

BEFORE THE ENVIRONMENT COURT

BETWEEN

Airways Corporation of New Zealand
(Appellant)

AND

Canterbury Regional Council
(Respondent)

NOTICE OF APPEAL

To: The Registrar
The Environment Court
PO Box 2069
Christchurch

1. Airways Corporation of New Zealand Limited (Airways) is responsible for facilitating the safe movement of aircraft in New Zealand air space and operates under the Civil Aviation Rules. Airways appeals against part of the decision of Canterbury Regional Council on the Proposed Natural Resources Regional Plan, Chapter 3, Air Quality.

4. **Name of Authority who made the decision on the Proposed Natural Resources Regional Plan, Chapter 3, Air Quality**

Canterbury Regional Council
PO Box 345
CHRISTCHURCH

5. **Date of Receipt of Council's Decision** – 1 October 2007

6. **The parts of the decision that Airways is appealing:**
 - 6.1 Objective AQL1
Rejection of that part of Airways submission to include the following paragraph in Objective AQL1:
(h) adverse effects on aircraft safety.

 - 6.2 Rule AQL 13 and AQL 22
Rejection of that part of Airways submission to include the following condition and subsequent notes in Rules AQL13 and AQL 22:

“the discharge into air may not take place within an Aerodrome Area without an aeronautical report confirming that it will not constitute a hazard in navigable airspace under CAA Rule Part 77.19(b) or (c).”

Insert the following Notes under the Rules:

1. Any structure associated with a discharge must also comply with the Civil Aviation Rules.

2. Aerodrome Area covers that area within the obstacle limitation surfaces for the relevant aerodrome. They are usually referred to as flight protection areas within District Plans.

6.3 Rule AQL 16 and AQL 26

Rejection of the part of Airways submission to include the following conditions and subsequent notes in Rules AQL 13 and AQL 22.

“the discharge into air may not take place within an Aerodrome Area without an aeronautical report confirming that the activity will not constitute a hazard in navigable airspace under CAA Rule Part 77.19(b) or (c); and

where the discharge is outside an Aerodrome Area stack heights should not be higher than 30m from the ground without an aeronautical report confirming that the proposed activity will not constitute a hazard in navigable airspace under CAA Rule Part 77.19(b) or (c).”

Insert the following Notes under the Rules:

1. Any structure associated with a discharge must also comply with the Civil Aviation Rules.

2. Aerodrome Area covers that area within the obstacle limitation surfaces for the relevant airport. They are usually referred to as flight protection areas within District Plans.

7. The reasons for the appeal are as follows:

7.1 Airways are responsible for facilitating the safe movement of aircraft in New Zealand air space. Specifically in the Christchurch region Airways is responsible for the provision of air traffic management and aircraft navigation services including the direct servicing of Christchurch International Airport and Wigram Air Base. These services are essential for the economic wellbeing and the continuing health and safety of the local and wider Canterbury community.

7.2 Airways' main control centre servicing the whole of New Zealand and the Oceanic contingency is based in Christchurch near the airport. Christchurch is therefore an important strategic base for Airways.

7.3 Pursuant to section 23(b) of the Civil Aviation Act 1990 the Director of Civil Aviation has delegated to the Navigation Development Manager of Airways the following powers under the Civil Aviation Rules part 19.155:

- The power to prescribe the conditions and procedures under which aircraft operating under instrument flight rules (IFR) may be flown and to prescribe instrument approach procedures in relation to the use of aerodromes;
- The power to prescribe meteorological minima for take-off and landing at aerodromes and to prescribe conditions in respect of such minima; and
- The power to publish the procedures and meteorological minima and associated conditions so prescribed in the appropriate aeronautical publication(s).

7.4 Aircraft stability and safety can be adversely affected by high velocity vertical discharges generated by large-scale combustion and industrial processes.

7.5 Aircraft are required to travel at a minimum height of 300 metres above ground level, except during ascents or descents. Within 20km of an airport, aircraft will begin descending. In general high velocity discharges will be a problem from heights 60 metres above ground level.

