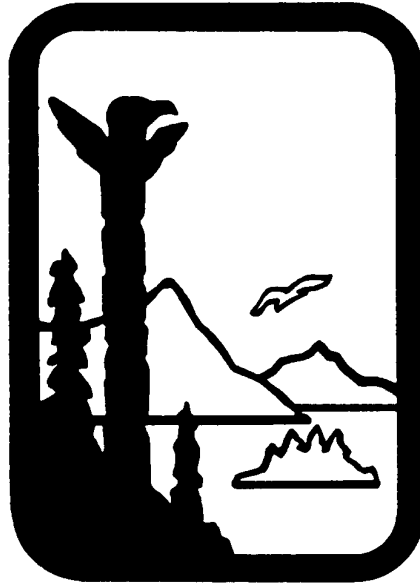


**ALASKA DEPARTMENT OF  
ENVIRONMENTAL CONSERVATION**



**18 AAC 50 AIR QUALITY CONTROL**

Response to Comments on June 2<sup>nd</sup>, 2016 Proposed  
Regulations Changes and State Air Quality Plan Amendments

September 7<sup>th</sup>, 2016

**Bill Walker, Governor**

**Larry Hartig, Commissioner**

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**Introduction**

This document provides the Alaska Department of Environmental Conservation's (ADEC) response to public comments received regarding its November 14, 2014 draft regulations pertaining to open burning, the state air quality control plan for the Fairbanks North Star Borough nonattainment area, wood-fired heating device visible emissions standards, solid fuel fired heating device fuels, commercial wood seller disclosure program, and fine particulate matter (PM<sub>2.5</sub>) air episodes and advisories.

The details describing the proposed regulation changes are presented in ADEC's public notice dated June 2, 2016. ADEC received comments in the form of emails, hand written comments received at ADEC's open houses, and oral testimony at ADEC's public hearings.

This document responds to individual comments from the Environmental Protection Agency (EPA) and aggregated comments from the public. For each section of the proposed regulations and for the SIP, this document summarizes the comments received and provides ADEC's response.

**Opportunities for Public Comment**

The public notice dated June 2, 2016 provided information on the opportunities for the public to submit comments. The deadline to submit comments was July 28, 2016 at 5:00 p.m. This provided a 56 day period for the public to review the proposal and submit comments.

Opportunities to submit written comments included submitting electronic comments using the Air Quality Division's online comment form, submitting electronic comments via email, submitting written comments via facsimile, and submitting written comments via email.

Opportunities to submit oral comments included three simultaneous daytime public hearings held in Fairbanks, Anchorage, and Juneau and an evening hearing held in Fairbanks on July 14, 2016. The hearings provided the opportunity for the public to submit oral comments.

## Direct Comments from EPA and ADEC Responses:

### Air Quality Control Zones

#### EPA Comment (1a):

The proposed rule revisions would divide the Fairbanks PM<sub>2.5</sub> nonattainment area into three “air quality control zones”: North Pole, Fairbanks, and Goldstream. While this would give ADEC flexibility to target actions according to the circumstances in each air quality control zone, it is unclear how air episodes would be declared for the Goldstream zone because it does not have the required monitor (BAM) to provide the measurements upon which an air episode is based, as required by the Fairbanks Plan.

#### Response:

ADEC has made clarifications in the SIP chapter III.D.5.11 to address this question. Air quality episodes encompass the whole nonattainment area, including Goldstream Valley. Episode announcements must identify the areas affected by a prohibition on the use of solid fuel-fired heating devices. Before declaring a prohibition on the operation of solid fuel-fired heating devices in each air quality zone during an air quality episode, ADEC will use a variety of sources of information including air quality monitoring data from ADEC-approved BAM or other monitoring equipment, meteorological data, strength and potential duration of an inversion, and other information to determine if a curtailment is a reasonable approach to obtain an air pollution reduction. If ADEC determines a curtailment action is unreasonable in any of the three zones, it will exempt the zone from any curtailment requirements identified in the episode announcement. ADEC will only exclude a zone if, in its judgement, a curtailment action is unreasonable or is not expected to provide meaningful emissions benefits in the zone.

#### EPA Comment (1b):

The Fairbanks Plan describes that air advisories, unlike air episodes, may be called in areas without air quality monitors when ADEC finds that air quality conditions exist that might threaten public health (*see* III.D.5.11-4). To be more protective, the EPA recommends that ADEC include ways to declare air episodes when parts of Fairbanks are more polluted than the downtown BAM locations.

#### Response:

ADEC has clarified that 24-hr average concentration from any monitoring data approved by ADEC can be used to call an episode.

#### EPA Comment (1c):

In the Fairbanks Plan discussion about air quality control zone boundaries (*see* III.D.5.3-3), ADEC used FRM data to support the need for different zones; however, there are non-regulatory monitors around Fairbanks that ADEC could use to develop a conceptual model of air concentrations around the nonattainment area. Those monitors would likely show higher concentrations in parts of Fairbanks than might otherwise appear from just the NCORE and State Office Building FRM data. The EPA encourages ADEC to use all available data to develop the most comprehensive and defensible conceptual model of air pollution in the nonattainment area.

#### Response:

ADEC has clarified that 24-hr average concentration from any monitoring data approved by ADEC can be used to call an episode.

## Air Episodes and Air Advisories:

### EPA Comment (2a):

It is unclear how the opacity limits are triggered. In 18 AAC 50.075(a)(2), the trigger is an “air quality advisory”, which as discussed in section 1.b. above, may be called without air quality monitors:

“...visible emissions that exceed 20 [50] 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.”

However, according to the Fairbanks Plan, the opacity trigger is based on monitored values and the term “episode” is used:

“For purposes of triggering the opacity regulations, PM<sub>2.5</sub> episodes within the FNSB PM<sub>2.5</sub> nonattainment area shall be initiated at a 24-hour average concentration of [30] 25 µg/m<sup>3</sup> based on a 24-hr rolling average of the 1-hr BAM measurements.”

