ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Amendments to:

State Air Quality Control Plan

Vol. II: III.D.7.12

Fairbanks Emergency Episode Plan

Public Notice Draft

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Note: This document provides revised and/or new language proposed for inclusion in this section of the State Air Quality Control Plan addressing the disapproval of the Fairbanks North Star Borough $PM_{2.5}$ Serious SIP. The revised and/or new proposed language is in bold and underlined format. Language proposed to be deleted or replaced is shown in strikeout format. These revisions are the only part of this section that are open for public review and comment in this update to the plan. To aid in the public comment process, the currently adopted sections of the air quality plan can be found and referenced at the following internet site: https://dec.alaska.gov/air/anpms/sip/fbks-pm2-5-regs-amends-2020/

7.12. Fairbanks North Star Borough Emergency Episode Plan

Section 127(a) of the 1990 Clean Air Act Amendments (CAAA) requires all SIPs to include measures providing public notification of instances or areas in which any NAAQS is exceeded, and of the health hazards associated with such pollution. EPA previously issued guidance on the adoption of emergency episode plans designed to keep air pollution concentrations below those levels considered to have adverse consequences on human health.

7.12.1. Forecasting $PM_{2.5}$ Air Quality Episodes

The Department of Environmental Conservation's Air Quality Division provides daily air quality forecasts in the Fairbanks North Star Borough (FNSB) nonattiment area using EPA's Air Quality Index (AQI) on its web site at http:// dec.alaska.gov/Applications/Air/airtoolsweb/Advisories/. DEC posts separate AQI forecasts for Fairbanks and North Pole. The forecasts are based on $PM_{2.5}$ data collected from the ambient monitoring/meteorological reporting network and supplemented by a predictive model developed specifically for the purpose of forecasting $PM_{2.5}$ events in the community.

The AQI is an index for reporting daily air quality. It provides information on how clean or polluted the air is, what associated health effects may be of concern, and actions to take to reduce exposure and health impacts. The AQI provides six categories that correspond to a different level of health concern:

- Good – Air quality is satisfactory and poses little or no health risk.
- Moderate – Air quality is acceptable; however, pollution may pose a moderate health concern for a very small number of individuals.
- Unhealthy to Sensitive Groups – Members of sensitive groups (like elderly, children, those with heart or lung disease) may experience health effects, but the general public is unlikely to be affected.
- Unhealthy – Everyone may begin to experience health effects. Members of sensitive groups may experience more serious health effects.
- Very Unhealthy – Everyone may experience more serious health effects.
- Hazardous – The entire population is even more likely to be affected by serious health effects.

To support this function, DEC uses an air quality forecasting tool called the AQ Alert Model that projects $PM_{2.5}$ concentrations over a four day window (the remainder of today, tomorrow, and the following two days). The model outputs include the predicted values for $PM_{2.5}$ concentrations (rolling 12-hour averages and 24-hour daily averages) at each monitor site over the next four days along with the weather conditions forecast by the National Weather Service (NWS) as context for understanding the $PM_{2.5}$ predictions. To accomplish this, the model accesses in near-real time a wide range of data on recent $PM_{2.5}$ concentrations and meteorological conditions at the monitor sites, surface observations and upper air soundings taken at the Fairbanks airport, and forecasts of surface and upper air conditions from the Global Forecast System (GFS) weather prediction model operated by the National Weather Service.

These data are combined within the model to drive a statistical representation of the relationship between meteorological conditions and ambient $PM_{2.5}$ concentrations. The statistical model is based on a detailed analysis of data from the FNSB area and is updated annually to account for changes in consumer behavior that influence $PM_{2.5}$ concentrations.