7.6 Civil Aviation Rule Part 77.7 contains a requirement that:

- (a) Each person proposing to use a structure shall notify the Director [of Civil Aviation] of the proposal in accordance with 77.13 if—
 - (i) the structure will or may discharge efflux at a velocity in excess of 4.3 m per second through the obstacle limitation surfaces of an aerodrome; or
 - (ii) the structure will or may discharge efflux at a velocity in excess of 4.3 m per second higher than 60 m above ground level.

7.7 Civil Aviation Rule Part 77.19 states the Director shall determine any such structure to be a "hazard in navigable airspace".

7.8 Airways seeks to eliminate the potential for such hazards and considers that the Proposed Natural Resources Regional Plan, Chapter 3 (Air Quality) should assist applicants to comply with their obligations under the Civil Aviation Rules.

- 7.9 Airways is concerned that no recognition or specific reference is made in the objectives and rules of the Plan regarding the sensitivity of airports and aircraft flight paths to air discharges.
- 7.10 The obstacle limitation surface is different for each aerodrome. It is a series of imaginary surfaces that define the limits to which objects may project into the air space above and adjacent to the aerodrome. The surfaces are necessary to enable aircraft to maintain a satisfactory level of safety while manoeuvring at low altitude in the vicinity of the aerodrome.
- 7.11 Airways considers that it is a matter of public interest that Council demonstrates a commitment to minimising potential danger for aircraft while in the air.
- 7.12 Consideration of the adverse effects on aircraft safety should include whether there is likely to be any reduced visibility of an aircraft as a result of the discharge and whether the efflux velocity is likely to constitute a hazard under the Civil Aviation Rules.
- 7.13 Given this decision, there is no certainty for Airways that adverse effects on the safety of Aircraft, due to discharges in the Aerodrome and outside the aerodrome will be adequately addressed. Further certainty is required to ensure the safety of aircraft movement within the Canterbury region. Certainty is necessary for Airways operations.

8. Relief

Airways seek the following relief:

- 8.1 Include a new paragraph in Objective AQL1 as follows:

(h) adverse effects on aircraft safety.

- 8.2 Include the proposed additions to Rules AQL 13, AQL 22 as follows:

“the discharge into air may not take place within an Aerodrome Area without an aeronautical report confirming that it will not constitute a hazard in navigable airspace under CAA Rule Part 77.19(b) or (c).”

Insert the following Notes under the Rules:

1. Any structure associated with a discharge must also comply with the Civil Aviation Rules.

2. Aerodrome Area covers that area within the obstacle limitation surfaces for the relevant aerodrome. They are usually referred to as flight protection areas within District Plans.

- 8.3 Include the proposed additions to AQL 16 and AQL 22 as follows:

"the discharge into air may not take place within an Aerodrome Area without an aeronautical report confirming that the activity will not constitute a hazard in navigable airspace under CAA Rule Part 77.19(b) or (c); and

where the discharge is outside an Aerodrome Area stack heights should not be higher than 30m from the ground without an aeronautical report confirming that the proposed activity will not constitute a hazard in navigable airspace under CAA Rule Part 77.19(b) or (c)."

Insert the following Notes under the Rules:


1. Any structure associated with a discharge must also comply with the Civil Aviation Rules.

2. Aerodrome Ares covers that area within the obstacle limitation surfaces for the relevant airport. They are usually referred to as flight protection areas within District Plans.

8.4 Any consequential changes that may be required throughout the Plan, both as to substance and as to numbering and cross references to give effect to the relief sought above.

9. The Appellant seeks the following dispensations from the Court: -

9.1 That a copy of the decision does not need to be served unless requested by any party served with the notice of appeal.


.....
Signed on behalf of Airways Corporation of New Zealand

12 / 11 / 07
.....
Date

Address for service
Gemma Smith
c/- Airways New Zealand
Opus International Consultants
PO Box 1482
Christchurch

Contact Phone: (03) 363 5560
Fax: (03) 365 7858
Email: gemma.smith@opus.co.nz

- Annexure:
- A) Copy of Airways Submission
 - B) Copy of evidence presented in support of Airways submissions to the Council hearing
 - C) Submitters served copy of appeal

Annexure A

**SUBMISSION ON PROPOSED CANTERBURY REGIONAL PLAN:
NATURAL RESOURCES REGIONAL PLAN - CHAPTER 3: AIR
QUALITY**

To: John Glennie
Regional Policy Manager - (NRRP)
Environment Canterbury
PO Box 345
CHRISTCHURCH

