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Air Emissions Environmental Activity and Sector Registry  
Regulation – Limits and Other Requirements

January 24<sup>th</sup>, 2017

Ministry of the Environment and Climate Change (MOECC)

Modernization of Approvals Branch

# Purpose

- Provide an overview of the document, “Environmental Activity and Sector Registry (EASR) – Limits and Other Requirements” (the EASR Publication) in respect of activities and equipment used at facilities that engage in activities prescribed by Ontario Regulation 1/17, Registration under Part II.2 of the Act – Activities Requiring Assessment of Air Emissions ([Air Emissions EASR Regulation](#))
- Outline additional resources available
- Primary and Secondary Noise Screening Method forms
- EASR Acoustic Assessment Summary Table tool
- EASR Emission Summary Table tool

# Background – EASR Publication

- The EASR Publication provides clear and transparent legally enforceable requirements. It sets out limits, intensity rates and requirements relating to the equipment and technology used at Air Emissions EASR regulated facilities.
- The following Ministry policies and guidelines were considered when developing the requirements:
  - Guideline A-9: NO<sub>x</sub> Emissions from Boilers and Heaters
  - A-14: Guideline for the Control of Air Emissions from Small Wood-Fired Combustors (< 3 MW)
  - Policy on emission limits and operating conditions for emergency generator sets in non-emergency situations
  - NPC-300
  - Odour Requirements for O. Reg. 1/17

# EASR Publication - Chapters

- The EASR Publication includes chapters on:
  1. in-stack limits for combustion equipment;
  2. off-grid and remote facilities/communities with electricity generating engines;
  3. noise;
  4. odour; and,
  5. small wood-fired combustors.

# Chapter 1: In-stack Limits for Combustion Equipment

## **Heaters and Boilers:**

- Emission intensity rates for nitrogen oxides based on energy input capacity and fuel used for the boilers and heaters that meet all of the following criteria:
  - use gaseous fuel, distillate oil or residual oil
  - have a maximum energy input capacity greater than 10.5 gigajoules per hour
  - are installed on or after March 31, 2001, or before March 31, 2001 and have been modified since

## **Electricity Generation Engines:**

- Emission intensity rates for carbon monoxide, non-methane hydrocarbons, nitrogen oxides and particulate matter for engines that are not in a standby power system or used to generate electricity for use in an off-grid area, a remote community or a remote facility (see Chapter 2)

## **Small Wood-fired Combustors:**

- Emission limits for carbon monoxide and particulate matter for combustors installed on or after January 31, 2017 that have an input capacity of less than 3MW and exclusively use specified fuels (see Chapter 5)

