

Air quality guidance note

Construction sites

This guideline deals with air pollution issues. It does not deal with water pollution or noise.

1 Industry description

The ultimate aim of construction activity is to renovate, refurbish or construct structures for residential, commercial or industrial purposes on a piece of land suitably zoned for that purpose.

1.1 Types of activities

Construction sites vary in size and in the nature of activities that occur on them. Typically they can include the following types of works:

- **Clearing of land** and related excavation and compaction activities.
- **Operation of heavy machinery** and related equipment for earthmoving and construction purposes (excavators, bulldozers, cranes, etc.) and the engines associated with such machines.
- **Erection of structures** using steel, concrete, brick, glass, timber, and other materials.
- **Mechanical activities** including grinding, hammering, drilling, grit blasting and demolition.
- **Metal joining** and finishing including welding, brazing, soldering and other techniques.
- **Generation of solid wastes and debris**, their stockpiling and transfer through chutes and loading onto trucks or into skips.
- **Transport** of building materials and supplies onto the site, and transport of wastes off site.
- **Movement of vehicles** along roadways and paths, in and out of the site and within the site, together with any establishment and maintenance of the roadways (e.g. grading).
- **Application of surface coatings** and finishes using paints and adhesives.



2 Potential emissions to air

Emissions to the atmosphere from construction sites include **particulates** (that is dust, motor vehicle emissions and smoke) and **odour**. Such emissions can have adverse off-site impacts if they are not properly managed or controlled.

2.1 Timing of emissions

Emissions can occur from any of the activities listed above, but on different sites to varying degrees and with different durations and frequencies.

For example, road dust generated from vehicular movements within the site may occur at regular intervals. Other activities may only occur at a certain stage of the construction process, e.g. earthmoving, demolition, grit and sand blasting or spray painting.



Air pollution monitors on a construction site

2.2 Sources of emissions

Emissions may be discharged from a point source (an exhaust point), through venting an on-site process or a specific piece of equipment, a fugitive source from the structures being built (through doors, windows or other building openings) or an area source across the site (excavation pits, roads or waste stockpiles).

The major sources of air emissions from construction sites and their potential control and management options are summarised in Tables 1 and 2. Their management options and controls are discussed in more detail in section 5 of this guidance note.

Table 1: Sources and management of particulates

Nature of source	Control and management options
Demolition	<ul style="list-style-type: none"> • Water sprays and dust suppression surfactants • Timing with respect to wind direction • Location and proximity of sensitive land uses
Sanding, grinding, welding	<ul style="list-style-type: none"> • Suitable extraction or ventilation • Filtration and discharge if this activity is generating complaints
Waste transfer and storage	<ul style="list-style-type: none"> • Enclosed conveyors and chutes • Water sprays • Covers over wastes
On-site traffic movements	<ul style="list-style-type: none"> • Water sprays and dust suppression surfactants • Gravel, concrete or bitumen to seal main trafficable areas

(continued next page)