(See III.D.5.11-7).

This is further complicated by table 5.11-1 of the Fairbanks Plan because the table title and column heading say “episode,” and the table lists “air advisory” under the “episode” column (in addition to other types of “episodes”). Also, the term “alert” is not always clear. In one instance, the term “episode alert” is used (see page III.D.5.11-7) and in another instance, alert is a type of advisory along with “episode” (see the term all “all advisories (alert and episode)” on page III.D.5.11-9). It is also unclear what an “episode announcement” is and how it differs from an “alert”. For example, both of the following phrases refer to where the opacity limit is set, one refers to the alert and the other to the announcement:

- “...and within the alert identify the specific opacity limit that is in effect” (see page III.D.5.11-7), and
- “...opacity limits identified in the episode announcement” (see 18 AAC 50.075(d)(1)).

The EPA suggests clarifying how opacity limits are triggered, clarifying the terms episode, advisory, alert, and announcement (using a numbered stage system may be clearer to the public), as well as ensuring the correct term is being used in each instance.

### Response:

ADEC has addressed the inconsistency identified by replacing the term ‘episode’ with ‘advisory’. The 20% opacity requirement will be triggered at the lowest concentration – an advisory at 25 µg/m<sup>3</sup> and will also apply to all air quality episode types.

Addressing issues regarding the use of the terms episodes and advisories and replacing them with a numeric system would require amendments to areas within 18 AAC 50 and SIP chapters that are currently not under the proposed amendments. ADEC has clarified the language in the portions of the SIP open in this rulemaking and will consider making additional changes in a future rule making proposal. For example, ADEC may consider making changes to more closely match FNSB terminology in future proposals. Aligning more closely with FNSB terminology would be less confusing for the public than having ADEC use a new system.

### EPA Comment (2b):

Because clean burning practices are an important aspect of wood heating emissions reduction efforts, the EPA suggests that ADEC consider applying the opacity limit without a triggering mechanism. Burning properly is a habit that can occur year-round rather than only on high pollution days. The Fairbanks North

Star Borough (the Borough) rules have such provisions, as do other areas with wood heating-related air quality issues.

Response:

Requiring 20 percent opacity at all times and not only during advisories, while required under Borough ordinances, is beyond the scope of the proposed rules. 18 AAC 50.075 (a)(2) is a statewide regulation and would require substantial modification requiring re-proposing the rules. ADEC will consider this option in a future rule making proposal.

EPA Comment (3a):

The proposed rule revisions at 18 AAC 50.075(e) contain cross references to narrative content in the Fairbanks Plan. The referenced content in the Fairbanks Plan specifies when and how State rules will be applied and is therefore regulatory in nature. Specifically, the Fairbanks Plan sets out key program elements including triggers for declaring air episodes, limits on opacity, temperature thresholds, and exceptions to solid-fuel heating device restrictions. Given the regulatory nature of the Fairbanks Plan narrative and the limitations it places on ADEC's implementation of the State rules, the EPA requests that ADEC provide a clear explanation of its legal authority to implement and enforce narrative content contained in the Fairbanks Plan. ADEC's response to this request will also assist the EPA in its review of the December 2014 SIP submission. Please clarify how these requirements and the Fairbanks Plan work together.

Response:

A number of statutes provide ADEC with the legal authority to implement and enforce the State Implementation Plan. First, Alaska Statute 44.46.020 identifies the duties of the department, specifically (a)(2) "...primary responsibility for the adoption and enforcement of regulations setting standards for the prevention and abatement of ... air pollution...". Additionally statute 46.14.030 regarding the State air quality plan: "The department may adopt regulations necessary to implement the state plan." Furthermore, statute 46.14.010 regarding emission control regulation, "... the department may adopt regulations under this chapter establishing ambient air quality standards, emission standards, or exemptions to implement a state air quality control program required under 42 U.S.C. 7401 – 7671q (Clean Air Act), as amended, and regulations adopted under those sections."

As mentioned, 18 AAC 50.075(e) contains cross references to the State Implementation Plan where the Fairbanks Plan is located in Section III. D.5. Alaska Statute 44.62.245, allows agencies to incorporate documents by reference provided the material is public noticed and follows the Administrative Procedure Act. (APA). The Alaska Department of Law, within their *Drafting Manual for Administrative Regulations* (2015, pg. 79), states "Adopting material by reference in a regulation makes that material itself a regulation." Therefore, the State of Alaska and ADEC enforces its regulations, which include the SIP and the Fairbanks Plan, under Alaska Statutes 46.03.760 (Civil action for pollution; damages) and 46.03.761 (Administrative penalties). These statutes explicitly allow for enforcement of a regulation and have been included as an appendix to this document.

Regarding how the regulations in 18 AAC 50 and the SIP work together; the regulations set the framework, and the SIP provides the details.

EPA Comment (3b):

In the Fairbanks Plan, it is unclear what the "more stringent visible emission or opacity limits" are and how they relate to the regulations.

“For the FNSB nonattainment area, ADEC is setting set a specific air quality episode- level concentrations above which more stringent visible emission or opacity limits must be met.” (*see* III.D.5.11-7).

The EPA recommends clarifying the term “more stringent” and how such determinations will be made. It may be that the references to more stringent visible emission or opacity limits are not relevant anymore, in which case, these references need to be revised. Also, the “s” should be removed from “concentrations.”

Response:

ADEC has clarified that the increased stringency associated with the opacity limit during advisories, when compared to requirements statewide, has to do with the lowered advisory threshold and not the opacity limit.

### **Temperature Exception**

EPA Comment (4):

The temperature exception for prohibiting the operation of solid fuel-fired heating devices may have an adverse impact on the effectiveness of the curtailment program. The EPA’s preliminary review of air quality data indicates that the majority of monitored values exceeding 35 µg/m<sup>3</sup> in the Fairbanks air quality control zone tend occur at or below -15 °F. The EPA recommends that ADEC consider ways to reduce emissions from wood burning at temperatures below -15 °F so that polluted conditions are eliminated in Fairbanks as well as in North Pole. The EPA also suggests clarifying how the -15 °F temperature is determined, e.g. average daily temperature, any temperature reading below -15 °F in a day, any temperature reading below -15 °F in the most recent 24-hour period, etc.

