

**Frequently Asked Questions Regarding
The February 2011 Proposed Changes to 18 AAC 50
Alaska Department of Environmental Conservation
REVISED - February 18, 2011**

What are we proposing to change or add to 18 AAC 50?

- Adopt a new standard for sulfur dioxide (SO₂) in 18 AAC 50.010.
- Adopt new significant impact levels for fine particulates (PM-2.5) and 1-hour SO₂ in 18 AAC 50.215.
- Adopt new emission rate basis for greenhouse gases in 18 AAC 50.326.
- Update adoption by reference dates and adoption of CFR parts in 18 AAC 50.035.
- Update, add, and clarify language in 18 AAC 50.010, 18 AAC 50.215, and 18 AAC 50.220.
- Add new definitions to 18 AAC 50.990.

What new SO₂ standard are we proposing to adopt?

The Department is proposing to adopt the U.S. Environmental Protection Agency's (EPA's) new 1-hour National Ambient Air Quality Standard (NAAQS) for SO₂. EPA promulgated this new standard in a June 22, 2010 Federal Register (FR) notice (see 75 FR 35520).

Why aren't we adopting EPA's new 1-hour nitrogen dioxide (NO₂) standard?

The Department is deferring adoption of the 1-hour NO₂ NAAQS that EPA promulgated on February 9, 2010 (see 75 FR 6474). EPA has incomplete guidance and modeling tools for demonstrating compliance with this new standard. EPA is aware of these deficiencies and has informally indicated that additional guidance/tools should be available by summer 2011. There are also a number of Alaska-specific permitting and air quality modeling issues that need resolution prior to a responsible implementation of this new standard. The Department has a dedicated team actively working these issues. We intend to propose the 1-hour NO₂ standard and if needed, any associated permit program revisions, before February 2012.

Why are we keeping the 24-hour and annual average SO₂ standards?

EPA essentially replaced the existing 24-hour and annual average SO₂ NAAQS with the 1-hour SO₂ NAAQS. However, they also imposed a one-year transition period to address the Section 172(e) anti-backsliding provision of the Clean Air Act (CAA). States are therefore supposed to keep the 24-hour and annual average SO₂ standards in effect for one year following the effective date of their initial area designations under Section 107(d)(1) of the CAA. The

Department will likely propose revocation of the 24-hour and annual average SO₂ standards after the one year transition period has been met.

Where did our proposed significant impact level for the 1-hour SO₂ standard come from?

The Department is proposing adoption of EPA's "interim" significant impact level (SIL) for the 1-hour SO₂ NAAQS. EPA provided this interim SIL in an August 23, 2010 guidance memorandum. The guidance does *not* bind state governments and permit applicants as a matter of law. However, it provides the value that EPA will use in federal permit decisions.

Use of EPA's interim SIL provides consistency with federal decisions. Establishing a SIL also reduces the burden that would otherwise exist if applicants and the Department had to make a case-by-case SIL decision for each permit application.

The Department is aware that EPA intends to promulgate an "official" 1-hour SO₂ SIL in a future rulemaking, and that the resulting value could differ from EPA's interim value. If this happens, the Department will evaluate the new value, and if warranted, propose a change to the value established through this rulemaking.

Could a multi-year *average* impact be compared to the PM-2.5 or 1-hour SO₂ SILs?

No – this would take additional changes to 18 AAC 50.215(d).

In a March 23, 2010 EPA memorandum, *Modeling Procedures for Demonstrating Compliance with the PM_{2.5} NAAQS*, EPA suggested comparison of an average modeled concentration to the PM-2.5 SILs. EPA made a similar suggestion in regards to the interim 1-hour SO₂ SIL in an August 23, 2010 memorandum, *Guidance Concerning the Implementation of the 1-hour SO₂ NAAQS for the Prevention of Significant Deterioration Program*. Neither memorandum binds State and local governments, or the public, as a matter of federal law.

The use of an average concentration is a major deviation from EPA's past approach for all other averaging periods/pollutants. In these other cases, the *maximum* modeled concentrations are compared to the SILs. EPA stated in their March 23, 2010 memorandum that the change in approach was due to "the probabilistic form" of the PM-2.5 air quality standard.

While EPA suggested comparison of a multi-year average impact to the PM-2.5 SILs, they did *not* adopt their suggestion when they promulgated the PM-2.5 SILs. They instead stated that additional guidance "for interpreting the SILs" would be coming. EPA made a similar comment regarding additional guidance for 1-hour SO₂ modeling in their August 23, 2010 memorandum. EPA has not yet provided additional guidance for either pollutant.

The Department decided that it would be premature to adopt EPA's suggested changes to the SIL format. EPA did not adopt their suggestions in the Code of Federal Regulations. They have also indicated that additional changes may be coming. Maintaining our current approach also

provides constancy for *all* pollutants and averaging periods. [Note: The current phrasing in 18 AAC 50.215(d) does *not* use the term “maximum” impact. However, the “maximum” impact is implied since all impacts (including the maximum impact) from the stationary source or modification are to be compared to the SIL.]

Are we proposing specific techniques for modeling 1-hour SO₂ impacts?

The Department is not proposing any substantive changes to the general modeling requirements in 18 AAC 50.215(b) - (e), other than the proposed PM-2.5 and 1-hour SO₂ SILs. The specific techniques for modeling the 1-hour SO₂ impacts will need to be worked out with the Department on a case-by-case basis. The best way for doing this is through submittal of a modeling protocol.

Why are we only adopting part of EPA’s October 2010 PM-2.5 regulation package?

EPA promulgated several new PM-2.5 provisions of the Prevention of Significant Deterioration (PSD) program on October 20, 2010 (see 75 FR 64864). The new PM-2.5 provisions are: maximum allowable increases (aka “increments”); a significant monitoring concentration (SMC) for pre-construction monitoring; and SILs for the NAAQS and “Class I,” “Class II” and “Class III” increments. (Note: The NAAQS SILs and Class II SILs are identical, and will therefore be discussed in these dual-use terms from here on out.) The Department is only proposing to adopt the SILs for the PM-2.5 NAAQS/Class II increments at this time.

States have the option of developing alternative approaches/values for these provisions. EPA therefore correctly noted that States need time to fold these provisions, or their alternative approaches, into their State Implementation Plans (SIPs).

The Department is actively evaluating several options for implementing the PM-2.5 increment program. The Department is therefore deferring adoption of the increments and the Class I/III SILs until this evaluation is complete. The Department is not adopting the SMC at this point in time since there is no “clean” method for adopting it in 18 AAC 50.040 without also adopting the increments. While we could have expended staff resources to overhaul our regulatory approach in 18 AAC 50.040, we decided that the public would be better served by focusing on a quicker development of a PM-2.5 increment program. The Department therefore intends to adopt the PM-2.5 SMC with the PM-2.5 increments and Class I SIL. The Department may or may not adopt the Class III SIL since there are no Class III areas in Alaska.

What is the greenhouse gas provision all about?

The Department has thresholds for many air pollutants on the basis of emission rate. These emission rates are used to determine if an emission unit is considered significant or insignificant for the purposes of permitting. Insignificant emission units do not need to be individually included in a permit application; however, they are still regulated by the all-

encompassing permit. Greenhouse gases were never individually identified as a regulated air pollutant until recent changes mandated by EPA. Without a separate subcategory of an emission rate basis for greenhouse gases, many otherwise-insignificant emission units would be trapped into “significant” status by a catch-all threshold established in ADEC regulations that covered “*any regulated air pollutant not mentioned above*” once greenhouses gases became a regulated air pollutant. This separate additional provision proposed is meant to provide a meaningful threshold for emission units based on emission rate of greenhouse gases in the Operating Permit program. These thresholds allow applicants to exclude trivial (insignificant) emission units/activities from the permitting application process.

What are greenhouse gases (GHGs)?

GHGs are defined as the aggregate group of six greenhouse gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. CO₂ equivalent emissions (CO₂e) shall represent an amount of GHGs emitted, and shall be computed as follows:

(a) Multiplying the mass amount of emissions (tpy), for each of the six greenhouse gases in the pollutant GHGs, by the gas’s associated global warming potential published at Table A–1 to subpart A of part 98 of 40 CFR 52—Global Warming Potentials and (b) Sum the resultant value from (a) for each gas to compute a tons per year (tpy) CO₂e.