From: Airways Corporation of New Zealand Limited
PO Box 294
WELLINGTON

Agent & Address for Service: Opus International Consultants Ltd
PO Box 1482
CHRISTCHURCH
Attention: Joanne Price

Contact Phone: (03) 363-5448

Fax: (03) 365-7858

Email: Joanne.Price@opus.co.nz

1. The specific provisions of the Proposed Plan that this submission of Airways Corporation of New Zealand Limited relate to are the following:

- i) Inclusion of a new Policy relating to the sensitivity of airports and aircraft flight paths to air discharges.
- ii) Inclusion of four new rules identifying issues that are of particular concern to Airways.

2. Airways Corporation of New Zealand Limited

Airways Corporation ("Airways") is responsible for facilitating the safe movement of aircraft in New Zealand air space.

Specifically, in the Canterbury region, Airways is responsible for the provision of air navigation services to the Christchurch International Airport as well as the smaller regional airfields. Services include air traffic management and navigation. These services are essential for the economic well-being and the continuing health and safety of the local and wider community.

Pursuant to section 23(b) of the Civil Aviation Act 1990, (as amended by the Civil Aviation Act 1992), the Director of Civil Aviation has delegated to Navigation Development Manager of Airways Corporation of New Zealand Limited, powers under the Civil Aviation Rules part 19.155 as follows:

- The power to prescribe the conditions and procedures under which aircraft operating under instrument flight rules (IFR) may be flown and to prescribe instrument approach procedures in relation to the use of aerodromes;
- The power to prescribe meteorological minima for take-off and landing at aerodromes and to prescribe conditions in respect of such minima; and,
- The power to publish the procedures and meteorological minima and associated conditions so prescribed in the appropriate aeronautical publication(s).

These delegated powers are subject to specific conditions. Pursuant to this delegation, Airways has designed and prescribed the flight procedures for approach and departure from airports and aerodromes in the Canterbury Region.

Aircraft stability and safety can be adversely affected by high vertical velocity discharges from chimneys and stacks associated with large-scale industrial processes.

Aircraft are required to travel at a minimum height of 300 metres above ground level, except during ascents or descents. Within 20km of an airport, planes will begin descending. High velocity discharges will be a problem from heights 60 metres above ground level. Civil Aviation Rule, *Standards for Determining Hazards* 77.19 (c) states "*the Director shall determine the use of a structure to be a hazard in navigable airspace if the structure will or may discharge efflux at a velocity in excess of 4.3 metres per second higher than 60m above ground level*".

Visibility for pilots of aircraft being flown under Visual Flight Rules (VFR) can be severely affected by smoke. This only becomes an issue close to airports where pilots of smaller aircraft tend to use VFR or when navigation aids are out of service. Airways need to be informed of any potentially problematic discharges so that these can be marked on its maps.

Airways is concerned that no recognition or specific reference is made in the policies of the Plan regarding the sensitivity of airports and aircraft flight paths to air discharges. Airways is also concerned that rules in relation to discharges do not adequately provide for the safe movement of aircraft within the Canterbury Region.

The specific concerns are detailed in the attached schedules.

3. Airways seeks the following decision from Canterbury Regional Council:

The proposed amendments contained in Schedule 1 and 2 are sought, or amendments to like effect. Schedule 2 identifies four new rules, and reasons why the new rules should be adopted.

4. Airways' DOES wish to be heard in support of this submission.

Signed for and on behalf of:

J. Oliver

Don Oliver
Airways Corporation of New Zealand Limited

28/8/02

Date:

Schedule 1: Policies for Air Quality Management

1. The specific provision of Chapter 3: Air Quality of Environment Canterbury's Natural Resources Regional Plan that this submission relates to is:

Inclusion of a New Policy

2. Airways' submission is as follows:

No recognition or specific reference is made within the general policies of the air quality chapter (chapter 3) of the Natural Resources Regional Plan regarding the sensitivity of airports and aircraft flight paths to air discharges.

Airways submit that a policy be included which recognises the potential for adverse effects on air traffic safety, particularly relating to discharge velocities in the vicinity of airports and recognised flight paths.

