

# Temporary Alberta Airshed Wildfire Bulk Reporting Protocol:

## Temporary Bulk Reporting Protocol for Air Quality Exceedance Reporting by Airsheds due to Wildfire Smoke

### Guidance for Implementation

#### Purpose

The Temporary Alberta Airshed Wildfire Bulk Reporting Protocol (herein, the protocol) is a protocol that can be implemented to manage the reporting of the high number of fine particulate matter (PM<sub>2.5</sub>) exceedances generated during wide-spread and persistent poor air quality episodes as a result of wildfire smoke. The large number of exceedances of ambient PM<sub>2.5</sub> objectives/guidelines that occur during these episodes can result in a high volume of calls to Alberta Environmental and Dangerous Goods Emergencies (Alberta EDGE; i.e. the “environmental hotline”) as well as a reporting burden for Alberta Airsheds. To ensure that resources are available to manage emerging high-risk issues at Alberta EDGE and Alberta Airsheds during prolonged wildfire smoke episodes, the protocol aims to simplify and consolidate reporting of exceedances temporarily. Public health messaging around wildfire smoke episodes is separate from the reporting of exceedances to Alberta EDGE. High-priority public health messaging around poor air quality episodes is handled by the Alberta Air Quality Notification Protocol,<sup>1</sup> which acts as a mechanism to provide updates on poor air quality episodes to Albertans. The Alberta Government works together with Environment and Climate Change Canada to determine when Special Air Quality Statements should be issued and takes into account information such as data from air quality monitoring stations, satellite images, forecasts of smoke movement, local reports and road cameras. Air quality advisories may also be issued by Alberta Health Services and Indigenous Services Canada.

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<sup>1</sup> <https://open.alberta.ca/publications/alberta-air-quality-notification-protocol-what-you-need-to-know>

## Application of the Protocol

The protocol is a temporary measure to be used during wildfire smoke episodes in affected Alberta Airsheds. The protocol is intended to reduce the volume of exceedances reported to Alberta EDGE when the cause of PM<sub>2.5</sub> exceedances is known (i.e. known to be wildfire smoke), natural (not from industrial or urban sources) and wide-spread (affects an entire Alberta Airshed or more than one Alberta Airshed). Alberta Airsheds may<sup>2</sup> follow the protocol only when written<sup>3</sup> notification is received from Alberta EDGE indicating that it is in effect (triggers used by Alberta EDGE to initiate the protocol are discussed below). Reporting of exceedances (e.g. of parameters that are not PM<sub>2.5</sub>) must otherwise follow the *Air Monitoring Directive* requirements for exceedance and performance reporting in Chapter 9<sup>4</sup>.

Unless otherwise specified, the protocol is put into effect for specific Alberta Airsheds experiencing wide-spread high PM<sub>2.5</sub> concentrations. Therefore, the protocol applies to all monitoring stations within the Alberta Airshed specified in the written notification from Alberta EDGE.

When specified, the protocol may apply to one Alberta Airshed, several Alberta Airsheds, or even all Alberta Airsheds, however this will be explicitly specified in the written notification from Alberta EDGE.

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<sup>2</sup> When in effect, the protocol provides Alberta Airsheds with an opportunity to reduce their reporting burden. Alberta Airsheds are not required to follow the protocol. However, if not following the protocol, Alberta Airsheds must otherwise follow the *Air Monitoring Directive* requirements for exceedance and performance reporting in Chapter 9

<sup>3</sup> Written notification constitutes a text-based notification received from Alberta EDGE. Written notification may be communicated via email.

<sup>4</sup> <https://open.alberta.ca/publications/air-monitoring-directive-2016>

## Triggers for Activating the Protocol

The protocol will not be activated if the poor air quality episode is due to industrial or anthropogenic influence<sup>5</sup> (e.g., industrial upset, temperature inversion, etc.). The protocol will only be activated if the poor air quality episode is wide-spread, persistent, (is likely to continue or has continued over several days to weeks) and due to wildfire smoke. The protocol can only be placed into and taken out of effect via written notification from Alberta EDGE directly to Alberta Airsheds. The following triggers are used to determine when to activate the protocol. These triggers may indicate that there is wide-spread and persistent poor air quality due to high PM<sub>2.5</sub> concentrations attributable to wildfire smoke, however it does not explicitly mean that the protocol is in effect.