Air quality specialists at DEC use the model during the day to monitor changing air quality conditions at the monitors. Forecasted curtailments are issued by 2:00 pm local time. Before declaring a curtailment on the operation of solid fuel-fired heating devices DEC reviews the relevant and available meteorological data, weather forecasts, affected area, strength of the inversion, and potential duration of the inversion. Other inputs are the afternoon forecast of dispersion conditions issued by the NWS forecasting office in Fairbanks and the assessment by DEC personnel of many factors based on their long-standing experience in observing air quality in Fairbanks, including the rate of change in concentrations at the monitors and the location and movement of weather fronts seen in satellite photos. DEC sometimes calls an Alert that does not include a curtailment if weather conditions indicate a clearing prior to any effect of a curtailment could be realized. DEC uses the curtailment as a reasonable approach given the conditions and available data, to realize the objective of reducing air pollution in the Fairbanks nonattainment area.

7.12.2. State Episode Program

DEC's statewide $PM_{2.5}$ air episode and air advisory requirements are framed in regulation at 18 AAC 50.246. The regulations split the overall emergency episode response approaches into two categories: air episodes and air advisories. $PM_{2.5}$ air episodes rely on air monitoring data and are called when concentrations reach specific thresholds defined in the regulation. Air advisories are not strictly reliant on air monitoring data and may be called when the department finds that, in its judgment, that air quality conditions exist that might threaten public health; the advisory regulation allows for DEC response to poor air quality in areas where no air monitors may exist. These two categories have differing response features and trigger different supporting requirements within the state regulations. In both cases, DEC publicizes the air quality episode or advisory and any actions to be taken to protect public health. 18 AAC 50.246 provides that "the episode thresholds and actions prescribed for any area that has a local air quality plan included in the *State Air Quality Control Plan* adopted by reference in 18 AAC 50.030 must be consistent with the emergency episode provisions included in that plan."

DEC under the provisions of 18 AAC 50.246, will declare episodes in the FNSB nonattainment area based on the thresholds identified in Table 7.12-1. There are two levels or "Stages" of air alerts issued and different exceptions for burning curtailment are associated with each Stage. Table 7.12-2 identifies the types of heating devices or burning that may continue or that are prohibited during each Stage. As air quality deteriorates and a Stage 2 air alert is announced, only those structures with documented exceptions for no other adequate source of heat (NOASH) are allowed to continue operation.

Table 7.12-1 Air Quality Episode Thresholds and Exceptions/Contingency Measure

Episode Feature	Stage 1 Air Alert	Stage 2 Air Alert	Stage 1 Air Alert Contingency Measure	Stage 2 Air Alert Contingency Measure
$PM_{2.5}$ Threshold, micrograms per cubic meter, ($\mu g/m^3$)	20	30	**15**	**20**
Exceptions During a Power Outage	Yes	Yes	**Yes**	**Yes**

Table 7.12-2 $PM_{2.5}$ Air Quality Episode Appliance-Specific or Waiver-Specific Actions

Appliance Type Or Waiver Type	Stage 1 Air Alert	Stage 2 Air Alert
No other adequate source of heat (NOASH)(see Table 7.12-5 for types and levels of NOASH waivers)	Operation Allowed	Operation Allowed
Stage 1 Waiver (see Table 7.12-6 for types and levels of Stage 1 waivers)	Operation Allowed	Operation Prohibited
Wood Stoves	Operation Prohibited	Operation Prohibited
Coal Stoves	Operation Prohibited	Operation Prohibited
Wood-fired hydronic heaters	Operation Prohibited	Operation Prohibited
Wood-fired Furnaces	Operation Prohibited	Operation Prohibited
Coal-fired Hydronic Heaters	Operation Prohibited	Operation Prohibited
Coal-fired Furnaces	Operation Prohibited	Operation Prohibited
Fireplace Inserts	Operation Prohibited	Operation Prohibited
Pellet Fuel Burning Appliances	Operation Prohibited	Operation Prohibited
Masonry Heaters	Operation Prohibited	Operation Prohibited
Cook Stoves	Operation Prohibited	Operation Prohibited
Fireplaces	Operation Prohibited	Operation Prohibited
Waste Oil Burning Appliances	Operation Prohibited	Operation Prohibited

Non-Permitted Outdoor Incinerators, Burn Barrels	Operation Prohibited	Operation Prohibited
Campfires, Bonfires, Ceremonial Fires, Fire pits	Voluntary Curtailment	Operation Prohibited

