Pricing Framework.

Figure 8: Future price changes

Queenstown aerodrome prices	Lights & building price increase	2016 – 2019 price round impact	2019 – 2022 price round impact
5 – 30 tonne aircraft	14%	(6%)	(3%)
Over 30 tonne aircraft	29%	(6%)	(3%)

6.2.1 Alternative price change scenarios

This section outlines the potential price impact if key volume and weight assumptions differ from what is proposed. Volume and weight assumptions will be revisited as part of Airways' 2016 – 2019 pricing consultation.

This section also excludes the impact of any changes in other operating costs and assumes prices are calculated using Airways' current Pricing Framework.

6.2.1.1 Night operations recovered from aircraft over 22 tonne

Figure 9 demonstrates the potential price impact if the cost of the night operations are recovered from aircraft over 22 tonnes. This scenario assumes that ATR 600's are able to use the lights.

Figure 9: Price impact if lights are recovered from aircraft over 22 tonne

	5 – 22 tonne aircraft	over 22 tonne aircraft
QN Aerodrome Service Charge	14%	26%
Total Airways Charges[2]	4%	13%

6.2.1.2 Alternative growth assumptions

Figure 10 demonstrates the potential price impact if the volume growth assumption is higher or lower than the proposed 4.9%:

Figure 10: Alternative growth assumptions

Queenstown Aerodrome Service prices	Lights & Building price increase	2016 – 2019 price round impact	2019 – 2022 price round impact
High Growth – 10.5%			
(based on last year's growth)			
5 – 30 tonne aircraft	3%	(2%)	(2%)
Over 30 tonne aircraft	18%	(2%)	(2%)
Low Growth – 3.6%			
(based on last 3 years growth)			
5 – 30 tonne aircraft	16%	(6%)	(3%)
Over 30 tonne aircraft	31%	(6%)	(3%)

6.3 Example price calculations

Figure 11 demonstrates the pricing impact on sample routes. The calculations include all applicable Airways charges (Aerodrome, Approach, Domestic En-route and Oceanic).

Figure 11: Sample route price changes

Route	Aircraft Type	Current 2015/16 total charge	Proposed 2015/16 total charge	Price change
Auckland to Queenstown	A320 (71.5 tonnes)	$1,760	$1,957	11%
Sydney to Queenstown	A320 (77 tonnes)	$1,459	$1,664	14%
Christchurch to Queenstown	ATR 76 (23 tonnes)	$610	$653	7%

Appendix 1 – Current health and safety issues

The following section provides a range of photos illustrating the health and safety issues with the current building.

The existing building has steep stairs that are a serious workplace safety risk.

The existing building has asbestos in both the internal and external walls.

The tower cab is the only space large enough for training and staff meetings. This creates distractions to those controlling.

Appendix 2 - Financial information

Below is a summary of the key financial information used to calculate the prices in section 6.

Cost information	
Capital expenditure - Lighting equipment - Buildings	$2.2m $4.0m
Additional on-going operational costs (excluding depreciation)	$0.1m
Discount rate	7.80%
Useful economic life - Lighting equipment - Buildings	20 years 30 years
Additional revenue required for the first part year of operations (1 April 2016 to 30 June 2016)	$0.2m

Annualised pricing impact	5 – 30 tonne aircraft	Over 30 tonne aircraft
Additional revenue required	$108k	$882k
Less additional volume growth	$14k	$59k
Net revenue increase required	$94k	$823k
2015/16 base revenue (from 2013 – 2016 price round)	$681k	$2,858k
Required % price increase	14%	29%

1. The discount rate is based on Airways' Weighted Average Cost of Capital (WACC) rate that has been set for the period 1 July 2013 to 30 June 2016.

2. Costs do not include civil works of approximately $0.9m which will be funded by Queenstown Airport directly. This is in accordance with the Letter of Agreement between Airways and Queenstown Airport.

3. The additional volume growth assumes a 4.9% volume increase which is based on the average growth over the past five years. It has been assumed that the increase in service hours will enable this growth rate to continue. Note that this assumption has been used to set prices for the period 1 April 2016 to 30 June 2016. The growth assumption will be revisited as part of Airways' general three yearly price reviews, with new Queenstown Aerodrome Service prices set to apply from 1 July 2016.

4. The Queenstown Aerodrome Service charges are calculated using the following formula as set out in Airways' Standard Terms & Conditions:

Aerodrome Service pricing formula

The greater of the minimum price or:

Aircraft under 5 tonnes MCTOW	= base rate x MCTOW / 5
Aircraft from 5 – 30 tonnes MCTOW	= base rate + weight rate x (MCTOW – 5)
Aircraft over 30 tonnes MCTOW	= base rate + weight rate x 5 x sqrt of (MCTOW – 5)

Where MCTOW is an aircraft's maximum certified take-off weight measured in tonnes.