Response:

There are control measures within the plan that reduce emissions during periods of extreme cold that remain unaffected by the temperature threshold, such as the opacity limit during advisories and episodes. The temperature threshold is only for prohibitions of the operation of solid fuel-fired heating devices. Residents use solid fuel-fired heating devices in addition to lower-polluting devices such as oil-fired heaters due to the extreme cold temperatures. At this time, ADEC will adopt the temperature threshold in the Borough episode program and its approach to implementing a curtailment program for the first time in this community. Nothing precludes reducing the temperature trigger threshold in the future should the community wish to do so.

### **Borough Episode Program and Enforcement for the Curtailment Program**

EPA Comment (5):

The Fairbanks Plan describes the Borough Episode Program and the January 2015 amendments to Borough Code Chapter 8.21. In the previous December 2014 SIP submittal for the Fairbanks PM<sub>2.5</sub> attainment plan, ADEC included the Borough’s ordinance in the submission. Although the Fairbanks Plan discusses the January 2015 amendments to Borough Code Chapter 8.21, it is unclear whether ADEC intends to include these amendments for adoption into the SIP. Because the January 2015 amendments strengthen Borough Code Chapter 8.21, the EPA strongly recommends that ADEC adopt the Borough’s current program and include it in the proposed revisions to the SIP.

Response:

ADEC has referenced all of the Borough ordinances that strengthen the Borough Code since the adoption of the 2014 moderate area plan.

**PM<sub>2.5</sub> Triggers and Enforcement Program**EPA Comment (6):

In the EPA's experience with other areas that have wood heating-related air quality issues, those areas that were successful in addressing nonattainment problems had strong and locally-visible enforcement programs and had PM<sub>2.5</sub> trigger levels that are lower than those in the ADEC proposed rules. The lower trigger level allows more time for the control measures to take effect and this has an increased likelihood of preventing an exceedance. The EPA recommends lowering the PM<sub>2.5</sub> trigger levels for prohibiting the operation of a solid-fuel fired heating device to below the 35 µg/m<sup>3</sup> 24-hr standard and including a strong enforcement program.

Response:

At this time, ADEC will follow the lead of the FNSB in its approach to implementing a curtailment program for the first time in this community.

**Declaring an Air Episode**EPA Comment (7):

The proposed revisions to 18 AAC 50.075(e) provide that ADEC "may" prohibit operation of a solid-fuel fired heating device when a PM<sub>2.5</sub> air episode has been declared. The EPA notes that the use of the word "may" could result in the interpretation that the curtailment program is voluntary.

Response:

18 AAC 50.075(e) is a statewide regulation that establishes the framework to prohibit operation of solid-fuel fired devices. ADEC has clarified in the emergency episode plan chapter when it will call a curtailment in a state run program.

## Aggregated Comment Summaries and ADEC Responses:

### General Comments

#### Comment:

Proposal does not meet Clean Air Requirements to implement Reasonable Available Control Measures (RACM), a requirement for moderate area nonattainment area plans, and Best Available Control Measures (BACM), a requirement for serious nonattainment area plans.

#### Response:

ADEC has not conducted a new control measure analysis as part of this proposal, an analysis of control measures was conducted and submitted as part of the original moderate area SIP. The intent of these amendments was to adopt more stringent measures that are already being implemented at the local level by the FNSB into the air quality plan.

These amendments are to the moderate area plan. The Clean Air Act does not require BACM for moderate areas. After EPA reclassifies the FNSB from moderate to Serious, ADEC must develop and provide for the implementation of BACM. A BACM analysis will be included in a future proposal for the serious area plan.

#### Comment:

ADEC should adopt all elements of the Fairbanks North Star Borough's air quality program into the state implementation plan. Adopting all elements will allow the area to receive credit for local efforts from EPA.

#### Response:

As stated in the public notice : "The proposed regulations and State Implementation Plan (SIP) amendments incorporate elements of local ordinances enacted by the FNSB Assembly allowing their use in meeting federal Clean Air Act requirements for the FNSB Nonattainment Area." It was ADEC's intent to incorporate local ordinances into the SIP. In response to this comment, ADEC has expanded the descriptions of the Borough measures within the two SIP sections that were out for public comment: III.D.5.07 – Control Strategies and III.D.5.11 – Emergency Episode Plan.

#### Comment:

Proposal and regulations are complex and difficult for the public to understand or comply with regulations. Differences between the Borough terminology and State terminology should be aligned.

#### Response:

Where possible, and within the scope of this proposal, ADEC has clarified the distinction between an air quality advisory and air quality episode in response to this and other comments. ADEC maintains and will continue to maintain its webpages that summarize and describe air quality regulations for the nonattainment area, including <http://burnwise.alaska.gov/requirements.htm>. ADEC will continue to update these webpages with clarifications and additional details for the public to help the public understand the intent and implementation of the regulations and SIP. ADEC is unable, due to the limited scope of this proposal and the extensive use of terminology in other sections of 18 AAC 50 and SIP

chapters, to align Borough and State terminology. ADEC may consider making changes to more closely match Borough terminology in future proposals.

### **General Comments Outside of the Scope of the Proposal**

Comment:

The MOU between ADEC and the Borough is no longer in effect and there is little coordination between ADEC and the Borough in implementing air quality programs.

Response:

The MOU between ADEC and the FNSB is still in effect and both parties are working cooperatively to amend the agreement to reflect ADEC's takeover of the operation and maintenance of the regulatory and special purpose monitors from the Borough. ADEC and the Borough work cooperatively to develop and implement air quality plans and when investigating complaints while minimizing duplicative efforts.