During a formal air episode, in addition to providing information on protecting an individual's health, DEC will provide information on how an individual may assist in reducing emissions. In some instances, DEC may prescribe and publicize opacity limits for solid fuel-fired heating devices as described further below. DEC tailors its response and curtailment actions to address the specific conditions surrounding a specific air pollution event. The following State regulations are also triggered by the declaration of an air episode (in addition to any regulations triggered by the declaration of an air quality advisory as described below):

- 18 AAC 50.075 (d) – (e)

(d) A person may operate a solid fuel-fired heating device in an area for which the department has declared a PM-2.5 air quality episode under 18 AAC 50.246 or under emergency episode provisions included in a local air quality plan incorporated in the *State Air Quality Control Plan*, adopted by reference in 18 AAC 50.030, only if

(1) visible emissions or opacity from the solid fuel-fired heating device is below the opacity limits identified in the episode announcement for that area as defined in the *State Air Quality Control Plan*, adopted by reference in 18 AAC 50.030; or

(2) the owner or operator of the solid fuel-fired heating device obtains a written temporary waiver from the department or local air quality control program from the opacity limits identified in the episode announcement; the department or local air quality program may grant a temporary waiver after considering

(A) financial hardship information provided by the owner or operator;

(B) technical feasibility information provided by the owner or operator;

(C) potential impact to locations with populations sensitive to exposure to PM-2.5; locations under this subparagraph include hospitals, schools, child care facilities, health clinics, long-term care facilities, assisted living homes, and senior centers;

(D) mitigation measures implemented by the owner or operator to prevent adverse health impacts to individuals sensitive to exposure to PM-2.5; and

(E) the contribution of the device to the exceedance of the PM-2.5 concentration triggering the episode announcement.

(3) the department has not prohibited operation under 18 AAC 50.075(e).

(e) The department may prohibit operation of a solid fuel-fired heating device in an area for which the department has declared a PM-2.5 air quality episode under emergency episode provisions included in a local air quality plan incorporated in the *State Air Quality Control Plan*. The declaration must specify:

(1) the air quality control zone affected by the prohibitation;

(2) any applicable exceptions to the prohibition; and
(3) that operators shall withhold fuel from non-exempt devices and ensure that combustion, as evidenced by visible smoke from a chimney, has ceased within three hours of the effective time of the declaration.

In accordance with 18 AAC 50.030(c), contingency measures must be implemented as described in the State Air Quality Control Plan **Chapter III.D.7.11**. Table 7.12-1 Air Quality Episode Thresholds and Exceptions/Contingency Measure identifies the **Stage 1 and** Stage 2 threshold**s** that shall take effect upon the effective date of any of the EPA findings specified in 18 AAC 50.030(c) and 40 C.F.R. § 51.1014(a).

Air advisories are established under 18 AAC 50.245 and 18 AAC 50.246(b), which sets forth that "the department will declare an air quality advisory if, in its judgment, air quality or atmospheric dispersion conditions exist that might threaten public health". If the department declares an air quality advisory it may request voluntary emission curtailment actions. For $PM_{2.5}$, the department declares air advisories in the FNSB nonattainment area when pollutant concentrations have reached, or are expected to reach, 15 $\mu g/m^3$ using a 24-hr rolling average of 1-hr BAM or other DEC-approved monitoring equipment data indicating air quality conditions exist that might threaten public health or, alternatively, using meteorological data indicating atmospheric dispersion conditions exist that might threaten public health.

Table 7.12-3
FNSB Nonattainment Area $PM_{2.5}$ Advisory/Alert Level

Type	24-hour Average $PM_{2.5}$ Concentration ($\mu g/m^3$)
Advisory/Alert	15

DEC may exclude individual air quality zones from an advisory/alert announcement when air quality conditions in that zone are not expected to exceed 15 $\mu g/m^3$ based on monitoring or meteorological data. The following specific State regulations are triggered by the declaration of an air quality advisory:

- 18 AAC 50.065(e)

  "Open burning is prohibited in an area if the department declares an air quality advisory under 18 AAC 50.245 or 18 AAC 50.246, stating that burning is not permitted in that area for that day. This advisory will be based on a determination that there is or is likely to be inadequate air ventilation to maintain the standards set by 18 AAC 50.010. The department will make reasonable efforts to ensure that the advisory is broadcast on local radio or television."