3. The reasons for making this submission are:

Airways is particularly concerned about:

- Discharges to air with vertical velocity exceeding 4.3 metres per second higher than 60metres above ground level;
- Discharges to air from combustion or industrial processes with generating capacities exceeding 5 megawatts;
- Discharges to air in the vicinity of aircraft flight paths and aerodrome obstacle limitation surfaces;
- Discharges likely to produce significant smoke in the vicinity of airports.

Recognition of the sensitivity of airport environments and aircraft flight paths provides greater certainty that any potential hazards for aircraft will be avoided.

4. Airways seeks the following decision from Canterbury Regional Council:

That Council includes a general policy in Chapter 3 of the Natural Resources Regional Plan: Air Quality that states

"That air discharges in the vicinity of airports and aircraft flight paths be avoided in order to ensure that there are no adverse affects on the safety of air traffic".

That Council make all necessary consequential amendments.

Schedule 2: Rules for Discharges to Air

1 The specific rules of Chapter 3: Air Quality of Environment Canterbury's Natural Resources Regional Plan that this submission relates to is:

- discharges to air from large scale fuel burning devices (Rule AQL12 – AQL27)
- outdoor burning (AQL28 – AQL37)
- industrial or trade premises and industrial or trade processes (AQL38 – AQL57)
- intensive farming (AQL58 – AQL62)
- waste management processes and agrichemicals (AQL63 – AQL73)

The proposed new rule below (Rule 1) would be applicable to ALL LAND within the Canterbury Region.

(Rule 1)

"The discharge does not result in a discharge efflux exceeding 4.3 metres per second higher than 60 metres above the ground level".

The following proposed new rules (Rules 2-4) would be applicable only to proposals that fall within the airport designation and recognised flight path maps. These are identified in the relevant district plan maps. As part of this submission we have requested these maps be included as an appendix in the Regional Plan.

(Rule 2)

"The discharge shall not result in discharge to air from combustion or industrial processes with generating capacities exceeding 5 megawatts"

(Rule 3)

"There shall be no discharges to air likely to produce significant smoke in the vicinity of airports, which may adversely affect air traffic safety by reducing visibility"

(Rule 4)

"There shall be no discharges to air from industrial processes such as gas or coal fired power stations, cement kilns, flaring from oil or gas wells or installations"

2 Airways' submission is as follows:

Airways seeks that the new rules stated above be included in the following sections of Chapter 3: Air Quality of the Natural Resources Regional Plan.

:

- discharges to air from large scale fuel burning devices (Rule AQL12 – AQL27)
- outdoor burning (AQL28 – AQL37)
- industrial or trade premises and industrial or trade processes (AQL38 – AQL57)
- intensive farming (AQL58 – AQL62)
- waste management processes and agrichemicals (AQL63 – AQL73)

Airways request that the above rules be treated as *Discretionary* or *Restricted Discretionary Activities* and in such an instance, Airways would expect to be recognised as an affected party.

Additionally Airways request that airport designations and flight path plans identified in the District Plans applicable to Canterbury, be appended to the Regional Plan, or provided as a separate Schedule in the Regional Plan.

3 The reasons for making this submission are:

- (i) Aircraft stability and safety can be adversely affected by high velocity vertical discharges generated by large-scale combustion and industrial processes.

Airways is particularly concerned about:

- Discharges to air from combustion or industrial processes with generating capacities exceeding 5 megawatts;
- Discharges to air with vertical velocity exceeding 4.3 metres per second at 300 metres above ground level;
- Discharges to air from industrial processes such as gas or coal fired power stations, cement kilns, flaring from oil or gas wells or installations;
- Discharges to air in the vicinity of aircraft flight paths and aerodrome obstacle limitation surfaces;
- Discharges likely to produce significant smoke in the vicinity of airports.

(ii) Airways require certainty that potential hazards for aircraft will be avoided.