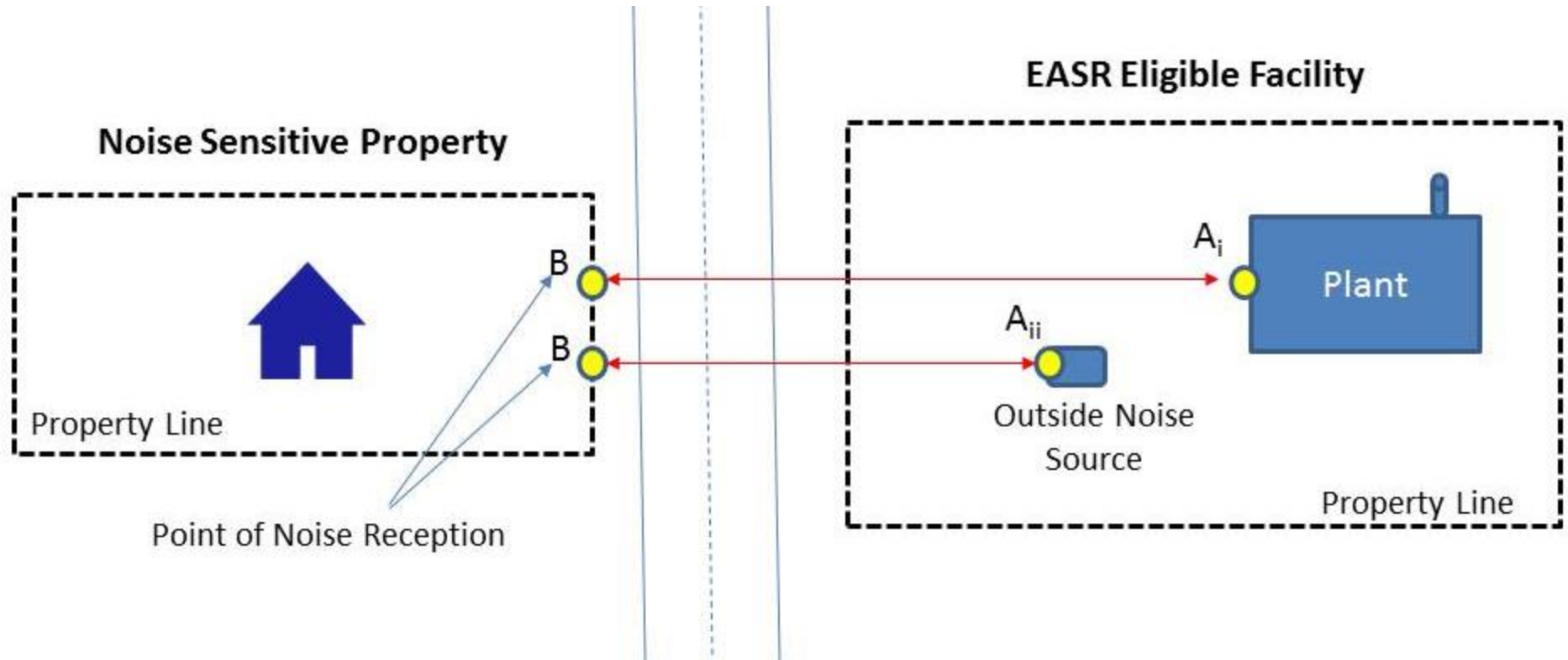
# Chapter 2: Off-Grid and Remote Facilities/Communities

- The limits in Chapter 1 of the EASR publication does not apply to an electricity generation engine that is used to generate electricity for use in an off-grid area, a remote community or a remote facility.
- Chapter 2 sets out off-grid areas, remote communities and remote facilities and was developed using the lists of areas from:
  - Communities served by Hydro One Remote Communities Inc., and
  - Communities identified as remote/off-grid by Natural Resources Canada

# Chapter 3: Noise

- Contains definitions for noise specific terminology
  - Primary and Secondary Noise Screening Methods refer to this Chapter for definitions
- Sets out sound level limits to be used in the Secondary Noise Screening Method or an acoustic assessment to confirm criteria is met for a noise report
- Defines “Affected points of noise reception” to increase certainty that assessments are complete and done consistently
- Sets out required content in a noise report that includes an acoustic assessment or a noise abatement action plan and confirmation statement from the person engaging in the activity that the information given to the licensed engineering practitioner was complete and accurate

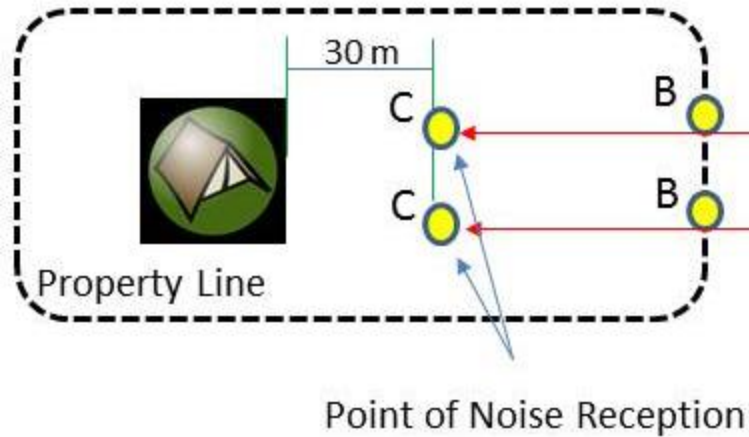
# How to Measure 'Point A' to 'Point B' for Noise Report