Nature of source	Control and management options
Diesel exhaust emissions	<ul style="list-style-type: none"> • Proper maintenance and tuning of engines • Catalytic converters and exhaust filters (if available) • Correct fuel specification • Limiting idling time • Avoiding overloading • Appropriate height of discharge above ground level
Earthmoving and excavation	<ul style="list-style-type: none"> • Water sprays and dust suppression surfactants
Unpaved access roads and pathways, and the clearing of access roads	<ul style="list-style-type: none"> • Water sprays and dust suppression surfactants • Revegetation • Wind breaks (temporary cyclone fence with fine shade cloth attached)
Masonry activities (preparation of concrete, cement and mortar mixes; cutting stone, bricks or pavers)	<ul style="list-style-type: none"> • Avoiding cement dust emissions • Managing stockpiles (sand, gravel) by using water sprays (when emptying cement bags into mixer). • Wet cutting and drilling techniques
Concrete drilling or cutting	<ul style="list-style-type: none"> • ‘Wet’ systems preferable • Suitable extraction or ventilation • Filtration and discharge if this activity is generating complaints
Crushing or screening (i.e. sorting) aggregate materials	<ul style="list-style-type: none"> • Suitable extraction or ventilation • Cyclones or filtration equipment if this activity is generating complaints
Wind erosion from stockpiled material.	<ul style="list-style-type: none"> • Water sprays • Bunker storage • Limiting size of stockpiles • Vertical barriers (or covering the pile if it is small)
Sanding and grit blasting	<ul style="list-style-type: none"> • Dust suppression curtain (hessian, shade cloth) • Suitable extraction and ventilation, filtration and discharge if this activity is generating complaints
Surface finishing (e.g. spray painting)	<ul style="list-style-type: none"> • Controlling overspray • Considering wind direction and potential impacts • Dust suppression curtain (hessian, shade cloth) to minimise overspray (aerosol) impact.

Special precautions need to be taken where **asbestos** is present on site. Asbestos should be removed before demolition work begins.

Table 2: Sources and management of odours

Nature of source	Control and management options
Smoke (from engines and motors) ¹	Efficient combustion and proper dispersion.
Surface finishing (e.g. spray painting)	Appropriate extraction of fumes and ventilation, and suitable discharge to aid dispersion and dilution of odours, where this activity is generating complaints.
Use of resins, adhesives, caulking compounds, sealants, silicones, etc.	Considering wind speed and direction when undertaking these activities.
Carborundum odours from grinding, cutting and sanding operations.	

1 Burning of rubbish is prohibited in council areas listed in Schedule 8 of the Clean Air Regulation.

Odour emissions from construction sites are difficult to control, because the activities associated with odour generation typically move about the site.

Although mobile extraction or filtration may be feasible in some instances (lead-based paint removal for example) there will be instances where little can be done in terms of emission control. In these cases the only way complaints may be avoided is to direct that the activity be undertaken when wind speed and direction help with the dilution and dispersion of emissions away from nearby sensitive land uses.

2.3 Particulate matter

The major air emission expected from construction activities is dust, that is, particulates.

This is not only of potential nuisance to adjacent or nearby occupants (particularly sensitive land uses such as schools, hospitals or residential areas) but in some instances also poses a potential health risk.

Health studies have established a relationship between fine particulates and respiratory problems, especially for people within ‘high-risk’ groups such as children, asthmatics and the elderly.

However, it is usually the local amenity or nuisance impacts that are of concern to nearby premises. Local amenity and nuisance impacts could include the fouling of washing hung out to dry, freshly painted surfaces (houses) and washed surfaces (cars) through particulate fallout.



2.4 Diesel emissions

Other emissions from construction sites include those generated from the diesel engines operating vehicles and machinery. Diesel-fired engines emit particulate matter (soot) and

gaseous emissions such as carbon monoxide, sulfur oxides, nitrogen oxides and organic compounds including polycyclic aromatic hydrocarbons (PAHs) and volatile organic compounds (VOCs)—the latter being associated with the odour of diesel emissions.

2.5 Odours

Simultaneous or extensive applications of paints, sealants, caulking compounds, adhesives and waterproofing agents over large surface areas can generate odours through the release of VOCs, which can result in complaints. Wind speed and direction will indicate to operators which areas may be impacted by their activities.

2.6 Hazardous materials

During demolition and refurbishment of existing structures, a range of hazardous materials may be encountered that can also influence the potential emissions associated with construction activities.

Hazardous materials found on sites being redeveloped may include asbestos materials, lead-based paints, polychlorinated biphenyls (PCBs, found in capacitors of old fluorescent light fittings and transformers in old derelict electrical sub-stations), mercury switches, and halons and chlorofluorocarbons (CFCs) found in refrigeration equipment and fire safety systems.

