

ACRONYMS
&
DEFINITIONS

ACRONYMS

BACM:	Best Available Control Measures
BACT:	Best Available Control Technology
CAA:	Clean Air Act
CMAQ (funding):	Congestion Mitigation and Air Quality Program
CMAQ (model):	Community Multiscale Air Quality modeling system.
DEC:	Alaska Department of Environmental Conservation
EI:	Emission Inventory
EPA:	Environmental Protection Agency
FNSB:	Fairbanks North Star Borough
LAER:	Lowest Achievable Emission Rate
LNG:	Liquefied Natural Gas
MOU:	Memorandum of Understanding
NAAQS:	National Ambient Air Quality Standards
NOx:	Nitrogen Oxides
NSR:	New Source Review (permit program)
NNSR:	Non-Attainment New Source Review (permit program)
PM2.5:	Fine Particulate Matter
ppm:	parts per million
PSD:	Prevention of Significant Deterioration (permit program)
RACM:	Reasonably Available Control Measures
RACT:	Reasonably Available Control Technology
SIP:	State Implementation Plan
SOx:	Sulfur Oxides
SO2:	Sulfur Dioxide
tpy:	tons per year

DEFINITIONS

- Attainment areas:** Geographic areas that are in compliance with the federal National Ambient Air Quality Standards.
- CMAQ funding:** Congestion Mitigation and Air Quality Program established within federal transportation legislation and administered by the Federal Highway Administration and Federal Transit Administration through the state Department of Transportation.
- CMAQ modeling:** The Community Multiscale Air Quality modeling system is a photochemical dispersion model which simulates air pollution dispersion and secondary formation of pollution within a defined gridded modeling area. The CMAQ modeling system unites three kinds of models: meteorological models, emissions models, and an air chemistry-transport model. Using data about land usage, meteorology, and emissions, CMAQ simulates the way pollutants, such as particulate matter and ozone, move through the atmosphere. The system allows states and regulatory agencies to examine the potential impacts of different air quality management strategies to determine the best way to manage pollution in their community, region, or state.
- Conformity:** Section 176(c) of the Clean Air Act prohibits Federal entities from taking actions in nonattainment or maintenance areas which do not conform to the State implementation plan (SIP) for the attainment and maintenance of the national ambient air quality standards (NAAQS). Therefore, the purpose of conformity is to (1) ensure Federal activities do not interfere with the budgets in the SIPs; (2) ensure actions do not cause or contribute to new violations, and (3) ensure attainment and maintenance of the NAAQS. EPA has two sets of regulations to implement section 176(c). Transportation Conformity Regulations (applicable to highways and mass transit) establish the criteria and procedures for determining that transportation plans, programs, and projects which are funded under title 23 U.S.C. or the Federal Transit Act conform with the SIP. General Conformity Regulations, which are applicable to everything else, ensure that other Federal actions also conformed to the SIPs.
- Exceptional Event:** An event that affects air quality, is not reasonably controllable or preventable, is an event caused by human activity that is unlikely to recur at a particular location or a natural event, and is determined by the EPA in accordance with 40CFR 50.14 to be an exceptional event.
- Fine Particulate Matter:** Fine particles, such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air.