- 18 AAC 50.075(a)(2)

  "A person may not operate a solid fuel fired heating device in a manner that causes

(1) black smoke; or
(2) visible emissions that exceed 20 percent opacity for more than six minutes in any one hour in an area for which an air quality advisory is in effect under 18 AAC 50.245 or 18 AAC 50.246, except during the first 15 minutes after initial firing of the device; visible emissions are measured following opacity reading procedures as required under 40 C.F.R. Part 60, Appendix A, Method 9, adopted by reference in 18 AAC 50.040, as modified in Volume III, sec. IV-3, Appendix IV-3, of the *State Air Quality Control Plan,* adopted by reference in 18 AAC 50.030; alternatively, visible emissions may be measured using the alternative method to Method 9, ALT-082, approved and revised by EPA as of May 17, 2012.

Given the history of significant wintertime air quality episodes within the FNSB $PM_{2.5}$ nonattainment area and concerns of local residents related to the implementation of wood heating curtailment during air quality episodes, DEC is defining its approach for allowing solid-fuel fired devices to operate during an episode provided they meet an opacity level during formal air quality episodes inside the nonattainment area under 18 AAC 50.075(d). The existing ADEC opacity requirements will remain in effect in any instances when solid fuel-fired heating curtailments are not announced during air episodes.

Solid-fuel Fired Device Opacity Levels during Air Quality Episodes Under 18 AAC 50.075(d)

The visible emission regulations in 18 AAC 50.075(d) would apply specific opacity levels during formal air quality episodes. Properly operated, efficient solid-fueled heating devices using the proper fuels should be able to meet the stated opacity limits during an episode. Efficient operations not only reduce air pollution but allow for the burning of less wood, an economic or time savings to residents who buy or cut wood.

In the FNSB nonattainment area, solid fuel-fired heating devices are subject to a more stringent requirement; a 20% visible emission or opacity limit must be met during air quality advisories/alerts in addition to episodes. Should DEC determine that the specific conditions surrounding a specific air pollution event within the FNSB nonattainment area warrant an announcement for opacity restrictions for solid fuel-fired heating devices, DEC will issue an announcement that identifies the 20% opacity limit that is in effect. For purposes of implementing the opacity regulations, $PM_{2.5}$ episodes and advisories within the FNSB $PM_{2.5}$ nonattainment area are treated equally. The opacity limit for the FNSB non-attainment area during an air episode or advisory are as follows in Table 7.12-4:

Table 7.12-4
FNSB Nonattainment Area Opacity Limits during Air Pollution Events

Opacity Limit	$PM_{2.5}$ Concentration ($\mu g/m^3$)
20%	> 15 (24-hour average)

For compliance and enforcement purposes, opacity is measured using EPA method 9, as modified by following opacity reading procedures as required by Vol. 3., sec. IV-3, Appendix IV-3, of the State air quality control plan, adopted by reference in 18 AAC 50.030, by a person who has passed

and is current in their Method 9 certification. DEC has also adopted into regulation the option to use a camera-based EPA method 9 alternative (EPA Method ALT-082) and may consider using camera based opacity measurements in the future.

Upon observing an opacity limit exceedance during a declared episode, the department will attempt to provide education on the correct maintenance and operation of the solid fuel-fired device. Education could also include the use of proper fuels. If education does not provide a remedy to the opacity exceedances, the department may issue a Notice of Violation, Abatement Order, or may pursue other administrative enforcement remedies.