4 Airways seeks the following decision from Canterbury Regional Council (or to like effect):

That Council **includes** the new rules in Chapter 3: Air Quality of the Natural Resources Regional Plan, as stated above. Rule 1 is to be applicable to all land within the Canterbury region, and Rules 2-4 are only applicable to activities that fall within land identified in the airport designation or flight path maps. The new rules are to be included in the following sections:

- large scale fuel burning devices (Rule AQL12 – AQL27)
- outdoor burning (AQL28 – AQL37)
- industrial or trade premises and industrial or trade processes (AQL38 – AQL57)
- intensive farming (AQL58 – AQL62)
- waste management processes and agrichemicals (AQL63 – AQL73)

That the Council **treat** the above rules as *Discretionary* or *Restricted Discretionary Activities* and in such an instance, Airways would expect to be recognised as an affected party.

That Council **append** airport designations, aerodrome obstacle limitation surfaces and airport flight path plans identified in the District Plans applicable to the Canterbury Region to the Regional Plan.

That Council **includes** the new rules as stated above.

That Council **make** all necessary consequential amendments.

Annexure B

UNDER the Resource Management Act 1991

IN THE MATTER of the Proposed Natural Resources Regional Plan, Chapter 3: Air Quality for Environment Canterbury

AND

IN THE MATTER of submissions by Airways Corporation of New Zealand

<p>EVIDENCE OF JOANNE PRICE</p>
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1. INTRODUCTION

- 1.1 My name is Joanne Price. I am a Resource Management Planner employed in the Christchurch office of Opus International Consultants which specialises in environmental and resource management services.
- 1.2 I hold the degrees of Bachelor of Arts and Master in Regional and Resource Planning.
- 1.3 I appear today to give evidence on behalf of Airways Corporation of New Zealand Limited (**Airways**) with respect to the Proposed Natural Resources Regional Plan: Chapter 1 and 3 –Air Quality.
- 1.4 My evidence will address concerns of Airways in relation to the potential environmental effects on the safe movement of aircraft in New Zealand airspace from large scale discharges to air.
- 1.5 My evidence today covers
 - (i) background on the role of Airways
 - (ii) matters of concern to Airways
 - (iii) the Officers report
 - (iv) requested amendments

2. BACKGROUND

- 2.1 Airways is responsible for facilitating the safe movement of aircraft in New Zealand air space.
- 2.2 Specifically, in the Canterbury Region, Airways is responsible for the provision of air traffic management and aircraft navigation services including the direct servicing of Christchurch International Airport and Wigram Air Base. These services are essential for the economic well-being and the continuing health and safety of the local and wider Canterbury community.
- 2.3 Airways' main control centre servicing the whole of New Zealand and the Oceanic contingency is based in Christchurch near the Airport. Christchurch is therefore an important strategic base for Airways.
- 2.4 Pursuant to section 23(b) of the Civil Aviation Act 1990 the Director of Civil Aviation has delegated to the Navigation Development Manager of Airways the following powers under the Civil Aviation Rules part 19.155:
- The power to prescribe the conditions and procedures under which aircraft operating under instrument flight rules (IFR) may be flown and to prescribe instrument approach procedures in relation to the use of aerodromes;
 - The power to prescribe meteorological minima for take-off and landing at aerodromes and to prescribe conditions in respect of such minima; and,
 - The power to publish the procedures and meteorological minima and associated conditions so prescribed in the appropriate aeronautical publication(s).
- 2.5 These delegated powers are subject to specific conditions. Pursuant to this delegation, Airways has designed and prescribed the flight procedures for approach and departure from airports and aerodromes in the Canterbury Region. In these circumstances it is important that the Council distinguish between the responsibilities of Airways versus the Airport Authority.
- 2.6 Christchurch International Airport is a large facility which caters for instrument flight rules as well as visual flight rules. Instrument flight rules apply where an aircraft is unable to visually see the approach to the airport runway and must therefore fly under instruments. Under Civil Aviation Advisory Circular AC139-10, instrument flight rules require a wider and longer approach path than is required for airports operating only under visual flight rules.
- 2.7 The approach paths to each airport are protected by a variety of limitation surfaces, which Airways seeks to protect from navigational hazards such as excessively high structures and – the subject of this submission – high velocity discharges.