Such hazardous materials need to be carefully managed. Ideally they should be removed from the site before demolition or refurbishment activities begin.

A hazardous materials audit or risk assessment should be carried out before any demolition or refurbishment activity takes place on any commercial or industrial construction site.

Management protocols for such materials are specified in various regulations and guidelines available from DECC or WorkCover NSW.

3 Assessing problems

Before going on site for an inspection or assessment the following should be checked:

- the consent conditions for the premises or the activity, and
- any previous reports on file including diagrams, photographs, maps, etc.

The process of assessing a construction site should include the following key on-site inspections:

3.1 Initial visual inspection

It is extremely important to establish the following:

- the construction activities being carried out on site and the housekeeping practices
- how materials are transferred, sorted and stored
- access to and from the site
- traffic movements and how dust generated from these movements is managed and controlled

- management and control of construction activities and associated emissions, e.g. timing for sand blasting or spray painting etc.
- whether responsible personnel are on site
- approvals or other considerations required.

3.2 Housekeeping

Housekeeping both inside and outside the construction site is important because accumulated material can result in the generation of airborne dusts and debris that can cause a nuisance to nearby residences. For example, dirty wheels taking mud into the street, and windblown paper and plastic litter.

- Is there a housekeeping program in place at the construction site, and is it sufficiently detailed?
- Does the program include appropriate actions to be undertaken by nominated personnel, such as cleaning up rubbish and debris, sorting wastes for recycling, hosing down stockpiles or roadways, repairing tears in hessian or shade cloth used for dust attenuation, and so on?

3.3 Occupational health

National occupational health standards dictate acceptable exposure levels for workers. Exceedences of these standards should not only be an issue for the workers themselves, but can give rise to unacceptable off-site emissions. Consultation with site OH&S representatives may help to determine whether such issues or potential air quality impacts exist. Controlling occupational exposures can be a mechanism for controlling broader off-site issues in some instances, e.g. the use of solvents.

3.4 Management of practices

Movement of vehicles in and out of the site and around the site can generate dust.

The simplest way of determining whether a potential problem exists with respect to **fugitive dust emissions** is to stand downwind at the property boundary, or at the premises from which complaints are being generated, when wind is passing through the construction site.

Similarly with **odours**, they should not be detectable beyond the site boundary, or at the nearest sensitive land use downwind.

- Are **water sprays** and **dust suppression surfactants** being used on unsealed roads—within the site itself and in and out of the site?
- Can temporary windbreaks be established?
- Are the wind breaks well and fully maintained?





3.5 Management of processes

Physical and mechanical activities

Physical and mechanical activities are the major sources of both on-site and off-site air emissions during demolition, construction or refurbishment.

- Are problem sources of dust being appropriately managed (using containment, water sprays and so on)?

Spray painting and sand or grit blasting

Large scale spray painting and sand or grit blasting activities can also cause amenity impacts off site if not carefully managed.

- How are these controlled?
- Is wind direction and the proximity of sensitive land uses taken into account?
- Are all stockpiled materials (e.g. sand, cement, etc.) contained, covered or able to be wetted down?

Waste generation

Waste from demolition and construction activities can also generate air emissions, and further, the transfer (via waste chutes) and transport of waste materials can generate emissions too e.g. road dust or dust generated if waste is not suitably covered or contained.

- Has the site management taken adequate steps to manage wastes?
- Has the site management examined reuse and recycling options for wastes?
- Has the site management taken adequate precautions with respect to hazardous materials management, including wastes such as paints, solvents, lubricating oil etc?
- Have hazardous materials been disposed of in the correct manner, e.g. asbestos removed before demolition? Has asbestos been despatched to a landfill approved to accept it?
- Do the air monitoring results indicate a problem?
- Are earthmoving and excavation activities managed so as to reduce dust emissions as far as practicable?

