

Community Smoke, Air Quality and Health Protocol

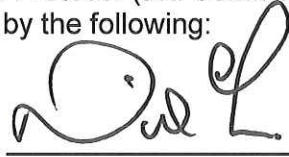
Air Quality assessment, forecasting and health protection messaging for particulate matter

Version 1.0
23 January 2015

The Community Smoke, Air Quality and Health Protocol (the Community SAQH Protocol), including all annexes, has been approved and endorsed by the following:

Authorised by:

 date 23-1-2015

 date 23.1.15

Dr Rosemary Lester

Nial Finegan

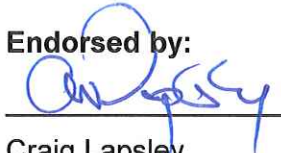
Chief Health Officer

Chief Executive Officer

Department of Health and Human Services

Environment Protection Authority Victoria

Endorsed by:

 date 23/1/15

Craig Lapsley

Emergency Management Commissioner

Emergency Management Victoria

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Introduction

Particulate matter (PM) in the form of PM₁₀ and PM_{2.5}¹ can be breathed into the lungs affecting health. PM_{2.5} and PM₁₀ are commonly known as 'fine particles'. They are useful air quality monitoring measures to inform recommended precautionary actions to protect public health during smoke events.

The Community Smoke Air Quality & Health Protocol (or Community SAQH Protocol) provides direction for the protection of community health in response to smoke events resulting in significant levels of fine particles in the outdoor environment.

The Community SAQH protocol can be applied to large area smoke impacts from bushfires or planned burns where fine particles are the primary health hazard and for single location events producing significant levels of fine particles such as fires in coal mines, tyre stockpiles, or other industrial events (i.e. large scale, extended or complex incidents where smoke or emissions generated may impact the community). For such events, there may be other unique air quality hazards of equal or greater health concern, which may also require management through the use of additional specialised protocols.

The Community SAQH Protocol's focus applies to the protection of community health and therefore does not apply to occupational health and safety; for example for firefighters and other emergency service workers.

Purpose

The Chief Health Officer (CHO) of the Department of Health and Human Services (DHHS) provides health protection messages at a population level for a range of health hazards/health risks in the environment. To issue health protection messages due to poor air quality from fires, the CHO relies on EPA's monitoring and assessment of air quality.

The purpose of the Community SAQH Protocol is to detail:

- The arrangements between EPA and DHHS for the provision of forecast and actual fine particle data and
- The process for communicating community health protection messages and advice.

It outlines the potential impacts of smoke-related fine particles on local and regional air quality; the level of potential public health impact of the smoke and corresponding advice for the community on what to do to protect their health as impacts on air quality worsen.

The role of DHHS is to assess public health risks and to provide and issue health protection advice. The role of the EPA is to monitor and assess air quality and communicate this information and advice to DHHS.

¹ PM₁₀ and PM_{2.5} refer to particulate matter of diameter less than 10 and 2.5 micrometres respectively

Governance

The Community SAQH Protocol has been developed by DHHS, EPA and Emergency Management Victoria (EMV). It is one of several protocols that will sit under the State Smoke Framework which guides the Victorian Government response to significant smoke hazards and public health incidents.

The following legislation and associated policies provide the authorising environment for the Community SAQH Protocol:

- *Emergency Management Act 1986*
- *Emergency Management Act 2013*
- *Public Health and Wellbeing Act 2008*
- *Environment Protection Act 1970 and associated air-related State Environment Protection Policies*
- Emergency Management Manual Victoria

The following documents inform the Community SAQH Protocol:

- Bushfire Smoke, Air Quality and Health Protocol (Department of Health & EPA 2014)
- EPA Rapid Air Monitoring Response Guide (Abridged) – Fire Only Summer 2014/15
- *Standard Operating Procedures for Air Quality Alerts* (EPA 2015)
- *The Wildfire Smoke – a Guide for Public Health Officials (the Wildfire Guide)* (California Office of Environmental Health Hazard Assessment (OEHHA), the U.S. Environmental Protection Agency; and the Missoula County Health Department 2013)
- Hazelwood Coal Mine Fire PM_{2.5} Health Protection Protocol (Department of Health 2014)

Note:

- On 1st January 2015 the Department of Health was renamed the Department of Health and Human Services.
- This Protocol will be amended to include any recommendations of the independent expert review of the Hazelwood Coal Mine Fire PM_{2.5} Health Protection Protocol (Department of Health 2014) for community exposure to smoke from a large scale, static fire event.