Comment:

Best Available Control Technology (BACT), a requirement for major sources in a serious PM<sub>2.5</sub> nonattainment area, would be costly and ineffective at improving air quality during times of poor air quality. Commenters said that the costs of installing new control technologies on existing sources, such as power plants, would be passed on to residents. Commenters said that there would be negligible improvements in air quality due to tall stacks and that funds should, instead, be directed to programs such as the woodstove change out program to produce more meaningful emission reductions. Commenters requested ADEC and EPA work to waive the requirements of BACT and BACM for the upcoming serious SIP.

Response:

This comment is outside the scope of the proposal. ADEC must meet statutory Clean Air Act requirements.

Comment:

Strengthen the Borough air quality program.

Response:

ADEC is incorporating Borough ordinances that have strengthened the Borough air quality program into the SIP. ADEC values the local air quality planning efforts.

Comment:

Ban hydronic heaters and other polluting devices, require cleaner heating fuels.

Response:

This is outside of the scope of the proposal.

Comment:

The proposed regulations and proposal do not demonstrate an ability to enforce the air quality program. ADEC should petition the legislature for ticketing authority. ADEC should revise SIP section 5.12 Assurance of Adequacy.

Response:

While ADEC Air Quality does not have authority to issues tickets, ADEC does have the statutory authority to enforce its regulations and SIP through other civil and criminal enforcement tools.

## Regulations Comments and ADEC Responses:

### **18 AAC 50.025 – Visibility and other special protection areas**

#### Summary of Proposal:

Amend 18 AAC 50.025 to establish three “air quality control zones” within the Fairbanks PM<sub>2.5</sub> Nonattainment Area: Goldstream, Fairbanks, and North Pole to allow for the development and implementation of sub-area-specific control measures to tailor responses to individual air quality pollution events.

#### Summary of Comments:

Some commenters supported dividing the nonattainment area to allow for sub-area-specific control measure implementation, saying that it would focus enforcement and education efforts to polluted areas while allowing residents in unaffected areas to continue to offset heating costs by using solid fuel-fired devices.

Other commenters said that the area should not be divided and that control measures in response to poor air quality should apply throughout the nonattainment area to be protective of human health. Commenters noted that there was no BAM monitor in the Goldstream Zone and suggested that ADEC would be unable to call episodes or advisories in the Goldstream area. Commenters said there was a lack of representativeness of the existing air quality monitors of air quality throughout an entire zone. Commenters used reports of air quality monitoring data, sniffer vehicle data, and accounts of complaints and enforcement cases in hotspot areas throughout the area to support these statements. Commenters said that applying sub-area controls could exacerbate air pollution in a neighboring zone due to transport of air pollutants between zones. Commenters suggested an approach that would exempt a zone from curtailment only if data indicated all portions of a zone fell below a triggering threshold, commenters said that existing monitoring strategy could not provide this information and therefore ADEC should not use sub-area control measures. Commenters said that area-wide control measures should be implemented during air pollution events and that episodes and advisories should be based on data from any monitoring source, not just regulatory monitors.

#### Comments Related to Public Process:

Commenters said the proposal did not adequately present the public with information needed to evaluate the proposed regulation such as maps of the actual locations of monitoring sites specifically noted within the regulations.

#### Response to Comments:

Where possible, and within the scope of this proposal ADEC has clarified the episode and advisory program in the SIP to address these comments. The Borough is responsible for issuing alerts and advisories under its program, ADEC will only declare advisories or episodes if the Borough is unable to continue its program. Under the regulatory framework, PM<sub>2.5</sub> advisories could be called for individual zones because 18 AAC 50.246 allows ADEC to consider monitoring data or meteorological data. ADEC would not need a monitor to declare an advisory in Goldstream Valley because it has the authority to declare advisories based on other types of information. Visible emission limitations of 20% become effective during advisories. Episodes must be declared based on monitoring data and apply to the entire nonattainment area, including Goldstream Valley. Before declaring a prohibition on the operation of solid

fuel-fired heating devices in each air quality zone during an air quality episode, ADEC would 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 ADEC would 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 zone, especially if weather conditions indicate a clearing prior to any effect of a curtailment could be realized. ADEC would 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.

State air quality monitors are sited based on federal regulatory requirements. However, ADEC has expanded descriptions of the Borough program that includes a recent development in the local air quality program that will help to provide data in currently unmonitored locations throughout the Borough's air quality control zone. The low cost monitoring network would place monitors at locations determined by the Borough based on a variety of information that could include sniffer vehicle data and air quality complaints. While ADEC would only issue advisories and episodes if the Borough were unable and the Borough monitors may be nonoperational in the event ADEC implements its program, ADEC has included the flexibility to use data from monitors other than Beta Attenuation Monitors (BAMs) when issuing episodes and advisories and prescribing control measures during air pollution events. These monitors should help to address concerns of the representativeness of current regulatory monitor data of conditions throughout the nonattainment area and help the Borough and ADEC better understand air pollution events in the area while they are operational.

ADEC made maps of the proposed zones available in SIP chapter III.D.5.03 which was displayed on the proposal's webpage beginning on the date the proposal was public noticed. III.D.5.03 provides detailed descriptions and maps of the proposed zones. ADEC does not include the locations of the monitoring sites in the regulations because those details are addressed in the annual network plan developed by ADEC and approved by EPA. While including the monitoring sites in the regulations would provide an avenue for the public to provide feedback, it would be cumbersome and limit the flexibility of ADEC, if it were required to implement its program, to use additional monitoring data from other monitors and sites that may become operational in the future.

#### Related Comments Outside of the Scope of the Proposal:

Commenters requested that ADEC or EPA expand the nonattainment area boundary to include areas outside of the current boundary including the communities of Moose Creek, Chena Hot Springs, Fox, Ester, and Rosie Creek.

