

Presented to the Regulatory Committee 25/1/12
Decision: That the report be received.

REPORT

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Prepared For: Regulatory Committee
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Subject: Enforcement of the Air Plan Rules related to discharges from domestic heating appliances

1. Précis

This report follows a report on “Air Quality Strategy and Long Term Planning” to Natural Resources Committee in August 2011 and shows how discharges from domestic heating appliances in the Otago Region are to be enforced.

2. Regional Plan: Air rules on discharges from domestic heating appliances

The following is the chronological sequence of rules and government standards related to domestic heating appliances:

- 28 February 1998
 - Regional Plan: Air was notified
 - All new burner installations in Dunedin and Mosgiel area should meet <4 g particulates/kg fuel burnt
- 1 January 2003
 - Regional Plan: Air became fully operational
- 1 September 2005
 - National Environmental Standards (NES) requiring <1.5 g particulates/kg fuel burnt and not less than 65% thermal efficiency on new *wood* burners installed on properties <2 ha
 - Deadline to comply with the ambient air quality in polluted air sheds is set as 1 September 2013
- 14 April 2007
 - Regional Plan: Air plan change (New rules in Appendix 1)
- 1 January 2009
 - Regional Plan: Air plan change became fully operational
- 1 June 2011
 - Amendments to NES 2004 extending the deadline to comply (≤ 1 exceedance of PM₁₀ per year) with the ambient air quality;
(a) reduce exceedance numbers in air sheds with 1-10 exceedances by 1 September 2016 and (b) air sheds with ≥ 10 exceedances to ≤ 3 initially between 1 September 2016 and 31 August 2020 and finally to ≤ 1 from 1 September 2020

In all Air Zones all burners should comply with the burning of prohibited materials in Rule 16.3.3.1 and the NES and not causing adverse effects beyond the boundary of the

property as stipulated in the respective rule. From an enforcement viewpoint the focus will be on the use of any unauthorised burner or use of an authorised burner in an unauthorised manner. Table 1 shows allowed authorised burner requirements.

Table 1. Allowed lawfully installed burner requirements in the Otago Region

Air Zone	Requirements			Date of installation
	ER ¹ g/kg	TE ² %	PS ³ ha	
1 (Alexandra, Cromwell Arrowtown)	≤0.7	≥65	No limit	<i>All burners - After 14 April 2007</i>
1 (Clyde)	<1.5	≥65	<2	<i>Any wood burner – Between 1 September 2005 and 1 April 2009</i>
1 (Clyde)	≤0.7	≥65	No Limit	<i>All burners – After 1 April 2009</i>
Dunedin, Mosgiel, Oamaru, Wanaka, Queenstown, Balclutha and Milton under old schedule 1.2	<4	No limit	No limit	<i>Any wood burner - Between 28 February 1998 and 1 September 2005 Other burners – Between 28 February 1998 and 14 April 2007</i>
2 [*]	<1.5	≥65	No limit	<i>All burners - From 14 April 2007</i>
3 ^{**}	<1.5	≥65	<2	<i>All burners – From 14 April 2007</i>
1 (Alexandra, Cromwell & Arrowtown), 2 & 3	<1.5	≥65	<2	<i>Any wood burner - Between 1 September 2005 and 14 April 2007</i>
2 & 3	No limit	No limit	No limit	<i>All burners - Before 28 February 1998</i>
2 (Kingston, Naseby, Ranfurly, Roxburgh, Palmerston and Port Chalmers), & 3	No limit	No limit	No limit	<i>Any wood burner – Before 1 September 2005 All burners other than wood burners – Before 14 April 2007</i>

¹ ER - g particulates/kg fuel burnt

² TE – thermal efficiency %

³ PS – property size ha

* Air Zone 2- Hawea, Wanaka, Queenstown, Kingston, Naseby, Ranfurly, Roxburgh, Oamaru, Palmerston, Waikouaiti, Port Chalmers, Dunedin, Green Island, Mosgiel, Milton and Balclutha.

** Air Zone 3 – Areas outside Air Zone 1 and 2 which is remainder of the Otago Region.

3. Enforcement of the domestic heating appliances discharge rules

A report on “Air Quality Strategy and Long Term Planning” was presented to the Natural Resources Committee in August 2011. Table 4 of the report is appended (Appendix 2) which provides a general approach that is likely to be taken on education, planning and enforcement.