Review of the Protocol

The Community SAQH Protocol will be reviewed annually or as necessary, for example following major incidents.

It is an updated version of the Bushfire Smoke, Air Quality and Health Protocol (2014) with a broadened scope. It now applies to all fire settings where levels of fine particles in smoke are significant and a health concern, including extremely hazardous events where the incident controller and other agencies have a need to understand the process in place for information community health protection advice and precautionary actions.

The current version of the Community SAQH Protocol is approved by the CHO DHHS; the Chief Executive Officer EPA and endorsed by the Emergency Management Commissioner (EMC), EMV.

Roles and Responsibilities

Arrangements to protect the community

The following roles and responsibilities are in place to protect the community during fire events:

- The Bureau of Meteorology (BoM) will provide advice to EPA and other agencies on predicted weather conditions for affected communities.
- EPA has fixed air monitoring stations in Melbourne, Geelong and the Latrobe Valley, as well as capacity to deploy mobile air monitoring equipment in other parts of Victoria.
- In the event of actual or predicted adverse smoke conditions, EPA may undertake continuous monitoring to determine appropriate air quality parameter (e.g. PM₁₀ and/or PM_{2.5}) in potentially impacted communities. EPA will provide DHHS with air quality data values for public health assessment. EPA will draw on information from a variety of sources including from BoM to advise DHHS of the potential future behaviour of smoke.
- The Department of Environment Land Water and Planning (DELWP) may support the Incident Controller by undertaking predictive modelling of the smoke plume.
- The Incident Controller will advise the CHO of the predicted fire duration and suppression strategies.
- The CHO will assess the advice received from the EPA and the Incident Controller. The CHO will determine the risk to public health for impacted communities, and provide advice to the Incident Controller regarding appropriate actions.
- The Incident Controller will determine an appropriate strategy for protection of the community including, on advice of the CHO, the issuing of information to the community regarding PM₁₀ and PM_{2.5} as required.
- The Incident Controller will lead the Incident Emergency Management Team (IEMT) in their consideration whether a relocation of a community or part of a community is required.
- Victoria Police will prepare a staged relocation plan for communities likely to be impacted by smoke from fires at the request of the Incident Controller. Such plans should be prepared as early in the emergency as feasible. Staged relocation will remove those community members and building occupants with greatest vulnerability and greatest proximity to the source of smoke first.
- DHHS in conjunction with Local Government will coordinate relief and recovery arrangements for relocated communities.

The respective roles of EPA and DHHS in a high particulate smoke event (such as bushfire or planned burn) or general poor air quality with potential human health impacts are further detailed below.

EPA

EPA operates monitoring stations in Melbourne, Geelong and the Latrobe Valley, and has additional capacity to deploy mobile air monitoring equipment in other parts of Victoria. During major smoke events, EPA makes use of satellite images and local reports of visual range to assess conditions in other populated areas of Victoria. EPA also forecasts air quality on a daily basis and communicates this via its webpage.

During a bushfire or other significant fire or smoke event, EPA may be requested by the State Response Controller to rapidly deploy monitoring equipment to the incident. The process for deployment of monitoring equipment is described in EPA Rapid Air Monitoring Response Guide (Abridged) – Fire Only Summer 2014/15.

The main health-based air quality indicator that EPA monitors during smoke events is PM₁₀, although there is increased focus on building capacity to measure PM_{2.5}. Threshold levels are informed by research on the health impacts of smoke from bushfires and approaches adopted by overseas agencies for fires, smoke and health protection messaging.

The 24-hour average PM_{2.5} (or equivalent 1-hour average when available) should be used in preference to equivalent PM₁₀ values. In addition visibility and other supporting air quality measures may be considered.

Department of Health and Human Services

DHHS is responsible for health protection messages for the community. Graduated health warnings according to air quality have been developed and endorsed by the DHHS in consultation with EPA. DHHS issues health warnings through a full range of communication mechanisms based on air quality information from EPA.

Community Information

EPA provides air quality information and basic health protection advice on its website which links to the DHHS website for further/detailed health protection advice.