Commenters reported elevated PM<sub>2.5</sub> levels from solid fuel-fired heating devices in Moose Creek that caused negative health and welfare impacts. Commenters noted that current air monitoring efforts and control measures do not quantify or address PM<sub>2.5</sub> pollution in the area and requested the state or Borough take action to address PM<sub>2.5</sub> pollution in Moose Creek.

Commenters reported air quality monitoring history of locations and duration of monitoring at sites within the nonattainment area and noted that there was no public process involved in developing a monitoring plan. Commenters requested a more expansive air quality monitoring network and the operation of PM<sub>2.5</sub> chemical speciation monitors in areas with the highest recorded PM<sub>2.5</sub> concentrations to allow ADEC to tailor control measures to address specific sources.

#### Response to Comments Outside of the Scope of the Proposal:

For ADEC to alter the boundaries of the nonattainment area, it would need to prepare and submit a request that examined a variety of factors related to the areas outside of the nonattainment areas. ADEC has not prepared or submitted a request to EPA to expand the boundary to include the suggested communities. The FNSB is the lead for air quality planning, and areas of concern that are outside the nonattainment area but are within the Borough boundaries also fall under its jurisdiction. ADEC encourages residents to address these concerns to the FNSB Air Quality program and Assembly. There is nothing that precludes action by the local community to expand their efforts and programs beyond the formal nonattainment boundary.

ADEC encourages residents to report violations of air quality regulations and ordinances and submit complaints related to poor air quality. ADEC and the Borough air quality staff respond to and investigate complaints with the enforcement tools available to each agency. Complaints may be submitted online at <https://dec.alaska.gov/Applications/Air/airtoolsweb/Complaints>.

Due to recent Borough decisions, ADEC is now responsible for conducting monitoring at the regulatory and special purpose monitors. Budgetary restraints limit the number of monitors that ADEC can deploy and reduces our ability to conduct extensive data analysis such as speciation in the requested areas. A recent Borough assembly ordinance (2016-20-1A) has provided funding for the development of a “Community-Based Air Quality Monitoring Program” that would provide additional monitoring in the area. Residents are highly encouraged to work with Borough staff with regards to the mobile monitors that they will be using this winter.

## **18 AAC 50.030 – State air quality plan**

### Summary of Proposal:

Amend 18 AAC 50.030 to adopt revisions to the State Air Quality Control Plan in Volume II Section III.D.5: Fairbanks North Star Borough PM<sub>2.5</sub> Control Plan.

### Summary of Comments:

Some commenters suggested adopting the proposed SIP amendments into regulation while others suggested the SIP amendments did not meet Clean Air Act requirements.

### Response to Comments:

Please see the section of this document that addresses general comments on this proposal and the section that address specific SIP amendments.

### Response to Comments Outside of the Scope of the Proposal:

None.

## **18 AAC 50.075 – Wood-fired heating device visible emission standards**

### Summary of Proposal:

Amend 18 AAC 50.075 to lower visible emission standards for solid fuel-fired heating devices during air quality advisories.

### Summary of Comments:

Some commenters supported the proposal to lower the visible emission standard to 20% and extending it to all solid-fuel fired heating devices during air quality advisories and episodes.

Other commenters said applying a 20% visible emission limit only during air quality episodes and advisories was not protective of public health during other times throughout the year. Commenters assert that visible emissions are related to burning practices and that, instead of modulating opacity to meet a lower standard during episodes and advisories, device operators should develop proper burning habits that reduce emissions year-round. Commenters suggested the 20% opacity standard apply year-round as is done in many communities and that existing state regulations require coal-fired devices to meet a 20% visible emissions limit year-round. Commenters said that requiring 20% visible emissions year round for all types of solid fuel-fired heating devices would be simpler to enforce and more effective at reducing air pollution.

#### Response to Comments:

ADEC has added the clarifying language to III.D.5.7 describing the Borough's air quality ordinances that include a year-round visible emissions limit of 20% on all non-mobile sources. ADEC is unable to adopt this requirement into state regulations at this time due to the structure of the existing regulatory framework and the scope of this proposal. ADEC may consider adopting a 20% visible emission limit that would apply year-round throughout the nonattainment area in a future regulatory proposal.

#### Related Comments Outside of the Scope of the Proposal:

Commenters said that exceptions to the visible emission limit including during start-up and refueling periods and exemptions for technical and economic hardship reasons were unwarranted or improperly implemented by the Borough compared to other states.

#### Response to Comments Outside of the Scope of the Proposal:

This comment is outside the scope of the proposal, the proposal dealt only with lowering the opacity limit and not the framework to provide exemptions to the requirement. See the response to comments received as part of the 2014 regulatory proposal for ADEC's explanation of how it would evaluate requests for an exemption from opacity requirements:

With respect to the waiver provisions proposed by the department, the department plans to revise the waiver requirements to only allow for temporary waivers. Revisions will also be made to add criteria and factors for agency consideration in granting a waiver that take into account potential health impacts and the nonattainment status of the community. It is expected that waivers will not be considered until mitigating measures have been implemented by the owner/operator to comply with the requirements. While the department does not plan to public notice waiver actions, it does plan to provide records of waivers issued on its internet site. Waivers under this section of the regulation will only apply to the requirements of 18 AAC 50.075(d) and do not provide any protection to owners/operators that fail to comply with other regulatory provisions of 18 AAC 50.

- [http://dec.alaska.gov/air/anpms/comm/docs/fbxSIPpm2-5/2014\\_PM25\\_Response\\_to\\_Comments.pdf](http://dec.alaska.gov/air/anpms/comm/docs/fbxSIPpm2-5/2014_PM25_Response_to_Comments.pdf)

ADEC's regulations allow a local air quality program to issue waivers. The No Other Adequate Source of Heat (NOASH) waivers issued by the Borough apply only to the requirements associated with a prohibition on the operation of a solid fuel-fired heating device during air quality episodes. NOASH waiver recipients must comply with all other air quality ordinances, including the Borough's year-round 20% visible emission limitation.