Owing to different rules for different Air Zones, large number of anticipated non-complying burners and entry into dwellings to inspect compliance is not a straight forward process Council compliance staff should follow a consistent and legally defensible process. This paper aims to provide this process.

A complaint and opportunistic visit based inspections

In Air Zone 1 for the first two years (i.e. 2012 and 2013) any enforcement is in response to complaints or enforcement officers witnessing non-compliance during opportunistic visits. If this approach is found to be effective a similar approach could be considered until full compliance with the NES has been achieved. If not, active surveillance will be introduced in selected areas particularly in Air Zone 1.

Judging by the new deadlines in the amended NES PM₁₀ exceedances in all Air Zone 1 areas (since exceedances are in excess of 10 per year) have to be reduced to ≤ 3 after 1 September 2016 and to ≤ 1 after 1 September 2020. Whilst there is sufficient timeframe provided in the amended NES, Council will make all attempt to make substantial progress by September 2013.

As for Air Zone 2 areas except for Milton which will be given Air Zone 1 or a similar status through a plan change, all other areas have < 10 exceedances per year hence the deadline in the amended NES will be 1 September 2016. The approach taken in Air Zone 2 will also be based on education and responding to complaints and any appropriate enforcement actions.

Procedures to inspect non-complying use of authorised or unauthorised domestic burners

Enforcement officers will be provided with procedures to deal with non-complying use of authorised or unauthorised domestic burners. Educative materials on prohibited materials burning, efficient use of authorised burners, choice of technology for home heating, questions and answers on rules and enforcement related to the use of domestic burners will be available on the Council website.

The procedures will include the following but not limited to:

- Assessment of adverse effects caused by an unauthorised discharge
- Door knocking and discussion (set of questions to ascertain compliance) with the owner or occupier
- In the absence of owner/occupier leaving a business card, pre-printed material outlining the offence and follow-up, educative materials
- Entry into a dwelling under owner's/occupier's consent
- Entry into a dwelling when the owner/occupier refuses entry
- Inspection of the burner
- Recommendation for enforcement actions
- Serving of warning letters/infringement notices

Appendix 3 contains Figures 1 and 2 which deal with Procedure 1; unauthorised domestic heating appliances in Air Zone 1 and Procedure 2; authorised domestic heating appliances but non –complying discharges in all air zones respectively.

4. Recommendation

That this report be received.

Selva Selvarajah
Director Resource Management

Appendix 1 - Regional Plan: Air for Otago

16.3 Rules

16.3.1 Discharges from domestic heating appliances

Note:

1. Discharges from all domestic heating appliances (which include open fires) in buildings (domestic and non-domestic), are permitted providing they meet the relevant requirements of Rules 16.3.1.2 to 16.3.1.6. If the discharge is from a recognised heritage building or from a building on commercial premises, and that discharge does not meet permitted activity conditions, consent may be applied for under Rule 16.3.1.7. If these rules are unable to be met, the discharge is prohibited by Rule 16.3.1.1.
2. Unless a rule sets more stringent requirements, all woodburners in buildings on properties less than 2 hectares in size must also meet the requirements set by the NESAQ, which is incorporated in Rules 16.3.1.2 to 16.3.1.6.
3. Domestic heating appliances (excluding open fires) installed in the former Schedule 1.2 areas between 28 February 1998 and 14 April 2007 were required to meet a particulate emission rate of 4 g/kg or less, or have a resource consent.
4. Discharges from domestic heating appliances that are outside of buildings are addressed by the Rules under section 16.3.2 of this Plan (Outdoor Burning).
5. Particulate emission rates and thermal efficiency are to be determined using the testing procedures described in Method 17.5.4.1. The rates are achievable by many domestic heating appliances currently on the market.

16.3.1.1 Discharges from domestic heating appliances – prohibited activity

Except as provided for by Rules 16.3.1.2 to 16.3.1.7, the discharge of contaminants into air from any domestic heating appliance in any building is a *prohibited activity*, for which no consent will be granted.

