AIR FORCE
AIR QUALITY
ENVIRONMENTAL IMPACT ANALYSIS PROCESS (EIAP) GUIDE

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AIR FORCE
AIR QUALITY
ENVIRONMENTAL
IMPACT ANALYSIS
PROCESS (EIAP)
GUIDE

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Air quality assessments for proposed Federal actions are required for compliance with the National Environmental Policy Act (NEPA), the Clean Air Act (CAA) and other environment-related regulations and directives. The Environmental Impact Analysis Process or EIAP, is the Air Force’s implementing tool for NEPA and provides the Air Force with a framework on how to comply with NEPA and the President’s Council on Environmental Quality (CEQ) Regulations. Additionally, for air quality, all EIAP documents must address the CAA Conformity Rules requirements. The Air Force has expanded on the EIAP process with this guide to address specific air quality concerns. This guide breaks down the air quality EIAP process into three levels of assessment: Level I, Exempt Actions (determine if a formal Air Quality Assessment is required); Level II, Quantitative Air Quality Assessment (a formal assessment of air impacts); and Level III, Advanced Air Quality Assessment (part science and part art, both quantitative and qualitative assessments).

This guide provides comprehensive instructions for performing Levels I and II air quality EIAP assessments, and is intended to assist Air Quality Program Managers and/or Environmental Specialists in assessing basic air quality impacts of the United States Air Force actions. Furthermore, it provides guidance, procedures, and methodologies for use in carrying out basic air quality EIAP assessments. Transportation Conformity and advanced Level III assessments are outside the scope of this guidance.
1 INTRODUCTION

This guide provides guidance in assessing the air quality impact of an Air Force project. The procedures in this guide are consistent with all current Federal air quality laws and regulations affecting the Air Force mission including the National Environmental Policy Act (NEPA); Council on Environmental Quality (CEQ) regulations; Clean Air Act, (CAA) as amended; and other related statutes, regulations, directives and orders.

The Environmental Impact Analysis Process (EIAP, 32 CFR 989) is the Air Force’s implementation tool for NEPA. EIAP provides the Air Force with a framework on how to comply with NEPA and CEQ’s Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508, referred to as the CEQ Regulations). Additionally, for air quality (according to 32 CFR 989.30), all EIAP documents must address the CAA Conformity Rules (CRs) requirements.

This guide only addresses air base actions within the U.S., its territories, and possessions. Although this guide does not cover actions abroad, many of the calculation methodologies and resources are still applicable. In addition, many of the references identified do address actions abroad and can be consulted for further information.

1.1 Regulatory Context

Air quality assessments for proposed Federal actions may be necessary for compliance with the requirements of EIAP, NEPA, CRs, CAA, and other environment-related regulations and directives. There are Federal regulations and orders that establish air quality requirements applicable to air bases, as well as U.S. Department of Defense (DOD)/USAF-specific regulations and orders that cover aspects of air quality. In addition to Federal requirements, many states and/or local areas have air quality requirements that may address air bases. Relevant general DOD/USAF-specific Federal requirements and documents are summarized below, along with a brief discussion of possible state and/or local requirements.

1.2 Federal Requirements and Documents- General

1.2.1 National Environmental Policy Act of 1969 (NEPA)

NEPA and its amendments establish a broad national policy to protect the quality of the human environment and provide for the establishment of a Council on Environmental Quality. The act provides policies and goals to ensure that environmental considerations are given careful attention and appropriate weight in all decisions of the Federal Government. The NEPA environmental review process addresses impacts on the “natural world,” such as air and water quality. It also addresses impacts on the human environment, such as noise, induced socioeconomic impacts, and land uses that result from Federal actions. It should reflect a thorough review of all relevant environmental factors, utilizing a systematic, interdisciplinary approach. Federal actions potentially subject to NEPA include grants, loans, contracts, leases, construction, research, rulemaking and regulatory actions, certifications, licensing, and permitting. (Congress 1969)
NEPA encourages and facilitates public involvement in the decisions by the Federal Government which affect the quality of the human environment. Federal agencies must assess and disclose the potential environmental impacts of proposed Federal actions. NEPA requires all agencies of the Federal Government to:

I. Utilize a systematic, interdisciplinary approach in planning and decision-making that will ensure the integrated use of natural and social sciences;

II. Identify and develop methods and procedures in consultation with CEQ to ensure that environmental amenities and values may be given appropriate consideration in decision-making, use ecological and scientific information, disclose information to public and respond to public comments; and

III. In every recommendation or report on an action that affects the quality of the human environment include a detailed statement on:

- The environmental impact of the proposed action,
- Any adverse environmental effects that cannot be avoided should the proposal be implemented,
- Alternatives to the proposed action,
- The relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity, and
- Any irreversible and irretrievable commitments of resources should the proposed action be implemented.

1.2.2 Council on Environmental Quality (CEQ) - Regulations for Implementing the Procedural Provisions of the NEPA
The CEQ regulations implement the procedural provisions of NEPA. In general, the CEQ regulations require a Federal agency to evaluate the potential environmental effects of a major action prior to its implementation and notify and involve the public in the agency’s decision-making process. The regulations emphasize the importance of integrating the NEPA process into early project planning, and of consulting with the appropriate Federal, State, and local agencies early in the proceeding. The regulations also identify and describe the appropriate environmental documents (i.e., Environmental Assessment, Finding of No Significant Impact, or Environmental Impact Statement) that serve to document compliance with NEPA requirements. (40 CFR 1500)
1.2.3 Executive Orders
There are several Executive Orders relating to NEPA that are general in nature, but should be consulted as they may affect an action’s impact analysis. The following are examples of these orders:

- **Executive Order 12114, Environmental Effects Abroad of Major Federal Actions (EO 12114),**
- **Executive Order 11514: Protection and Enhancement of Environmental Quality (EO 11514),**
- **Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 12898),** and
- **Executive Order 11593: Protection and Enhancement of the Cultural Environment (EO 11593).**

1.2.4 Clean Air Act (CAA)
In 1967, the first CAA provided authority to establish air quality standards. Since the original act, subsequent efforts have established revisions that are more stringent and comprehensive, culminating in the Clean Air Act Amendments of 1990 (CAAA). Principal features of the CAAA include a comprehensive strategy to achieve and maintain National Ambient Air Quality Standards (NAAQS, see Table 1, *National Ambient Air Quality Standards*) for specified criteria pollutants (i.e., ozone, carbon monoxide, particulates, sulfur dioxide, nitrogen dioxide, and lead, which are discussed in more detail below); further reductions in mobile source emissions; regulation of air toxics (e.g., hazardous air pollutants (HAPs)); establishment of a new acid rain control scheme; the phase-out of production and sale of ozone-depleting chemicals (e.g., chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs)); and new enforcement sanctions. (Congress 1970) (EPA 2014a)

Ambient air quality standards represent a critical element in the national environmental regulatory structure, and many of the most conspicuous environmental issues in the public arena relate to efforts on the part of regulators and the regulated community to attain these standards. Ground-level ozone, for example, poses a significant concern in many locations. Extensive regulations govern air emissions of so-called “ozone precursors,” including nitrogen oxides and volatile organic compounds, in these regions. Each state with an ozone nonattainment region has developed a State Implementation Plan (SIP) with regulations that range from limiting industrial emissions of specific pollutants to regulations governing emission sources from manufacturing, transportation, and other sectors. Typically, a SIP addresses other nonattainment pollutants in a manner similar to that described for ozone.

The CAA and its amendments and its associated regulations are largely implemented by the States. Many states, as well as local jurisdictions, have additional State requirements pertaining to air pollution. As a result, air pollution control regulations can be quite complex and site- or area-specific.
Table 1, National Ambient Air Quality Standards

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Primary Standards</th>
<th>Secondary Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level</td>
<td>Averaging Time</td>
</tr>
<tr>
<td>Carbon Monoxide</td>
<td>9 ppm (10 mg/m³)</td>
<td>8-hour (b)</td>
</tr>
<tr>
<td></td>
<td>35 ppm (40 mg/m³)</td>
<td>1-hour (b)</td>
</tr>
<tr>
<td>Lead</td>
<td>0.15 µg/m³</td>
<td>Rolling 3-Month</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Average</td>
</tr>
<tr>
<td></td>
<td>1.5 µg/m³</td>
<td>Quarterly Average</td>
</tr>
<tr>
<td>Nitrogen Dioxide</td>
<td>53 ppb (100 µg/m³)</td>
<td>Annual (Arithmetic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Average)</td>
</tr>
<tr>
<td></td>
<td>100 ppb</td>
<td>1-hour (c)</td>
</tr>
<tr>
<td>Particulate Matter (PM₁₀)</td>
<td>150 µg/m³</td>
<td>24-hour (d)</td>
</tr>
<tr>
<td>Particulate Matter (PM₂.₅)</td>
<td>15.0 µg/m³</td>
<td>Annual (e)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Arithmetic Average)</td>
</tr>
<tr>
<td></td>
<td>35 µg/m³</td>
<td>24-hour (f)</td>
</tr>
<tr>
<td>Ozone</td>
<td>0.075 ppm (2008</td>
<td>8-hour (g)</td>
</tr>
<tr>
<td></td>
<td>standard)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.08 ppm (1997 std)</td>
<td>8-hour (h)</td>
</tr>
<tr>
<td></td>
<td>0.12 ppm</td>
<td>1-hour (i)</td>
</tr>
<tr>
<td>Sulfur Dioxide</td>
<td>0.03 ppm</td>
<td>Annual (Arithmetic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Average)</td>
</tr>
<tr>
<td></td>
<td>0.14 ppm</td>
<td>24-hour (b)</td>
</tr>
<tr>
<td></td>
<td>75 ppb</td>
<td>1-hour (j)</td>
</tr>
</tbody>
</table>


The CAA and its associated regulations address air pollution control in two ways: an air quality-based approach and a technology-based approach, with the former being the most important for the purpose of this discussion. EPA has implemented the air quality approach by establishing a set of NAAQS for six “criteria pollutants”:

- Ozone (O₃),
- Carbon monoxide (CO),
- Particulate matter (PM-10 & PM2.5),
- Sulfur oxide (SOx),
- Nitrogen dioxide (NOx), and
- Lead (Pb).

States must identify geographic areas, termed “nonattainment” areas, which do not meet these air quality standards.

For nonattainment areas, the affected state must develop a State Implementation Plan (SIP) that includes a variety of emission control measures that the state deems necessary to ensure attainment of the NAAQS in the future. Although developed initially by the state and local air pollution control officials, SIPs must be adopted by municipal and state governments and then approved by EPA. Once a SIP is fully approved, it (and any emissions control measures) is legally binding under both state and federal law, and may be enforced by either government. Many states have designated nonattainment areas and, subsequently, have adopted a SIP. If a SIP already exists, it must be revised as necessary to include and address emission control measures necessary to ensure attainment. An area previously designated nonattainment pursuant to the CAA Amendments of 1990 and subsequently re-designated to attainment is termed a “maintenance” area. A maintenance area has a “maintenance” plan, or revision to the applicable SIP, to ensure sustainment of the air quality standards.

(Congress 1970)

1.2.5 Conformity Rules

A key component of the CAAA strategy to achieve and maintain the NAAQS is the concept of “conformity,” required in Section 176(c)(1) of the CAAA. Conformity Rules (40 CFR 51 Subpart W and 40 CFR 93 Subpart A & B) apply only to air quality and only in areas that are designated by the EPA as non-attainment & maintenance areas. Conformity is intended to ensure that the Federal government does not take, approve, or support actions that are in any way inconsistent with a State’s plan to attain and maintain the NAAQS for criteria pollutants. The CAAA defines conformity to a SIP as demonstrating consistency with the SIP’s “purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards.” For example, from a practical standpoint this means that emission increases that result from an Air Force project should not exceed the emission forecast or budget included in a SIP for that base.

The Conformity Rules requires an air quality assessment to ensure Federal actions do not interfere with a state’s plans to meet NAAQSs (known as State Implementation Plans or SIPs). Under 40 CFR 51.850-51.860 (Subpart W), States or eligible Tribes may create conformity provisions that may contain criteria and procedures more stringent than the requirements described in 40 CFR 93 Subpart B. There are two separate CRs:

1. Transportation Conformity (40 CFR 93 Subpart A):
   - Applies to federal highway and transit actions
   - Sets policy, criteria, and procedures for demonstrating and assuring conformity of federal highway and transit activities to applicable implementation plans (i.e., SIPs).
• Generally, Air Force actions do not impact federal highway and transit.

2. General Conformity (40 CFR 93 Subpart B):
• Applies to all other (i.e., non-federal highway and non-transit actions) Federal actions.
• For Air Force actions that do not impact federal highway and transit, only the General Conformity Rule.