The DHHS website has various community information fact sheets that provide detailed health protection advice. Members of the community should be directed to these for detailed information on the steps that can be taken to protect health during incidents involving reduced air quality due to smoke and particulate matter.

These fact sheets complement media releases that will be issued by the CHO through the Community SAQH Protocol (see Annex 1 for the draft CHO media messages issued through the Community SAQH Protocol).

In instances where air quality monitoring data is unavailable, members of the community may conduct a self-assessment of air quality based on visibility. Information on this process is available on the EPA website www.epa.vic.gov.au/your-environment/air/bushfires-and-air-quality (see Annex 2 for an air quality self-assessment guide that can be used by community members to inform protective action).

The Community SAQH Procedure

The Community SAQH Protocol outlines five air quality categories. Each air quality category is defined by a fine particle concentration range (expressed as PM₁₀ (24 or one-hour averages) and PM_{2.5} (24 or one-hour averages)). For each category, the Community SAQH Protocol describes the range of advice the CHO may issue to the community, and what the information and advice EPA will provide to DHHS. The air quality categories are presented in Table A. The draft CHO media releases for each air quality category are provided in Annex 1.

Table A provides ranges of measured levels of fine particles for each air quality category and the health effects which may occur. These are based on strong epidemiological evidence associating exposure to fine particles with respiratory and cardiovascular effects. It references corresponding cautionary advice as smoke impacts worsen.

There are three specific procedures based on air quality category as follows:

1. Procedure for **Unhealthy – Sensitive to Very unhealthy – All** air quality categories
2. Procedure for **Hazardous** air quality category
3. Procedure for lifting temporary relocation advice (following activation of the Procedure for **Hazardous** air quality)

Table A: Air quality categories for PM₁₀ (rolling 24 and one-hour averages), PM_{2.5} (rolling 24 hour and one-hour averages) and visibility

Air Quality Categories	PM ₁₀ (24 hour) µg/m ³	PM ₁₀ (1 hour) µg/m ³	PM _{2.5} (24 hour) µg/m ³	PM _{2.5} (1 hour) µg/m ³	Visibility (by observers)	Potential health effects without following advice or actions	Cautionary health advice/actions
Good	<50	<80	<25	<40	>20 km	N/A - Meets the relevant air quality standard	None
Unhealthy - sensitive	51-65	81-175	26-55	41-148	10 to <20 km	Sensitive: people with lung or heart conditions, people over 65, children 5 years and younger, pregnant women	See Annex 1 for Media Release People with heart or lung conditions, children and people over 65 and pregnant women should reduce* prolonged or heavy physical activity No specific message for everyone else other than sensitive groups.
Unhealthy - all	66-155	176-300	56-95	149-184	5 to <10 km	Increased likelihood of effects for sensitive. General population symptoms occur	See Annex 1 for Media Release People with heart or lung conditions, children and people over 65 and pregnant women should avoid prolonged or heavy physical activity. Everyone else should reduce# prolonged or heavy physical activity.
Very unhealthy - all	156-310	301-500	96-156	185-251	1 to <5 km	Significant likelihood of effects for sensitive. General population symptoms common	See Annex 1 for Media Release People with heart or lung conditions, children and people over 65 and pregnant women should avoid all physical activity indoors . Everyone else should avoid prolonged or heavy physical activity. Consider closing some or all schools and early childhood centres and rescheduling outdoor events (e.g. concerts and competitive sports) until air quality improves
Hazardous High	>310	>500	>156	>251	< 1 km	Serious likelihood of effects for sensitive.	See Annex 1 for Media Release Sensitive groups: People with heart or lung conditions, children 5