In July of 2017, 18 AAC 50.077 was amended to add subsection (f) to address opacity during operations for solid fuel-fired devices. In 2019, subsection (f) was amended to read:

- 18 AAC 50.075(f)

  "In an area identified in 18 AAC 50.015(b)(3), a person may not operate a solid fuel-fired heating device in a manner that causes:

  (1) visible emissions, measured as set out in (a)(2) of this section, that exceed 20 percent opacity for more than six minutes in any one hour; except during the first 15 minutes after initial firing of the device, when the opacity limit must be less than 50 percent; and

  (2) visible emissions, as observed using 40 C.F.R. Part 60, Appendix A, Method 22, adopted by reference in 18 AAC 50.035, to cross property lines."

Solid Fuel-Fired Device Curtailment during Air Quality Episodes Under 18 AAC 50.075(e)

In 2016, DEC expanded its regulations to include a framework that would allow DEC to institute curtailments during air quality episodes if an episode plan includes specific requirements of the burn curtailment. DEC also divided the nonattainment areas into three zones to allow for the ability to tailor its response to air pollution events specifically to a more defined area.

For $PM_{2.5,}$ the department declares air episodes in the FNSB nonattainment area when pollutant concentrations have reached, or are expected to reach, the thresholds identified in Table 7.12-1. DEC relies on 24-hr rolling average of 1-hr BAM measurements or 24-hr rolling average data from other DEC-approved monitoring equipment when determining if conditions for an air quality episode have been met.

Under the 18 AAC 50.075(e) framework, the department will declare prohibitions on the operation of solid fuel-fired heating devices during air quality episodes if, at a minimum, the following conditions exist:

- An air quality episode has been declared under 18 AAC 50.246, based on air quality episode thresholds located in Table 7.12-1.

DEC must also issue an episode announcement that identifies the following:

- The Air Quality Control Zone or Zones where the prohibitions are in effect; the boundaries of the Goldstream, Fairbanks, and North Pole Air Quality Control Zones are located in Section III.D.7.03.
- Exceptions to the prohibition of solid fuel-fired heating device operation.
- A statement that operators shall withhold fuel from non-exempt devices and ensure that combustion, as evidenced by visible smoke from a chimney, has ceased within three hours of the effective time of the declaration. The declaration contains an effective time of the curtailment so that the public will know the start of the three hours time period.

Given previous community concerns about the reasonableness of requiring residents to cease use of solid fuel-fired heating devices during periods of poor air quality coupled with extreme cold temperatures, DEC's regulations provide exceptions for continued use of solid fuel-fired heating devices during air quality episodes if conditions or individual circumstances require the use of solid-fuel heating devices. Individual operating solid fuel-fired heating devices are required to cease fueling and combustion within the three hour burn down time identified in the curtailment announcement issued by DEC. The three hour burn down begins upon the effective date and time within the announcement.

Exceptions to the requirement to cease operation of a solid-fuel heating device during an episode must include:

- Cases where electrical power outages prevent the use of alternative heating devices
- Cases where the device owner or operator has obtained a temporary waiver from the Department or local program under 18 AAC 50.075(d)(2). Types of temporary exceptions/waivers are:

    - NOASH: documented with the department that the structure has no other adequate source of heat or documented economic hardship (see below) with the department that shows the structure requires heating with solid fuels.
    - Stage 1: documented with the department that wood-fired heating device meets state standards, has a source of wood that is dry, and the heater is properly installed and maintained.

Exceptions to individual episodes may also include:

- Exceptions based on the class of solid fuel-fired heating device
- Exceptions based on device particulate matter emission rates

Exceptions/Waiver levels are based on the following tables and are intended to provide additional incentives to upgrading existing devices while at the same time acknowledging the number of devices already changed out as part of the wood stove change out and conversion programs. A detailed application and verification documentations will be required prior to issuance of any exception or waiver. Suitable documentation for an economic hardship waiver is required as outlined in the application form and must include proof of receipt of assistance for: unemployment, Denali Kid Care, WIC, or social security/disability.