1.3 Federal Requirements and Documents - DOD/USAF Specific

1.3.1 DOD Directive 6050.1: Environmental Effects in the United States of DOD Actions
This directive (Reference 45) implements the CEQ regulations discussed above and provides the policy and procedures for including environmental considerations in the decision-making process on DOD actions within the United States. The directive includes policy, responsibilities, how to determine if an Environmental Assessment (EA) or Environmental Impact Statement (EIS) is needed, EA content and format, and categorical exclusions. (DOD 6050.1)

1.3.2 U.S. Air Force Policy Directive (AFPD) 32-70: Environmental Quality
This directive (Reference 42) establishes the Air Force’s policy in achieving and maintaining environmental quality and compliance with NEPA and Executive Order 12114. It addresses development and implementation of an Air Force Environmental Quality Program, establishes environmental authorities and responsibilities, and lists directives and laws implemented by this policy. (AFPD 32-70)

1.3.3 U.S. Air Force Instruction (AFI) 32-7040: Air Quality Compliance & Resource Management
This instruction implements Air Force Policy Directive (AFPD) 32-70, Environmental Quality; provides details of the Air Force Air Quality Compliance and Resource Management Program; and explains how to assess, attain, and sustain compliance with the Clean Air Act (CAA); other federal, state, and local environmental regulations. (AFI 32-7040)

1.3.4 Environmental Impact Analysis Process (EIAP; 32 CFR 989)
32 CFR 9089 EIAP, formally U.S. Air Force Instruction (AFI) 32-7061, implements AFPD 32-70 and describes specific tasks and procedures for the EIAP both within the United States and abroad. This regulation also identifies directives and instructions with further environmental requirements.
1.3.5 Executive Order 12114, Environmental Effects Abroad of Major Federal Actions

EO 12114 requires overseas Federal agencies to consider the environmental impacts of proposed actions and effectively implements EIAP assessments for Federal actions outside the jurisdiction of the EPA. Proposed actions under EO 12114 include, actions that significantly affecting the environment:

- Outside the jurisdiction of any nation,
- Of a foreign nation not participating with the United States and not otherwise involved in the action,
- Of a foreign nation impacted by a product, emission or effluent which is prohibited or strictly regulated by Federal law in the United States, and
- Outside the United States, its territories and possessions which significantly affect natural or ecological resources of global importance

1.3.6 State and/or Local Requirements

In addition to Federal requirements, there often are state and/or local air quality requirements applicable to Air Force activities. These requirements vary widely from location to location, and are more appropriate to address on a project-by-project basis. Examples of state and/or local air quality requirements applicable to Air Force projects are state indirect source thresholds, state-level environmental assessments, approved state general conformity rules, and state and local ambient air quality standards. The analyst/specialist is directed to review state and local regulations at various points throughout the guide and as early in the assessment process as possible.

1.4 Roles and Responsibilities

All roles and responsibilities for EIAP execution (including NEPA and Conformity) are prescribed in the Air Force Air Quality Playbook, 40 CFR 989 (general roles and responsibilities), and AFI 32-7040 (air quality related roles and responsibilities).
2 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

32 CFR 989, “Environmental Impact Analysis Process,” or EIAP, is the Air Force’s implementation tool for the National Environmental Policy Act (NEPA). EIAP provides the Air Force with a framework on how to comply with NEPA and the President’s Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508, referred to as the CEQ Regulations). Additionally, for air quality (according to 32 CFR 989.30), all EIAP documents must address the Clean Air Act (CAA) Conformity Rules (CRs) requirements.

2.1 What is NEPA?

NEPA, enacted on January 1, 1970, is the nation’s broadest environmental law and applies to all federal agencies and the activities they manage, regulate, or fund. NEPA allows federal officials to make their decisions based on a clear understanding of a proposal’s environmental consequences. In addition, it mandates use of public involvement to promote full disclosure of potential impacts and as a means of helping the decision maker to reach an informed decision. (Congress 1969)

NEPA requires federal agencies to give appropriate consideration to all potential environmental impacts, to all affected resources, due to any proposed action and/or alternatives. Other environmental laws, such as the Endangered Species Act and the Clean Air Act, are more focused on a particular resource, whereas NEPA is an umbrella law that brings numerous environmental regulations together in application.

2.2 What are the CRs?

Conformity Rules (40 CFR 51 Subpart W and 40 CFR 93 Subpart A & B) apply only to air quality and only in areas that are designated by the EPA as non-attainment or maintenance for meeting the National Ambient Air Quality Standards (NAAQS). The CRs require an air quality assessment to ensure Federal actions do not interfere with a State’s plans to meet NAAQSs (known as State Implementation Plans or SIPs). Under 40 CFR 51.850-51.860 (Subpart W), States or eligible Tribes may create conformity provisions that may contain criteria and procedures more stringent than the requirements described in 40 CFR 93 Subpart B. Conformity Applicability Analyses and Determinations are developed in parallel with EIAP documents, but are separate and distinct requirements and should be either documented separately or addressed independently in a single document. To increase the utility of a conformity determination in performing the EIAP, the conformity determination should be completed prior to the completion of the EIAP so as to allow incorporation of the information from the conformity evaluation/s into the EIAP document. There are two separate CRs:

2.2.1 Transportation Conformity (40 CFR 93 Subpart A)

- Applies to federal highway and transit actions

- Sets policy, criteria, and procedures for demonstrating and assuring conformity of federal highway and transit activities to an applicable implementation plans (i.e., SIPs)
• Generally, Air Force actions do not impact federal highway and transit

2.2.2 General Conformity (40 CFR 93 Subpart B)
• Applies to all other (i.e., non-federal highway and non-transit actions) Federal actions.
• For Air Force actions that do not impact federal highway and transit, only the General Conformity Rule.

2.3 What Triggers NEPA/GCR?
For NEPA, any major federal action that may significantly affect the quality of the human and natural environment requires NEPA analysis. For the U.S. Air Force, a major change may include changes of aircraft, reconfiguration of airspace, construction and/or renovation of facilities, range activities, exercises, or real estate actions.

For GCR, any proposed action potentially impacting air quality and to be located within an area designated by the EPA as non-attainment & maintenance for the NAAQSs requires a GCR assessment known as a Conformity Evaluation.

2.4 When Does EIAP/NEPA/GCR Begin?
EIAP is the Air Force’s implementing tool for NEPA and GCR requirements. Generally, actions that trigger NEPA will also require a Conformity Evaluation (if the action is located in a non-attainment or maintenance area); therefore, conformity evaluation/s should be incorporated into the EIAP process/document. EIAP begins early in the planning process for a proposed action. Air Force EIAP responsibilities start when adequate information is known about a proposal to allow an estimate of its effects on the environment. The earlier the potential impacts are identified, the easier it is to refine the proposed action and alternatives to avoid or lessen the effects.

2.5 What are The Different Levels of NEPA Documentation?
Three levels of NEPA documents exist: categorical exclusion, environmental assessment, and environmental impact statement. When the action requires EIAP/NEPA the Air Force evaluates the proposal in one of three ways:

• Is it a continuation of normal or routine activities?
• If not routine, could the action present any potential affects to the environment?
• Could the action present any significant impacts or be controversial in nature?

2.6 What are the Different Levels of GCR Documentation?
Two levels of GCR documentation exist under a Conformity Evaluation: Applicability Analysis and Conformity Determination.
2.6.1 Applicability Analysis
Applicability Analysis is the process of determining if your Federal action must be supported by a Conformity Determination. This is accomplished through the use of the Air Force’s automated Air Conformity Applicability Analysis Model (ACAM) or other AFCEC approved automated tool. ACAM (or other AFCEC approved automated air quality impact assessment tool) will perform a quantitative analysis of projected emission against regulatory thresholds which trigger a Conformity Determination.

2.6.2 Conformity Determination
Conformity Determination is the evaluation made after an Applicability Analysis is completed and identifies if a Conformity Determination is required. The Conformity Determination is a complex assessment of air quality impacts and, if necessary, mitigation measure to ensure that a Federal action conforms to the applicable implementation plan and meets the requirements of the GCR.

2.7 Categorical Exclusion (CATEX)
A CATEX applies to NEPA for those actions that do not individually or cumulatively have the potential for significant environmental effects and do not require further analysis. Typically, activities that qualify for a CATEX are normal and routine. 32 CFR 989 lists 38 activities (e.g., repairing and replacing real property installed equipment; routine increases and decreases in personnel; temporary increases in air operations; and supersonic flight operations over land and above 30,000 feet mean sea level) that are categorically excluded absent unique circumstances. According to 32 CFR 989.13 (a), CATEX actions do not require further environmental analysis in an EA or an EIS; however, 32 CFR 989.13 (e) goes on to further state that “application of a CATEX to an action does not eliminate the need to meet air conformity requirements.” (32 CFR 989)

Therefore, actions that are CATEXed from NEPA, may still require a Conformity Evaluation if they occur in a non-attainment & maintenance area and they are not exempt under the GCR or not listed as presumed to conform.

2.8 GCR Exemptions
Exemptions from the GCR are list in 40 CFR 93.153 or applicable SIP (40 CFR 51.851) and are generally routine and recurring in nature. GCR exemptions fall under either regulatory exemptions or as presumed to conform (PTC) exemptions. If a proposed action is on the CATEX list AND is either on the GCR regulatory exempt list or the PTC list, document the CATEX and the GCR exemption and the Air Quality assessment process is complete (no further air quality review is required). (40 CFR 93)

2.8.1 Presumed to Conform (PTC)
EPA identified the following as PTC actions: prescribed fires, emissions within a facility emission budget where the budget has been adopted by the state, and actions listed in the SIP by a state agency as PTC. Therefore, all actions except for PTC actions listed in an applicable SIP, prescribed fires, and emissions actions already within a facility emission budget (where the
budget has been adopted by the state) must be evaluated under the GCR unless they are specifically exempt from conformity under the CCR. (40 CFR 93)

2.8.2 **Regulatory Exempt from Conformity**

Regulatory exemptions are specifically listed in the GCR and are either administrative or routine and recurring in nature. Actions that are administrative in nature include: judicial and legislative proceedings; rulemaking and policy development; administrative actions; planning, studies, and provision of technical assistance; transfers of ownership; etc. Actions that are routine and recurring in nature include: transportation of materials; operations; permit renewals; activities similar in scope to current activities; maintenance and repair activities; CERCLA corrective actions; etc.

2.9 **NEPA Environmental Assessment (EA) and Finding of No Significant Impact (FONSI)**

If a CATEX cannot be applied and it is unknown whether an Environmental Impact Statement is required, the Air Force prepares an EA. An EA is a concise, public document that determines if an action would result in significant impacts. An EA results in one of the following outcomes: Finding of No Significant Impact, preparation of an EIS, or no action is taken.

When an EA results in no significant impact and Conformity Evaluation (if required) is complete, a FONSI (32 CFR 989.15) summarizes the findings and describes the Conformity Evaluation and why an action would not require preparation of an EIS. The FONSI is signed before the action is implemented.

2.10 **Environmental Impact Statement (EIS) and Record of Decision (ROD)**

For actions having a potential for significant environmental impacts, an EIS is prepared. An EIS is the most intensive level of EIAP analysis. The decision to prepare an EIS can be made early in the planning process or following preparation of an EA where the analysis shows the potential for significant impacts. Actions such as new weapon systems beddowns, major aircraft realignments, large land withdrawals, establishment of training ranges, and creation of supersonic airspace typically require preparation of an EIS. In general, an EIS contains:

- Detailed explanation of the purpose and need for the action
- A thorough description of the proposed action, no action and reasonable alternatives
- Identification of the resources affected by the proposal
- Full description of the affected environment
- Rigorous analysis of the potential impacts on affected resources
- Cumulative impact analysis for past, present, and reasonably foreseeable actions
• Permitting requirements
• Agency consultation information
• Public involvement overview
• Defined mitigation and management actions not already included in the proposed action or alternatives
• If required, a discussion and conclusions of GCR Conformity Evaluations

An EIS is focused and issue-driven rather than encyclopedic. It provides the public and the decision maker an adequate level of information about the potential impacts of the action prior to making a decision.

A ROD serves as a public record documenting the Air Force decision. The ROD provides:

• Explanation of the decision
• Description of alternatives considered
• Identification of both the preferred and environmentally preferred alternatives
• Factors considered in making the decision
• Statement on whether practicable means to avoid or minimize environmental harm from the selected alternative have been adopted
• Summary of any applicable monitoring and enforcement program for mitigation
• If required, a discussion and conclusions of GCR Conformity Evaluations

Overall, the ROD summarizes the major factors weighed in making the decision, including essential considerations of national policy.
3 AIR QUALITY EIAP OVERVIEW

The National Environmental Policy Act of 1969 (NEPA) establishes a national policy with goals for the protection, maintenance, and enhancement of the environment, and provides a process for implementing these goals within federal agencies. Under NEPA, the Council on Environmental Quality (CEQ) was established, which is charged with the development of implementing regulations and ensuring federal agency compliance with NEPA. The CEQ regulations mandate that all federal agencies use a systematic interdisciplinary approach to environmental planning and the evaluation of actions that may affect the environment. 32 CFR Part 989, Environmental Impact Analysis Process (EIAP), outlines the Air force’s systematic procedures for the analysis of environmental impacts on installations to ensure Air Force compliance with NEPA and the CEQ regulations.

