



How to use this handbook

This volume is the practitioner (site and technical) reference for the Air factor. It sets out what Air governs, every assessment element with its own process and controls, the Queensland and Commonwealth instruments that apply, and the primary metric for each element. It is decision support, not legal advice or a substitute for a site-specific assessment — confirm every regulatory point against the current instrument and, where a threshold is close or a critical exception applies, obtain specialist and legal review.

FIELD	DETAIL
Volume	07 of 17 — Environmental Knowledge Handbooks
Factor	Air
Jurisdiction	Queensland, Australia
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Prepared by	Q TEN — Queensland Technical Excellence Network
Review	SME, spatial and legal review before reliance

Executive overview

Air quality is the factor most visible to neighbours and regulators, and dust is the most common source of complaint and enforcement on Queensland sites. The framework is the general environmental duty and nuisance provisions of the Environmental Protection Act 1994, the air environmental values and objectives of the EPP (Air) 2019, and, for prescribed activities, environmental-authority conditions; ambient benchmarks derive from the National Environment Protection (Ambient Air Quality) Measure. The site-manager task is to identify emission sources and sensitive receptors, control dust and emissions at source, and monitor against objectives.

Scope

Air resolves into four secondary factors — Ambient Air Quality; Emission Sources and Pathways; Assessment and Monitoring; Air Management and Improvement — and twenty assessment elements. Every element is set out below with its own process and controls and its primary decision metric; identifiers are shared with the companion Knowledge System workbook and the platform calculators.

Assessment elements & process

Each assessment element below carries what it governs and its key pressures, the appropriate site process and controls, and the primary metric that measures it. Work every element that your project engages.

ASSESSMENT ELEMENT	WHAT IT GOVERNS & KEY PRESSURES	PROCESS & CONTROLS
Ambient Air Quality <i>Ambient objective compliance</i>	Ambient air quality against objectives. Pressures: dust, combustion, emissions, background.	Identify receptors and objectives; monitor ambient quality; control sources; investigate exceedances.
Particulate Matter PM10 and PM2.5 <i>PM10 and PM2.5 concentration and exceedance</i>	Particulate matter PM10 and PM2.5 at receptors. Pressures: earthworks, haul roads, stockpiles, combustion.	Suppress dust (watering, stabilisation, cover); manage haul roads; schedule to wind; monitor PM against the objective.