Table 7.12-5

	Temporary NOASH Exceptions/Waivers During Stage 1 and 2 Alerts				
Criteria	**All Solid Fuel Fired Devices**				
Type/Duration of Waiver	**Annual NOASH/ Conditional**	**NOASH Up to 2 years**	**NOASH Up to 3 years**	**NOASH Up to 4 years**	~~**ESP - NOASH Up to 5 years**~~
Establish Need – safety or protection of property	Need verified	Need verified	Need verified	Need verified	~~Need verified~~
Age	10+ years No emission rating available	10 + years	<10 yrs	<15 yrs	~~<15 yrs~~
Emission Rating	>7.5 g/hr >.32 lbs/mmBTU No emission rating available	2.1 – 7.5 g/hr .32 lbs/mmBTU - .1 lbs/mmBTU	2.1 – 7.5 g/hr .32 lbs/mmBTU - .1 lbs/mmBTU	< 2.0 g/hr < .1 lbs/mmBTU	~~< 2.0 g/hr~~ ~~< .1 lbs/mmBTU~~
Properly installed	No check	Required verification	Required verification	Required verification	~~Required verification~~
Initial/ Renewal eligibility	Only eligible for 2 annual waivers	Eligible until device is 15 years old	Eligible for a 3 year waiver until device is 10 years old then move to 2 year waiver	Eligible for a 4 year waiver until device 15 years old then move to a 2 year waiver.	~~Eligible for a 4 year waiver until device 15 years old then move to a 2 year waiver, unless additional requirements on ESP are needed.~~
Device required to be upgraded	Yes, if device is 10+ years old it will no longer be eligible for a NOASH unless device upgraded	Yes, if device is 15+ years old it will no longer be eligible for a NOASH unless device upgraded	Yes, if device is 15+ years old it will no longer be eligible for a NOASH unless device upgraded	Yes, if device is 20+ years old it will no longer be eligible for a NOASH unless device upgraded	~~Yes, if device is 20+ years old it will no longer be eligible for a NOASH unless device upgraded~~
Education on proper burning	Yes	Yes	Yes	Yes	~~Yes~~
Initial/ Renewal Requirement: Chimney Sweep	No	Yes	Yes	Yes	~~Yes~~
Initial/ Renewal Requirement: Dry wood supply	No	Yes	Yes	Yes	~~Yes~~
Initial/ Renewal Requirement: Device Maintenance	No	Yes	Yes	Yes	~~Yes~~
Initial/ Renewal Requirement: Inspection	No	No	No	Yes – verified by certified device inspector, review of wood source	~~Yes – verified by certified device inspector, review of wood source~~
Opacity: during curtailments on-going demonstration of dry wood	Home owner does not receive any violations for Opacity	Home owner does not receive any violations for Opacity	Home owner does not receive any violations for Opacity	Home owner does not receive any violations for Opacity	~~Home owner does not receive any violations for Opacity~~

Table 7.12-6

Temporary Exceptions During Stage 1 Alerts					
Criteria	**All Solid Fuel Fired Devices**				
Type	**Ineligible Devices**	**Annual**	**Stage 1 Up to 2 years**	**Stage 1 UP to 3 years**	~~**ESP Stage 1 Up to 4 years**~~
Emission rating	Anything whose emission rate is over 7.5 g/hr or .32 lbs/mmBTU -- Anything with an unknown emission rating -- Anything with an unknown manufacturer age 1988 or older -- Non White tag certified cordwood outdoor hydronic heaters	2.1 g/hr – 7.5 g/hr	2.1 g/hr – 7.5 g/hr	<2.0 g/hr	~~< 2.0 g/hr < .1 lbs/mmBTU~~
Age		10+ years	<10 years	<10 years	~~Any age~~
Verified Properly installed		Yes	Yes	Yes	~~Yes~~
Initial/ Renewal eligibility		Only eligible for 2 annual exceptions	Eligible until stove is 10 years old	Eligible until stove is 25 years old	~~Eligible until stove is 25 years old, unless additional requirements on ESP are needed.~~
Device required to be upgraded		Yes, if device is 10+ years old it will no longer be eligible unless device upgraded	Yes, if device is 10+ years and after annual exception has expired, then device must be upgraded to be eligible.	Yes, if device is 25+ years old and after annual exception has expired, then device must be upgraded to be eligible.	~~Yes, if device is 25+ years old and after annual exception has expired, then device must be upgraded to be eligible.~~
Education on proper burning		Yes	Yes	Yes	~~Yes~~
Initial/ Renewal Requirements		Chimney sweep	Chimney sweep	Chimney sweep	~~Chimney sweep~~
Initial/ Renewal Requirements		Dry wood verification	Dry wood verification	Dry wood verification	~~Dry wood verification~~
Opacity: during curtailments on-going demonstration of dry wood		Home owner does not receive any violations for Opacity	Home owner does not receive any violations for Opacity	Home owner does not receive any violations for Opacity	~~Home owner does not receive any violations for Opacity~~