The ***No Dust—No Fuss Guidelines for Controlling Dust from Construction Sites*** produced by the City of Parramatta provide further useful material to assist local government officers in controlling dust from construction sites. They can be found at: http://www.parracity.nsw.gov.au/publications/NoDust_Fact_Sheets.pdf and also http://www.parracity.nsw.gov.au/publications/NoDust_Booklet.pdf

4 Impacts

Previous studies and common sense suggest that most adverse impacts on air quality surrounding construction sites will occur in the immediate area surrounding those sites. Sometimes significant low level dust emissions may cause problems some hundreds of metres downwind, but this is the exception rather than the rule.

4.1 Sensitive land uses

Sensitive land uses such as schools, hospitals or residential areas are more likely to be adversely affected and to generate complaints. However, there have been cases of sensitive industries also generating justifiable complaints and taking action in the courts to recover damages. For example, electronics manufacturers, aeronautical maintenance and spray painting of cars are all operations that have been adversely affected by uncontrolled dust emissions from adjacent premises.

4.2 Public nuisance

Section 125 of the LG Act gives councils the power to deal with public nuisance. Consequently, if a sufficient number of people, even while in their homes, are subject to nuisance from an odorous or dusty activity, a local council can require the operator to minimise the pollution from the premises or activity.

Several options are available for construction sites to improve their emission performance. They may be categorised as being either **management options** or **control technology options**. In

most cases a combination of these techniques will be the most effective solution, but control technology options may be limited to larger sites and activities.

An explanatory note in the LG Act states:

'Nuisance consists of interference with the enjoyment of public or private rights in a variety of ways.

'A nuisance is 'public' if it materially affects the reasonable comfort and convenience of a sufficient class of people to constitute the public or a section of the public.'

5 Management options

Environmental management plans

Larger construction activities should be coordinated through an environmental management plan (EMP) for the site that covers all aspects of the construction phase. An EMP will sometimes be a consent condition. An EMP should include issues such as management of stormwater run-off, wastes and emissions to air, as well as management of impacts on the ecological environment of the site.

Cleaner production

Management options also include waste minimisation and cleaner production initiatives, and the manner in which the site is operated and maintained—through, for example, training, supervision, defined operating procedures, auditing of management plans, and so on.

Housekeeping

Keeping the site tidy and free of excessive quantities of refuse and debris is important in minimising the impacts of wind-borne dust, litter and other debris that can arise from such sources. Good housekeeping can also help reduce accidents and incidents—a tidy site is often a safe site.

Workforce training

Training the construction workforce in awareness of air emissions can be carried out at all levels (workers, foremen, managers) and can be included in site induction courses. For example, workers can be trained to limit the surface area of an activity to reduce the scale of emissions e.g. dust in a pit or fumes from painting. Training could encourage workers to consider the timing of activities in relation to prevailing wind conditions, especially activities such as spray painting or sand blasting.

Complaints

If there is significant complaint from adjacent sensitive land uses—as has occurred during the development or expansion of major shopping complexes—works generating dust may actually have to cease when the wind is blowing emissions into adjacent premises. Such considerations should be covered in the site's EMP.

Traffic management

Similarly, the designation of traffic routes and the setting and enforcing of speed limits can help control dust from vehicle movements.

Relocation

Another management option is considering whether it is possible to relocate certain operations away from sensitive land uses such as residences or emission-sensitive industries.

Affected neighbours

Consultation with and notification of affected parties is an option that should always be considered by site managers. This could include prior notification of works, limiting the timing and duration of certain activities and communicating this to those people or organisations who might be affected, providing contact details in the event of any problems—for when the site is both occupied or unattended.

All of the above options may be included in standard operating procedures, log sheets or checklists.

6 Control options

6.1 Particulate matter

Control options for particulate matter from on-site traffic movements, waste transfers and other fugitive sources (e.g. wind-generated dust off stockpiles) are relatively limited.