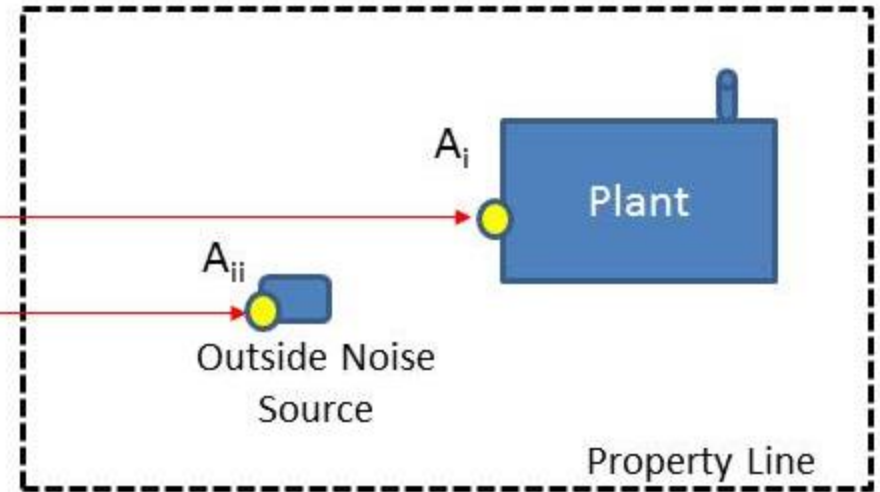


# How to Measure 'Point A' to 'Point B' for Noise Report (Class 3 Exception)

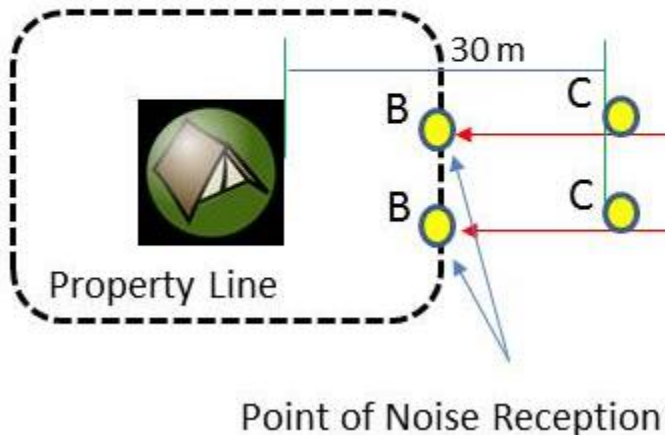
## Noise Sensitive Property (Class 3)



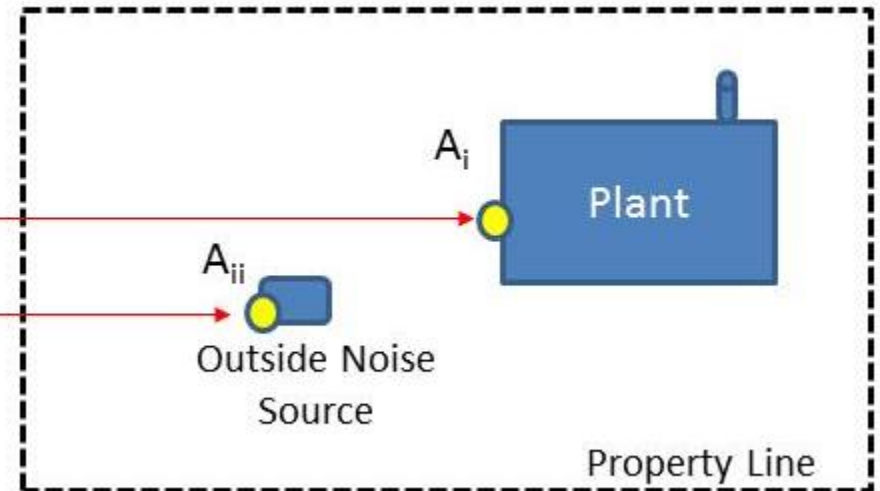
## EASR Eligible Facility



## Noise Sensitive Property (Class 3)



## EASR Eligible Facility



# Primary Noise Screening Method Form

## Step 5: Compare Actual Separation Distance with Minimum Separation Distance

POR - 1

Actual Separation Distance

400

Minimum Separation Distance

300

The facility meets the requirements of the Primary Noise Screening Method.