Fireplace Inserts:	Fireplace inserts are similar in function and performance to free-standing wood stoves, but are designed to be installed within the firebox of an existing masonry or metal fireplace. A certified installer will make sure the flue liner in your masonry chimney is installed correctly. If your fireplace is factory built (or "zero-clearance"), you must use an insert that was specifically designed and tested for your unit to make it more efficient and less polluting.
Fireplaces:	There are two major types of wood-burning fireplaces, traditional masonry fireplaces that are typically built of brick or stone and are constructed on site by a mason; and "low mass" fireplaces that are engineered and pre-fabricated in a manufacturing facility prior to installation. Most fireplaces, whether masonry or low mass, are not used as a primary source of heat; their function is primarily for ambiance and secondary heating.
Fireplace Retrofits:	A fireplace retrofit is a device that is installed into an existing wood-burning fireplace. The existing fireplace can either be factory built or masonry construction. The primary purpose of the retrofit is to reduce wood smoke pollution from existing fireplaces. If installed and operated properly, fireplace retrofit devices can reduce pollution by approximately 70%.
Hydronic Heaters:	Hydronic Heaters (also called outdoor wood heaters or outdoor wood boilers) are typically located outside the buildings they heat in small sheds with short smokestacks. Typically, they burn wood to heat liquid (water or water-antifreeze) that is piped to provide heat and hot water to occupied buildings such as homes, barns and greenhouses. However, hydronic heaters may also be located indoors and they may use other biomass as fuel (such as corn or wood pellets)
Gas Stoves:	Gas stoves are designed to burn either natural gas or propane. They emit very little pollution, require little maintenance, and can be installed almost anywhere in the home. Today's gas stoves can be vented through an existing chimney, or direct vented through the wall behind the stove. While some do not require outside venting, EPA does not support their use due to indoor air quality concerns.
Maintenance areas:	Geographic areas that were once designated non-attainment areas that have attained the federal National Ambient Air Quality Standards. In order to be re-designated to maintenance status under the Clean Air Act, an area must have been formally found by EPA to have reached attainment and have an EPA-approved maintenance plan in effect.
Masonry Heaters:	A masonry heater is a site-built or site-assembled solid-fueled heating device, consisting of a firebox, a large masonry mass, and a maze of heat exchange channels. It stores heat from rapidly-burning fires within its masonry structure, and slowly releases the heat into the home throughout the day. Masonry heaters currently do not require EPA certification.

National Ambient Air Quality Standards	The Clean Air Act requires EPA to set National Ambient Air Quality Standards or NAAQS (40 CFR part 50) for pollutants considered harmful to public health and the environment. The Clean Air Act identifies two types of national ambient air quality standards. Primary standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. EPA has set National Ambient Air Quality Standards for six principal pollutants, which are called "criteria" pollutants: carbon monoxide, lead, ozone, sulfur dioxide, nitrogen dioxide, and particulate matter. Alaska adopts the NAAQS as state regulation in 18 AAC 50.010.
Non-attainment areas:	Geographic areas that have been found to be out of compliance with one or more of the federal National Ambient Air Quality Standards and that have been formally designated by EPA under the Clean Air Act.
Open Burning:	The burning of a material that results in the products of combustion being emitted directly into the ambient air without passing through a stack, flare, vent, or other opening of an emission unit from which an air pollutant could be emitted
Outdoor Wood Boiler/Outdoor Hydronic Heater :	See "Hydronic Heater"
Particulate Matter:	<p>Particulate matter," also known as particle pollution or PM, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles.</p> <p>The size of particles is directly linked to their potential for causing health problems. EPA is concerned about particles that are 10 micrometers in diameter or smaller because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects.</p>
Pellet Stoves:	Pellet stoves are similar in appearance to wood stoves; however, instead of wood, pellet stoves burn a renewable fuel made of ground, dried wood and other biomass wastes compressed into pellets. Pellet stoves operate by pouring pellets into a hopper which feeds automatically into the stove. Unlike wood stoves and fireplaces, most pellet stoves need electricity to operate.
Precursor Pollutant:	Pollutant compounds that change chemically or physically after being emitted into the air and eventually produce air pollutants. For example, sulfur dioxide and nitrogen oxides are precursors for particulate matter.

State Implementation Plan: States are required to prepare State Implementation Plans (SIPs) and submit them to EPA for approval to meet specific requirements of the Clean Air Act, including the requirement to attain and maintain the National Ambient Air Quality Standards (NAAQS). SIP narratives describe how the plan, including any rules or other requirements, will comply with these requirements and maintain the NAAQS. SIPs can include other forms of requirements such as stipulations, agreements, or permits. SIP narratives also sometimes include state promises for future action, which are called commitments. Once EPA approves a SIP, EPA and citizens may enforce the SIP rules, requirements, and commitments in Federal court.

Wood-Fired Heating Device: A device designed for wood combustion so that usable heat is derived for the interior of a building; “wood-fired heating device” includes wood-fired stoves, fireplaces, wood-fired cooking stoves, and combination fuel furnaces or boilers that burn wood; “wood-fired heating device” does not include a device that is primarily a part of an industrial process and incidentally provides usable heat for the interior of a building.

Wood stove: A wood stove is an appliance that is usually made of cast iron, steel, or stone. Wood stoves that burn wood for fuel can be used as a primary or secondary source of heat. EPA defines the characteristics of a wood stove, has established new source performance standards, and certifies devices for sale.