3. SUMMARY OF ISSUES

- 3.1 Aircraft stability and safety can be adversely affected by high velocity vertical discharges generated by large-scale combustion and industrial processes.
- 3.2 Airways is concerned that no recognition or specific reference is made in the policies and rules of the Plan regarding the sensitivity of airports and aircraft flight paths to air discharges.
- 3.3 Airways is particularly concerned about:
- (a) Discharges to air from combustion or industrial processes with generating capacities exceeding 5 megawatts;
 - (b) Discharges to air with vertical velocity exceeding 4.3 metres per second at 60 metres above ground level or penetrating the aerodrome obstacle limitation surfaces; and
 - (c) Discharges likely to produce significant smoke in the vicinity of airports.
- 3.4 The obstacle limitation surface is different for each aerodrome. It is a series of imaginary surfaces that define the limits to which objects may project into the air space above and adjacent to the aerodrome. The surfaces are necessary to enable aircraft to maintain a satisfactory level of safety while manoeuvring at low altitude in the vicinity of the aerodrome.
- 3.5 Airways considers that it is a matter of public interest that Council demonstrates a commitment to minimising potential danger for aircraft while in the air.

4. CIVIL AVIATION RULES

- 4.1 Aircraft are required to travel at a minimum height of 300 metres above ground level, except during ascents or descents. Within 20km of an airport, aircraft will begin descending. In general high velocity discharges will be a problem from heights 60 metres above ground level.
- 4.2 Civil Aviation Rule Part 77.7 contains a requirement that:
- (a) *Each person proposing to use a structure shall notify the Director [of Civil Aviation] of the proposal in accordance with 77.13 if—*
 - (i) *the structure will or may discharge efflux at a velocity in excess of 4.3 m per second through the obstacle limitation surfaces of an aerodrome; or*
 - (ii) *the structure will or may discharge efflux at a velocity in excess of 4.3 m per second higher than 60 m above ground level.*
- 4.3 Civil Aviation Rule Part 77.19 states the Director shall determine any such structure to be a "hazard in navigable airspace".

4.4 Airways seeks to eliminate the potential for such hazards and considers that the Plan should assist applicants to comply with their obligations under the Civil Aviation Rules.

5. REPORT ON THE VELOCITY OF THERMAL EMISSIONS

5.1 Airways commissioned an engineer's report from Opus International Consultants¹ in order to verify the point at which heat output (MW) exceeds 4.3 metres per second ("**the Opus Report**"). This report was reviewed and confirmed by the National Institute of Water and Atmospheric Research².

5.2 The Opus Report also provided details as to the rate at which the efflux velocity decreased as it was discharged into the air so that Airways was able to assess the likely impact of emissions discharged at different heights above ground level.

5.3 The report established that efflux velocity depends on the type of fuel being burned. The analysis was based on the assumption that the hypothetical chimney stack exit is located 20m above the ground level. In addition, the analysis was limited to heat outputs up to 15MW.

5.4 Of all the fuels tested only an incinerator burning waste/woodwaste or the like with a heat output of 5MW or more would produce a rate of thermal efflux of greater than 4.3 metres per second at 60 metres above ground (assuming a single stack situation).

5.5 All of the other fuels tested (e.g. natural gas, propane, oil) will reach the 4.3 metre per second threshold between 5MW and 9MW output but at heights below 60 metres above the ground level.

5.6 Should the stack height be greater than 25m above ground level or the heat output be greater than 15MW, there is the potential for other substances to become problematic.

5.7 Accordingly, it is not only the heat output of the proposed activity which is of concern, but also the height at which that discharge occurs.

5.8 We note that Schedule AQL5 of the Plan sets out minimum chimney heights but does not provide for maximum chimney heights. This implies that there has been no direct consideration for air safety in relation to the drafting of the Plan.

5.9 This data concludes that the potential for discharges 5MW and over to affect aircraft safety is a real possibility which Airways seeks to avoid.

6. VISIBILITY

¹ Velocity of Thermal Emissions from Point and Non-Point Sources, Opus International Consultants, May 2005.

² Review of Thermal Plume Dispersion Study for Opus International Consultants, NIWA, May 2005.