Validate

## Step 5: Compare Actual Separation Distance with Minimum Separation Distance

POR - 1

Actual Separation Distance

200

Minimum Separation Distance

300

The facility does not meet the requirements of the Primary Noise Screening Method.

Validate

# Secondary Noise Screening Method Form

## Appendix A

**Table 1.1 - Summary of Sound Level Predictions**

Point of Reception Identification POR - 1	Acoustical Classification Class1	Sound Level Limit (dBA) 55
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Hours of Operation

Daytime Operation 07:00 to 19:00 hours Evening Operation 19:00 to 23:00 hours

Is POR - 1 located within 100 metres of the edge of pavement of a 400 series highway; or within 30 metres of the edge of pavement of a provincial highway or a regional road?

Yes

Unique Source Label	Source Description	Source of Data	D <sub>A</sub> (metres)	D <sub>50</sub> (metres)	Sound Power Level (dBA)	Reference Sound Level (dBA)	Reference Distance (metres)	Barrier Adjustment	Tonality Adjustment / Number of Trucks Adjustment (dBA)	Intermittency Adjustment	Predicted SL at POR (dBA)
Exhaust Fan	General exhaust running continuously	Manufacturer's Specification of Sound Power Level	60		90			5	0	0.00	41
Trucks	Finished product shipping	On-Site Trucks	70		96			0	10.79	-10.00	52
Cumulative Impact / Combined SL											52
Compliance with Ministry Limits											Yes
Acoustic Assessment Report Required											No

Note: Impacts from noise sources must be calculated according to the principle of the "predictable worst case" noise impact, as defined in NPC-300.

# Secondary Noise Screening Method Form

## Appendix A

**Table 1.1 - Summary of Sound Level Predictions**

Point of Reception Identification <b>POR - 1</b>		Acoustical Classification <b>Class1</b>					Sound Level Limit (dBA) <b>50</b>				
Hours of Operation <b>Daytime Operation 07:00 to 19:00 hours Evening Operation 19:00 to 23:00 hours</b>											
Is POR - 1 located within 100 metres of the edge of pavement of a 400 series highway; or within 30 metres of the edge of pavement of a provincial highway or a regional road? <b>No</b>											
Unique Source Label	Source Description	Source of Data	D <sub>A</sub> (metres)	D <sub>50</sub> (metres)	Sound Power Level (dBA)	Reference Sound Level (dBA)	Reference Distance (metres)	Barrier Adjustment	Tonality Adjustment / Number of Trucks Adjustment (dBA)	Intermittency Adjustment	Predicted SL at POR (dBA)
<b>Exhaust Fan</b>	<b>General exhaust running continuously</b>	<b>Manufacturer's Specification of Sound Power Level</b>	<b>60</b>		<b>90</b>			<b>5</b>	<b>0</b>	<b>0.00</b>	<b>41</b>
<b>Trucks</b>	<b>Finished product shipping</b>	<b>On-Site Trucks</b>	<b>70</b>		<b>96</b>			<b>0</b>	<b>10.79</b>	<b>-10.00</b>	<b>52</b>
Cumulative Impact / Combined SL											<b>52</b>
Compliance with Ministry Limits											<b>No</b>
Acoustic Assessment Report Required											<b>Yes</b>

Note: Impacts from noise sources must be calculated according to the principle of the "predictable worst case" noise impact, as defined in NPC-300.