Air Quality Categories	PM ₁₀ (24 hour) µg/m ³	PM ₁₀ (1 hour) µg/m ³	PM _{2.5} (24 hour) µg/m ³	PM _{2.5} (1 hour) µg/m ³	Visibility (by observers)	Potential health effects without following advice or actions	Cautionary health advice/actions
						General population symptoms very common	<p>years and younger, pregnant women and people over 65 years should temporarily relocate to a friend or relative living outside the smoke-affected area. If this is not possible, remain indoors and keep activity levels as low as possible.</p> <p>Everyone should avoid all physical activity outdoors.</p> <p>Healthy people with symptoms should seek medical advice and take a break away from the smoky conditions.</p> <p>Reschedule outdoor events eg concerts and competitive sports schools until air quality improves</p> <p>Consider closing some or all schools and early childhood centres and rescheduling outdoor events (e.g. concerts and competitive sports) until air quality improves.</p> <p>Relocation for sensitive groups may need to be advised if conditions worsen.</p>
Hazardous Extreme	>500		>250		< 1 km	Serious likelihood of effects for sensitive. General population symptoms very common	<p>See Annex 1 for Media Release</p> <p>Cautionary health advice/actions the same as for HIGH-Hazardous above except for sensitive groups.</p> <p>Sensitive groups: If the 24 hour rolling average PM_{2.5} values remain in this category for two days and are predicted to continue at this level or increase:</p> <p>People with heart or lung conditions, children 5 years and younger, pregnant women and people over 65 years are strongly recommended to temporarily relocate until there is sustained improvement in air quality.</p>

*The key words relating to sensitive populations are highlighted in red and to people other than sensitive populations are highlighted in blue. The bolding gives an idea of the increased level of health protection advice proportional to the decrease in air quality for these groups.

Procedure for **Unhealthy – Sensitive to Very Unhealthy – All** air quality categories

Objective

The objective is to ensure that appropriate health protection advice is matched to the audience, the context of the smoke generating event and the degree of deterioration in air quality.

Procedure

EPA notifies DHHS that levels of fine particles have been or are forecast to be reached or exceeded (outlined below in Table B) by emailing:

The CHO, on receiving information from the EPA that certain air quality categories have been reached, may issue health protection messages to assist the community to protect their health from the potential effects of smoke exposure. Each of these categories has its own media template (refer Annex 1) and the relevant health advice is in Table A.

Table B summarises the air quality categories and corresponding levels of fine particles for the CHO to consider issuing health protection messages.

If the PM levels reach the air quality category **Hazardous** (24 hour rolling average of 310 $\mu\text{g}/\text{m}^3$ for PM_{10} and/or 156 $\mu\text{g}/\text{m}^3$ for $\text{PM}_{2.5}$), or a 1-hour average of 500 $\mu\text{g}/\text{m}^3$ for PM_{10} and/or 251 $\mu\text{g}/\text{m}^3$ for $\text{PM}_{2.5}$ this triggers the next level procedure (Procedure for **Hazardous** air quality category) which requires additional actions by EPA and DHHS.

Table B: 24 hour rolling averages for EPA to notify the CHO that an air quality category has been reached

Air Quality Category	24 hour PM_{10} $\mu\text{g}/\text{m}^3$	24 hour $\text{PM}_{2.5}$ $\mu\text{g}/\text{m}^3$	Visibility
Unhealthy – Sensitive	51	26	10-20 km
Unhealthy – All	66	56	5-10 km
Very Unhealthy – All	156	96	1-5 km
Hazardous – High	310	156	Less than 1 km
Hazardous – Extreme	500	250	Less than 1 km

Procedure for **Hazardous** air quality category

The Objective

The objective is to prevent sensitive groups in the community being exposed to particles in air where the rolling 24-hour average for PM₁₀ is above 500 µg/m³ and/or for PM_{2.5} is above 250 µg/m³ for three or more consecutive days. The procedure ensures notification of DHHS prior to the levels being reached by commencing notification to DHHS at the **Hazardous (High)** air quality category.

At the end of two days at the **Hazardous (Extreme)** air quality category and if the smoke intensity is predicted to remain or increase, the CHO can strongly recommend that sensitive groups temporarily relocate until there is sustained improvement in air quality (refer to Procedure to lift temporary relocation advice on page 16).

Procedure

1. Notification

EPA contacts the DHHS on-call Officer on [REDACTED] and emails the advice to: [REDACTED]

2. Initial notification and updates:

EPA notifies the DHHS on-call Officer:

- When the 1-hour average fine particle concentration reaches the **Hazardous (High)** threshold level (i.e. 1-hour average 500 µg/m³ for PM₁₀ or 251 µg/m³ for PM_{2.5}).
- EPA continues to report the 1-hour average fine particle concentrations every four hours until a rolling 24-hour average is available.