On-site traffic movements

For controlling dust from traffic movements, suppression using water-based surfactants is more effective than suppression using water alone. The surfactant causes agglomeration of fine particles, making it more difficult for the resultant larger particles to become windborne when the water evaporates.

Washing vehicles' wheels before they leave the premises can also help to control dust.



Using water and surfactant sprays to suppress dust

Waste transfers

Material to be transferred or transported should be covered or contained.

Dust from fugitive sources such as material stockpiles

- **Stockpile heights** and areas should be limited, and removal should take place from the downwind side.
- **Physical barriers** can be erected, depending on the size of the source. For smaller sources the barrier could be a temporary cyclone fence with fine shade cloth attached. Screening

materials (e.g. shade cloth) on three sides could also be used (with no less than 50% porosity to the material being contained).

- **Simple wind breaks** can also be erected to minimise dust generation.
- **Vegetation of the pile** is an excellent option whenever soil is likely to be exposed for a long period of time (greater than four weeks), or whenever works are completed in an area. Note there is also a requirement by the Department of Planning for dust control measures to be left in place until at least 70% vegetative cover has been established¹.
- Alternatively **mulched green wastes** can be temporarily laid over the stockpile and removed when required, and retained for later landscaping purposes.
- Another measure that can help to control particulate matter on a large construction site is installing a **wind sock**. This will enable workers to be aware of the prevailing wind direction (and therefore the likely direction of dust emissions). Workers can then consider wind direction before carrying out activities that could cause off-site impacts, as directed in the EMP. However, building and traffic-generated turbulence can be significant at some sites.

Dust generated from other construction activities

Particulate matter generated from other construction activities, such as sand blasting, spraying of surface coatings, drilling, etc. can be controlled using a range of options, as briefly outlined below, but all the technological options can be described as **collection followed by dust cleaning**.

Technological control options often have limited application in a construction setting unless occupational health exposure standards are likely to be exceeded, and even then the favoured option is usually the provision of personal protective equipment (PPE). However, the control hierarchy dictates that an engineered solution to reducing exposures (i.e. emissions) is preferable.

Technological options

Following is a basic description and overview of the options available. For more detailed information refer to Module 3 Part 1, 'Air pollution control techniques'.

- **Collection** can be achieved using a hood type or flexible 'elephant trunk' type ducting or fan arrangement, by enclosing the activity, or using a dust suppression curtain (e.g. water sprays, hessian or shade cloth).
- **Dust cleaning** can be achieved using cyclonic separators (e.g. a cyclone) or fabric filter dust collectors (e.g. a baghouse) on drilling or brick cutting equipment.

A **cyclone** separates particulates (dust) from the gas stream by the use of inertia within the cyclone unit. As a result of this separation action, larger particles are removed but finer particles may pass through the 'clean' side of the cyclone.

A **fabric filter** separates particulates from the gas stream by passing the gas stream through a filter media (e.g. paper, fabric, water wall, etc.). The 'cleaned' gas passes through the filter while the dust particles are retained on the dirty side of the filter.

¹ Refer to the Department's (formerly Department of Land and Water Conservation) *Guidelines for Erosion and Sediment Control on Building Sites*.

Where the application requires the finer particles to be removed as well (e.g. where fine particles are the source of a complaint) both units can be used together in the same gas stream. In this arrangement the fabric filter would be situated after the cyclone. (Refer to the guidance note for small scale sawmills for a more detailed discussion of cyclones and fabric filter dust collectors.)

6.2 Odour control

Odours from construction sites most likely arise from the following sources or activities:

- **diesel exhausts** from generators and power units; diesel generators should be located away from sensitive receptors
- applying **surface coatings** with significant solvent emissions; they should be applied in stages to reduce peak emission
- disturbing odorous **contaminated land**.

Any release of odour from disturbance of contaminated land should be the trigger for a full site investigation, to investigate the contamination.

7 Legislative and management context

Most construction sites are not scheduled under the POEO Act and so do not require an Environment Protection Licence.