The EIAP provides the Air Force with a methodical interdisciplinary approach to environmental planning and the evaluation of proposed actions that may affect the environment. The EIAP regulation outlines a detailed process for preparing Environmental Impact Statements (EISs) and discusses the use of Environmental Assessments (EAs). This process is intended to assist Air Force officials in decision-making based on an understanding of the potential environmental consequences and to take actions that protect, restore, and enhance the environment. The level of analysis required to meet NEPA requirements will depend on the scope and severity of the environmental impacts threatened by the proposed action.

The Air Force has expanded on the EIAP process to address specific air quality concerns. The Air Quality EIAP guidance outlines the steps for the analysis of air quality related environmental impacts on installations in the United States and abroad. The policies and procedures set forth in the guidance are designed to ensure Air Force compliance with NEPA and the CEQ regulations as they relate to air quality.

3.1 EIAP - Air Quality Background

3.1.1 Clean Air Act

The Clean Air Act (CAA) required the Environmental Protection Agency (EPA) to establish a list of pollutants that may reasonably be anticipated to endanger public health and welfare. The EPA established a list of National Ambient Air Quality Standards (NAAQS) to protect the public from adverse impacts of these pollutants. The list consists of six criteria pollutants: sulfur dioxide (SO2), particulate matter (PM10 & PM2.5), nitrogen dioxide (NO2), carbon monoxide (CO), ozone (O3), and lead (Pb). (EPA 2014a)

Geographic areas where the air quality does not meet the NAAQS for one or more criteria pollutant are designated as non-attainment areas by the EPA. The responsible agency for these non-attainment areas must develop a State Implementation Plan (SIP, or other EPA approved CAA implementation plan) on attaining and maintaining the NAAQS. Non-attaining areas where air quality has improved to meet the NAAQS may be redesignated as maintenance areas by EPA, which usually results in the requirement to develop and
implement an air quality maintenance plan. CAA Section 176(c) prohibits federal agencies from taking various actions in nonattainment or maintenance areas unless they first demonstrate conformity with the EPA-approved SIP. The location of Air Force bases comparatively to the current non-attainment areas within the contiguous United States are shown in Figure 1, Non-attainment Areas Relative to Air Force Bases.

![Figure 1, Non-attainment Areas Relative to Air Force Bases](image)

3.1.2 NEPA

NEPA (1969 & amendments) established a broad national policy with goals for the protection, maintenance, and enhancement of the environment through mandating federal agencies to ensure environmental considerations are given careful attention and appropriate weight in all decisions of the Federal Government. NEPA is a procedural law that requires all federal agencies to utilize federal resources or property to analyze potential environmental impact of the proposed action and viable alternatives. (Congress 1969)

An air quality assessment must be prepared for inclusion in a NEPA environmental document. The air quality assessment applies to all criteria pollutants (and their precursors), Hazardous Air Pollutants (HAPs), and Greenhouse Gasses (GHGs); and should include an analysis and conclusions which addresses the attainment and maintenance of the established National Ambient Air Quality Standards (NAAQS).

3.1.3 General Conformity Rule

General Conformity Rule (GCR), 40 CFR Part 93, mandates that the federal government not engage, support, or provide financial assistance for licensing or permitting, or approve any activity not conforming to an approved CAA implementation plan. The GCR, sometimes referred to as the “Conformity Rule” or “Air Conformity”, applies to all Federal actions except federal highway and transit actions which must instead comply with the conformity...
provisions implemented in the Transportation Conformity Rule issued by the Department of Transportation.

Unlike NEPA which is a procedural law, the GCR is a prohibitive law. The GCR forbids Federal actions that are non-compliant with SIPs, or other EPA approved CAA implementation plans. This is of interest to the Air Force due to potential impact on halting or delaying mission critical actions (e.g., military construction or MILCON). Additionally, the GCR only applies to non-attainment and maintenance areas and only for the criteria pollutant (and precursors) for which the area is in non-attainment or maintenance for.

The rule takes into account air pollution emissions associated with actions that are federally funded, licensed, permitted, or approved, and ensures emissions do not contribute to air quality degradation, thus preventing the achievement of state and federal air quality goals. In short, air conformity refers to the process of evaluating plans, programs, and projects to determine and demonstrate they meet the requirements of the CAA and an applicable implementation plan.

### 3.2 EIAP and Air Force Mandates

Under the Air Force Policy Directive 32-70, *Environmental Quality*, (AFPD 32-70) the Air Force acknowledges “achieving and maintaining environmental quality is an essential part of the Air Force mission” and that “the Air Force will conduct its activities according to national environmental policy”. This directive is a commitment by the Air Force to hold all personnel (including military, civilian employees, and contractors) accountable for the environmental consequences of their actions. Additionally, the directive mandates the Air Force to comply with applicable Federal, State, and local environmental laws and standards.


AFI 32-7040, *Air Quality Compliance and Resource Management Program*, explains responsibilities and specifics on how to assess, attain, and sustain compliance with the CAA and other Federal, State and local environmental regulations. This instruction provides further and more specific EIAP requirement for addressing potential air quality impacts associate with Air Force proposed actions. 8

### 3.3 Air Quality EIAP Levels

Generally speaking, actions that trigger an assessment under NEPA will also require a conformity evaluation if the project or program is located in a non-attainment or maintenance area. As such, the Air Force conducts NEPA and GCR assessments in tandem.
within the EIAP process. The EIAP process starts with the office formally initiating a proposed action (the “proponent”) by submitting an AF Form 813, Request for Environmental Impact Analysis, to begin the environmental impact analysis process. The air quality EIAP process then proceeds through up to three progressive levels of assessment (see Figure 2, Air Quality EIAP Process) based on significance thresholds:

3.4 Level I, Exempt Action Screening
Under this level, the proposed action is assessed to determine if a formal Air Quality Assessment is required. If no air emissions will occur or the proposed action is exempt, no further action is required.

3.4.1 Pollutant of Concern
Under EIAP, the air pollutant of concern include: all criteria pollutant, greenhouse gases, and total hazardous air pollutants (HAPs). General Conformity requires analysis only of emissions of those criteria pollutants and their precursors for which the area is designated nonattainment or maintenance. Additionally, permitted emission sources are not included in a General Conformity analysis.

3.4.2 Attainment status
Attainment status of the location the proposed activity will occur at will dictate if the GCR is applicable. If the action takes place in an attainment area, the GCR does not apply.

3.4.3 Exemptions
Exemptions under NEPA are listed as “categorically excluded” (CATEX) actions; however, CATEXed actions may still require a conformity evaluation if they are not exempt under the conformity regulations or listed as presumed to conform.

- Partial Exemption. The exclusion of subactivities or sources that are exempt emissions and/or emissions that are presumed to conform also reduces the total emissions. (40 CFR 93)

- Presumed to Conform (PTC). EPA identified the following as PTC actions: prescribed fires, emissions within a facility emission budget where the budget has been adopted by the state and actions listed by a state agency as PTC. Unfortunately, currently there are no state PTC lists. (40 CFR 93) (AFEC 2014c)

3.5 Level II, Air Quality Quantitative Assessment
Level II requires a formal assessment of air impacts be performed. A quantitative estimate of the annual net total direct and indirect emissions of pollutants of concern must be calculated. Only estimating methodologies, algorithms, and emission factors from the current AF General Conformity Guide, the AF Mobile Source Guide and the AF Stationary Source Guide are to be used. Currently the Air Conformity Applicability Model (ACAM) must be used throughout the Air Force to perform this estimate. ACAM provides a
simplified emission modeling that is adequate for a General Conformity Applicability Assessment and cursory NEP Assessment for air quality. If the findings of the assessment

**Figure 2, Air Quality EIAP Process**

![Diagram](image-url)
indicate no significant impact to air quality, the findings are documented through the ACAM automated reports for inclusion in the overall EIAP document. The following points are important in performing a quantitative estimate of the annual net emissions:

3.5.1 Worst Case Emissions
The greatest annual (calendar year) emissions for each pollutant of concern form the basis of the analysis. Emissions must be calculated from the start of the action annually until the direct and indirect emissions have been shown to have reached steady state (i.e., no increase or decrease from the previous year).

3.5.2 Net Emissions
The emissions are “net,” that is, emissions added by the action increase the total emissions, while emissions removed by the action reduce the total.

3.5.3 Action Phases & Schedule
Emissions must be calculated on an annual basis. Schedules should clearly indicate the years in which particular part or aspect of the action take place. These timing considerations can also be important if it is necessary to adjust the schedule of an action to keep annual emissions below conformity threshold values. For EIAP and conformity purposes, the scope, schedule, timing, and location of all portions of the action must be clearly laid out. Additionally, the General Conformity Rule does not allow for phased schedules or spatially separated parts of an action (segmented into smaller actions) to avoid making a conformity determination.

3.5.4 Segmentation
Larger actions cannot be segmented to reduce apparent emissions or to avoid making a conformity determination. Unfortunately, there is no clear guidance for determining when two or more actions must be considered as portions of a single action. In the absence of clear guidance, consideration should be given to whether one action is contingent upon another. That is, if one action would not be taken unless another is taken, then both actions should be considered as portions of a single action.

3.6 Level III, Advance Air Quality Assessment
At this level the assessment is part science and part art, both quantitative and qualitative assessments are utilized to evaluate the potential air quality impact associated with a proposed action. The results and findings of the assessment documented and are usually integrated in an overall formal Environmental Assessment (EA) or Environmental Impact Statement (EIS).

3.6.1 Quantitative Analysis
In a quantitative analysis of air quality an impact, the proposed action is assessed based on a firm quantity or measured value as compared to a defined limit (i.e., a threshold or an indicator). The action’s worst-case quantified annual emissions for each pollutant of concern are compared against defined EPA thresholds or indicators.
• Thresholds are annual emission levels that, if exceeded, would trigger a regulatory requirement.

• Indicators are EPA thresholds that are partially applied or applied out of context to their intended use.

• Therefore, indicators do not trigger a regulatory requirement; however, they provide a warning that the action is potentially approaching a threshold which would trigger regulatory requirement. It is important to note that while thresholds provide a definitive impact determination, indicators only provide a clue to the potential impacts to air quality.

3.6.2 Qualitative Analysis
In a qualitative analysis of air quality impacts, the proposed action is assessed based on quality or characteristic/s, rather than on a firm quantity or measured value. Inferences are drawn from professional judgment on potential impacts from the available quantified data and other scientifically related data. Air quality impact inferences should be derived from comparing the National Ambient Air Quality Standards (NAAQS) against an amalgamation of the quantified worst-case annual emissions for each pollutant of concern and the current ambient air quality data.

3.7 Air Quality EIAP Summary
EIAP outlines the Air force’s systematic procedures for the analysis of environmental impacts on installations to ensure Air Force compliance with NEPA and the CEQ regulations. The EIAP provides methodical interdisciplinary approach to environmental planning and the evaluation of proposed actions that may affect the environment. Additionally, the EIAP regulation outlines a detailed process for preparing EISs and EAs. This process assists Air Force officials in decision-making based on an understanding of the potential environmental consequences and to take actions that protect, restore, and enhance the environment. The Air Force has expanded on the EIAP process to address specific air quality concerns. The Air Quality EIAP guidance outlines the steps for the analysis of air quality related environmental impacts on installations in the United States and abroad. The policies and procedures set forth in the guidance are designed to ensure Air Force compliance with NEPA and the CEQ regulations as they relate to air quality.
4 AIR QUALITY EIAP LEVEL I, EXEMPT ACTION SCREENING

As a Federal agency, the Air Force is required under \textit{EIAP, NEPA}, and/or \textit{Conformity Rules} to prepare an environmental document (e.g., EIS, EA, or categorical exclusion) for major Federal actions that have the potential to affect the quality of the human environment. An air quality assessment prepared for inclusion in an \textit{EIAP} environmental document, or as a separate reporting document, (e.g., conformity determination), should include an analysis and conclusions which addresses the attainment and maintenance of established air quality standards (e.g., National Ambient Air Quality Standards, air toxic requirements).

In addition to Federal requirements there may be State and local air quality requirements to abide by. These requirements can include, but are not limited to, provisions such as state indirect source regulations, environmental policy acts, and local ambient air quality standards.