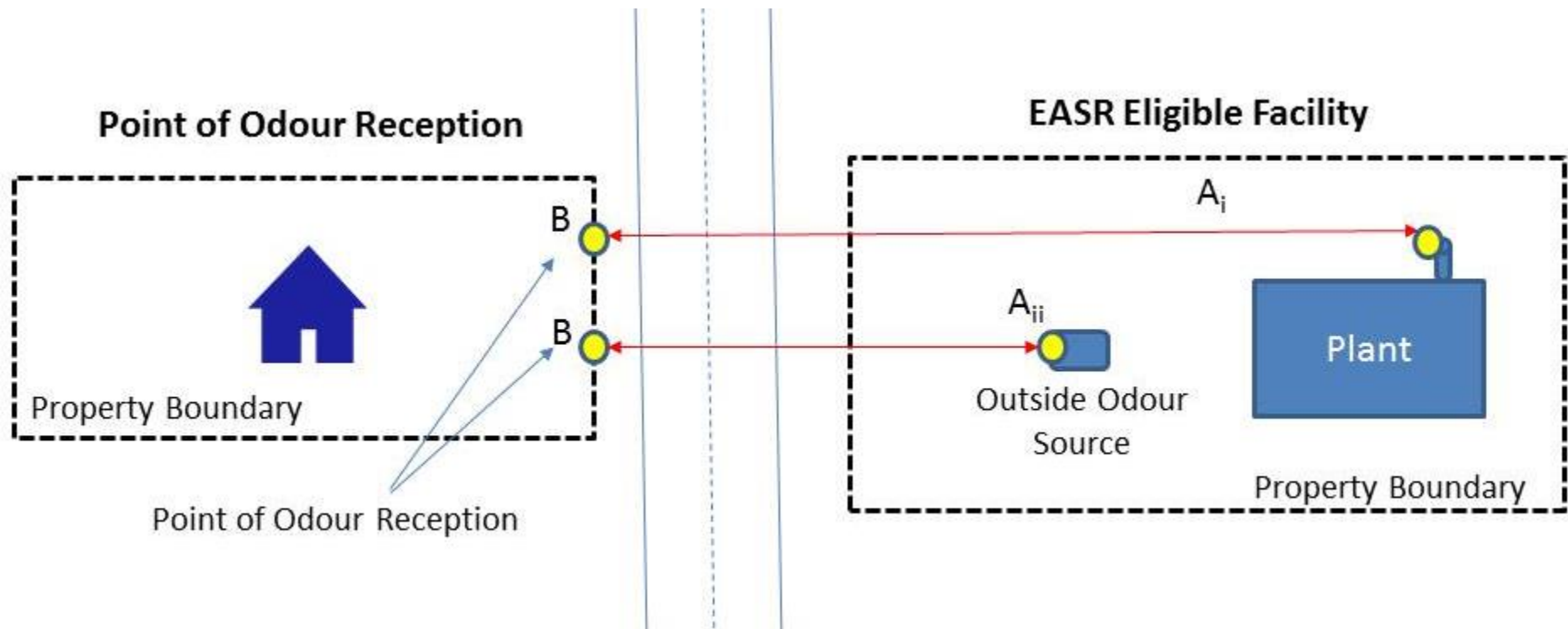
# Acoustic Assessment Summary Table Tool

POR ID	POR Description	Time of Day	Sound Level at POR (dBA)( $L_{eq}$ ) or (dBAi)( $L_{90}$ )	Sound Level Limit (dBA) (Leq) or (dBAi)( $L_{90}$ )	Compliance with Sound Level Limit?	Class Number	Verified by Acoustic Audit
POR 1	single story house to North	Day	52	54	Yes	Class 2	Yes
POR 1	single story house to North	Evening	35	45	Yes	Class 2	Yes
POR 1	single story house to North	Night				Class 2	Yes
POR 2	commercial shopping plaza to East	Day	50	52	Yes	Class 2	Yes
POR 2	commercial shopping plaza to East	Evening and Night	39	45	Yes	Class 2	Yes
POR 2	commercial shopping plaza to East						
POR 3	multi story medical office to South	Day	48	50	Yes	Class 2	Yes
POR 3	multi story medical office to South	Evening and Night	38	45	Yes	Class 2	Yes
POR 3	multi story medical office to South						
POR 4	single story house to West	Day	52	52	Yes	Class 2	Yes
POR 4	single story house to West	Evening and Night	42	45	Yes	Class 2	Yes
POR 4	single story house to West						