Construction sites, with the exception of major freeways and tollways, are not scheduled under the POEO Act, and so environmental discharges from construction sites do not require licensing by DECC.

Non-scheduled construction sites are regulated by local government. The environmental management and resolution of any air pollution-based nuisance or off-site impacts caused by particulates or odour from such sites is the responsibility of the site owner and operator.

Local government officers have an important role in managing air quality on and around construction sites. This can be achieved using conditions on the development consent at the planning stage and the compliance process during the construction stage. The POEO Act provides for enforcing positive environmental outcomes via the use of statutory notices, orders and directions. (Refer to Module 2 of the Toolkit and Appendix 1 of this guidance note.)

8 Considerations for consent conditions

Other conditions may be necessary to control environmental impacts other than air pollution.

8.1 Standards to be met

- In cases where odour modelling and testing is to be undertaken, odours from the premises to comply with the requirements of DEC draft policy *Assessment and management of odour from stationary sources in NSW* (2001).
- Solid particle emissions to comply with POEO (Clean Air) Regulation 2002 for any stack discharges on the site:
 - 400 mg/m³ for plant installed before 1 Aug 1997 (not for a new development consent)
 - 250 mg/m³ for plant installed between 1 Aug 1997 and 1 Sept 2005 (not for a new development consent)
 - 100 mg/m³ for plant installed after 1 Sept 2005.
- Smoke emissions to comply with Ringelmann 1 or 20% opacity
- Plant to be operated and maintained in a proper and efficient manner which does not cause air pollution, in accordance with s. 124 and 125 of the POEO Act.
- Materials to be handled in a proper and efficient manner which does not cause air pollution, in accordance with s. 126 of the POEO Act.

8.2 Operational and control requirements

- Odours from the premises not to be detectable at the nearest sensitive land use.
- Water sprays and dust suppression surfactants to be applied during demolition and earth moving activities.
- Disturbed areas of earth to be minimised by scheduling construction activities to minimise dust entrainment.
- Disturbed earth surfaces to be kept moist until vegetation cover has been established.
- Wind breaks to be used where feasible.
- Stockpiles of building materials and earth to be kept moist or the surfaces stabilised.
- Sand blasting and grit blasting to be carried out in enclosed areas with efficient extraction ventilation discharged through fabric filters.
- Surface finishing by spray painting not to be carried out
 - where off-site overspray is possible, or
 - when wind direction and speed are such that off-site impacts are possible.
- Operations prone to generating dust to be restricted when dust emissions increase significantly and to cease when average wind speed exceeds 15 m/s.
- Special measure to suppress and contain dust to be adopted when old, lead-based paints are being removed.
- Open burning of rubbish and vegetation on site to be limited in accordance with the requirements of the Clean Air Regulation in that local government area.

- Where burning of vegetation is allowed, measures to minimise emissions, such as trench burners, to be considered as temporary control measures.
- Haulage vehicles leaving the site to pass through wheel washers.
- Unsealed roads to be routinely watered.
- Diesel equipment to be maintained in good condition and smoke emissions minimised.
- All building and chemical wastes to be disposed of in accordance with the requirements of the POEO Act.
- If contaminated land is encountered during construction activities, with possible emissions of toxic or odorous vapours, the site to be re-assessed and treated as a contaminated site, as appropriate.
- Monitoring of control equipment to be assessed based on
 - extent of emissions
 - toxicity or odorous potential of emissions, and
 - sensitivity of the activity.
- Appropriate monitoring devices to be used, as specified in Table 6 of the Module 3 Summary tables.
- All activities, including housekeeping, to be carried out according to industry best practice.
- Hours of operation to be restricted where appropriate to ensure there are no impacts on sensitive receptors.