This section discusses the key steps, the agencies and individuals, and the screening thresholds involved in the air quality assessment process. The procedures discussed in this section are consistent with those provided in U.S. Air Force instructions in 32 CFR 989, \textit{EIAP}. These procedures ensure compliance with \textit{NEPA}, \textit{CAAA}, and 49 U.S.C. 47106(c)(1)(B). There are recommended and required time periods associated with many steps (for example, mandatory public comment periods); consult the appropriate agency document (i.e., 32 CFR 989 and USAF Instruction 32-7040) for more information.

4.1 Proposed Action Identification

The EIAP process starts with the office formally initiating a proposed action (the “proponent”) submitting an AF Form 813, Request for Environmental Impact Analysis. The air quality EIAP begins with the air quality analyst/environmental specialist reviewing the AF Form 813 as part of the environmental impact analysis process.

The Air Quality EIAP process then proceeds through up to three progressive levels of assessment (see Figure 2, Air Quality EIAP Process) based on significance thresholds. Fortunately for the air quality analyst/environmental specialist, not all of the steps are required for every action. Many actions are too small to require detailed air quality analysis and only a few actions are both broad enough in scope and located in nonattainment or maintenance areas such that the full complement of analyses described in this guide would be required.

4.1.1 Define the Action

The \textit{Description of the Proposed Action and Alternatives} (DOPAA) is the first Air Force document required by the proponent of an action to initiate the EIAP. The initial (usually cursory) DOPAA is documented within the AF Form 813 and is the basis for all follow-on environmental analyses.

4.1.2 Define the Action in Terms of Air Quality

It is important to define the action properly, and to clearly define the base case. Often the initial DOPAA is too vague and lacks specific details related to air quality. Therefore, the air quality analyst/environmental specialist must work with the proponent to expand on the DOPAA to
better describe/define the action as it relates to potential air quality impacts. Specific definition questions related to air quality include:

a. **Is the location of the action well defined?** For air quality assessments, the exact location of the proposed action will occur of importance because the increase (or decrease) in emissions associate with the activity are generally compared to location-specific baseline (per-activity) of ambient air quality, air emissions inventory (AEI), and emission thresholds. The exact location of the action must be defined down to the sub-county level in order to identify nearby vulnerable receptors and air quality regulatory areas.

b. **Are both direct and indirect emissions accounted for?** It is important to define the action in relation to all potential sources of air emissions. NEPA and General Conformity both require consideration of both “direct” and “indirect” emissions, some of which might not be subject to air permitting procedures. Both “direct” and “indirect” emissions are caused by or initiated by the Federal action; however, they only cover emissions resulting from the project or action under review (not the entire facility). “Direct emissions” occur at the same time and place as the action. “Indirect emissions” are reasonably foreseeable emissions that may occur later in time and/or farther removed from the action.

*If the action does not result in any direct or indirect emissions, the action is exempt from Air Quality EIAP. The exemption must be documented in the EIAP document (i.e., AF Form 313, EA, EIS, etc.) and the Air Quality EIAP Process is then complete. The following example or equivalent statement must be used: “No air impact due to action does not result in any direct or indirect emissions.”*

c. **Are the action’s phases properly scheduled?** Emissions must be calculated on an annual basis. Schedules should clearly indicate the month and years in which particular part or aspect of the action take place. These timing considerations can also be important if it is necessary to adjust the schedule of an action to keep annual emissions below conformity threshold values. For EIAP and conformity purposes, the scope, schedule, timing, and location of all portions of the action must be clearly laid out. Additionally, the General Conformity Rule does not allow for phased schedules or spatially separated parts of an action (segmented into smaller actions) to avoid making a conformity determination.

d. **Ensure action is not segmented.** A small action is less likely to require a conformity determination than a larger action that includes the small action. However, larger actions cannot be segmented to avoid making a conformity determination. Unfortunately, there is no clear guidance for determining when two or more actions must be considered as portions of a single action for conformity purposes. In the absence of clear guidance, consideration should be given to whether one action is contingent upon another. That is, if one action would not be taken unless another is taken, then both actions should be considered as portions of a single action for conformity purposes.
4.2 Determine Attainment Status Where the Action Will Takes Place

Attainment status of the location the proposed activity will occur at will dictate if the General Conformity is relevant. According to Section 176(c) of the CAA in Section 305 of Public Law 104-59, General Conformity applies only in nonattainment and maintenance areas. Even if indirect emissions associated with an action located in an attainment area occurs in a nonattainment or maintenance area, conformity does not apply.

*If the action takes place in an attainment area, the General Conformity does not apply.*

Attainment status determination is usually relatively easy:

a. Air Conformity Applicability Model (ACAM): The ACAM software is preprogrammed with the attainment status of every location within the continental U.S., including locations off base. Simply start the software and select your location down to any county within the U.S. and ACAM will provide a list of Air Quality Regulatory Areas and the attainment status.

b. Authoritative AF Base Attainment Status List: AFCEC maintains an authoritative list of attainment status for all CONUS installations. This list is considered more reliable than the EPA Green Book because it is updated more frequently and validated quarterly by AFCEC.

In nonattainment areas, different Conformity requirements may apply, depending on when the action is taken or started. For existing NAAQS, if the action is taken or started within one year following the effective date of a new final nonattainment designation, the pre-designation General Conformity requirements apply. If the action is taken or started after this grace period, the post-designation Conformity requirements apply, and the action must be evaluated for Conformity on the basis of the new designation and classification [40 CFR 93.153(k)]. For new NAAQS designations, General Conformity applies on the effective date in areas currently designated nonattainment of the same criteria pollutant.

An action may cause emissions in more than one nonattainment or maintenance area. Conformity must be evaluated for each area separately [40 CFR 93.150(e)]. A separate Conformity Applicability Analysis and, if required, a separate conformity determination are needed for each area. For example, if an action having total direct and indirect emissions of 55 tons per year (tpy) takes place in two nonattainment areas, each with a de minimis threshold of 50 tpy, but emits 35 tpy in one area and 20 tpy in the other, the action would fall below the applicable de minimis thresholds, and a conformity determination would not be required. If the action emits 85 tpy total, 65 tpy in one area and 20 tpy in the other, a conformity determination would be required in the first area, but not in the second.
4.3 Determine if the Action Would Cause Emissions of Pollutants of Concern

Under EIAP, the air pollutant of concern include: all criteria pollutant, greenhouse gases, and total hazardous air pollutants (HAPs). General Conformity requires analysis only of emissions of those criteria pollutants and their precursors for which the area is designated nonattainment or maintenance. Additionally, permitted emission sources are not included in a General Conformity analysis.

*If there are no emissions of General Conformity pollutants of concern, a conformity evaluation is not required.*

For example, if an action is located in a PM10 nonattainment area but action causes only volatile organic compound (VOC) emissions, the General Conformity requirements are not applicable and only an EIAP analysis is required. Note that if using ACAM, identification of the air pollutant of concern is automated based on the location you have selected.

4.4 Determine if the Action is Exempt

Under EIAP there are NEPA exemptions and Conformity exemptions. Exemptions under NEPA are listed as “categorically excluded” (CATEX) actions; however, CATEXed actions **may still require a conformity evaluation** if they are not exempt under the conformity regulations or listed as presumed to conform.

An action is **ONLY exempt from further Air Quality EIAP assessment if it is exempt for both Conformity and NEPA.**

4.4.1 Categorically Excluded (CATEX)

According to 32 CFR 989.13 (a), Categorical Exclusion (CATEX) is defined as “categories of actions that do not individually or cumulatively have potential for significant effect on the environment and do not, therefore, require further environmental analysis in an EA (Environmental Assessment) or an EIS (Environmental Impact Statement)”. However, 32 CFR 989.13 (e) goes on to further state that “application of a CATEX to an action does not eliminate the need to meet air conformity requirements.” Therefore, even if an action is on the CATEX list, it still needs to be evaluated for Conformity if it is in a non-attainment area.

**CATEX categories apply to the proposed action as a whole, not to just a portion of the action.** The list of CATEX actions is officially maintained in 32 CFR 989 Attachment B, Categorical Exclusions. Table 2, Air Force CATEX Action List, provides a summary of the current Air Force CATEX list.

An evaluation of the conformity exemptions in 40 CFR 93 Subpart B against the list of Air Force-approved CATEXs in 32 CFR 989 was performed. Of the 38 CATEXed actions listed in 32 CFR 98, a total of 34 of these actions are also exempt from conformity requirements because they are either administrative or routine and recurring in nature.
The four CATEX actions do not meet an exemption for Conformity and are identified in red, bold, and italicized text in Table 1.

Table 2, Air Force CATEX Action List

<table>
<thead>
<tr>
<th>Citation</th>
<th>CATEX Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>32 CFR 989 A2.3.1.</td>
<td>Routine procurement of goods and services.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.2.</td>
<td>Routine Commissary and Exchange operations.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.3.</td>
<td>Routine recreational and welfare activities.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.4.</td>
<td>Normal personnel, fiscal or budgeting, and administrative activities and decisions including those involving military and civilian personnel (for example, recruiting, processing, paying, and records keeping).</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.5.</td>
<td>Preparing, revising, or adopting regulations, instructions, directives, or guidance documents that do not, themselves, result in an action being taken.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.6.</td>
<td>Preparing, revising, or adopting regulations, instructions, directives, or guidance documents that implement (without substantial change) the regulations, instructions, directives, or guidance documents from higher headquarters or other Federal agencies with superior subject matter jurisdiction.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.7.</td>
<td>Continuation or resumption of pre-existing actions, where there is no substantial change in existing conditions or existing land uses and where the actions were originally evaluated in accordance with applicable law and regulations, and surrounding circumstances have not changed.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.8.</td>
<td>Performing interior and exterior construction within the 5-foot line of a building without changing the land use of the existing building.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.9.</td>
<td>Repairing and replacing real property installed equipment.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.10.</td>
<td>Routine facility maintenance and repair that does not involve disturbing significant quantities of hazardous materials such as asbestos and lead-based paint.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.11.</td>
<td>Actions similar to other actions which have been determined to have an insignificant impact in a similar setting as established in an EIS or an EA resulting in a FONSI. The EPF must document application of this CATEX on AF Form 813, specifically identifying the previous Air Force approved environmental document which provides the basis for this determination.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.12.</td>
<td>Installing, operating, modifying, and routinely repairing and replacing utility and communications systems, data processing cable, and similar electronic equipment that use existing rights of way, easements, distribution systems, or facilities.</td>
</tr>
</tbody>
</table>

Red, bold, and italicized text indicates CATEX actions that do not meet conformity exemptions.
<table>
<thead>
<tr>
<th>Citation</th>
<th>CATEX Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>32 CFR 989 A2.3.13</td>
<td>Installing or modifying airfield operational equipment (such as runway visual range equipment, visual glide path systems, and remote transmitter or receiver facilities) on airfield property and usually accessible only to maintenance personnel.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.14</td>
<td>Installing on previously developed land, equipment that does not substantially alter land use (i.e., land use of more than one acre). This includes outgrants to private lessees for similar construction. The EPF must document application of this CATEX on AF Form 813.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.15</td>
<td>Laying-away or mothballing a production facility or adopting a reduced maintenance level at a closing installation when (1) agreement on any required historic preservation effort has been reached with the state historic preservation officer and the Advisory Council on Historic Preservation, and (2) no degradation in the environmental restoration program will occur.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.16</td>
<td>Acquiring land and ingrants (50 acres or less) for activities otherwise subject to CATEX. The EPF must document application of this CATEX on AF Form 813.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.17</td>
<td>Transferring land, facilities, and personal property for which the General Services Administration (GSA) is the action agency. Such transfers are excluded only if there is no change in land use and GSA complies with its NEPA requirements.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.18</td>
<td>Transferring administrative control of real property within the Air Force or to another military department or to another Federal agency, not including GSA, including returning public domain lands to the Department of the Interior.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.19</td>
<td>Granting easements, leases, licenses, rights of entry, and permits to use Air Force controlled property for activities that, if conducted by the Air Force, could be categorically excluded in accordance with this Appendix (32 CFR 989 A2). The EPF must document application of this CATEX on AF Form 813.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.20</td>
<td>Converting in-house services to contract services.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.21</td>
<td>Routine personnel decreases and increases, including work force conversion to either on-base contractor operation or to military operation from contractor operation (excluding base closure and realignment actions which are subject to congressional reporting under 10 U.S.C. 2687).</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.22</td>
<td>Routine, temporary movement of personnel, including deployments of personnel on a TDY basis where existing facilities are used.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.23</td>
<td>Personnel reductions resulting from workload adjustments, reduced personnel funding levels, skill imbalances, or other similar causes.</td>
</tr>
</tbody>
</table>

*Red, bold, and italicized text indicates CATEX actions that do not meet conformity exemptions.*
<table>
<thead>
<tr>
<th>Citation</th>
<th>CATEX Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>32 CFR 989 A2.3.24.</td>
<td>Study efforts that involve no commitment of resources other than personnel and funding allocations.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.25.</td>
<td>The analysis and assessment of the natural environment without altering it (inspections, audits, surveys, investigations). This CATEX includes the granting of any permits necessary for such surveys, provided that the technology or procedure involved is well understood and there are no adverse environmental impacts anticipated from it. The EPF must document application of this CATEX on AF Form 813.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.26.</td>
<td>Undertaking specific investigatory activities to support remedial action activities for purposes of cleanup of Environmental Restoration Account (ERA)—Air Force and Resource Conservation and Recovery Act (RCRA) corrective action sites. These activities include soil borings and sampling, installation, and operation of test or monitoring wells. This CATEX applies to studies that assist in determining final cleanup actions when they are conducted in accordance with legal agreements, administrative orders, or work plans previously agreed to by EPA or state regulators.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.27.</td>
<td>Normal or routine basic and applied scientific research confined to the laboratory and in compliance with all applicable safety, environmental, and natural resource conservation laws.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.28.</td>
<td>Routine transporting of hazardous materials and wastes in accordance with applicable Federal, state, interstate, and local laws.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.29.</td>
<td>Emergency handling and transporting of small quantities of chemical surety material or suspected chemical surety material, whether or not classified as hazardous or toxic waste, from a discovery site to a permitted storage, treatment, or disposal facility.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.30.</td>
<td>Immediate responses to the release or discharge of oil or hazardous materials in accordance with an approved Spill Prevention and Response Plan or Spill Contingency Plan or that are otherwise consistent with the requirements of the National Contingency Plan.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.31.</td>
<td>Relocating a small number of aircraft to an installation with similar aircraft that does not result in a significant increase of total flying hours or the total number of aircraft operations, a change in flight tracks, or an increase in permanent personnel or logistics support requirements at the receiving installation. Repetitive use of this CATEX at an installation requires further analysis to determine there are no cumulative impacts. The EPF must document application of this CATEX on AF Form 813.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.32.</td>
<td>Temporary (for less than 30 days) increases in air operations up to 50 percent of the typical installation aircraft operation rate or increases of 50 operations a day, whichever is greater. Repetitive use of this CATEX at an installation requires further analysis to determine there are no cumulative impacts.</td>
</tr>
</tbody>
</table>

*Red, bold, and italicized text indicates CATEX actions that do not meet conformity exemptions.*
Table 2, Air Force CATEX Action List (continued)

<table>
<thead>
<tr>
<th>Citation</th>
<th>CATEX Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>32 CFR 989 A2.3.33.</td>
<td>Flying activities that comply with the Federal aviation regulations, that are dispersed over a wide area and that do not frequently (more than once a day) pass near the same ground points. This CATEX does not cover regular activity on established routes or within special use airspace.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.34.</td>
<td>Supersonic flying operations over land and above 30,000 feet MSL, or over water and above 10,000 feet MSL and more than 15 nautical miles from land.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.35.</td>
<td>Formal requests to the FAA, or host-nation equivalent agency, to establish or modify special use airspace (for example, restricted areas, warning areas, military operating areas) and military training routes for subsonic operations that have a base altitude of 3,000 feet above ground level or higher. The EPF must document application of this CATEX on AF Form 813, which must accompany the request to the FAA.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.36.</td>
<td>Adopting airfield approach, departure, and en route procedures that are less than 3,000 feet above ground level, and that also do not route air traffic over noise-sensitive areas, including residential neighborhoods or cultural, historical, and outdoor recreational areas. The EPF may categorically exclude such air traffic patterns at or greater than 3,000 feet above ground level regardless of underlying land use.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.37.</td>
<td>Participating in “air shows” and fly-overs by Air Force aircraft at non-Air Force public events after obtaining FAA coordination and approval.</td>
</tr>
<tr>
<td>32 CFR 989 A2.3.38.</td>
<td>Conducting Air Force “open houses” and similar events, including air shows, golf tournaments, home shows, and the like, where crowds gather at an Air Force installation, so long as crowd and traffic control, etc., have not in the past presented significant safety or environmental impacts</td>
</tr>
</tbody>
</table>

4.4.2 Conformity Exemptions

Exemptions from the GCR are list in 40 CFR 93.153 or applicable SIP (40 CFR 51.851) and are generally routine and recurring in nature. GCR exemptions fall either regulatory exemptions or as presumed to conform (PTC) exemptions.

If a proposed action is on the CATEX list AND is either on the GCR regulatory exempt list or the PTC list, document the CATEX and the GCR exemption; the Air Quality assessment process is complete (no further air quality review is required).

a. Presumed to Conform (PTC): EPA identified the following as PTC actions: prescribed fires, emissions within a facility emission budget where the budget has been adopted by the state, and agency-generated PTE actions published in the Federal Registry as PTC. **PTC actions may apply to the proposed action as a whole, NOT to a portion of the action.** Additionally, when an action is comprised of combining two or more PTC sub-actions, the **PTC sub-actions may not be combined with one**
another when the net combined emissions would equal or exceed any of the General Conformity thresholds [40 CFR 93.1523(f)].

Currently there are no published agency-generated PTC actions/activities in the Federal Register. To establish a PTC list in the Federal Register the Air Force would need to clearly:

- Preform one of the following:
  - Demonstrate the action/activities would not cause or contribute to any new violation of any standard in any area, interfere with applicable SIPs, increase the frequency/severity of any existing violation of any standard in any area; or delay timely attainment of any standard or any required interim emission reductions or other milestones.
  - Provide documentation that the total of direct and indirect emissions would be below the Conformity thresholds.
  - Demonstrate that the PTC actions emissions are from the type or category of actions and the amount of emissions from the action are included in the applicable SIP and the State, local, or tribal air quality agencies responsible for the SIP(s) or TIP(s) provide written concurrence that the emissions from the actions along with all other expected emissions in the area will not exceed the emission budget in the SIP.
  - Identify through publication in the Federal Register its list of proposed activities that are “presumed to conform” and the basis for the presumptions. The notice must clearly identify the type and size of the action that would be “presumed to conform” and provide criteria for determining if the type and size of action qualifies it for the presumption.
  - Notify the appropriate EPA Regional Office(s), State, local, and tribal air quality agencies and provide at least 30 days for the public to comment on the list of proposed activities “presumed to conform.”
  - Document its response to all the comments received and make the comments, response, and final list of activities available to the public upon request.
  - Publish the final list of such activities in the Federal Register.

A PTC list has little value given existing Conformity exemptions and the ease of performing an Applicability Analysis with the ACAM. Any Air Force-generated PTC action would only be appropriate for activities that are “similar in scope and operation” to a specific PTC activity; however, 40 CFR 93.153(c)(2)(x) already provides an exemption for actions with “similar in scope and operation to activities currently being conducted at the existing structures, properties, facilities, and lands.” Additionally, the
new 2014 version of ACAM has greatly simplified Applicability Analysis to the point that any action that would potentially be qualified for a PTC listing can be readily performed. Therefore, the Air Force will not pursue a PTC list.

Currently the ONLY PTC actions are prescribed fires, emissions within a facility emission budget where the budget has been adopted by the state, and actions identifies in the EPA-approved SIP or TIP as “presumed to conform.”

b. Regulatory Exempt from Conformity: Regulatory exemptions are specifically listed in 40 CFR 153 and are either administrative or routine and recurring in nature. Actions that are administrative in nature do not emit emissions and include: judicial and legislative proceedings; rulemaking and policy development; administrative actions; planning, studies, and provision of technical assistance; transfers of ownership; etc. Actions that are Routine and recurring in nature include: transportation of materials; operations; permit renewals; activities similar in scope to current activities; maintenance and repair activities; CERCLA corrective actions; etc.

The following is a summary of actions typically exempt from General Conformity associated with Air Force Actions:

- Actions or portions thereof subject to the requirements of transportation conformity. Such actions shall not be considered for purposes of General Conformity.

- Actions with no emissions or emissions that are clearly de minimis:
  - Routine maintenance and repair activities
  - Routine, recurring transportation of materiel and personnel
  - Routine movement of mobile assets
  - Maintenance dredging and debris disposal
  - Future activities conducted similar in scope and operation to activities currently being conducted
  - Routine operation of facilities, mobile assets and equipment
  - Aircraft operations above the mixing height

- Actions having emissions that are not “reasonably foreseeable”:
  - Initial Outer Continental Shelf lease sales
  - Electric power acquisition, sale and transmission
• Actions to conduct or carry out a conforming program

• Actions or portions that are excluded from conformity determination requirements:
  
  o Portion of an action that includes a major or minor new or modified stationary source requiring a permit under the CAA New Source Review (NSR) or Prevention of Significant Deterioration (PSD) programs;
  
  o Response to emergencies not to exceed 6 months
  
  o Research, investigations, studies, demonstrations, or training
  
  o Alteration and additions of existing structures required by environmental legislation or regulations
  
  o Remedial and removal actions carried out under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and associated regulations.

• Continuing response to an emergency or disaster and which are to be taken more than 6 months (but not to exceed 12 months)

According to 40 CFR 93.152’s definition of *Total of direct and indirect emissions* (i.e., “net” emissions or the sum of the action’s direct and indirect emissions increases and decreases), the portion of emissions which are exempt under 40 CFR 93.153 (c), (d), or (e) are not included in the “total of direct and indirect emissions”.

Specific typical exempt actions associated with Air Force activities and citations are provided in Table 3, *List of General Conformity Exemptions*.  

If a proposed action is on the GCR exempt list, document the specific GCR exemption and citation (as shown in Table 2) within the EIAP document; the Conformity Applicability Analysis is complete.

If a proposed action is on the CATEX list AND is either on the GCR regulatory exempt list or the PTC list, document the specific GCR exemption and CATEX with citations (as shown in Table 1 and 2) within the EIAP document; the Air Quality assessment process is complete (no further air quality review is required).
Table 3, List of General Conformity Exemptions

<table>
<thead>
<tr>
<th>Citation</th>
<th>General Conformity Exemption</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 CFR 93.153 (a)</td>
<td>Actions or portions thereof related to transportation plans, programs, and projects developed, funded, or approved under Title 23 of the United States Code or the Federal Transit Act are subject to the requirements of transportation conformity. Such actions need not be considered part of the USAF action for purposes of general conformity.</td>
</tr>
<tr>
<td>40 CFR 93.153 (c)(2)(iv)</td>
<td>Routine maintenance and repair activities, including repair and maintenance of administrative sites, roads, trails, and facilities.</td>
</tr>
<tr>
<td>40 CFR 93.153 (c)(2)(viii)</td>
<td>Routine movement of mobile assets, such as ships and aircraft, in home port reassignments and stations (when no new support facilities or personnel are required) to perform as operational groups and/or for repair or overhaul.</td>
</tr>
<tr>
<td>40 CFR 93.153 (c)(2)(ix)</td>
<td>Maintenance dredging and debris disposal where no new depths are required, applicable permits are secured, and disposal will be at an approved disposal site.</td>
</tr>
<tr>
<td>40 CFR 93.153 (c)(2)(x)</td>
<td>Actions, such as the following, with respect to existing structures, properties, facilities and lands where future activities conducted will be similar in scope and operation to activities currently being conducted at the existing structures, properties, facilities, and lands; for example, relocation of personnel, disposition of federally-owned existing structures, properties, facilities, and lands, rent subsidies, operation and maintenance cost subsidies, the exercise of receivership or conservatorship authority, assistance in purchasing structures, and the production of coins and currency.</td>
</tr>
<tr>
<td>40 CFR 93.153 (c)(2)(xii)</td>
<td>Routine operation of facilities, mobile assets and equipment.</td>
</tr>
<tr>
<td>40 CFR 93.153 (c)(2)(xxii)</td>
<td>Air traffic control activities and adopting approach, departure, and enroute procedures for aircraft operations above the mixing height specified in the applicable SIP or TIP. Where the applicable SIP or TIP does not specify a mixing height, the Federal agency can use the 3,000 feet above ground level as a default mixing height, unless the agency demonstrates that use of a different mixing height is appropriate because the change in emissions at and above that height caused by the Federal action is de minimis.</td>
</tr>
</tbody>
</table>
Table 3, List of General Conformity Exemptions (continued)