3. Monitoring and Assessment at 24 hours:

The EPA provides air quality data to the DHHS on-call Officer who advises the Manager Environmental Health or their delegate:

- The rolling 24-hour average value at one day (i.e. 24 hours)
- Qualitative prediction for next 12 hours (i.e. 1.5 days or 36 hours) – indicating whether smoke intensity is expected to reduce, remain the same, or increase.
- Manager Environmental Health or their delegate alerts DHHS Health Risk Assessment (HRA) Team.

Actions

- DHHS HRA Team is not activated if the rolling 24-hour average is at or below the 24-hour **Hazardous (Extreme)** threshold (24-hour rolling average of 500 µg/m³ for PM₁₀ or 250 µg/m³ for PM₁₀) and predicted to decrease.

OR

- DHHS HRA Team continues assessing data if the rolling 24-hour average value is above the **Hazardous (Extreme)** threshold (500 µg/m³ for PM₁₀ or 250 µg/m³ for PM₁₀) and EPA, in consultation with fire agencies predicts smoke intensity to maintain or increase.

- EPA continues assessing the fine particle levels for the next 12 hours (i.e. to the end of 36 hours or 1.5 days).

4. Monitoring and Assessment at 36 hours:

The EPA provides air quality data to the DHHS on-call Officer, who advises the Manager Environmental Health or their delegate:

- The rolling 24 hour average value at 1.5 days (i.e. 36 hours)
- Qualitative prediction for next 12 hours (i.e. to the end of day 2) – indicating whether smoke intensity is expected to reduce, remain the same, or increase.
- Manager Environmental Health or their delegate alerts DHHS HRA Team

Actions

- The DHHS Health Risk Assessment (HRA) Team is not activated if the 1.5 day (36 hour) rolling 24 hour average value is at or below the **Hazardous (Extreme)** thresholds (500 $\mu\text{g}/\text{m}^3$ for PM_{10} or 250 $\mu\text{g}/\text{m}^3$ for $\text{PM}_{2.5}$) and predicted to decrease

OR

- DHHS HRA Team continues assessing data if the rolling 24 hour average value is above the **Hazardous (Extreme)** threshold (500 $\mu\text{g}/\text{m}^3$ for PM_{10} or 250 $\mu\text{g}/\text{m}^3$ for $\text{PM}_{2.5}$) and EPA, in consultation with fire agencies predicts smoke intensity to maintain or increase.
- EPA continues assessing the PM levels for the next 12 hours (i.e. to the end of day 2).

5. Monitoring, Assessment & Decision at 48 hours:

The EPA provides air quality data to the DHHS on-call Officer who advises the Manager Environmental Health or their delegate:

- The rolling 24-hour average value at day 2 (i.e. 48 hours)
- Qualitative prediction for next 12 hours (i.e. into day 3) – indicating whether smoke intensity is expected to reduce, remain the same, or increase.
- Manager Environmental Health or their delegate alerts DHHS HRA Team

Actions

- The DHHS HRA Team is not activated if the value at 48 hours is at or below the **Hazardous (Extreme)** threshold (500 $\mu\text{g}/\text{m}^3$ for PM_{10} or 250 $\mu\text{g}/\text{m}^3$ for $\text{PM}_{2.5}$) and smoke intensity is predicted to decrease over the next 12 hours.

OR

- The DHHS HRA Team is activated if the rolling 24 hour average is above the **Hazardous (Extreme)** threshold (500 $\mu\text{g}/\text{m}^3$ for PM_{10} or 250 $\mu\text{g}/\text{m}^3$ for $\text{PM}_{2.5}$) and EPA, in consultation with fire agencies, predicts smoke intensity to maintain or increase. The DHHS HRA Team advises whether the CHO should strongly recommend that sensitive groups relocate temporarily until the air quality improves for a sustained time.

6. Monitoring and Assessment after the Chief Health Officer has issued **Hazardous** level advice – subsequent advice required by the Chief Health Officer:

- A number of factors will be used by the DHHS HRA Team as the basis for informing the Chief Health Officer regarding a change to fine particle levels in air that may warrant a change in the advice from the CHO to sensitive groups in the community.
- The DHHS HRA Team will consider advice from the EPA in relation to smoke intensity and the change to PM levels since the first issuing of advice by the CHO to sensitive groups in the community. The Team will also consider other advice from the EMV, BoM, EPA and Fire Services regarding predicted smoke intensity and direction
- In addition to the receipt of advice from the DHHS HRA Team, the CHO may also consult with any other parties to enable appropriate consideration of any factors necessary to enable an informed decision prior to the issue of further advice to sensitive groups in the community.

