

Response to Air Plan Hearing Panel Questions from Straterra Inc

As I understand the question she asked you last week it was the following:

The current air plan makes the discharge of total suspended particulate of greater than 250 mg/m³ a prohibited activity in the Christchurch Clean Air Zones 1 and 2.

Rule AQL20 Large scale fuel burning devices burning solid fuel 1 MW or less with total suspended particulate (TSP) emissions greater than 250 mg/m³ in the Christchurch Clean Air Zones 1 and 2 – prohibited activity for which no resource consent shall be granted

| Activity | Conditions |
|---|------------|
| The discharge of contaminants into air from the burning, after 1 January 2015, in the Christchurch Clean Air Zones 1 and 2, of solid fuel in any large scale fuel burning device having a net combined heat output capacity within one property of less than or equal to 1 megawatt, where the concentration of total suspended particulate in combustion gas discharged (measured according to the requirements described in Schedule AQL6), from all emission stacks, of greater than 250 milligrams per cubic metre of air adjusted to 0° Celsius, dry gas basis, 101.3 kilopascals, and 8% oxygen or 12% carbon dioxide, is a prohibited activity for which no resource consent shall be granted. | None |

So why is it any worse under the rules under the proposed plan?

Answer

And on this very narrow point, she has a point. As the PCARP proposes under Rule 7.15 that within Clean Air Zones (though note that this is now wider than just the Christchurch Clean Air Zones 1 and 2 as under the current plan) the discharge of TSP at a concentration exceeding 250 mg/m³ is a non-complying activity. Note though that for those operators outside the Christchurch Clean Air Zones 1 and 2 who would exceed 250 mg/m³ they go from a being a discretionary activity (Rule AQL27) under the current plan to non-complying under PCARP.

The real issue though is that under the Rule 7.18 **any discharge of contaminants** from a large scale fuel burning device (as defined by PCARP) within a Clean Air Zone which “will likely result in guideline values, set out in the Ambient Air Quality Guidelines 2002 Update being exceeded is a prohibited activity.” As PCARP does not distinguish between localised effects of a discharge and effects on the ambient air quality of the airshed it is open to interpretation that in a polluted airshed (which Clean Air Zones must be by definition) any further discharge however small will likely result in the exceedance of the guideline values and therefore will be prohibited. This is regardless of whether the 250 mg/m³ limit for TSP for a particular discharge is being exceeded or not.

Also I would note that under the existing Plan:

Rule AQL24 External combustion of solid fuel or light fuel oil 1 MW or less outside of the Christchurch Clean Air Zones 1 and 2 – permitted activity

| Activity | Conditions |
|---|--|
| <p>Except where prohibited by Rule AQL12, the discharge of contaminants into air from the burning, outside the Christchurch Clean Air Zones 1 and 2, of coal, wood or light fuel oil in any external combustion equipment having a net output capacity within any management area of greater than 40 kilowatts and less than or equal to 1 megawatt, is a permitted activity.</p> <p>For the purpose of this rule a "management area" may contain one or more large scale fuel burning devices, and means:</p> <ol style="list-style-type: none"> 1. the property if the property is less than or equal to 1 hectare; or 2. if the property is greater than 1 hectare, within an area on that property defined by a 100 metre radius centred on any individual large scale fuel burning device. | <ol style="list-style-type: none"> 1. Where the discharge of sulphur dioxide is less than 0.5 kg/hr, the discharge into air shall occur via a chimney stack at the relevant minimum height specified in Schedule AQL5, and shall be at least 3 metres above the ridge line of the roof of any building, land or other substantial structure within a radius, from the stack, of 50 metres. 2. Where the discharge of sulphur dioxide exceeds 0.5 kg/hr, the discharge into air shall occur via a chimney stack, at the relevant minimum height specified in Schedule AQL5, and the ridge line of the roof of any building, land or other substantial structure within a radius, from the stack, of 50 metres shall not be higher than 0.4 times the stack height. 3. The discharge shall be directed vertically into air and shall not be impeded by any obstruction above the stack which decreases the vertical efflux velocity, below that which would occur in the absence of such obstruction. 4. The sulphur content of the fuel to be burned shall not exceed 2% by weight. 5. Where the sulphur content of the fuel to be burned exceeds 0.75% by weight, the chimney stack shall be thermally insulated to prevent acid smut formation. 6. The ash content of coal to be burned shall not exceed 7% by weight. Coal burned shall contain less than 30% by weight of fine particles having a diameter of less than 3 millimetres. 7. The discharge and associated fuel handling shall not cause odour or particulate matter which causes offensive or objectionable effects beyond the boundary of the property where the discharge originates. 8. The concentration of total suspended particulate in combustion gas discharged from all emission stacks, when measured according to the requirements described in Schedule AQL8, shall not exceed 500 milligrams per cubic metre of air adjusted to 0° Celsius, dry gas basis, 101.3 kilopascals and 8% oxygen or 12% carbon dioxide. 9. The opacity of the discharge at the chimney exit shall not be darker than Ringelmann Shade No. 1, as described in New Zealand standard ZS01:1973, except: <ol style="list-style-type: none"> (a) in the case of a cold start for a period not exceeding 30 minutes in operation; and (b) for a period not exceeding a total of four minutes in each succeeding hour of operation. 10. The moisture content of wood to be burned shall not exceed 25% dry weight. 11. The fuel burning equipment shall be maintained at least once every year by a person competent in the maintenance of that equipment. This maintenance shall include: ash removal; adjustment if necessary of the fuel to air ratio and testing of the ratio and testing the ratio of combustion gases (carbon monoxide, carbon dioxide and oxygen) discharged to ensure compliance with condition 9. A copy of each maintenance report shall be held and provided to Environment Canterbury before 31 March each year. 12. All fuel burning equipment shall be operated in accordance with the manufacturer's instructions. Coal burning equipment shall also be operated in accordance with the Environmental Code of Practice for the Operation of Coal Fired Boiler installations less than 3 megawatts (Gross) Capacity, Coal Research Ltd, December 1998, where applicable. 13. A record shall be kept of the type and quantity of fuel used each month in the fuel burning equipment. This record shall be held and provided to Environment Canterbury before 31 March each year. |

This has not been carried over into PCARP so for those operators who have relied on this rule, they will need to apply for a resource consent when PCARP becomes operative. The question then becomes as to whether or not the rules in PCARP will allow them to get one outside Clean Air Zones for the same reasons set out above. (And note that Rule 7.17 makes discharges that will likely cause an exceedance of the guideline values a non-complying activity status. A hard hurdle to jump.)