<table>
<thead>
<tr>
<th>Citation</th>
<th>General Conformity Exemption</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 CFR 93.153 (c)(3)(ii)</td>
<td>Actions having <strong>emissions that are not “reasonably foreseeable”</strong>, such as: Electric power marketing activities that involve the acquisition, sale and transmission of electric energy.</td>
</tr>
<tr>
<td>40 CFR 93.153 (c)(4)</td>
<td>Actions which implement a decision to conduct or carry out a conforming program such as prescribed burning actions which are consistent with a conforming land management plan.</td>
</tr>
<tr>
<td>40 CFR 93.153 (d)(1)</td>
<td>The portion of an action that includes <strong>major or minor new or modified stationary sources that require a permit under the new source review (NSR) program</strong> (Section 110(a)(2)(c) and Section 173 of the Act) or <strong>the prevention of significant deterioration program</strong> (title I, part C of the Act).</td>
</tr>
<tr>
<td>40 CFR 93.153 (d)(2)</td>
<td><strong>Actions in response to emergencies</strong> which are typically commenced on the order of hours or days after the emergency and, if applicable, which meet the requirements of paragraph 40 CFR 93.153(e).</td>
</tr>
<tr>
<td>40 CFR 93.153 (d)(3)</td>
<td>Notwithstanding the other requirements of this subpart, a <strong>conformity determination is not required for the following Federal actions (or portion thereof)</strong>:</td>
</tr>
<tr>
<td></td>
<td><strong>Research, investigations, studies, demonstrations, or training</strong> (other than those exempted under paragraph 40 CFR 93.153(c)(2) of this section), where no environmental detriment is incurred and/or, the particular action furthers air quality research, as determined by the State agency primarily responsible for the applicable SIP.</td>
</tr>
<tr>
<td>40 CFR 93.153 (d)(4)</td>
<td><strong>Alteration and additions of existing structures as specifically required by new or existing applicable environmental legislation or environmental regulations</strong> (e.g., hush houses for aircraft engines and scrubbers for air emissions).</td>
</tr>
<tr>
<td>40 CFR 93.153 (d)(5)</td>
<td><strong>Direct emissions from remedial and removal actions carried out under the Comprehensive Environmental Response, Compensation and Liability Act and associated regulations</strong> to the extent such emissions either comply with the substantive requirements of the PSD/NSR permitting program or are exempted from other environmental regulation under the provisions of CERCLA and applicable regulations issued under CERCLA.</td>
</tr>
</tbody>
</table>
Table 3, List of General Conformity Exemptions (continued)

<table>
<thead>
<tr>
<th>Citation</th>
<th>General Conformity Exemption</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 CFR 93.153</td>
<td>Emissions from the following actions are “presumed to conform”:</td>
</tr>
<tr>
<td>(j)(1)</td>
<td>Actions at installations with facility-wide emission budgets meeting the requirements in 40 CFR 93.161 provided that the State or Tribe has included the emission budget in the EPA-approved SIP and the emissions from the action along with all other emissions from the installation will not exceed the facility-wide emission budget.</td>
</tr>
<tr>
<td>40 CFR 93.153</td>
<td>Prescribed fires conducted in accordance with a smoke management program (SMP) which meets the requirements of EPA's Interim Air Quality Policy on Wildland and Prescribed Fires or an equivalent replacement EPA policy.</td>
</tr>
<tr>
<td>(j)(2)</td>
<td>Emissions for actions that the State or Tribe identifies in the EPA-approved SIP or TIP as “presumed to conform.”</td>
</tr>
<tr>
<td>40 CFR 93.153</td>
<td></td>
</tr>
<tr>
<td>(j)(3)</td>
<td></td>
</tr>
</tbody>
</table>

4.4.3 CATEX Actions Potentially Not Exempt from Conformity

As discussed in section 4.6.1, an evaluation of the conformity exemptions in 40 CFR 93 Subpart B against the list of Air Force-approved CATEXs in 32 CFR 989 was performed. Of the 38 CATEXed actions listed in 32 CFR 98, a total of 34 of these actions are also exempt from conformity requirements because they are either administrative or routine and recurring in nature. However, 4 of the CATEXed actions potentially may not be exempt from Conformity. In other words, CATEXed actions may still require a conformity evaluation if they are not exempt under the conformity regulations and the action occurs in an air quality non-attainment or maintenance area.

According to the EIAP process (32 CFR 989), air quality NEPA and General Conformity Rule assessments are both required under the EIAP process. 32 CFR 989 Appendix B provides a list of CATEX actions, which exclude further environmental analysis in an EA or an EIS. However, 32 CFR 989.13 (e) states that “application of a CATEX to an action does not eliminate the need to meet air conformity requirements”. Therefore, even if a proposed action has been CATEXed, further air quality environmental analysis is required if a proposed action is located where General Conformity applies. According to 40 CFR 93 Subpart B, General Conformity does not apply when the proposed action:

- Is located in an attainment area;
- Is specifically exempt; or
- Has been determined to conform (i.e., proposed action’s emissions are below de minimis thresholds).
To alleviate the requirement to “address applicable conformity requirements” regardless of the CATEX, an evaluation of the conformity exemptions in 40 CFR 93 Subpart B against the list of Air Force-approved CATEXs in 32 CFR 989 was performed. The following is a discussion of CATEX Actions Potentially Not Exempt from Conformity:

**CATEX Action 32 CFR 989 A2.3.8.**

*Performing interior and exterior construction within the 5-foot line of a building without changing the land use of the existing building.*

For conformity, 40 CFR 93 Subpart B (c) (2) (iv) exempts “routine maintenance and repair activities, including repair and maintenance of administrative sites, roads, trails, and facilities.” Therefore, any Sustainment, Restoration and Modernization (SRM) projects (EEIC 52, 522 and 524) are exempt from conformity requirements. However, by definition this exemption does not apply to military construction (MILCON) projects which will expand any part of a facility’s foundation system beyond its current footprint and elevation, or expansion of functional space.

*Only SRM projects/actions are both CATEXed and Conformity exempt; MILCON projects/actions ARE NOT Conformity exempt and must undergo a Conformity Applicability Analysis with ACAM.*

**CATEX Action 32 CFR 989 A2.3.11.**

*Actions similar to other actions which have been determined to have an insignificant impact in a similar setting as established in an EIS or an EA resulting in a Finding of No Significant Impact (FONSI). The Environmental Planning Function (EPF) must document application of this CATEX on AF Form 813, specifically identifying the previous Air Force approved environmental document which provides the basis for this determination.*

This CATEX is very broad as written and caution must be used in interpreting the meaning of “similar to”. “Similar to” for conformity must mean that the action is equal to or less than the scope, activity, and size of the FONSI action. For conformity, 40 CFR 93 Subpart B (c) (1) exempts “actions where the totals of direct and indirect emissions are below” the conformity de minimis thresholds. Therefore, only a FONSI action that has been previously demonstrated to be below the conformity de minimis thresholds (for direct and indirect emissions) may be exempt from conformity if, and only if, the de minimis determination was performed through the ACAM tool. Additionally, the exemption only applies to “similar” actions whose scope, activity, and size are equal to or less than the FONSI action.

*To be Conformity exempt the prior FONSI action must have been evaluated and identified as not significant with the 2014 (or newer) version of ACAM, and the new proposed action’s scope, activity, and size MUST BE equal to or less than the FONSI action.*

Installing on previously developed land, equipment that does not substantially alter land use (i.e., land use of more than one acre). This includes outgrants to private lessees for similar construction. The EPF must document application of this CATEX on AF Form 813.

This CATEX is too broad as written to exclude air quality issues or exempt Conformity requirements unless the equipment is an in-kind replacement or it does not emit air pollutants. Rate of air emissions from equipment and associated regulatory requirements are not dependent on land size or previous land development; therefore, any new equipment that emits air pollutants and is not otherwise exempt must be assessed for EIAP and conformity applicability.

Only in-kind replacement projects/actions are both CATEXed and Conformity exempt; all other projects/actions ARE NOT Conformity exempt and must undergo a Conformity Applicability Analysis with ACAM.

CATEX Action 32 CFR 989 A2.3.32.

Temporary (for less than 30 days) increases in air operations up to 50 percent of the typical installation aircraft operation rate or increases of 50 operations a day, whichever is greater. Repetitive use of this CATEX at an installation requires further analysis to determine there are no cumulative impacts.

While 40 CFR 93 Subpart B (c) (2) (viii) exempts “routine movement of mobile assets, such as ships and aircraft, in home port reassignments and stations (when no new support facilities or personnel are required) to perform as operational groups and/or for repair or overhaul”, it does not exempt temporary increases of mobile assets from conformity requirements. However, installations can potentially take advantage of 40 CFR 93 Subpart B (c) (1), which exempts “actions where the totals of direct and indirect emissions are below” the conformity de minimis thresholds. The installation must first perform and document a worst-case Conformity Applicability Analysis in ACAM that demonstrates the action will be below de minimis thresholds.

In non-attainment and maintenance areas a worst-case Conformity Applicability Analysis (in ACAM) must clearly demonstrate the action will be below de minimis thresholds before considering this action both CATEXed and Conformity exempt. The Conformity Applicability Analysis must be retained as documentation.

4.5 Quick Steps for Level I, Exempt Action Screening

Step 1. Proposed Action Identification

The EIAP process starts with the “proponent” submitting an AF Form 813, Request for Environmental Impact Analysis, and the air quality EIAP begins with the air quality
analyst/environmental specialist reviewing the AF Form 813 as part of the environmental impact analysis process.

**a. Define the Action**

The proponent drafts the initial *Description of the Proposed Action and Alternatives* (DOPAA) within the AF Form 813 and is the basis for all follow-on environmental analyses.

**b. Define the Action in Terms of Air Quality**

Often the initial DOPAA is too vague and lacks specific details related to air quality. Therefore, the air quality analyst/environmental specialist must work with the proponent to expand on the DOPAA to better describe/define the action as it relates to potential air quality impacts.

- **Is the location of the action well defined?** Need the exact location of the proposed action will be located. The exact location of the action must be defined down to the sub-county level in order to identify nearby vulnerable receptors and air quality regulatory areas.

- **Are both direct and indirect emissions accounted for?** Both “direct” and “indirect” emissions are caused by or initiated by the Federal action; however, they only cover emissions resulting from the project or action under review not the entire facility. “Direct emissions” occur at the same time and place as the action. “Indirect emissions” are reasonably foreseeable emissions that may occur later in time and/or farther removed from the action. *If the action does not result in any direct or indirect emissions, the action is exempt from Air Quality EIAP. The exemption must be documented in the EIAP document (i.e., AF Form 313, EA, EIS, etc.) and the Air Quality EIAP Process is then complete.*

- **Are the action’s phases properly scheduled?** Schedules should clearly indicate the month and years in which particular part or aspect of the action take place. The scope, schedule, timing, and location of all portions of the action must be clearly laid out. Phased schedules or spatially separated parts of an action (segmented into smaller actions) are not allowed.

- **Ensure action is not segmented.** Consideration should be given to whether one action is contingent upon another. That is, if one action would not be taken unless another is taken, then both actions should be considered as portions of a single action.

**Step 2, Determine Attainment Status Where the Action Will Takes Place**

Attainment status of the location the proposed activity will occur at will dictate if the General Conformity is relevant. Even if indirect emissions associated with an action located in an attainment area occurs in a nonattainment or maintenance area, conformity does not apply.
If the action takes place in an attainment area, the General Conformity does not apply.

Step 3, Determine if the Action Would Cause Emissions of Pollutants of Concern

Under EIAP, the air pollutant of concern include: all criteria pollutant, greenhouse gases, and total hazardous air pollutants (HAPs). General Conformity requires analysis only of emissions of those criteria pollutants and their precursors for which the area is designated nonattainment or maintenance. Additionally, permitted emission sources are not included in a General Conformity analysis.

If there are no emissions of General Conformity pollutants of concern, a conformity evaluation is not required.

Note that if using ACAM, identification of the air pollutant of concern is automated based on the location you have selected.

Step 4, Determine if the Action is Exempt

Exemptions under NEPA are listed as “categorically excluded” (CATEX) actions; however, CATEXed actions may still require a conformity evaluation if they are not exempt under the conformity regulations or listed as presumed to conform.

An action is ONLY exempt from further Air Quality EIAP assessment if it is exempt for both Conformity and NEPA.

a. Categorically Excluded (CATEX)

CATEX categories apply to the proposed action as a whole, not to just a portion of the action. The list of CATEX actions is officially maintained in 32 CFR 989 Attachment B, Categorical Exclusions. Table 2, Air Force CATEX Action List, provides a summary of the current Air Force CATEX list.

If a proposed action is on the CATEX list and the action is within an attainment area, document the specific CATEX citation (as shown in Table 2) within the EIAP document; NO Conformity Applicability Analysis is needed and the EIAP is complete.

b. Conformity Exemptions

Exemptions from the GCR are list in 40 CFR 93.153 or applicable SIP (40 CFR 51.851) and are generally routine and recurring in nature. GCR exemptions fall either regulatory exemptions or as presumed to conform (PTC) exemptions.
- **Presumed to Conform (PTC):** EPA identified the following as PTC actions: prescribed fires, emissions within a facility emission budget where the budget has been adopted by the state, and agency-generated PTE actions published in the Federal Registry as PTC. **PTC actions may apply to the proposed action as a whole, NOT to a portion of the action.** Additionally, when an action is comprised of combining two or more PTC sub-actions, the **PTC sub-actions may not be combined with one another when the net combined emissions would equal or exceed any of the General Conformity thresholds.**

The new 2014 version of ACAM has greatly simplified Applicability Analysis to the point that any action that would potentially be qualified for a PTC listing can be readily performed. Therefore, the Air Force will not pursue a PTC list.

*Currently the ONLY PTC actions are prescribed fires, emissions within a facility emission budget where the budget has been adopted by the state, and actions identifies in the EPA-approved SIP or TIP as “presumed to conform.”*

- **Regulatory Exempt from Conformity:** Regulatory exemptions are specifically listed in 40 CFR 153 and are either administrative or routine and recurring in nature. Specific typical exempt actions associated with Air Force activities and citations are provided in Table 3, *List of General Conformity Exemptions.*

  *If a proposed action is on the GCR exempt list, document the specific GCR exemption and citation (as shown in Table 3) within the EIAP document; the Conformity Applicability Analysis is complete.*

  *If a proposed action is on the CATEX list AND is either on the GCR regulatory exempt list or the PTC list, document the specific GCR exemption and CATEX with citations (as shown in Table 2 and 3) within the EIAP document; the Air Quality assessment process is complete (no further air quality review is required).*

**c. CATEX Actions Potentially Not Exempt from Conformity**

Of the 38 CATEXed actions listed in 32 CFR 98, 4 of the CATEXed actions potentially may not be exempt from Conformity. In other words, these **CATEXed actions may still require a conformity evaluation** if they are not exempt under the conformity regulations and the action occurs in an air quality non-attainment or maintenance area.

The following is a discussion of **CATEX Actions Potentially Not Exempt from Conformity:**

**CATEX Action 32 CFR 989 A2.3.8.**

*Performing interior and exterior construction within the 5-foot line of a building without changing the land use of the existing building.*
Sustainment, Restoration and Modernization (SRM) projects (EEIC 52, 522 and 524) are exempt from conformity requirements. However, military construction (MILCON) projects which will expand any part of a facility’s foundation system beyond its current footprint and elevation, or expansion of functional space are NOT exempt.

*Only SRM projects/actions are both CATEXed and Conformity exempt; MICON projects/actions ARE NOT Conformity exempt and must undergo a Conformity Applicability Analysis with ACAM.*

**CATEX Action 32 CFR 989 A2.3.11.**
Actions similar to other actions which have been determined to have an insignificant impact in a similar setting as established in an EIS or an EA resulting in a Finding of No Significant Impact (FONSI). The Environmental Planning Function (EPF) must document application of this CATEX on AF Form 813, specifically identifying the previous Air Force approved environmental document which provides the basis for this determination.

Only a FONSI action that has been previously demonstrated to be below the conformity de minimis thresholds (for direct and indirect emissions) may be exempt from conformity if, and only if, the de minimis determination was performed through the ACAM tool. Additionally, the exemption only applies to “similar” actions whose scope, activity, and size are equal to or less than the FONSI action.

*To be Conformity exempt the prior FONSI action must have been evaluated and identified as not significant with the 2014 (or newer) version of ACAM, and the new proposed action's scope, activity, and size MUST BE equal to or less than the FONSI action.*

**CATEX Action 32 CFR 989 A2.3.14.**
Installing on previously developed land, equipment that does not substantially alter land use (i.e., land use of more than one acre). This includes outgrants to private lessees for similar construction. The EPF must document application of this CATEX on AF Form 813.

Rate of air emissions from equipment and associated regulatory requirements are not dependent on land size or previous land development; therefore, any new equipment that emits air pollutants and is not otherwise exempt must be assessed for EIAP and conformity applicability.

*Only in-kind replacement projects/actions are both CATEXed and Conformity exempt; all other projects/actions ARE NOT Conformity exempt and must undergo a Conformity Applicability Analysis with ACAM.*
CATEX Action 32 CFR 989 A2.3.32.

Temporary (for less than 30 days) increases in air operations up to 50 percent of the typical installation aircraft operation rate or increases of 50 operations a day, whichever is greater. Repetitive use of this CATEX at an installation requires further analysis to determine there are no cumulative impacts.

40 CFR 93 Subpart B (c) (2) (viii) does not exempt temporary increases of mobile assets from conformity requirements. However, installations can potentially take advantage of 40 CFR 93 Subpart B (c) (1), which exempts “actions where the totals of direct and indirect emissions are below” the conformity de minimis thresholds. The installation must first perform and document a worst-case Conformity Applicability Analysis in ACAM that demonstrates the action will be below de minimis thresholds.

In non-attainment and maintenance areas a worst-case Conformity Applicability Analysis (in ACAM) must clearly demonstrate the action will be below de minimis thresholds before considering this action is both CATEXed and Conformity exempt. The Conformity Applicability Analysis must be retained as documentation.

Step 5, Document Exemption or Proceed to Level II

If the action does not meet exemptions for both CATEX and Conformity, you are in a new level of significance that requires a quantitative assessment. Proceed to Level II, Air Quality Quantitative Assessment.

If the action meets exemptions for both CATEX and Conformity, documentation of exemption is required. A factual basis for an exempt finding must be documented and maintained as part of the administrative record for the action. At a minimum, the Federal Administrative Procedures Act requires a reviewable record of an agency’s environmental-related decision making at the time the decision is made, not afterwards. In addition, failure to document an applicability analysis under the CAA is tantamount to a failure to conduct such an analysis; such a failure or omission leaves the USAF vulnerable to regulatory or citizen-suit enforcement. In this regard, Air Force Instruction (AFI) 32-7040, Air Quality Compliance, and 32 CFR 989, Environmental Impact Analysis Process (EIAP), require sufficient documentation for compliance purposes.

A finding of exemption must be documented, along with the rationale for the finding. Depending on the situation, this finding could be accomplished as part of a categorical exclusion (CATEX) document (if one is prepared) on Air Force Form 813, Air Force Form 332, or U.S. Department of Defense Form 1391 or by using the Record of Non-Applicability (RONA) or Record Of Conformity Applicability (ROCA) as described in the following. An AF 813 is required for EIAP/NEPA by 32 CFR 989.

The Proponents shall prepare required conformity documents in coordination with the installation and AFCEC/CZ air quality program managers.

To adequately document the finding, the following must be provided:
• A description of the proposed action,

• Adequate documentation to support the conclusion that the action is on the CATEX action list, and

• Adequate documentation to support the conclusion that a Conformity exemption does apply.

“Adequate documentation” must be in the form of a Record Of Conformity Applicability (ROCA) if action will occur in a non-attainment/maintenance area (as a record of Conformity non-applicability) or a Record Of Air Analysis (ROAA) if action will occur in attainment area. The ROCA or ROAA must be retained at the installation for a period of five years after signature.
5 Level II, Air Quality Quantitative Assessment

Actions that do not meet exemptions for both CATEX and/or Conformity require a formal Level II quantitative assessment. The Level II assessment requires a formal evaluation of air impacts based on a quantitative net change emission inventory of the annual net total direct and indirect emissions of pollutants of concern. In Level II an estimate of the worst-case annual net change (i.e., total direct and indirect emissions associated with a proposed action) is compared against regulatory thresholds or indicators.

Only estimating methodologies, algorithms, and emission factors from the current Air Force General Conformity Guide, Mobile Source Guide, and Stationary Source Guide are to be used.

Additionally, the Air Conformity Applicability Model (ACAM) must be used for Level II assessments throughout the Air Force. ACAM provides a simplified emission modeling that is adequate for a General Conformity Applicability Assessment and cursory NEPA assessment for air quality. If the findings of the assessment indicate no significant impact to air quality, the findings are documented through the ACAM automated reports for inclusion in the overall EIAP document.

5.1 Net Change Emissions Inventory

For air quality Level II assessments, the “action” and “no-action” emissions are analyzed (including temporary emissions resulting from the actions like construction emissions) for the action and each alternative. The difference between the two emission inventories, in turn, equate to the emissions directly attributable to the action or the net change in emissions for the action or alternative. After defining a proposed action and any alternatives, creating a net change emission inventory is the next important step in assessing air quality impact. This emissions inventory provides an indication of the magnitude of a proposed project’s potential environmental impact. An emissions inventory provides the total amount or mass of pollutants generated by emission sources during a specified period of time (e.g., tons per year). To determine the emission inventory of an action, emissions are calculated for all relevant sources and operators and then totaled. The following points are important in performing a quantitative estimate of the annual net change emissions:

5.1.1 Net Emissions

In performing a Level II assessment, the emissions from all activities/sources associated with the action are “netted” on an annual basis. Emissions added by the action increase the total net emissions, making the total net emissions greater than zero. This total net emissions inventory can then be compared to regulatory standards or indicators to determine if the action is environmentally acceptable.

### Net Emissions

<table>
<thead>
<tr>
<th>Net Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 CFR 93.152 defines “net” emissions as the sum of direct and indirect emissions increases and decreases caused by the federal action and emissions “caused by” the federal action as those that would otherwise not occur in the absence of the action. In other words, net emissions can be found by comparing the proposed action’s net annual emissions with the emissions occurring in the absence of the action. In estimating net emissions, emissions controls included in the action design and planned mitigations should be included.</td>
</tr>
<tr>
<td>For future years, the net emissions comparison for the action can be made with a baseline that includes the growth that would occur even if the action were not taken, that is, growth not caused by the action (Woo 1996). For example, an estimate of future traffic emissions caused by additional personnel required by an action could exclude traffic emissions that would occur even without the action.</td>
</tr>
</tbody>
</table>
while emissions removed by the action reduce the total net emissions. Only emissions resulting from the project or action under review are included, not the entire facility.

Netting also accounts for all direct and indirect potential sources of air emissions. NEPA and General Conformity both require consideration of both “direct” and “indirect” emissions. Both “direct” and “indirect” emissions are caused by or initiated by the Federal action. “Direct emissions” occur at the same time and place as the action. “Indirect emissions” are reasonably foreseeable emissions that may occur later in time and/or farther removed from the action.

5.1.2 **Worst Case Emissions (Temporal Considerations)**

Emissions from an action may vary from year to year. A conformity applicability analysis must consider the greatest annual emissions associated with the action. If more than one pollutant or precursor is involved, the greatest emissions may occur in different years for different pollutants. For example, a new source of VOCs could have its greatest total PM$_{10}$ emissions during construction and its greatest total VOC emissions during a year of full operations in which there are no construction activities.

To find the greatest annual emissions, it may be necessary to estimate the total net direct and indirect emissions for the following: the calendar year with the greatest construction emissions, the calendar year with the greatest operations emissions, and the calendar year with the greatest combination of construction and operations emissions.

The greatest annual (calendar year) net change in emissions for each pollutant of concern forms the basis of the analysis. To ensure capture of the worst-case year, emissions must be calculated from the start of the action annually until the direct and indirect emissions have been shown to have reached steady state. Steady state is reached when the action is fully implemented and there no increase or decrease in emissions from the previous year.

5.2 **Thresholds or Indicators**

In a Level II quantitative analysis of air quality impact, the proposed action is assessed based on some firm quantity or measured value as compared to a defined limit. The action’s the worst-case quantified annual emissions for each pollutant of concern are compared against defined EPA thresholds or indicators. Thresholds are EPA-established annual emission levels that, if exceeded, would trigger a regulatory requirement. Indicators are EPA-established thresholds that are partially applied or applied out of context to their intended use. Therefore, indicators do not trigger a regulatory requirement; however, they provide an indication or a warning that the action is potentially approaching a threshold which would trigger regulatory requirement.

It is important to note that while thresholds provide a definitive impact determination, indicators only provide a clue to the potential impacts to air quality.

The General Conformity thresholds are intended to be used to perform an Applicability Analysis; however, they can also be used as a general indicator for air quality NEPA
assessments. When the General Conformity thresholds are compared directly to the estimated net total direct and indirect emissions from the proposed action (or alternatives).

- **Applicability Analysis (Use as a Threshold):** In an Applicability Analysis (for non-attainment and maintenance areas only), General Conformity thresholds are de minimis values used to compare against the action’s the worst-case estimated annual emissions for each pollutant of concern. *If the worst-case annual emissions estimate for each pollutant of concern is below the corresponding de minimis threshold values, a Conformity Determination is not required and the General Conformity Evaluation is complete upon completing a Record of Conformity Applicability (ROCA) to document the conclusion.*

- **NEPA Assessment (Use as an Indicator):** Given the General Conformity de minimis threshold values are the maximum net change an action can acceptably emit in non-attainment and maintenance areas, these threshold values would also be a conservative indicator that an actions emissions within an attainment would also be acceptable. In other words, if the threshold is acceptable in non-attainment areas, it must be more than acceptable in an attainment area. *If the worst-case annual emissions estimate for each pollutant of concern is below the corresponding de minimis threshold values, this indicates that further assessment is unwarranted. Evaluation is complete upon completing a Record of Air Analysis (ROAA) to document the conclusion.*

### 5.3 Action Phases & Schedule

Emissions must be calculated on an annual basis. Schedules should clearly indicate the years in which particular part or aspect of the action take place. These timing considerations can also be important if it is necessary to adjust the schedule of an action to keep annual emissions below conformity threshold values. For EIAP and conformity purposes, the scope, schedule, timing, and location of all portions of the action must be clearly laid out. Additionally, the General Conformity Rule does not allow for phased schedules or spatially separated parts of an action (segmented into smaller actions) to avoid making a conformity determination.