- Alberta EDGE receiving a high call volume<sup>6</sup> of wide-spread exceedances of the 1-hour PM<sub>2.5</sub> Alberta Ambient Air Quality Guideline (AAAQG) or the 24-hour PM<sub>2.5</sub> Alberta Ambient Air Quality Objective (AAAQO) as a result of wildfire smoke
  - o High call volumes are indicative of a wide-spread air quality episode that is taxing the resources of Alberta Airsheds, Alberta Environment and Parks, or Alberta EDGE
- A Special Air Quality Statement is issued from Environment and Climate Change Canada<sup>7</sup> indicating that a routine air quality event (as defined in the Alberta Air Quality Notification Protocol) is occurring as a result of wildfire smoke. Special Air Quality statements are issued under the following circumstances:
  - o The Air Quality Health Index will be 7 or higher for 2 or more hours
  - o When wildfire smoke is impacting an Alberta community
  - o Situations where reduced visibility is expected as a result of wildfire smoke where.

Special Air Quality Statements issued as a result of one of the preceding circumstances occurring as a result of wildfire smoke may be used as a trigger to activate the protocol.

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<sup>5</sup> As outlined in *A Guide to Release Reporting* immediate reports associated with AAAQO/AAAQG exceedances may contain contextual information regarding the reported exceedance that may enable Alberta EDGE to identify those exceedances associated with anthropogenic influence.

<sup>6</sup> High call volumes are situations where the volume of incoming calls related to PM<sub>2.5</sub> exceedances significantly limit the ability for Alberta EDGE to receive and prioritize other environmental and dangerous goods emergencies. Determination of high call volume is left to the discretion of Alberta EDGE.

<sup>7</sup> In addition to Special Air Quality Statements air quality advisories can be issued by Alberta Health Services and/or Indigenous Services Canada. Air Quality Advisories contain similar information to a Special Air Quality Statement and may supplement Special Air Quality Statements.

## Triggers for Rescinding the Protocol

Alberta EDGE will send written notification to Alberta Airsheds when rescinding the protocol indicating that the protocol is no longer in effect. Once the protocol has been rescinded and is no longer in effect, reporting of measured exceedances must resume as specified in the Alberta *Air Monitoring Directive*. Rescinding the protocol is as the discretion of Alberta EDGE but will generally adhere to the following triggers. These triggers may indicate that wide-spread and persistent poor air quality due to high PM<sub>2.5</sub> concentrations attributable to wildfire smoke is no longer occurring, however it does not explicitly mean that the protocol has been rescinded and is no longer in effect.

- Call volumes at Alberta EDGE return to normal, or are steadily occurring at a rate that enables Alberta EDGE to appropriately respond to emerging environmental and dangerous goods emergencies at available staffing levels.
- Special Air Quality Statements issued in response to routine air quality events occurring as a result of wildfire smoke have been rescinded, or are no longer in place due to the wildfire smoke conditions ceasing to trigger the continued need for the Special Air Quality Statement.