This procedure is tabulated in Table C below.

Table C: PM response procedures between EPA and DHHS for Hazardous Air Quality Category*

		Days of exposure to air			
Action points	T=1 hour	T = 2 - 24 hours	T = 24 hours	T=36 hours	T=48 hours
Notification & updates	EPA notifies DHHS on-call Officer if PM exceeds the 1 hour average Hazardous (High) thresholds* DATA REQUIREMENT IS 1 HOUR AVERAGE	EPA report the 1 hour average every 4 hours until a rolling 24 hour average is available. DATA REQUIREMENT IS 1 HOUR AVERAGE	EPA updates DHHS (see below) DATA REQUIREMENT IS ROLLING 24 HOUR AVERAGE	EPA updates DHHS (see below) DATA REQUIREMENT IS ROLLING 24 HOUR AVERAGE	EPA updates DHHS (see below) DATA REQUIREMENT IS ROLLING 24 HOUR AVERAGE
Monitoring & Assessment			EPA provides DHHS with: -the rolling 24 hr average -qualitative prediction of change in smoke intensity over the next 12 hours	EPA provides DHHS with: -the rolling 24 hour average at 36 hours -qualitative prediction of change in smoke intensity over the next 12 hours	EPA provides DHHS with: -the rolling 24 hour average at 48 hours -qualitative prediction of change in smoke intensity over the next 12 hours
Decision			Manager Environmental Health alerts DHHS HRA Team No activation of DHHS HRA Team if: -the value (which represents 24 hours of community exposure) is less than or equal to the 24 hour rolling average Hazardous (Extreme) threshold** -the smoke intensity is predicted to decrease OR	Manager Environmental Health alerts DHHS HRA Team No activation of DHHS HRA Team if: -the value (which represents 36 hours of community exposure) is less than or equal to the rolling 24 hour average Hazardous (Extreme) threshold** -the smoke intensity is predicted to decrease OR	Manager Environmental Health alerts DHHS HRA Team No activation of DHHS HRA Team if: -the value (which represents 48 hours of community exposure) is less than or equal to the rolling 24 hour average Hazardous (Extreme) threshold** -the smoke intensity is predicted to decrease OR

CHO – subsequent advice/ actions		Possible community messaging	DHHS HRA Team continue assessment of monitoring data for the next 12 hours if the rolling 24 hour average is >the Hazardous (Extreme) threshold and current smoke intensity is predicted to remain the same or increase	DHHS HRA Team continue assessment of monitoring data for the next 12 hours if rolling 24 hour average is >the Hazardous (Extreme) threshold for and current smoke intensity is predicted to remain the same or increase	Activate the DHHS HRA Team if the value is greater than the rolling 24 hour average Hazardous (Extreme) threshold the current smoke intensity is predicted to remain the same or increase over the next 12 hours		
			Community messaging	Community messaging	Community messaging	The DHHS HRA Team is activated to determine whether the Chief Health Officer should strongly recommend that sensitive groups relocate temporarily until the air quality improves for a sustained time. The issuing of further advice by the CHO involves factors in addition to an improvement in air quality: fire suppression status, plume predictions, weather outlook information etc. Any advice from the CHO will therefore be made in consultation with the Emergency Management Commissioner (EMV), EPA, CFA, MFB and VicPol.	

*The 1 hour average **Hazardous (High)** threshold for PM₁₀ and PM_{2.5} are 500 µg/m³ and 250 µg/m³ respectively.
 The rolling 24 hour average **Hazardous (Extreme) threshold level for for PM₁₀ and PM_{2.5} are 500 µg/m³ and 250 µg/m³ respectively

Procedure to lift temporary relocation advice

The basis for a recommendation by the CHO to lift temporary relocation advice, for reasons of public health protection, includes all of the following criteria:

- There is evidence that air quality has not reached the **Unhealthy All** threshold for PM_{2.5} (i.e. a rolling 24 hour average of 56 µg/m³) and/or PM₁₀ (i.e. a rolling 24 hour average of 66 µg/m³) as long as the air quality has not improved only due to favourable wind conditions. This should be demonstrated by at least 4 days of air quality data and meteorological conditions.
- Fire suppression has reduced smoke and fire intensity and there is a high level of confidence that this is sustained and unlikely to change.
- Any change in fire fighting strategy or fire behaviour is unlikely to lead to worsening of air quality noting that there is the potential for continuing smouldering of hot spots.