**18 AAC 50.076 – Solid fuel-fired heating device fuel requirements; registration of commercial wood sellers**Summary of Proposal:

Amend 18 AAC 50.076 to add to the list of materials that cannot be burned in a solid fuel-fired heating device.

Summary of Comments:

Commenters supported the addition of materials to the list of prohibited burn items but requested the addition of additional materials. Commenters reported air pollution from tire burning in an outdoor wood boiler and supported adding tires to the list of prohibited burn items, suggesting it would give DEC better ways to abate air pollution issues caused by burning prohibited materials. Commenters suggested adding “carpet” to the list of prohibited materials.

Response to Comments:

Carpet is already being added under the proposed amendments as a prohibited burn item under the category of “flooring products” in 18 AAC 50.076(c)(9). Simply prohibiting flooring products may be more understandable to the public and prohibits burning carpet, as well as other flooring materials including linoleum flooring, vinyl flooring, laminate flooring, and wood flooring.

Related Comments Outside of the Scope of the Proposal:

ADEC has demonstrated lack of enforcement on operators that burn materials such as tires.

Response to Comments Outside of the Scope of the Proposal:

The situation referenced by the commenter occurred prior to the adoption of fuel requirements by ADEC in January of 2014. ADEC and the Borough now have a clear regulatory framework to respond to these types of situations and routinely respond to complaints of the use of improper fuels.

**18 AAC 50.077 – Standards for wood-fired heating devices**Summary of Proposal:

Amend 18 AAC 50.077 to prohibit the reinstallation of wood-fired hydronic heaters and woodstoves that do not meet emissions standards within a nonattainment area.

Summary of Comments:

Commenters supported clarifying 18 AAC 50.077 to prohibit the reinstallation of wood and pellet-fired hydronic heaters and stoves in the nonattainment area. Commenters also suggested additional amendments to 18 AAC 50.077 that are beyond the scope of this proposal.

Response to Comments:

ADEC agrees that, as proposed, the amendment will clarify the existing regulation.

Related Comments Outside of the Scope of the Proposal:

Commenters suggested expanding 18 AAC 50.077 requiring all solid fuel-fired heaters, similar to the proposed amendments to 18 AAC 50.075. Commenters also suggested changes to the waiver requirements in 18 AAC 50.077(h)(3) to make them more protective of public health.

Response to Comments Outside of the Scope of the Proposal:

ADEC's proposal dealt only with clarifying an existing regulation to prohibit reinstallation of wood-fired hydronic heaters and wood stoves. The existing regulation requires devices to meet certain emission standards, ADEC relies on compliance data reported by EPA when determining what devices meet the standards. EPA has not promulgated a New Source Performance Standard (NSPS) for all types of residential solid fuel-fired heating devices. ADEC is unable to evaluate emissions from other device types and is unable to develop emission standards due to this lack of data. ADEC may consider addressing these suggestions in a future proposal.

The waiver process in 18 AAC 50.077(h)(3) deals with the requirement to replace or remove non-listed wood-fired heating devices upon the sale, conveyance, or lease or a property in the nonattainment area. See ADEC's response to comments received during the 2014 regulatory proposal for more information on the waiver process:

Based on the comments received, the department plans to revise the waiver requirements to only allow for temporary waivers. Revisions will also be made to add criteria and factors for agency consideration in granting a waiver that take into account potential health impacts and the nonattainment status of the community. While the department does not plan to public notice waiver actions, it does plan to provide records of waivers issued on its internet site. Waivers under this section of the regulation will only apply to the requirements of 18 AAC 50.077 and do not provide any protection to owners/operators that fail to comply with other regulatory provisions of 18 AAC 50.

- [http://dec.alaska.gov/air/anpms/comm/docs/fbxSIPpm2-5/2014\\_PM25\\_Response\\_to\\_Comments.pdf](http://dec.alaska.gov/air/anpms/comm/docs/fbxSIPpm2-5/2014_PM25_Response_to_Comments.pdf)

ADEC has expanded the descriptions of the Borough measures within III.D.5.07 – Control Strategies to clarify the emission standards that apply to all solid fuel-fired heating devices within the Borough program. The emission standards require devices to have EPA-certification or undergo Borough-approved testing to demonstrate the device meets emission standards. The Borough program effectively prohibits the installation of solid fuel-fired heating devices other than pellet-fired hydronic heaters and wood and pellet stoves due to the cost and complexity of emission testing.

ADEC's regulations allow a local air quality program to issue waivers. The No Other Adequate Source of Heat (NOASH) waivers issued by the Borough apply only to the requirements associated with a prohibition on the operation of a solid fuel-fired heating device during air quality episodes. NOASH waiver recipients must comply with all other air quality ordinances designed to be protective of public health.

## State Air Quality Control Plan Comments and ADEC Responses:

### **III.D.5.03 – Non-Attainment Area Boundary and Design Episode Selection**

#### Summary of Proposal:

Incorporate descriptions of the boundaries of the proposed Goldstream, Fairbanks, and North Pole air quality zones and present data show the design value disparity between Fairbanks and North Pole monitors.

#### Summary of Comments:

Please see the section summarizing and responding to comments on the proposed amendments to 18 AAC 50.025 on page 12.

### **III.D.5.07 – Control Strategies**

#### Summary of Proposal:

Amend SIP Chapter III.D.5.7 to update the description of federal efforts to reduce wood smoke pollution following the final NSPS for wood-fired heating devices, update language to reflect the proposed 20% visible emission limits for solid fuel-fired heating devices during advisories, update language to reflect the lowered triggering threshold to 25  $\mu\text{g}/\text{m}^3$ , and include a reference to the Emergency Episode Plan Chapter III.D.5.11 that reflects updates to the Borough's ordinances regarding air pollution control.

#### Summary of Comments:

Commenters requested the addition of all of the Fairbanks North Star Borough's ordinances related to air quality be included in the control measure chapter to accurately reflect efforts at the local level in the SIP. Commenters said this would allow EPA to evaluate the control measures and efforts as part of its review of the moderate area SIP.