## Bulk Reporting Protocol

1. The protocol comes into effect when written notification is received by an Alberta Airshed from Alberta EDGE indicating that the protocol is in effect. The protocol applies only to the Alberta Airshed(s) explicitly specified in the written notification received from Alberta EDGE. Written notification constitutes a text-based notification received from Alberta EDGE. Written notification may be communicated via email.
2. When in effect, Alberta Airsheds (as defined in the *Alberta Air Monitoring Directive* Chapter 1: Appendix A<sup>8</sup>) may submit one written report per monitoring station to Alberta EDGE encompassing seven days on a calendar week basis (i.e. Monday – Sunday). Each report must summarize **all measured 1-hour PM<sub>2.5</sub> AAAQG and 24-hour PM<sub>2.5</sub> AAAQO** exceedances for each monitoring station to which the protocol applies. This written report fulfills the immediate reporting requirement for Alberta airsheds (i.e. *Alberta Air Monitoring Directive* Clause RC 14-A) when the protocol is in effect. A written report is not required if there were no measured exceedances.
3. One reference number will be generated by Alberta EDGE per monitoring station and the reference number will cover a seven day period on a calendar week basis. Each reference number will apply to all reportable PM<sub>2.5</sub> exceedances from an individual monitoring station over the seven day period. When written notification is received by an Alberta Airshed from Alberta EDGE indicating that the protocol is in effect, all reportable PM<sub>2.5</sub> exceedances from an individual monitoring station must be reported starting from the beginning of the calendar day on which notification is received until the end of that calendar week (.e.g. if written notification is received on Tuesday, all reportable PM<sub>2.5</sub> exceedances from the beginning of Tuesday through to the following Sunday would be covered by the same reference number respective to each given station).
4. When the protocol is in effect for longer than seven days, a new reference number will be generated per station for each subsequent seven day calendar week, until written notification is received by an Alberta Airshed from Alberta EDGE indicating that the protocol is no longer in effect.
5. Written reports, as outlined in the protocol, must be received within seven calendar days following the end of each seven-day calendar week reporting period (i.e. written reports are due by the end of day on the Sunday following the calendar week being reported). Additional reporting, as indicated in *Alberta Air Monitoring Directive* Clause RC 14-D, and further defined in *A Guide to Release Reporting*<sup>9</sup> is not required for 1-hour PM<sub>2.5</sub> AAAQG and 24-hour PM<sub>2.5</sub> AAAQO exceedances while the protocol is in effect. Written reports must be emailed to Alberta EDGE at [edge@gov.ab.ca](mailto:edge@gov.ab.ca).

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<sup>8</sup> <https://open.alberta.ca/publications/air-monitoring-directive-2016>

<sup>9</sup> <https://open.alberta.ca/publications/0778509028>

6. When written notification is received by an Alberta Airshed from Alberta EDGE indicating that the protocol is no longer in effect, reporting of measured exceedances must resume as specified in the *Alberta Air Monitoring Directive*. The last reporting period will conclude at midnight on the calendar day that written notification is received that the protocol is no longer in effect (i.e. it is likely that the last reporting period will encompass less than 7 calendar days). Written reports summarizing exceedances observed during the last reporting period must be received within seven calendar days following written notification that the protocol is no longer in effect.
7. This protocol applies to monitoring stations operated by an Alberta Airshed, including those operated on behalf of an *Environmental Protection and Enhancement Act* approval holder with general requirements for air quality monitoring<sup>10</sup>. Exceptions include those monitoring stations which meet any of the following criteria:
  - a. Monitoring for PM<sub>2.5</sub> which occurs as a result of direct requirements in an operating approval (i.e. an industrial compliance monitoring station). Hourly and daily reporting is still required, as per the approval requirements.
  - b. Monitoring for PM<sub>2.5</sub> as required by an order (e.g. Environmental Protection order) or requirements from any provincial agency or department other than Alberta Environment and Parks.

Industrial operations are still required to immediately report any releases or exceedances of emission limits. If PM<sub>2.5</sub> objectives/guidelines are exceeded in response to a release or emissions limit exceedance, the exceedance must be reported immediately.

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<sup>10</sup> Examples of general requirements for air quality monitoring are clauses such as the following: “The approval holder shall operate, or cause to be operated, a regional Airshed network for the monitoring of ambient air, in a manner satisfactory to the Director.”, and “The approval holder shall operate or cause to be operated the [Alberta Airshed name] [air quality monitoring network name].”

## Notification Template

The following template is intended to be used to place the protocol into effect:

The following trigger has indicated that a wide-spread, persistent poor air quality episode is occurring as a result of wildfire smoke:

- [List trigger (e.g. Special Air Quality Statement Issued)]

As a result the Temporary Alberta Airshed Wildfire Bulk Reporting Protocol has been placed into effect under reference #[XXXX] in the following Alberta Airshed(s):

- [List applicable Alberta Airshed(s)]

Alberta Airsheds may follow the protocol for the reporting of PM<sub>2.5</sub> exceedances. Reporting of all other parameters must continue to follow the *Air Monitoring Directive*.

For more information, please contact:

[Title of person responsible for issuing]

The following template is intended to be used to indicate that the protocol is no longer in effect:

The Temporary Alberta Airshed Wildfire Bulk Reporting Protocol is no longer in effect under reference # [XXXX] in the following Alberta Airshed(s):

- [List applicable Alberta Airshed(s)]

Alberta Airsheds must return to reporting exceedances as specified in the *Air Monitoring Directive*.

For more information, please contact:

[Title of person responsible for issuing]