Construction sites: air quality management checklist

This checklist has been designed for:

- assessment officers—to help identify potential air pollution issues early in the assessment process and devise consent conditions which will prevent or minimise air pollution problems.
- compliance officers—to help with routine inspections, as part of an audit program or as part of a complaint investigation.
- builders and developers—as part of a set of educational materials and to help identify and manage potential air quality issues.
- site managers or foremen—to help identify and manage potential air quality issues.

Builder/applicant

Address

Site location

Contact	DA assessment
	Complaint response
Phone	Compliance inspection
Fax	Time & date of inspection
Email	Inspector's name

A Site location and context

What are nearby sensitive land uses (e.g. schools, hospitals, car detailers, etc.)

	Land use	Distance	Comments
North			
South			
East			
West			

What characteristics of the site will effect the dispersion of air pollution?

Topography	
Winds	
Other	

B Sketch plan of the site

Draw a sketch plan of the site showing the surrounding land uses, nearby buildings and local topography.



Note particularly:

- nearby sensitive land uses (schools, homes, other affected premises, etc.)
- locations of any complainants
- locations and heights of nearby buildings or trees
- locations and heights of stacks on premises
- wind directions during times of complaint (night and day)
- any other relevant features.

Comments:

C Results of dust and odour survey

Date	Time	Location ¹	Wind speed ² (estimate)	Wind direction	Temperature ³	Weather: cloudy sunny	Dust type	Odour type	Odour strength: weak medium strong	Comment

- 1 Make observations upwind and downwind of source premises.
- 2 Estimate in metres per second, or knots, or by the Beaufort scale, or failing that, descriptively, e.g. still, light breeze, moderate wind, strong wind and so on.
- 3 If the temperature is not known or can not be measured at the time of the survey, then find and record it later.

D Proposed construction activities on site (assessment stage)

Indicate: satisfactory (✓), unsatisfactory (x) or NA and any action required.

Proposed activity on the site		Proposed conditions
Structure removal (demolition, implosion or other)		
Clearing of land		
Excavation of materials and earthmoving		
Unloading and loading of materials		
Placement and use of stockpiles		
Emissions from vehicles or generators		
Sand blasting or grit blasting		
Drilling, grinding, cutting, welding		
Storage and use of solvents		
Compaction of materials		
Waste management		
Hazardous materials management		
Vegetation management		
Construction and maintenance of access roadways and pathways		
Boundary fencing or dust screening		
Other activities causing air pollution		

Comments:

E Standard of housekeeping at the site (inspection stage)

Indicate: satisfactory (✓), unsatisfactory (x) or NA and any action required.

Questions to ask		Action required
Is there an EMP or satisfactory housekeeping program for the site?		
Are personnel nominated to take appropriate actions in the program?		
Are water sprays or dust suppressants being used on site?		
Are there temporary windbreaks and are they well maintained?		
Demolition or excavation—are dust sources being managed?		
Management of activities		Actions required
Placement, covering and use of stockpiles		
Emissions from vehicles or generators		
Management of incoming and outgoing materials		
Waste management		
Hazardous materials management		
Access pathways and traffic management		
Construction and maintenance of access roadways and pathways		
Sand blasting and grit blasting		
Vegetation management		
Surface coating and spray painting areas		
Drilling, grinding, cutting, welding		
Other activities causing air pollution		

F Management of emissions

Indicate: satisfactory (✓), unsatisfactory (x) or NA and any action required.

Controls on site		Action required
Are any filter-type systems used to control dusts generated on site?		
If yes, what type? (e.g. mobile baghouse or cyclone, tool-attached bag filter or vacuum filter, etc.)		
Are the dusts managed appropriately? (i.e. collected and disposed of appropriately)		
If yes, how? (e.g. recycled or sent to landfill)		
Are any emission controls used for the transfer or waste disposal stage of this recycled dust? (e.g. covering of loads, containerisation)		
Can any activity on the site be timed or relocated so as to avoid complaints or better manage any potential air pollution?		
Other		

List any attachments here:
