

**From:** [Elisabeth Dabney](#)  
**To:** [Dec Air Comment](#)  
**Subject:** [Comment Submission] Northern Alaska Environmental Center Fairbanks PM2.5 Serious SIP comments  
**Date:** Friday, July 26, 2019 11:47:58 AM  
**Attachments:** [2019-07-26\\_AQ Serious SIP\\_FINAL.pdf](#)

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To whom it may concern:

Please find attached the Northern Alaska Environmental Center's comments on the Fairbanks PM2.5 Serious SIP.

Sincerely,  
Elisabeth Balster Dabney

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## Northern Alaska Environmental Center

### Comments on Serious State Implementation Plan (SIP)

Below are comments on the sections designated in DEC's online comment submission form: <https://dec.alaska.gov/Applications/Air/airtoolsweb/FormalComments>. The DEC form divides comments according to the regulations that will be amended once the Serious SIP is accepted. The form has comments submitted as separate documents for each section. As a result, I have repeated certain phrases to ensure each comment is understood when read alone. Repeated sections are in italics.

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#### 18 AAC 50.075

*18 AAC 50.075 is proposed to be amended to add requirements regarding visible emissions.*

#### 18 AAC 50.075 (f)

The Northern Alaska Environmental Center (Northern Center) strongly supports DEC's amendment to take over curtailment actions previously implemented by the Fairbanks North Star Borough (FNSB). However, Northern Center does not see a way for DEC to accomplish the measures in this amendment without the State of Alaska adopting legislation giving DEC citation authority. Citation authority and a clear schedule for escalating fines due to noncompliance must be added to DEC's voluntary programs if DEC is to successfully roll out a program that fundamentally alters how the State of Alaska and FNSB have treated problem burning. The enforcement measures outlined in the Serious SIP, such as written notices of violation and nuisance abatement orders, lack any means to compel compliance. The State of Alaska is then left with the option of civil court actions, which are astronomically expensive when compared to the cost of enforcing compliance via fines or even public safety officers.

#### 18 AAC 50.076



**18 AC 50.076 is proposed to be amended to add requirements for wood sellers.**

**18 AAC 50.076 (d) & (j)**

The Northern Alaska Environmental Center (Northern Center) strongly supports DEC's amendment to strengthen the existing requirement that only dry wood be burned. Specifically, the measure requiring that wood has been properly seasoned, dried, or harvested in a way to ensure it has a moisture content of less than 20%. Northern Center urges DEC to consider additional measures to support this transition such as publicly-supported and privately-operated kilns for wood drying, a program to exchange dry wood for wet wood, and requiring all homes with wood-fired heating devices to have appropriate wood storage. Data presented to the Fairbanks Air Quality Stakeholder Group showed these three additional measures would reduce PM2.5 emissions by over 5%.<sup>1</sup>

Northern Center recognizes that this measure is essential to DEC's approach of protecting Fairbanks North Star Borough (FNSB) area residents' ability to use a renewable energy resource, wood, to heat their homes. But DEC also must consider how to reach a high level of compliance on this measure. As it stands, the tools available to DEC - written notices of violation and nuisance abatement orders - are not enough. A focus on education for wood burners through Burn Wise Alaska and a targeted campaign of site inspections, incentives, and penalties for failing to comply for wood sellers is absolutely needed.

**18 AAC 50.077**

**18 AAC 50.077 is proposed to be amended to add requirements for wood-fired heating devices within the serious nonattainment area.**

The Northern Alaska Environmental Center (Northern Center) strongly supports DEC's additional requirements on wood-fired heating devices. This support is driven by Northern Center's position that addressing PM2.5 nonattainment must happen by implementing measures that have the biggest impact in reducing PM2.5 in our community. Wood burning

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<sup>1</sup> Carlson, T., "Revised Stakeholder Control Package Analysis," Presentation prepared by Trinity Consultants & Sierra Research, presented to Fairbanks Air Quality Stakeholder Group, November 15, 2018.



for home heating, as we all have learned, accounts for two-thirds of the total wintertime PM2.5 emissions in the nonattainment area.<sup>2</sup> Adding registration, wood-fired device control and removal, and curtailment efforts to reduce problem wood burning in nonattainment areas during times of elevated outdoor PM2.5 is the quickest way to reduce overall PM2.5 levels.<sup>3</sup> The measures proposed by DEC could go further and Northern Center makes additional recommendations below. However, the measures proposed take essential steps to reduce PM2.5 emissions while protecting the ability of Fairbanks North Star Borough (FNSB) area residents to use wood to heat their homes. Wholesale bans on burning wood for home-heating will not work. We need measures that are supported or can be supported by the community. Again, we commend DEC for their efforts in this regard.

### **18 AAC 50.077(k)**

Registration of wood-fired heating devices is required for any of the measures outlined in this amendment to impact PM2.5 levels. The provisions for wood-fired heating device registration will immediately affect all new wood-fired devices, but the penetration level for existing stoves would take years. We urge DEC to expand registration to all existing wood-fired heating devices in the nonattainment area. Not doing so seriously undercuts the effectiveness of control requirements outlined in the rest of this amendment.<sup>4</sup> Being able to locate and monitor wood-fired devices is essential to change behavior, such as burning during times of poor air quality, that pushes PM2.5 pollution above national air quality standards. At the very least, Northern Center suggests maintaining the proposed triggers for registration while immediately adding registration requirements for all wood-fired heating devices in areas with PM2.5 levels that are consistently high. This would use limited resources in an efficient and effective manner.

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<sup>2</sup> Carlson, T., "Revised Stakeholder Control Package Analysis," Presentation prepared by Trinity Consultants & Sierra Research, presented to Fairbanks Air Quality Stakeholder Group, November 15, 2018.

<sup>3</sup> Ibid. In this analysis of measures considered by the Fairbanks Air Quality Stakeholder's Group, curtailment measures, removal of solid fuel burning appliances (SFBAs), and requiring alternate heat in rentals, and the wood stove changeout program each were modeled showing reductions in PM2.5 ranging from 35% to 14%.

<sup>4</sup> Ibid. The modeled reductions of PM2.5 for measures on device removal range from 23% to 30% based on compliance. This model assumes registration of all heating devices.



**18 AAC 50.077(b)**

Northern Center strongly supports the removal of all heating devices without valid EPA certification and outdoor hydronic heaters except for those fueled by pellets by December 2024 and the amendments to remove devices sooner should the attached building be sold, leased, or conveyed. Based on data presented at the Fairbanks Air Quality Stakeholders Group, this single measure will have the most immediate and significant role in reducing PM2.5 emissions.<sup>5</sup> Northern Center appreciates the immediate start to removal and the date-certain point by which all non-certified devices and outdoor hydronic heaters (with an exception) will be removed. The provision that all removed devices must be destroyed or rendered inoperable is a welcome measure that reflects DEC's understanding of how these devices would be re-used or re-purposed should they remain in their current form.

Northern Center does not see a way for DEC to accomplish the measures in this amendment without the State of Alaska adopting legislation giving DEC citation authority. Citation authority and a clear schedule for escalating fines due to noncompliance must be added to DEC's voluntary programs if DEC is to successfully roll out a program that fundamentally alters how the State of Alaska and FNSB have treated problem burning. The enforcement measures outlined in the Serious SIP, such as written notices of violation and nuisance abatement orders, lack any means to compel compliance. The State of Alaska is then left with the option of civil court actions, which are astronomically expensive when compared to the cost of enforcing compliance via fines or even public safety officers.

**18 AC 50.077(k)(2)(3)(4)**

**(2) & (3)** Northern Center strongly supports the requirements on existing and new wood-fired heating devices and retrofit control devices. Requiring professional sizing

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<sup>5</sup> Ibid.



and installation is critical to reduce indoor and outdoor pollution. The requirement that a tapered element oscillating microbalance (TEOM) be installed on non-catalytic wood-fired devices is also an important measure as the FNSB considers testing and support for retrofit control devices that claim to reduce emissions on non-certified heating devices.

Northern Center is concerned about the ability of DEC to act on this measure without a clear means of enforcement. As noted above, there is no reason to assume these measures will be adopted voluntarily, particularly for existing heating devices.

**(4)** Limiting the use of solid fuel burning appliances (SFBAs) so they are a secondary source of heat for new construction and rental units with an exception for certain dry cabins and qualified rental units is another powerful measure. This is especially the case for rental units. Data presented to the Fairbanks Air Quality Stakeholders Group showed the requirement for alternative heat for rentals resulting in a larger reduction to PM<sub>2.5</sub> emissions from space heating than the wood stove changeout program. Northern Center strongly supports this measure as it has an outsized impact on PM<sub>2.5</sub> emissions.

Compliance will be the biggest question on this. As many rentals are owned by individuals not medium or large businesses, success will depend on convincing thousands of landlords to put money into what are likely small housing units that do not bring in large amounts of revenue, particularly when compared to the cost of a new heating device. A mix of incentives and enforcement actions will need to be put in place for such a measure to be effectively implemented.

#### **The proposed addition of 18 AAC 50.078**

***The proposed addition of 18 AAC 50.078 includes new control measures related to diesel fuel use and smaller commercial sources of PM-2.5 within the serious nonattainment area.***

**(b)** The Northern Alaska Environmental Center (Northern Center) strongly supports DEC's compromise on reducing #2 fuel oil use by mandating a shift to #1 fuel oil rather than ultra-low sulfur diesel (ULSD) for home heating and some stationary engines. This transition will result in a significant reduction in sulfur air pollutants and does so with full consideration of the costs that would be faced by individual home



owners.<sup>6</sup> The move also avoids an unintended consequence of requiring Fairbanks North Star Borough (FNSB) residents to heat with higher cost fuel, an increase in wood burning.<sup>7</sup>

However, compliance with this measure is of concern. The switch out will not be a large expense but it will require a significant amount of education and on-site encouragement. A plan for working with fuel companies would seem to be the simplest way to ensure virtually 100% compliance, by taking it out of the homeowner or renters' hands and putting it squarely on the companies that sell fuel to them or directly fill their fuel tanks.

### **General Comments on the Overall Proposal**

Please provide any general comments you have on this proposal. General comments may be submitted even if you have submitted comments elsewhere on this electronic comment form.

- The Northern Alaska Environmental Center (Northern Center) supports the draft Serious State Implementation Plan (Serious SIP) prepared by the Alaska Department of Environmental Conservation (DEC) and the resulting amendments proposed to State regulations in 18 AAC 50. The Serious SIP is in response to the Environmental Protection Agency (EPA)'s June 2017 reclassification of the Fairbanks PM2.5 area as a serious nonattainment area due to continued wintertime PM2.5 levels above the national air quality standards. Northern Center supports the DEC and EPA in spurring action to reduce persistent and dangerous levels of PM2.5 that occur in the Fairbanks North Star Borough (FNSB) area in the winter months. In putting forth the Serious SIP, DEC recognizes the serious and growing health impacts of PM2.5 while protecting the ability of FNSB area residents to use a renewable energy resource, wood, to heat their homes. Northern Center supports measures that directly reduce PM2.5 particulates by

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<sup>6</sup> State Air Quality Control Plan, Vol. II: III.D.7.7, Control Strategies, Public Notice Draft, May 10, 2019

<sup>7</sup> Little, J, Graham, N., "Measures of Price Sensitivity and the ULSD Assessment," Study funded by Alaska Department of Environmental Conservation, Presentation to Fairbanks Air Quality Stakeholder Group, August 18, 2018.



focusing on practices, individuals, and businesses that produce the heaviest concentration of PM2.5 pollution. The PM2.5 reductions proposed in the Serious SIP will not completely remove air pollution or the resulting health impacts that affect us. But it's an essential step in the right direction because the Serious SIP lays out actionable measures that we as a community must build on to clean our air, protect our families, and leave a healthy environment and sustainable economy for the next generation.

- Northern Center thanks DEC for taking the Fairbanks Air Quality (AQ) Stakeholder Group's recommendations as a key component of the Serious SIP and the proposed amendments to State regulations on air quality. The AQ Stakeholders Group was formed in May 2018 by the Mayors of the Fairbanks North Star Borough, City of Fairbanks, and City of North Pole to identify, evaluate, and recommend community-based solutions to bring the area into compliance with federal air quality standards for fine particulates (PM2.5). The recommendations of the AQ Stakeholders Group were the result of six months of work to review and consider options for addressing Fairbanks' serious nonattainment status.

Though mandated by federal rules, the proposed measures will succeed or fail based on how FNSB residents and leaders act on them. Requiring economically painful measures that do little to reduce air pollution is a nonstarter. By adopting many of the AQ Stakeholders group's recommendations, DEC has shown their willingness to rely on local knowledge and experience. This is the right way to develop measures that will have a significant impact on a community and Northern Center appreciates DEC's approach.

- Northern Center affirms that these amendments are about improving the health and quality of life of all FNSB residents. Our wintertime air quality is the worst in the nation due to high concentrations of PM2.5.<sup>8</sup> Wintertime air pollution is made worse by our climate, long-heating season, lack of affordable alternatives to heating with wood and heating oil, and temperature inversions. Fairbanks frequently experiences

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<sup>8</sup> [https://www.epa.gov/sites/production/files/2018-07/pm25\\_designvalues\\_20152017\\_final\\_07\\_24\\_18.xlsx](https://www.epa.gov/sites/production/files/2018-07/pm25_designvalues_20152017_final_07_24_18.xlsx)





temperature inversions that are among the strongest in the United States.<sup>9</sup> Taken together, these factors have produced 24-hour average wintertime PM2.5 values of 85 micrograms/cubic meter—the highest of the five other serious nonattainment areas, and 2.4 times higher than the EPA’s 24-hour PM2.5 standard of 35 micrograms/cubic meter.<sup>10</sup>

- Northern Center and DEC recognize the plain fact that attainment in 2019 is impossible. DEC has crafted a plan to reduce emissions that aims for a medium-term, not a short-term solution. Northern Center commends DEC for all the work to meet BACM and BACT requirements or find compromises when such requirements threaten the livelihood of the people in our community. We stand with DEC in submitting this Serious SIP with the goal of having it determined by EPA as “complete.” We support DEC’s aim to request an extension to show attainment in five years. Whatever the decisions of the EPA are, Northern Center strongly rejects the implementation of Most Stringent Measures (MSM) on the Fairbanks North Star Borough. Such measures would impose severe economic hardship on our community without bringing us any closer to attainment.
- Northern Center strongly affirms that the measures that tie reduction of PM2.5 to individual homeowner cost savings on a community-wide basis will be the most effective. We encourage the State of Alaska to implement a voluntary program to improve residential energy efficiency and prioritize action in wood-burning homes in poor air quality hot spots. Though not included in the Serious SIP, this measure is important to reducing unnecessary and polluting energy use community-wide.

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<sup>9</sup> Wendler, Gerd, et al, “Low Level Temperature Inversions in Fairbanks, Central Alaska,” *Monthly Weather Review*, January 1975.

<sup>10</sup> EPA. “Designated PM-2.5 (1997, 2006, 2012) Nonattainment Areas,” current as of June 2019. EPA Green Book. <https://www3.epa.gov/airquality/greenbook/rnc12.html>



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