Process

1. The EPA provides continuous air quality monitoring data and predictions for future air quality to the CHO. This should include consideration of weather advice from Bureau of Meteorology on forecast conditions and potential for temperature inversions.
2. The CHO will consult with the State Controller as to the fire suppression status.
3. The CHO will advise the SEMT, SCRC, Emergency Management Commissioner and Chief Commissioner of Police when from a public health protection perspective, the temporary relocation advice should be lifted. This advice will also be provided to Government.
4. Once all the criteria have been met, the CHO will issue an advisory that the conditions are now safe for sensitive groups to return.
5. This will also be subject to ongoing monitoring and review while fire continues to persist.

Annex 1 – CHO Media Releases

Unhealthy – Sensitive

Media Release

DATE

The Chief Health Officer has issued a smoke health alert for the [area] [duration e.g. tonight and tomorrow morning] as a result of bushfires.

It is likely residents will see [ongoing] smoke impacts [for duration e.g. in the morning], with visibility reduced to between 10 to 20 kilometres due to increased particle concentrations in the air.

Dr Rosemary Lester advises the people over 65, children, pregnant women and those with existing heart or lung conditions to limit prolonged or heavy physical activity.

“Where possible these people in the community should also limit the time spent outdoors.”
Dr Lester said.

“Anyone with a heart or lung condition should take their medication as prescribed by their doctor.

“People with asthma should follow their asthma management plan.

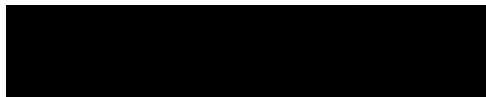
“Everyone should keep informed about fire activity in their immediate area. Anyone with concerns about their health should seek medical advice or call NURSE-ON-CALL on 1300 60 60 24.”

Check EPA’s air quality report at www.epa.vic.gov.au/our-work/monitoring-the-environment/air-quality-bulletins

For further information about bushfire smoke and health go to www.health.vic.gov.au/environment/bushfires/

For fire information go to the Victorian Bushfire Information Line 1800 240 667 or visit the Country Fire Authority Victoria website at www.emergency.vic.gov.au

Media inquiries:



Unhealthy – All

Media Release

DATE

The Chief Health Officer has issued a smoke health alert for the [area] [duration as in tonight and tomorrow morning] as a result of bushfires.

It is likely residents will see ongoing smoke impacts [for duration e.g. in the morning], with visibility between five and 10 kilometres due to high particle concentrations in the air.

Dr Rosemary Lester advises that excessive smoke levels can not only aggravate existing heart or lung conditions, but may also cause members of the community to experience irritated eyes, coughing or wheezing.

"Everyone should reduce prolonged or heavy physical activity and keep informed about fire activity in their immediate area" Dr Lester said. "The elderly, children and those with existing heart or lung conditions should **avoid** prolonged or heavy physical activity altogether.

"Anyone with a heart or lung condition should take their medication as prescribed by their doctor.

"People with asthma should follow their asthma management plan.

"Anyone with concerns about their health should seek medical advice or call NURSE-ON-CALL on 1300 60 60 24."

Check EPA's air quality forecasts at www.epa.vic.gov.au/our-work/monitoring-the-environment/air-quality-bulletins

For further information about bushfire smoke and health go to www.health.vic.gov.au/environment/bushfires/

For fire information go to the Victorian Bushfire Information Line 1800 240 667 or visit the Country Fire Authority Victoria website at www.emergency.vic.gov.au

Media inquiries:



Very Unhealthy - All

Media Release

DATE

The Chief Health Officer has issued a smoke health alert for the [area] [duration as in tonight and tomorrow morning] as a result of bushfires.

It is likely residents will see ongoing smoke impacts [for duration e.g. in the morning], with visibility between one and five kilometres due to very high particle concentrations in the air.