16.3.1.2 Discharges from domestic heating appliances in Air Zone 1 – permitted activity

The discharge of contaminants into air from any domestic heating appliance in any building in Air Zone 1:

- (1) If the domestic heating appliance was lawfully installed and meets a particulate emission rate of 0.7 g/kg or less of fuel burnt and has a thermal efficiency of not less than 65%;

is a *permitted activity*, providing:

- (a) Any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property; or
- (2) If the domestic heating appliance was lawfully installed before 14 April 2007 in Air Zone 1 (Alexandra, Arrowtown or Cromwell), or was lawfully installed before 1 April 2009 in Air Zone 1 (Clyde),

and meets a particulate emission rate of less than 1.5 g/kg of fuel burnt;

is a *permitted activity*, providing:

- (a) Any woodburner installed after 1 September 2005 in a building on a property with an allotment size of less than 2 hectares also has a thermal efficiency of not less than 65%; or
 - (b) Any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property; or
- (3) If the domestic heating appliance was lawfully installed before 14 April 2007 in Air Zone 1, and has a particulate emission rate of greater than or equal to 1.5 g/kg of fuel burnt;

is a *permitted activity*, until 1 January 2012, providing:

- (a) Any woodburner installed after 1 September 2005 in a building on a property with an allotment size of less than 2 hectares meets a discharge of less than 1.5 g/kg of dry wood burnt and has a thermal efficiency of not less than 65%; and
- (b) Any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.

16.3.1.3 Discharges from domestic heating appliances in Air Zone 2 – permitted activity

The discharge of contaminants into air from any domestic heating appliance in any building in Air Zone 2:

- (1) If the domestic heating appliance was lawfully installed after 14 April 2007 and meets a particulate emission rate of less than 1.5 g/kg of fuel burnt and has a thermal efficiency of not less than 65%;

is a *permitted activity*, providing:

- (a) Any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property; or
- (2) If the domestic heating appliance was lawfully installed before 14 April 2007;

is a *permitted activity*, providing:

- (a) Any woodburner installed after 1 September 2005 in a building on a property with an allotment size of less than 2 hectares meets a discharge of less than 1.5 g/kg of dry wood burnt and has a thermal efficiency of not less than 65%; and

- (b) Any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.

16.3.1.4 Discharges from cookers in Air Zone 3 – permitted activity

The discharge of contaminants into air from any cooker, lawfully installed in any building in Air Zone 3;

is a *permitted activity*, providing:

- (a) Any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.

16.3.1.5 Discharges from domestic heating appliances other than cookers in Air Zone 3 – permitted activity

Except as provided for by Rule 16.3.1.4, the discharge of contaminants into air from any domestic heating appliance in any building in Air Zone 3;

is a *permitted activity*, providing:

- (a) Any woodburner installed after 1 September 2005, or any other domestic heating appliance installed after 14 April 2007, in a building on a property with an allotment size of less than 2 hectares, meets a discharge of less than 1.5 g/kg of fuel burnt and has a thermal efficiency of not less than 65%; and
- (b) Any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.

16.3.1.6 Discharges from any domestic heating appliance installed in a recognised heritage building – permitted activity

The discharge of contaminants into air from any domestic heating appliance lawfully installed in any recognised heritage building:

is a *permitted activity*, providing:

- (a) The domestic heating appliance contributes to the significance of the recognised heritage building; and
- (b) Any woodburner installed after 1 September 2005 in a building on a property with an allotment size of less than 2 hectares meets a particulate emission rate of less than 1.5 g/kg of dry wood burnt and has a thermal efficiency of not less than 65%; and
- (c) Any discharge of smoke, odour or particulate matter is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.

16.3.1.7 Discharges from any domestic heating appliance installed in a recognised heritage building or a building on commercial premises – discretionary activity

Except as provided for by Rules 16.3.1.2 to 16.3.1.6, the discharge of contaminants into air from any domestic heating appliance lawfully installed in:

- (1) Any recognised heritage building; or
- (2) Any building on commercial premises;

is a *discretionary activity*, providing:

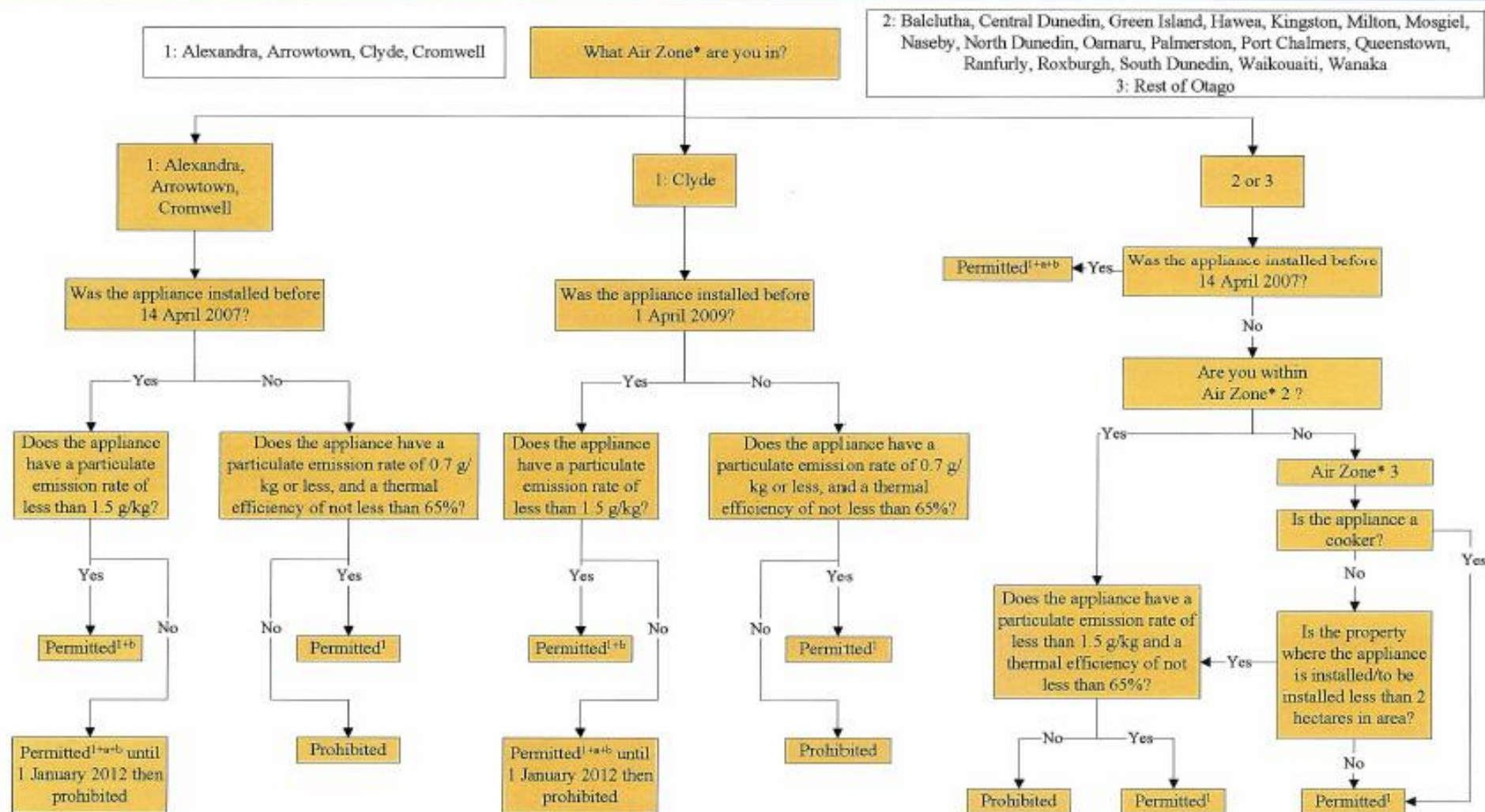
- (a) Any woodburner installed after 1 September 2005 in a building on a property with an allotment size of less than 2 hectares meets a particulate emission rate of less than 1.5 g/kg of dry wood burnt and has a thermal efficiency of not less than 65%.

Principal reasons for adopting:

Rules 16.3.1.1 to 16.3.1.7 are adopted to allow solid fuel heating of buildings, while managing the adverse effects that discharges from domestic heating appliances can have on ambient air quality, and subsequently on human health, in particular areas. The most stringent rules apply in Air Zone 1, where the most breaches of the ambient air quality standard occur. The least stringent rules apply to properties over 2 hectares in size in Air Zone 3, where ambient air quality is generally very good. Some flexibility is provided in this domestic heating rule framework to provide for cookers in Air Zone 3, recognised heritage buildings and commercial premises.