#### Response to Comments:

To respond to this comment, ADEC has included additional language in this chapter that describes air quality control measures and efforts by the Borough and references specific Borough ordinances that have been adopted following the submission of the moderate area SIP in 2014. See sections III.D.5.7.2, 5.7.2.1, and 5.7.2.2 for these changes. ADEC also added clarification in 5.7.2.2 to reference an existing contingency measure in 5.10 that requires change out or removal of wood-fired heating devices as part of real estate transactions following EPA's anticipated reclassification of the area as serious following the inability of the area to attain the National Ambient Air Quality Standards (NAAQS) by the December 31, 2015 attainment deadline.

#### Related Comments Outside of the Scope of the Proposal:

Commenters addressed a variety of topics contained in the Control Strategies chapter that were beyond the scope of this proposal including Reasonably Available Control Technology (RACT), Reasonably Available Control Measures (RACM), and reasonableness of control measure benefits.

Commenters said RACT and RACM did not meet federal requirements. Commenters said that the moderate area RACT analysis did not provide for the lowest emissions from large stationary sources.

Commenters also felt that controls on wood-fired heating devices under RACM were not mandatory or enforceable and that they incentivized coal-fired heating devices. Commenters addressed the hydronic heater retrofits performed by the Alaska Resource Agency (ARA) and said that the emission reduction credit attributable to the program should be removed. Commenters also argued that control measures dealing with expanded availability and use of natural gas and the Alaska Housing Finance Corporation Weatherization Program were unrealistic and should not be used to quantify emission benefits.

Response to Comments Outside of the Scope of the Proposal:

ADEC responded to comments received as part of the 2014 regulatory proposal regarding RACT and RACM. The response is included below:

The Reasonably Available Control Measures (RACM) analysis conducted for this plan reviewed many control options from other areas of the country. In some cases, the Fairbanks situation differs significantly from those of other jurisdictions. For example, the extreme cold temperatures, heating needs, fuel costs, and types of fuel available in the Fairbanks area are strikingly different than in many of the other PM<sub>2.5</sub> areas. Measures implemented in other states, may not be reasonable to implement in the Fairbanks area. Some of the commenter's suggestions are variations on control measures that were considered but not determined to be feasible at the time this plan was developed. Other suggestions could be considered as part of the public outreach and education programs in the community or may be part of implementation considerations for programs. Additional detailed responses to comments on the RACM analysis are included later in this section. In the end, for progress to be made in reducing air pollution, the community must be willing to accept control strategies and act on them. Control measures that face opposition by roughly half the community cannot be implemented with a reasonable amount of effort and with a reasonable expectation of success. The vote in the latest election to reject the ballot initiative restricting the FNSB's authority to address home heating device emissions and fuels, appears to indicate that there is greater recognition of the need to address air pollution issues locally but the vote was still a close outcome and it is clear that concerns remain for many individuals on both sides of this important issue. Additional detailed comments and responses on RACT and RACM are included near the end of this document.

With respect to the inclusion of the Alaska Resource Agency program in the analysis of emission benefits presented for this plan, the department did not change the plan to remove the small amount of emission benefit identified for this program. This program did occur during the time frame covered by this plan and may have resulted in some short term benefits. The department concedes that the long term benefits of the program are not well known and the department is willing to consider removing the benefits from this program based on new data in future plans. However, removing the credit in this plan will not change the determination that it is impracticable for the area to attain by the 2015 moderate area attainment deadline. The control of point sources was the subject of a Reasonably Available Control Technology assessment conducted as part of the planning process. The point sources in the nonattainment area are well controlled for direct PM<sub>2.5</sub> emissions placing focus for potential control on precursor emissions, which account for a much smaller percentage of the overall PM<sub>2.5</sub> in the area. The coal-fired point sources in the area currently use extremely low sulfur coal for fuel. The costs of add on controls, both exhaust scrubbers and shifting to lower sulfur content fuels, were assessed and determined to be unreasonable given their small impact on ambient PM<sub>2.5</sub> concentrations. Additional detailed responses to comments on point source control are included later in this section.

With respect to concerns overall about the enforceability of measures and enforcement methods, ADEC has clearly laid out in the air quality plan its current authorities and general approaches to compliance activities and enforcement of state regulations. The department appreciates the concerns expressed about the enforcement tools available to ADEC, but it is only through passage of statutory changes by the legislature that administrative penalties can be added to ADEC's suite of available compliance and enforcement tools for addressing compliance with air quality regulations. As ADEC does not currently have that authority, the agency notes that it does use the compliance and enforcement tools for which it is allowed under state statute. Further, ADEC also considers the potential compliance rates for various programs based on available data and its understanding of the effectiveness of its compliance and enforcement programs. The compliance rates assumed for regulatory measures when projecting emission benefits in the SIP are carefully considered to ensure that unrealistic rates of compliance are not factored into any attainment demonstration.

- [http://dec.alaska.gov/air/anpms/comm/docs/fbxSIPpm2-5/2014\\_PM25\\_Response\\_to\\_Comments.pdf](http://dec.alaska.gov/air/anpms/comm/docs/fbxSIPpm2-5/2014_PM25_Response_to_Comments.pdf)

Progress continues in the efforts to deliver natural gas to Fairbanks through the Interior Energy Project and the Alaska Housing Finance Corporation (AHFC) weatherization program, while no longer accepting applicants for the Home Energy Rebate due to budgetary realities, continues to offer free weatherization for low-income residents.

### **III.D.5.11 – Emergency Episode Plan**

#### Summary of Proposal:

Incorporate the Borough Episode program. Describe the episode plan that ADEC would implement if the Borough were unable to implement its program.

#### Summary of Comments:

Commenters said it was unclear if the SIP references FNSB code or adopts it as a state plan.

Commenters suggested using the highest monitored value to declare an episode that would apply to the whole nonattainment area. Commenters said existing monitors are not be not representative of hotspots and there would be no way to declare an episode for the Goldstream zone because there is no monitor in the zone.