# Chapter 4: Odour

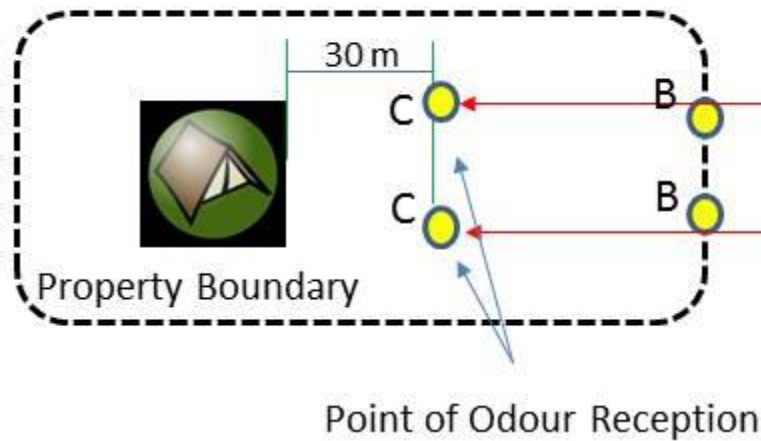
- Contains definitions for odour specific terminology
- Sets out NAICS codes, design capacity of facilities and setback distances between the facility and the closest point of odour reception used to determine if a best management practice plan or odour control report is required
- Sets out how to measure the distance between a facility and the closest point of odour reception
- Requirement to create and retain, at the facility for a period of 20 years, a scaled drawing that show the points used to measure distances from Point A to Point B and/or Point C

# How to Measure 'Point A' to 'Point B' for Odour Report

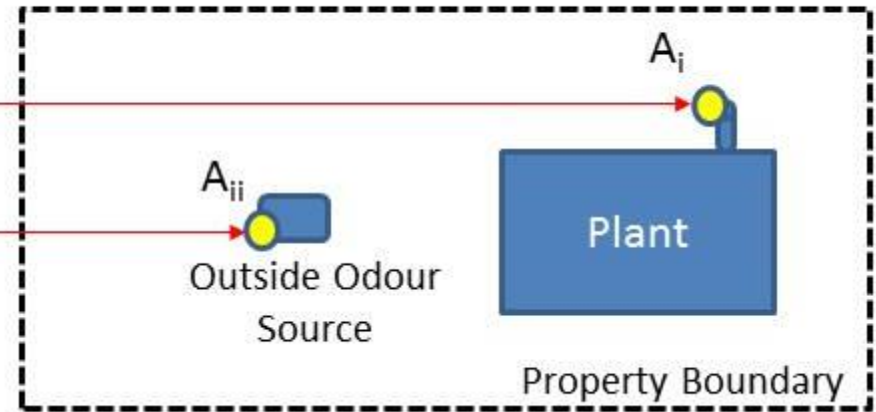


# How to Measure 'Point A' to 'Point B' for Odour Report - (Class 3 Exception)

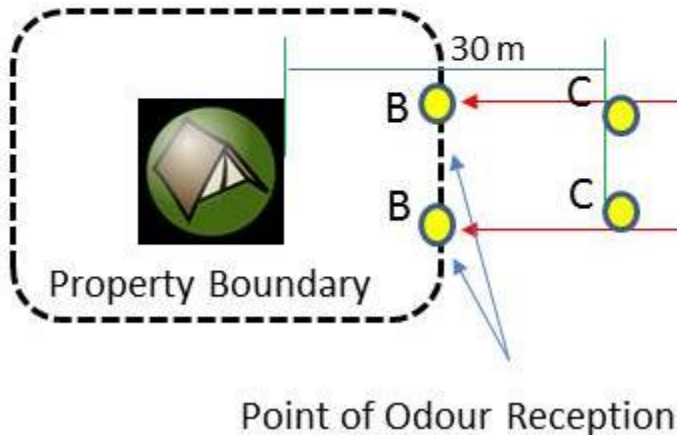
Point of Odour Reception (Class 3)