The Victorian Chief Health Officer Dr Rosemary Lester advises that excessive smoke levels can not only aggravate existing heart or lung conditions, but may also cause members of the community to experience irritated eyes, coughing or wheezing.

“Everyone should avoid prolonged or heavy physical activity and keep informed about fire activity in their immediate area” Dr Lester said. “The older people, children, pregnant women and those with existing heart or lung conditions should **avoid all** physical activity outdoors.

“Anyone with a heart or lung condition should take their medication as prescribed by their doctor.

“People with asthma should follow their asthma management plan.

“Anyone with concerns about their health should seek medical advice or call NURSE-ON-CALL on 1300 60 60 24.”

Check EPA’s air quality forecasts at www.epa.vic.gov.au/our-work/monitoring-the-environment/air-quality-bulletins

For further information about bushfire smoke and health go to www.health.vic.gov.au/environment/bushfires/

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Media inquiries:



Hazardous

Media Release

DATE

The Chief Health Officer has issued a smoke health alert for the [area] [duration as in tonight and tomorrow morning] as a result of bushfires.

It is likely residents will see ongoing smoke impacts [for duration e.g. in the morning], with visibility less than one kilometre due to extremely high particle concentrations in the air.

The Victorian Chief Health Officer Dr Rosemary Lester advises that excessive smoke levels can not only aggravate existing heart or lung conditions, but may also cause members of the community to experience irritated eyes, coughing or wheezing.

“Everyone should avoid all outdoor physical activity and keep informed about fire activity in their immediate area” Dr Lester said. “The older people, children, pregnant women and those with existing heart or lung conditions should **remain indoors** and keep physical activity levels as low as possible.

Should these conditions worsen, further advice on temporary relocation may be issued for sensitive groups. *This statement should be used when the **Hazardous (High)** air quality category is reached.*

“Should these conditions remain for prolonged periods (two or more days), further advice on temporary relocation may be issued for sensitive groups. *This statement should be used when the **Hazardous (Extreme)** air quality category is reached.*

“Anyone with a heart or lung condition should take their medication as prescribed by their doctor.

“People with asthma should follow their asthma management plan.

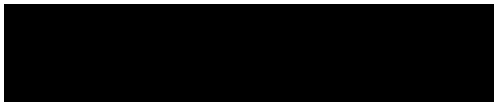
“Anyone with concerns about their health should seek medical advice or call NURSE-ON-CALL on 1300 60 60 24.”

Check EPA’s air quality forecasts at www.epa.vic.gov.au/our-work/monitoring-the-environment/air-quality-bulletins

For further information about bushfire smoke and health go to www.health.vic.gov.au/environment/bushfires/

For fire information go to the Victorian Bushfire Information Line 1800 240 667 or visit the Emergency Management Victoria website at www.emergency.vic.gov.au

Media inquiries:



Annex 2 – Air Quality Self-assessment Guide

Air quality assessments should be used to decide what to do for local smoke conditions.

Follow this procedure to determine the level of visibility:

1. When there is no fire in the landscape, identify landmarks that are visible from your home. Look for particular landmarks which you know are at distances of one, five, 10 and 20 kilometres.
2. Each of these distances corresponds to an air quality level in the table below.
3. Use the landmarks as a guide to estimate air quality in your area when smoke is present.
4. When you can no longer clearly see any landmark, air quality has deteriorated. Visibility is the distance of the nearest landmark that is just obscured by the smoke.

Smoke advisory level	Landmark visible from home	Cautionary health advice
Good	20 km or more	None
Unhealthy - sensitive	10 km	People with heart or lung conditions, children, pregnant women and older adults should reduce prolonged or heavy physical activity No specific message for everyone else.
Unhealthy - all	5 km	People with heart or lung conditions, children, pregnant women and older adults should avoid prolonged or heavy physical activity. Everyone else should reduce prolonged or heavy physical activity.
Very unhealthy - all	1 km	People with heart or lung conditions, children, pregnant women and older adults should avoid all physical activity outdoors . Everyone else should avoid prolonged or heavy physical activity.
Hazardous - all	< 1 km	People with heart or lung conditions, children, pregnant women and older adults should remain indoors and keep activity levels as low as possible . Everyone should avoid all physical activity outdoors . If conditions persist (2 or more days), some people may be advised to temporarily relocate .