The boundary effects condition in all of the above permitted activity rules is adopted to ensure that discharges do not have significant adverse effects on the surrounding local environment and, in particular, on neighbours.

Guide to the rules for discharges from domestic heating appliances in Otago



Guide to the rules for discharges from domestic heating appliances in Otago

Notes

- *Plan Change 2 to the Regional Plan: Air for Otago became operative on 1 January 2009. It introduced Air Zone areas, which are available to download from the ORC website. Alternatively, you can obtain a copy by phone or email.
- ¹Providing the domestic heating appliance was lawfully installed (with a building permit) and any discharge of smoke, odour, particulate matter or gas is not noxious, dangerous, offensive or objectionable at or beyond the boundary of the property.
^aDomestic heating appliances (excluding open fires) installed in Schedule 1.2 areas between 28 February 1998 and 14 April 2007 were required to meet a particulate emission rate of 4 g/kg or less; and
^bWoodburners installed after 1 September 2005, in a building on a property with an allotment size of less than 2 hectares were required to meet a particulate emission rate of less than 1.5 g/kg and have a thermal efficiency of not less than 65%.
- *Definition of Domestic Heating Appliance:* A combustion appliance, with a heat generation capacity of up to 50 kW in which solid fuel is burnt for heating or cooking, and is primarily used in residential dwellings. It includes, but is not limited to, any open fire, woodburner, multifuel, pellet or coal burning heater, or cooker including coal range.
- *Definition of Cooker:* Any domestic heating appliance which has an inbuilt oven and is used for cooking.
- *Definition of Woodburner:* Means a domestic heating appliance that burns wood but does not include: an open fire; a multifuel heater, a pellet heater, or a coal burning heater; a stove that is designed and used for cooking, and heated by burning wood.
- If you want to install a domestic heating appliance, see the flow chart "Guide to what domestic heating appliances you can install in Otago" on this website, or obtain a copy by phone or email.
- Certain commercial premises and recognised heritage buildings may be able to apply for resource consent to install a non-complying domestic heating appliance. See the Regional Plan: Air for Otago for more detail.

Appendix 2 - Possible actions to assist compliance with the AQNES and Air Plan

Year	Actions
2011/12	<ul style="list-style-type: none"> • Focus on education. • Education material/advertising required to clearly state Air Plan requirements in Air Zone 1 towns; Clean Heat assistance. • Produce new fact sheets: for example, 'when to buy wood and how to store'; 'how to light and keep a fire burning with less smoke'; 'Air Plan requirements 2012'. • Education to include if coal smoke can be seen/smelled in 2012: chances are fire is non-compliant. Strongly encourage to replace coal burners. If non-compliant, warning followed by enforcement action in 2012. • Continue to monitor technical advances in emission monitoring or filtering domestic chimneys. • Review Air Plan. Milton moved to Air Zone 1 and Lawrence to Air Zone 2. • Report on annual air quality monitoring and five year trend analysis.
2012/13	<ul style="list-style-type: none"> • Focus on education, very smoky chimneys, complaints. • New publicity in media to say Air Plan restrictions now operative. • Education/publicity <ul style="list-style-type: none"> ○ Clean Heat Clean Air programme still available ○ Coal smoke is easily noticeable and likely the fire is breaching Air Plan ○ Use woodburners wisely and burn only dry wood. • Encourage wood retailers to indicate moisture content of wood. • ORC to carry out observations during known peak smoke times and deliver letter and publicity material to homes with very smoky chimneys. • Very badly performing houses, especially coal smoke, given first warning regarding possibility of infringement notices. Warning will include help on how to achieve compliance and a deadline. • Continue to monitor technical advances in emission monitoring or filtering domestic chimneys. • Report on air quality monitoring trend analysis.
2013/14	<ul style="list-style-type: none"> • As 2012 but in addition: • Gross polluting chimneys given warning letters.
2014-	<ul style="list-style-type: none"> • Strategy to be redeveloped in view of monitoring results, AQNES in 2016 and Plan Change. • Gross pollution/dampening/repeat offenders given infringement notices.