- 6.1 Visibility for pilots of aircraft being flown under Visual Flight Rules (**VFR**) can be severely affected by smoke. This only becomes an issue close to airports where pilots of smaller aircraft tend to use VFR or when navigation aids are out of service.
- 6.2 It is important that any activity which is likely to produce a significant amount of smoke be considered by Council in terms of whether it has the potential to impact upon a pilot's visibility.
- 6.3 If, following consideration of these issues, resource consent is nevertheless granted, Airways should be informed of any potentially problematic discharges so that these can be marked on the flight charts.

7. OFFICER'S REPORT

- 7.1 The Officer's evaluation of Airways' submission can be summarised as follows:
 - (a) The emissions will *generally* be on a small scale;
 - (b) The stack heights will *generally* be low;
 - (c) Council will be able to use its *discretion* when assessing more significant activities.
- 7.2 The full statements contained in the Officer's report are set out below together with Airways' response.

(a) 'Small scale' emissions

"The combustion processes identified in the Plan as permitted or controlled activities are relatively small scale and are not expected to result in significant smoke emissions that would affect aircraft movement. With the exception of controlled gas-fired boilers (up to 20MW net output), these sources have a net output of less than 5MW."

Airways considers that the general nature of this statement is unsatisfactory as the effect on aircraft has not been considered when formulating the rule for permitted and controlled activities.

Therefore, while Airways accepts that the majority of such activities will not have a negative effect on aircraft safety, it submits that no activity whatsoever should be allowed to threaten the structural integrity of aircraft 'as of right' and therefore requires appropriate safeguards to be put in place.

The Opus Report makes it clear that at 5MW certain emissions will have an impact and as the chimney height increases or the output capacity so too does the number of potential problematic emissions.

(b) Low stack heights

"The emission stack height will be relatively low (typically less than 20m above ground level) and an efflux velocity of more than 4.3m/s at 60m above ground level is not expected to occur."

Again, while Airways accepts that in most cases this statement may be correct, the fact that such a scenario is even a possibility is unacceptable.

Permitted or controlled activities that have the potential to affect aircraft safety are of particular concern to Airways as it is responsible for ensuring that:

- known hazards are appropriately marked on the official flight charts; and
- aircraft are not directed into areas where known hazards exist.

Without any requirement on an applicant to assess the impacts of their activity on aircraft safety a potential exists for unidentified hazards to appear. However small the potential is, Airways seeks to eliminate any potential for danger in the air.

(c) Council discretion

"In the case of the larger or potentially more significant discretionary activities these matters would be considered by Environment Canterbury staff when auditing a consent application and Airways would be consulted, if relevant."

In drafting the Plan it is apparent that Council has not contemplated aircraft safety as a significant issue in assessing potential adverse effects of proposed activities. Accordingly Airways does not have any confidence that the impact on aircraft safety will be taken into account when considering applications for resource consents on a case-by-case basis.

Furthermore we see no basis for the Officer's assertion that "Airways would be consulted" on such matters. In fact Airways is not regularly consulted on such matters and indeed there is already some confusion among consent authorities as to Airways' role within the aviation community and its distinction from the Civil Aviation Authority or the Airport Operators.

If this issue is not adequately addressed Airways will be put to the burden of lodging individual submissions on each application which has the potential to affect aircraft safety so that such adverse effects may be properly assessed and considered. Airways considers that it would be more efficient if applicants were directed to consider this at an early stage of their application.

8. REQUESTED AMENDMENTS TO THE PLAN

- 8.1 Airways' previous submissions have applied a broad spectrum approach to all discharges to air.
- 8.2 This is largely due to the fact that whether or not an activity will constitute a "hazard in navigable airspace" will depend upon a number of variables including:

- The type of fuel generating the discharge;
 - The heat output (MW) of the discharge;
 - The height of the chimney stack; and
 - The proximity of the discharge to an aerodrome or a flight path.
- 8.3 Whether aircraft may be able to be safely navigated around the hazard will also be a relevant consideration when assessing aircraft safety.
- 8.4 It is therefore not easy to put in place 'hard and fast' rules identifying and separating the activities that will be problematic from those that won't be. However Airways does not want to impose unnecessary compliance costs on applicants where, in fact, no danger exists.
- 8.5 As a result of these considerations Airways has reassessed its 'broad spectrum' approach and identified specific rules where there is a real potential danger to aircraft. Based on the findings in the Officer's report the proposed amendments should have a minimal effect on most applications while enabling further investigation of the effects on aircraft safety in appropriate circumstances.
- 8.6 Accordingly Airways requests the following amendments to the Plan:

(a) Objective AQL1

Insert a new paragraph (h):

“(h) adverse effects on aircraft safety”.