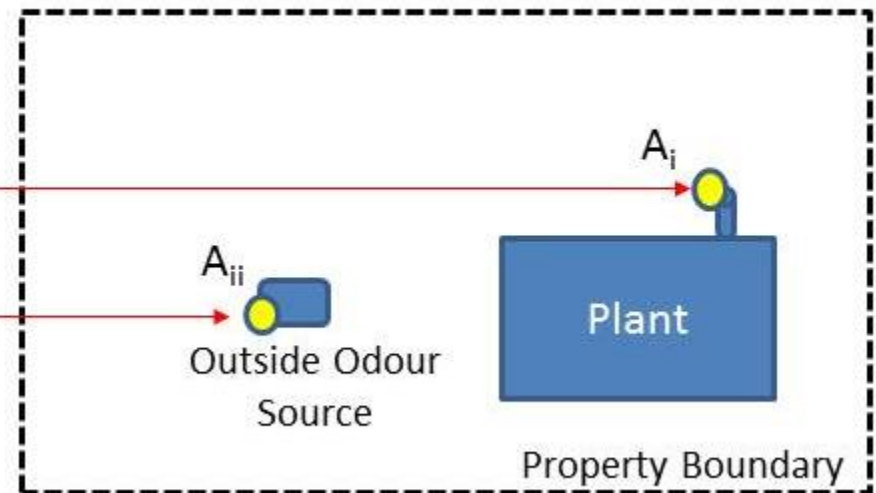
EASR Eligible Facility



Point of Odour Reception (Class 3)



EASR Eligible Facility





# Chapter 5: Small Wood-Fired Combustors

- Guideline A-14 ([EBR 012-7760](#)) was considered in the development of the requirements in Chapter 5
- Sets out wood fuel specifications and management requirements
- Combustors must be third party certified to European Standard EN 303-5 or equivalent
- Sets out design criteria and operating requirements
- Monitoring, testing, inspection and record keeping requirements

# EASR Emission Summary Table tool

	A	B	C	D	F	G	H	I	J	K	L	M	N	O
		CAS RN	Contaminant Name	Sch. 2 or Sch. 3	Total Facility Emission Rate (g/s)	Air Dispersion Model Used	Maximum POI Concentration ( $\mu\text{g}/\text{m}^3$ )	Averaging Period (hours)	Ministry POI Limit ( $\mu\text{g}/\text{m}^3$ )	Limiting Effect	% of POI Limit	Source	Benchmark	Notes
1														
2	Step 2: ACB List Assessments													
3	A		Benzo[a]pyrene (B[a]P) as a surrogate for all PAHs without Benchmark 1 value											
4	B		Total reduced sulphur (TRS) compounds (other facilities)											
5	C		Dioxins, furans, and dioxin-like PCBs											
7	D		Mineral Spirits											
8	E	85-00-7	Diquat dibromide - respirable											
9	F	110-54-3	Hexane, n- (part of a mixture)											
10	G	1332-24-4	Asbestos (fibres > 5 $\mu\text{m}$ in length) [fibres/cm <sup>3</sup> ]											
11	H	1910-42-5	Paraquat dichloride - respirable											
12	I	7439-98-7	Mercury (as Hg) - alkyl compounds											
13	J	7440-47-3	Chromium compounds (metallic, divalent and trivalent forms)											
14	K	7664-39-3	Fluorides (as HF) - Total (Growing Season)											
15	L	7664-39-3	Fluorides (as HF) - Total (Non-Growing Season)											
16														
17	Step 3: Additional ACB List Assessments (Select from Dropdown List)													
18														
19														
20														
21														
22														
23														
24	Step 1: Enter CAS RN below													
25														
26														
27														

# Questions?

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