Appendix 3 - Enforcement decision flow charts

Figure 1

Procedure 1. Use of unauthorised domestic heating appliances in Air Zone 1

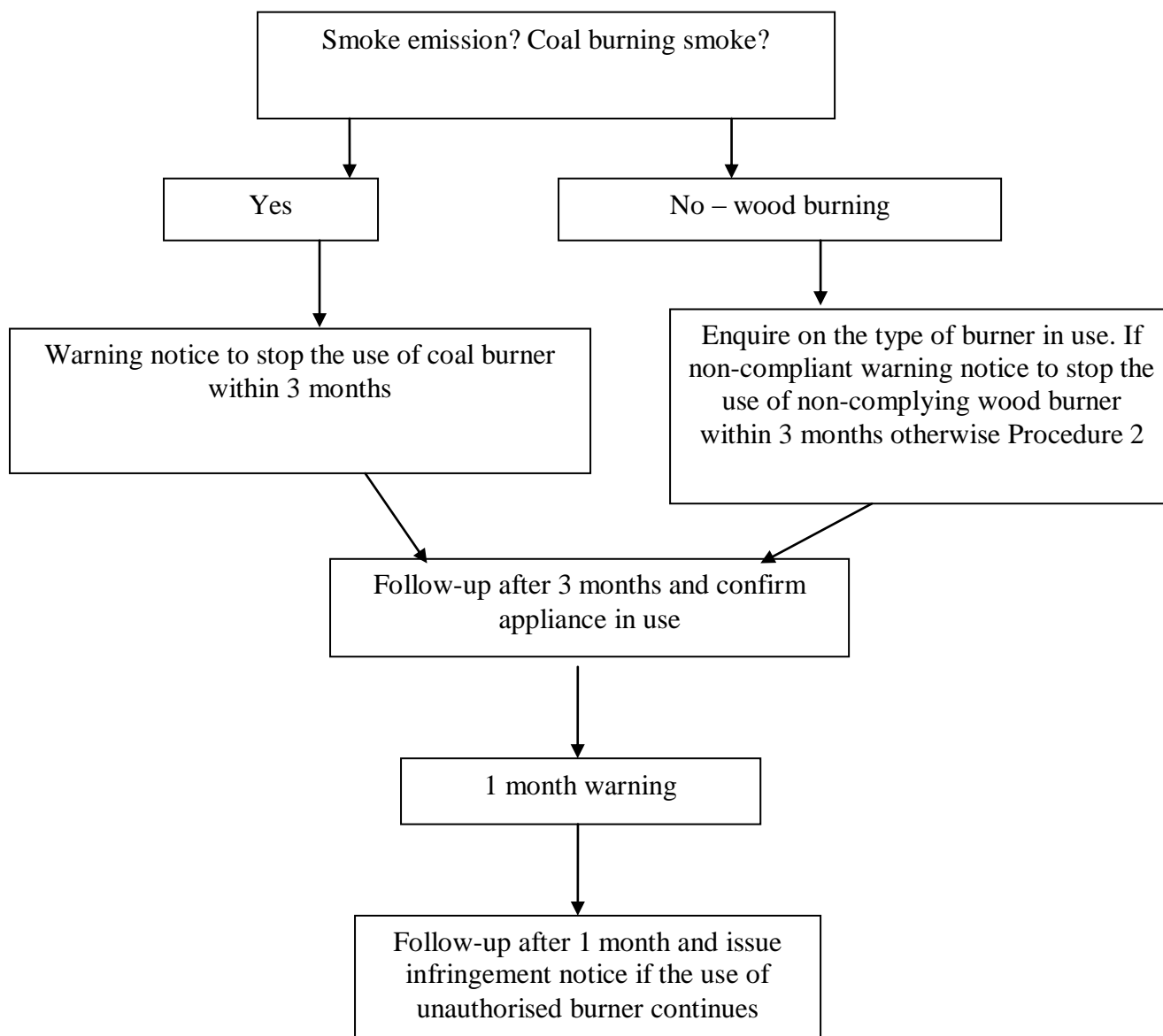


Figure 2

**Procedure 2. Authorised domestic heating appliance but non-complying
discharge in all Air Zones**