The inclusion of this paragraph would direct Council to consider the effect on aircraft safety of a discretionary activity involving a discharge into air.

Consideration of the adverse effects on aircraft safety should include whether there is likely to be any reduced visibility of an aircraft as a result of the discharge and whether the efflux velocity is likely to constitute a hazard under the CAA Rules.

(b) Rule AQL13 and Rule AQL 22

Insert the following new condition:

“the discharge into air may not take place within an Aerodrome Area without an aeronautical report confirming that it will not constitute a hazard in navigable airspace under CAA Rule Part 77.19(b) or (c).”

Insert the following Notes under the Rules:

1. Any structure associated with a discharge must also comply with the Civil Aviation Rules.

2. Aerodrome Area'Aerodrome Areas' cover that area within the obstacle limitation surfaces for the relevant aerodrome. They are usually referred to as flight protection areas within District Plans.

This allows Council to take into account discharges to air in the vicinity of an aerodrome where the obstacle limitation surfaces will be less than 60m above ground level and therefore more sensitive to emissions.

Any activity which did not meet this threshold would become a discretionary activity and considered under Rules AQL 17 or AQL 27.

Aerodrome AreaAerodrome Areas are identified in relevant District Plans. For example both the Proposed Christchurch City Plan and the Timaru District Plan indicate on planning maps the flight protection areas.

These rules deal with activities that are sufficiently small scale for Airways to be comfortable that they would not be problematic outside an Aerodrome Area Aerodrome Area where aircraft will be flying lower than elsewhere.

Airways considers that this amendment does not create uncertainty in respect of a permitted activity as:

- the Aerodrome Area is a easily defined area;
- a satisfactory aeronautical study will permit an otherwise discretionary activity;
- an applicant is already required, under the CAA Rules, to assess the activity for such potential hazards and such a condition only assists them in complying with these obligations.

(c) Rule AQL 16 and Rule AQL 26

Insert the following new terms:

“the discharge into air may not take place within an Aerodrome Area without an aeronautical report confirming that the activity will not constitute a hazard in navigable airspace under CAA Rule Part 77.19(b) or (c); and

where the discharge is outside an Aerodrome Area stack heights should not be higher than 30m from the ground without an aeronautical report confirming that the proposed activity will not constitute a hazard in navigable airspace under CAA Rule Part 77.19(b) or (c).”

Insert the following Notes under the Rules:

1. Any structure associated with a discharge must also comply with the Civil Aviation Rules.

2. Aerodrome Areas cover that area within the obstacle limitation surfaces for the relevant airport. They are usually referred to as flight protection areas within District Plans.

Insert the following under Section 3.5 Explanation and principal reasons for methods:

Discharges have the potential to affect air transport. Consideration of this issue is required, including the views of the Airways Corporation, when assessing such discharges on a case by case basis.

Again, this provides an appropriate safeguard for activities in the vicinity of an aerodrome (whether existing currently or in the future).

Where the activity is outside the Aerodrome Area this condition puts in place adequate controls to prevent general hazards in airspace.

These rules deal with larger scale activities and Airways therefore considers that a limitation on stack height is appropriate.

As the Officer's report found that emission stack heights will rarely exceed 20 m we consider that the activities caught by this condition will be minimal.

(d) Consequential amendments

All necessary consequential amendments.

9. CONCLUSION

9.1 In conclusion Airways submits that:

- (a) Large scale discharges to air have the potential to adversely effect aircraft safety;
- (b) Risks to aircraft safety is a matter of public interest to which Council should have appropriate regard;
- (c) The recommendations contained in the Officer's Report do not adequately address the concerns raised by Airways in its submission; and
- (d) The amendments proposed by Airways are reasonably necessary in order to ensure aircraft safety.

9.2 That concludes the evidence Airways wishes to make on the Proposed Natural Resources Regional Plan, Chapter 3: Air Quality.

Joanne Price
for Airways Corporation of New Zealand

Date:

Annexure C

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