Commenters said exceptions to curtailments based on device class, emission rating, or ambient temperature were not justified. Commenters said the program would be complex and expressed concern that exemptions to curtailments may not be temporary. Commenters asked how enforcement of the program would occur.

Commenters inquired if ADEC has calculated if there are any air quality benefits from the existing Borough program.

Commenters also said the regulation allowing for advisory and episodes was incongruent with the proposed SIP amendments.

#### Response to Comments:

ADEC is adopting a state program that would only go into effect if the Borough program were unable to continue. In that event, ADEC would only implement its own program. The SIP amendment includes the Borough program as a reference to current efforts to reduce air pollution, not as a commitment to continue the Borough program if the Borough is unable.

Where possible and within the scope of the proposal, ADEC has clarified its program, which would only go into effect if the Borough is unable to implement its plan. Currently, the Borough Episode program affects only the Fairbanks and North Pole zones. The ADEC episode plan would affect the entire nonattainment area. The regulatory framework allows ADEC to call zone-specific advisories based on air quality monitoring or meteorological data. A 20% opacity limit would apply during advisories and episodes. Episodes cannot be called for specific zones. ADEC would rely on monitoring 24-hour average monitoring data from a regulatory or other ADEC-approved monitoring equipment to call an episode for the whole nonattainment area. ADEC would then use a variety of sources of information to determine if a curtailment is a reasonable approach for each zone including air quality monitoring data from ADEC-approved BAM or other monitoring equipment, meteorological data, strength and potential

duration of an inversion, and other information regarding each zone. If ADEC determines a curtailment action is unreasonable in any of the three zones, it will exempt the zone from any curtailment requirements identified in the episode announcement. ADEC will only exclude a zone if, in its judgement, a curtailment action is unreasonable or is not expected to provide meaningful emissions benefits in the zone. The adopted framework allows ADEC to tailor burn curtailment requirements based on the severity of an individual air quality episode. The flexibility is important to help the public with a transition if the Borough discontinues its program and ADEC must implement its own. ADEC could replicate the requirements that residents are familiar with including the staged curtailment requirements and temperature threshold. ADEC would be able to mimic a discontinued Borough program by exempting certain devices from curtailment requirements based on the device class or emission rating. Device class refers to the type of device, types include woodstove, pellet stove, hydronic heater, coal-fired devices, and others. Emission ratings refer to EPA-published annual average particulate matter emission rates for EPA-certified or Phase 2-qualified devices. ADEC's program would allow for a multi-staged curtailment program that reflects the current Borough program where, for example, uncertified woodstoves may be subject to a curtailment while EPA-certified woodstoves are not. ADEC's enforcement strategies and authority remain unchanged under the ADEC program in this regulatory proposal.

ADEC has not quantified emission reductions from the updated non-voluntary Borough episode program as part of this proposal and has not made any changes to the existing emission reduction credits.

The regulatory framework allowing ADEC to declare episodes and advisories applies to all areas within the state. The FNSB PM<sub>2.5</sub> SIP is an enforceable document that describes how the regulatory framework will be applied to the nonattainment area. Amending the regulations to match the SIP is beyond the scope of this proposal.

#### Related Comments Outside of the Scope of the Proposal:

Commenters addressed components of the SIP chapter that were not within the scope of the regulatory proposal including waiver requirements, enforcement, and compliance assistance.

Commenters said that compliance assistance strategy of recommending mixing energy logs with wet wood is inconsistent with a regulation requiring the use of dry wood.

Commenters said the existing Borough program was complex and ineffective.

#### Response to Comments Outside of the Scope of the Proposal:

The regulatory proposal did not include amendments to waiver processes, compliance assistance, or enforcement. ADEC will continue to rely on existing the regulatory framework and compliance and enforcement tools.

In response to comments requesting the incorporation of all existing Borough measures into the SIP, ADEC has updated section III.D.5.7 to reflect local program requirements to burn only dry wood year round. ADEC is incorporating the existing Borough episode plan into the SIP.

**State Air Quality Plan Appendices Comments and ADEC Responses:****Appendix III.D.5.03 – Non-Attainment Area Boundary and Design Episode Selection – Attachment B****Summary of Proposal:**

Adopt the Fairbanks North Star Borough's legal description of the Fairbanks-Goldstream border as an attachment to Appendix III.5.03.

**Summary of Comments:**

ADEC did not receive comments on the inclusion of the Fairbanks North Star Borough's legal description of the Fairbanks-Goldstream border. See the response to comments for amendments to SIP section III.D.5.03 for a response to comments on the proposal to subdivide the nonattainment area.

**Response to Comments:**

None.

**Related Comments Outside of the Scope of the Proposal:**

None.

**Appendix III.D.5.12 – Assurance of Adequacy**

In Response to comments requesting the incorporation of FNSB Air Quality ordinances into the SIP, ADEC has inserted the following FNSB ordinances into Appendix III.D.5.12. These are the ordinances that have been adopted by the Borough following the adoption of the Fairbanks PM-2.5 Nonattainment Area Moderate SIP in December 2014:

Fairbanks North Star Borough Assembly Ordinance No. 2015-01, February 27, 2015;  
Fairbanks North Star Borough Assembly Ordinance No. 2015-18, April 23, 2015;  
Fairbanks North Star Borough Assembly Ordinance No. 2015-29, June 25, 2015;  
Fairbanks North Star Borough Assembly Ordinance No. 2015-73, January 14, 2016;  
Fairbanks North Star Borough Assembly Ordinance No. 2016-20-1A, August 11, 2016;  
Fairbanks North Star Borough Assembly Ordinance No. 2016-21, May 4, 2016;  
Fairbanks North Star Borough Assembly Ordinance No. 2016-37, July 28, 2016; and  
Fairbanks North Star Borough Assembly Ordinance No. 2016-30, April 28, 2016.