ASSESSMENT ELEMENT	WHAT IT GOVERNS & KEY PRESSURES	PROCESS & CONTROLS
Gaseous Pollutants <i>Gaseous pollutant objective compliance</i>	Gaseous pollutants against objectives. Pressures: combustion, process emissions.	Identify gaseous sources; abate and monitor; compare to objectives; correct exceedances.
Air Toxics and Hazardous Pollutants <i>Air toxic risk and compliance</i>	Air toxics and hazardous pollutants risk. Pressures: process emissions, hazardous materials.	Identify air toxics; assess exposure and risk; abate and monitor; manage to health-based criteria.
Meteorology and Background Conditions <i>Meteorological data completeness</i>	Meteorology and background conditions. Pressures: incomplete met data, unrepresentative background.	Collect representative meteorology and background; use in assessment and triggers; maintain data completeness.
Point Source Emissions <i>Point source mass emission rate</i>	Point-source emissions and mass emission rate. Pressures: stacks, plant, prescribed activities.	Hold the release authority; abate; test the stack; monitor against limits; correct exceedances.
Fugitive Dust <i>Fugitive dust risk and deposition</i>	Fugitive dust risk and deposition. Pressures: exposed areas, dry/windy conditions, open handling.	Prepare a dust-management plan with weather triggers; suppress and stabilise; minimise exposed area; monitor deposition.
Mobile Source Emissions <i>Fleet air pollutant emissions</i>	Mobile-source (fleet) air emissions. Pressures: vehicle and plant exhaust, idling.	Maintain plant; reduce idling; select cleaner equipment; manage fleet emissions.
Combustion, Smoke and Bushfire Emissions <i>Smoke exposure and emission load</i>	Combustion, smoke and bushfire emissions. Pressures: burning, flaring, bushfire smoke.	Avoid and control burning; manage smoke exposure; plan for bushfire smoke; monitor exposure and load.
Odour and Reduced-Sulfur Compounds <i>Odour impact frequency and intensity</i>	Odour and reduced-sulfur compounds. Pressures: process, waste and wastewater sources.	Identify odour sources; abate at source; monitor frequency and intensity; manage complaints.
Air Emissions Inventory <i>Inventory completeness and emissions</i>	Air emissions inventory completeness. Pressures: missing sources, poor activity data.	Compile the emissions inventory across sources; validate activity data; maintain completeness.
Ambient Air Monitoring <i>Monitoring valid data capture</i>	Ambient air monitoring and valid data capture. Pressures: instrument faults, poor siting.	Site and calibrate monitors; assure valid data capture; review data; act on triggers.
Stack and Source Testing <i>Source test validity and compliance</i>	Stack and source testing validity. Pressures: non-representative testing, non-compliance.	Test to method at representative conditions; assess validity; compare to limits; correct non-compliance.
Atmospheric Dispersion Modelling <i>Predicted receptor concentration</i>	Atmospheric dispersion modelling and predicted concentrations. Pressures: model uncertainty, wrong inputs.	Model with representative met and emissions; predict receptor concentrations; use to set controls; validate with monitoring.
Exposure, Sensitive Receptors and Health Risk <i>Air exposure risk quotient</i>	Exposure, sensitive receptors and health risk. Pressures: proximity of receptors, cumulative exposure.	Identify sensitive receptors; assess exposure and risk quotient; separate and control; monitor.
Air Quality Impact Assessment <i>Residual air impact significance</i>	Air-quality impact assessment and residual significance. Pressures: unassessed or under-assessed impact.	Assess air impact against objectives and background; apply controls; determine residual significance.
Dust and Emission Control <i>Critical air control effectiveness</i>	Dust and emission control effectiveness. Pressures: control failure, inadequate maintenance.	Implement and maintain critical air controls; verify effectiveness; escalate or stand down on failure.

ASSESSMENT ELEMENT	WHAT IT GOVERNS & KEY PRESSURES	PROCESS & CONTROLS
Odour Management <i>Odour control and complaint performance</i>	Odour management and complaint performance. Pressures: intermittent odour, poor response.	Apply odour controls; monitor and log complaints; respond and close out; adapt controls.
Air Quality Incident and Complaint Management <i>Incident response and closure timeliness</i>	Air-quality incident and complaint management. Pressures: slow response, unresolved complaints.	Log incidents and complaints; investigate; correct; close out within target; report.
Air Performance Reporting and Adaptive Management <i>Air reporting completeness and improvement</i>	Air performance reporting and adaptive management. Pressures: incomplete reporting, no improvement.	Report air performance; review against objectives; correct and improve; adapt controls.

Regulatory mapping

The instruments most often engaged for Air. Confirm currency and application to the specific site and activity before relying on any entry.

INSTRUMENT	JURIS.	WHAT IT DOES	TYPICAL TRIGGER
Environmental Protection Act 1994	Qld	General environmental duty; air nuisance; environmental authorities.	Activity that may cause air emissions or nuisance.
EPP (Air) 2019	Qld	Air environmental values and air quality objectives.	Emissions affecting a scheduled air value.
Environmental Protection Regulation 2019	Qld	Prescribed ERAs and standard conditions for air-relevant activities.	Carrying out a prescribed ERA.
NEPM (Ambient Air Quality)	Cth	National ambient air-quality standards and reporting.	Assessing ambient concentrations against standards.
Planning Act 2016	Qld	Development assessment where air quality and separation are relevant.	Assessable development near sensitive receptors.

Assurance & evidence

- **Source currency.** Confirm the instruments, criteria and trigger values cited are current and correctly applied to the site and activity.
- **Records.** For each element engaged, retain the assessment, the controls applied, monitoring against the metric, and any statutory notifications — the evidence that the process was followed.
- **Independent review.** Interpretations, threshold decisions and critical exceptions are reviewed by a suitably qualified person before reliance.

TALK TO QTEN

Managing air on a live project? QTEN helps Queensland clients turn this handbook into a defensible, evidence-backed position — scoping, assessment, controls, approvals and review. Bring us your site and we will help you get it right, and prove it.

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