Before declaring a prohibition on the operation of solid fuel-fired heating devices in each air quality zone during an air quality episode, DEC will review the relevant and available NWS, FNSB, and state meteorological data, weather forecasts, affected area, strength of the inversion, and potential duration of the inversion. It is possible that DEC will issue air quality episodes that do not include a prohibition of the use of solid fuel-fired heating devices or do not include prohibitions in all three zones, especially if weather conditions indicate a clearing prior to any effect of a curtailment could be realized. DEC will endeavor to ensure a curtailment is a reasonable approach given the conditions and available data, with the objective of realizing air pollution reduction benefits from the action.

DEC will use the following approaches to notify the public of requirements and address any compliance issues. The public will be notified of an air quality episode that has specific opacity limits and/or curtailment requirements utilizing several outreach methods. All episode announcements are emailed to DEC's up-to-date distribution list. This distribution list contains all local media outlets (radio, TV), elected officials, and anyone who signs up for electronic notices. DEC has online sign-up capabilities for various electronic notices and alerts through its *Air Online Services* accessible through the Division of Air Quality's home page at: http://dec.alaska.gov/air. In addition to these electronic emailed announcements, all advisories (alert and episode) are posted to the Division's Air Quality Advisories web page at:

http://dec.alaska.gov/Applications/Air/airtoolsweb/Advisories/, which includes the actual advisory, the start and end dates, the area, and status (expired, active) of the advisory. DEC will also post advisories on its relevant social media accounts, like Burn Wise Alaska Facebook page and Twitter.

In addition to providing notification when the opacity limits and/or curtailment requirements are in effect, the department plans to provide on-going public information on the opacity limits and ways that residents can comply. Difficulty meeting opacity limits could be due to wet wood. Under state regulation, residents are required to use dry wood during winter months.

Residents will be directed to department-registered wood sellers that either disclose the moisture content of purchased wood or agree to provide dry wood. Brochures on proper maintenance and operation of a solid fuel-fired device are also available. To the extent that DEC resources allow, staff can assist residents who request help in determining in advance of episode conditions whether their typical burning operations meet the opacity limits outlined in this plan.

If a resident is found to be out of compliance with the opacity limits or curtailment requirements identified for a specific episode, DEC is responsible for taking actions to enforce the state requirements. The department's compliance activities are conducted using the tools and authorities provided under the state statutes. The Division of Air Quality does not have statutory authority to issue administrative penalties for violations of Alaska environmental law. This means that DEC staff cannot simply write "tickets" to individuals that are found to be violating the opacity limits. All compliance and enforcement activities are case specific, however, DEC generally initiates compliance activities in response to observations made during burn curtailment events or in response to complaints received that indicate the potential for violations of a state regulation. DEC staff investigate complaints to verify or corroborate a problem or violation of a state requirement. In most cases, the department finds that compliance can be achieved through assistance to businesses and individuals in understanding the regulatory requirements and how they can comply. In the case of problem burners failing to meet these opacity levels during air quality episodes, it is important to bring a unit into compliance quickly to reduce smoke and assist in bringing levels of $PM_{2.5}$ into compliance in the local area. In the event that compliance assistance is not successful in resolving a recurring smoke concern at a specific residence or business, the department staff may use additional administrative enforcement tools, such as nuisance abatement orders or Notices of Violation, to address the concern.