

EPA Data Analysis and Monitoring Strategy
LATROBE VALLEY COAL MINE FIRES
Version No. 2
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WORKING IN CONJUNCTION WITH



Department of Environment and Primary Industries



1. INTRODUCTION

Purpose

The EPA Environmental Monitoring Programme is designed to acquire environmental data, to translate into information and provide in a timely manner forecasts and reports of the state of the LaTrobe Valley environment to key audiences for operational decision making.

End State

A monitoring regime and data analysis regime that is integrated into the operational decision making structure, resourced to operate sustainably, and sufficiently flexible to respond quickly to changing operational needs.

2. INCIDENT OVERVIEW – MONITORING REQUIREMENTS

Situation Summary

The Hazelwood mine fire and the resultant smoke impact on the Morwell community has presented a unique set of circumstances for operational decision making. Historical and existing EPA monitoring capability for fire situations has largely focused on particulate measurements to inform operational decisions. EPA has been required to provide sufficient data, in a timely manner, to Department of Health personnel to make decisions in relation to messaging and actions to protect human health impacts. This includes the need to work in with other agency monitoring equipment, and to integrate into the EPA dataset. Additionally, EPA is relied upon for other related data and activities to cover the rest of the state, as well as ad hoc and tactical activities to response to the changing circumstances.

While the original focus was on Carbon Monoxide monitoring more recent evidence that while above average Carbon Monoxide levels are not reaching hazardous levels. The focus has shifted to forecasting and measurement of smoke impacts on the community primarily in the form of PM_{2.5} (particles smaller than 2.5 microns).

3. EPA OPERATIONAL PRIORITIES

Strategic operational priorities for EPA are to:

- Maximise the information value of available assets;
- Maximise the automation/real time availability of the data/information;
- Match product with the needs of the stakeholders – but balance granularity of data with value for better decisions;
- Support a streamlined and clearly understood decision making process with other agencies;
- Continuously re-evaluate against stakeholder needs and upgrade/amend if necessary.





4. MANAGEMENT ARRANGEMENTS

Resourcing

Traralgon RCC – EPA Commander, EMLO and Scientific Officer roster, Field Officers Communications Officer, and Engagement Staff.

Roles:

EPA Commander (Agency Liaison)

To provide strategic advice and commit EPA resources in support of Deputy Regional Controller and to coordinate EPAs effort in the RCC, and act as key liaison between emergency services and EPA. The commander provides oversight of other EPA staff in the RCC.

Emergency Management Liaison Officer (EMLO)

To provide advice and deploy EPA resources in support of COMMANDER

Scientific Officer

To provide technical advice and deploy data assets, construct a sustainable integrated data service, collate and analyse information, and provide information to Department of Health in support of human health decisions in accordance with RCC protocol

Field Officers

To provide on ground activities in support of operational plans and ad hoc requests under direction of EPA EMLO, staffed by Environment Protection Officers (Authorised Officers)

Communications Officer

To provide coherent messaging to community in support of the RCC Communications Team

Engagement Staff

To support communications plan in conjunction with other agencies including community engagement.

Macleod Centre for Environmental Science - Forecasting and data analysis officer

To collate data and analyse to produce regular air quality forecast reports and ad hoc analysis and information services under direction of EMLO or Agency Liaison

Melbourne/Traralgon – Equipment Technician and IT

Equipment technician – To provide commissioning, installation and servicing requirements for all EPA data assets under the direction of EMLO or Agency Liaison

IT Support – To provide data integration and hardware/software support services under the direction of EMLO





5. MONITORING AND ANALYSIS

At 23/2/14

Monitoring Equipment

AIR

a) Air Monitoring Stations

There are three fixed air monitoring stations in the region at Morwell South, Morwell East and Traralgon. They continuously measure and transmit CO, PM2.5, SO2 and visibility data to EPA data systems and the EPA Web Page. They provide real time information and are the key platform in assessing and responding to air quality events.

b) Fixed PM2.5 Monitoring

Five dedicated PM2.5 particle monitors are placed in a broader area in Morwell to supplement Air Monitoring Station Data. Information from these monitors is used to track particle trends and give a more detailed picture of plume behaviour.

c) Portable CO monitoring

Monitoring sweep carried out twice daily through predetermined sampling locations in Morwell in conjunction with CFA Hazmat personnel. Ad hoc sampling in response to requests from RCC.

d) Area Rae CO data collection

Data captured by Hazmat personnel and provided to EPA Scientific Officer. Provides supplementary information as to the extent of CO levels in Morwell.

e) Smoke Blanket mobile monitoring (EPA Tasmania), providing Google Earth plots of smoke concentrations in plume area. Can be deployed to get a better picture of plume location according to forecast conditions.

f) Air Toxics Sampling – Canister and filter samples to be taken at Morwell South to determine composition of particles (PAH and Metals) and assess for the presence and composition of volatile organic compounds (VOC) in the smoke plume

ASH and SOIL

g) Fall-out plates located in the community, analysis is for metals, PAH to provide information of potential impacts

h) Soil sampling manual samples taken in same location as fall out plates. To assess if contamination is spreading into soil.

WATER

i) Fire water once weekly fire water sampling and analysis. Primarily to address potential OHS concerns

j) Creeks and Streams. Analysis for metals, and Polycyclic Aromatic Hydrocarbons (PAH). To provide an understanding of impacts on waterways in Morwell and surrounds.





Forecasts and Reports

- k) **Spot Fire Weather Forecast for Morwell** – Received from BOM at approx. 5 AM and 5 PM – Detailed forecast from BOM used to predict location and extent of plumes.
- l) **Smoke dispersion guidance** - Received from the fire behaviour scientist for CFA (ICC-Hazelwood (Planning Section) icchaz.plan@icc.vic.gov.au)
- m) **Air Quality Forecasts (8:30 and 17:30)** received from Air Forecasting Team
- n) **Air Quality Monitoring Reports (8:30 and 17:30).**

6. PERFORMANCE MEASURES

Reports and Forecasts

Timely provision of reports and forecasts twice per day to DOH and others.

Data Availability (to EPA Science Officers)

Availability of data (95 %)

Response to equipment failure – Variable, 3-4 hours during business hours, Next business day other times.

Data Availability (to Public)

95 % of hourly updates on time and with all monitored parameters.