#### 5.3.1 Segmentation

Another closer look at potential segmenting of large actions into smaller actions should be taken. Ensure actions are not segmented to reduce apparent emissions or to avoid making a conformity determination. There is no clear guidance for determining when two or more actions must be considered as portions of a single action. In the absence of clear guidance, a general rule of thumb is if one action would not be taken unless another is taken, then both actions should be considered as portions of a single action.
5.4 Algorithms and Emission Factors

All emissions estimates should be realistic and technically defensible. The procedures and factors provided in the Air Force Stationary and Mobile Source Guides are acceptable for conformity but may need supplemented with transitory sources (i.e., on-routine and/or seasonal stationary or mobile sources that are short-term in nature). Reasonable upper bounds can be used if specific factors are not available. Documentation of all assumptions and methodology in a ROCA or ROAA is recommended. As the agency responsible for conformity review, the Air Force has ultimate responsibility for determining acceptable emissions calculation procedures. However, if there is doubt about the validity of methods, the local regulator or EPA Regional Office should be consulted.

Table 4, Typical Air Force Activates and Sources with Air Emissions

<table>
<thead>
<tr>
<th>Activity</th>
<th>Sources</th>
<th>Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft Operations</td>
<td>Flight operations</td>
<td>Aircraft engine exhaust</td>
</tr>
<tr>
<td></td>
<td>Engine test cell</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Auxiliary power units</td>
<td>Unit engine exhaust</td>
</tr>
<tr>
<td></td>
<td>Aerospace ground equipment</td>
<td>Combustion engine exhaust</td>
</tr>
<tr>
<td>Fire Training</td>
<td>Fuel-fired burning</td>
<td>External fuel combustion</td>
</tr>
<tr>
<td>Painting in booth</td>
<td>Paint solvents</td>
<td>Paint solvents fugitive/booth exhaust</td>
</tr>
<tr>
<td>Degreasing Operations</td>
<td>Solvent degreaser</td>
<td>Degreasing solvents</td>
</tr>
<tr>
<td>Emergency Generator</td>
<td>Internal combustion engines</td>
<td>Combustion engine exhaust</td>
</tr>
<tr>
<td>Personnel</td>
<td>Human activities (On-road vehicles,</td>
<td>Vehicle exhaust, combustion</td>
</tr>
<tr>
<td></td>
<td>energy consumption, etc.)</td>
<td>emissions associated with energy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>consumption, etc.</td>
</tr>
<tr>
<td>Storage Tanks</td>
<td>Horizontal tanks</td>
<td>Fuel, solvents, etc. standing storage</td>
</tr>
<tr>
<td></td>
<td>Vertical tanks</td>
<td>and working losses</td>
</tr>
<tr>
<td>Construction/Demolition</td>
<td>Demolition</td>
<td>Fugitive dust, off-road construction equipment,</td>
</tr>
<tr>
<td></td>
<td>Site Grading</td>
<td>on-road construction vehicles, on-road</td>
</tr>
<tr>
<td></td>
<td>Trenching/Excavation</td>
<td>construction vehicles, worker on-road vehicles,</td>
</tr>
<tr>
<td></td>
<td>Building Construction</td>
<td>on-road vehicles, off-</td>
</tr>
<tr>
<td></td>
<td>Architectural Coating</td>
<td>gassing of construction materials,</td>
</tr>
<tr>
<td></td>
<td>Paving</td>
<td>etc.</td>
</tr>
<tr>
<td>Heating</td>
<td>Boilers</td>
<td>External fuel combustion</td>
</tr>
</tbody>
</table>
5.5 Identification of Sources

Typical potential sources of emissions at air bases include aircraft, ground support equipment, ground access vehicles, stationary sources, and construction activities. Table 4, Typical Air Force Activities and Sources with Air Emissions, provides a list of typical non-exempt Air Force activities that emit direct and/or indirect emissions.

5.5.1 Aircraft Operations

As the single largest contributor to air base emissions, aircraft operations activity should be well scrutinized in a net change emissions inventory. The following provides a discussion/clarification on sources associated with aircraft operations:

- **Flight Operations**
  
  The sources of aircraft emissions include commercial and military aircraft, emission sources related to air carrier aircraft operations include auxiliary power units (APUs) and aerospace ground equipment (AGE, also known as ground support equipment or GSE. Commercial aircraft are operated on a scheduled basis by civilian international, national, regional and commuter air carriers. Military aircraft are operated by the Department of Defense (DOD). Military aviation includes the full spectrum of aircraft types, ranging from high performance jet fighters to large transports to small piston engine aircraft. Most military aircraft operations occur at DOD-operated air bases, but certain operations can take place at civilian airports as well. Examples of such activity include National Guard or active duty military aircraft based at a civilian facility and military transports shuttling personnel to a civilian airport. Emissions from military aircraft encompass those occurring at both military and civilian facilities. Civil aircraft also may shuttle personnel between a military and civilian facility. The emissions of civil aircraft operations at DOD-operated air bases also are attributed to the air base.

  A significant consideration for air base net change emissions inventories is that aircraft not only operate on the ground but emit pollutants during their flight in the atmosphere. Due to atmospheric mixing, some of these emissions affect ground level pollutant concentrations. The portion of the atmosphere that is completely mixed begins at the earth’s surface and may extend to a height of a few thousand feet. The volume is often referred to as the mixing zone or inversion layer. The height to which the mixing zone extends is called the mixing height. All pollutant emissions in the mixing zone must be accounted for in a complete emissions inventory.

  The aircraft operations of interest within the mixing zone are defined as those in the landing and takeoff (LTO) cycle. The standard LTO cycle begins when the aircraft enters the mixing zone as it approaches the airport on its descent from cruising altitude, lands and taxis to the gate. The cycle continues as the aircraft taxis back out to the runway, takes off, and climbs out of the mixing zone and back up to cruising altitude. The five specific operating modes in a standard LTO are: approach, taxi/idle-in, taxi/idle-out, takeoff, and climbout. Most aircraft go through this sequence during a complete standard operating cycle. Some aircraft and operations may go through a slightly different sequence during a non-standard operating cycle. Non-standard sequences combine or eliminate certain modes. For example, helicopters
combine takeoff and climbout mode. For a detailed discussion of the aircraft emissions calculation methodology and data inputs use the current Air Force Mobile Source Guide.

- **Auxiliary Power Units**
  An auxiliary power unit (APU) is a component of a large aircraft and essentially is a small turbine engine. An APU generates electricity and compressed air to operate the aircraft’s instruments, lights, ventilation, and other equipment while the main aircraft engines are shut down. It also is used to provide power for starting the main aircraft engines. APU’s burn jet fuel and create exhaust emissions like larger aircraft engines. APUs are common on both commercial and military aircraft; they are not common on smaller civil aircraft.

  During a typical LTO cycle, the APU is turned on as the aircraft taxis from the runway to the gate or parking space. It remains in use while the aircraft is parking until an alternative source of electricity and preconditioned air is made available. In commercial aircraft, the APU is reactivated at least five to ten minutes before the aircraft leaves the gate or parking space so that it will be able to provide power for starting the aircraft’s main engines. Typically, the APU is turned off after the main engines have been started, prior to takeoff. For a detailed discussion of the APU emissions calculation methodology and data inputs see the current Air Force Mobile Source Guide.

- **Ground Support Equipment or Aerospace Ground Equipment**
  A variety of ground equipment service larger commercial and military aircraft while they are between flights. As a group, this equipment is known as ground support equipment (GSE) at civilian airports and aerospace ground equipment (AGE) at military air bases.

  GSE and AGE primarily consist of the following equipment: aircraft tugs, air start units, loaders, tractors, air-conditioning units, ground power units, cargo moving equipment, service vehicles, buses, cars, pickups and vans. The equipment that service civilian and military aircraft vary slightly based on the types of aircraft and operations occurring at an airport versus an air base. GSE that operate at civilian airport, but typically are not part of the military AGE population, are baggage tractors and belt loaders. An AGE type that operates at a military air base, but typically is not part of a civilian GSE population, is a weapons loader.

  There also is a variety of ground equipment that service air bases. This equipment may be assigned to various departments of the facility including administration, emergency response, police department, operations, engineering and construction, automotive, mechanical maintenance, and landscaping/gardening. The types of equipment servicing an airport or air base vary from cars and pick-ups to generators and lawn mowers. There also are GSE associated with the maintenance of the airport that can have a seasonal and regional variability, such as snow plows. This equipment also is included in a GSE or AGE inventory.

  For a detailed discussion of the GSE or AGE emissions calculation methodology and data inputs see the current Air Force Mobile Source Guide.
5.5.2 **On-road Vehicles**

Personnel activity emissions are primarily from on-road vehicles which encompass all on-road or highway vehicle trips generated by the air base action. On-road vehicles include all vehicles traveling to and from, as well as within the airport or air base (excluding those GSE or AGE used for servicing the aircraft and airport or air base). On-road and highway vehicles include privately-owned vehicles, military government-owned vehicles, rental cars, shuttles, buses, taxicabs and trucks.

Due to varying emission characteristics, the EPA divides on-road vehicles into eight categories based on duty cycle (i.e., light or heavy duty), fuel (i.e., gasoline or diesel), and type (i.e., vehicle, truck, or motorcycle):

- Light-duty gasoline-fueled passenger cars,
- Light-duty gasoline-fueled trucks with a gross vehicle weight (GVW) rating of 6000 pounds or less,
- Light-duty gasoline-fueled trucks with a GVW between 6001 and 8500 pounds,
- Heavy-duty gasoline-fueled vehicles with a GVW exceeding 8500 pounds,
- Light-duty diesel-fueled passenger cars,
- Light duty diesel-fueled trucks with a GVW of 8500 pounds or less,
- Heavy-duty diesel-fueled vehicles with a GVW exceeding 8500 pounds, and
- Motorcycles (vehicles with no more than three wheels in contact with the ground and curb weight less than 1500 pounds).

There are both on-base and off-base emissions from on-road vehicles. To capture the total emissions from vehicles, the full round-trip operation of the vehicle is tracked, from the time the vehicle is started at its point of origin (e.g., an employee’s home), arrives at the base location (e.g., an airport parking lot or the main terminal), departs the base location, and reaches its point of destination. Usually, due to the lack of detailed trip data, an average trip distance is used to represent full round-trip operation.

For a detailed discussion of the on-road vehicles emissions calculation methodology and data inputs see the most current Air Force Mobile Source Guide.

5.5.3 **Stationary Sources**

Stationary sources of air emissions at bases consist of both combustion and non-combustion sources. Typical sources include: boilers, space heaters, emergency generators, incinerators, fire training facilities, aircraft engine testing facilities, fuel storage tanks, painting operations, solvent degreasers, etc.
The combustion sources tend to produce a variety of air pollutants that are released to the atmosphere with combustion gases. These pollutants include: VOC (as HC), CO, NOₓ, PM-10 and SO₂. The venting of combustion gases to the atmosphere results in the emission of these pollutants, although emissions may be reduced through the use of air pollution control techniques or devices at the source.

Air bases operate boilers and space heaters to fulfill much of their heating and power generation requirements. These stationary combustion sources burn several different fuel types, most commonly fuel oil, diesel, natural gas, or occasionally jet fuel. Coal combustion is limited to large heating and power plants on some air bases.

Emergency generators at bases typically are fixed in place and located throughout the site to provide supplementary or emergency power. These generators are likely powered by gasoline or diesel-fueled reciprocating engines.

Some bases operate on-site aircraft rescue and firefighting training facilities. In these facilities, fuel is burned in a pit or a mockup of an aircraft to simulate emergency situations that may occur at the site. The amount of fuel burned and time of burning depend upon the particular training exercise being performed and type of equipment in use.

Aircraft engine testing also is performed at some bases as part of regular aircraft maintenance cycles. In general, engine testing is performed on uninstalled engines (not in aircraft) in enclosed test cells. These tests are often performed following overhaul or repair of the engine to determine air worthiness, engine safety performance and fuel efficiency. During the test, the engine is mounted in a special enclosed cell that restricts noise but allows air to flow through at speeds simulating aircraft flight. Engine thrust and other essential performance parameters are measured as the engine is taken through a sequence of power settings. The term “trim” testing is engine testing with the engine attached to the aircraft and is commonly performed on the airfield apron or pad, with no additional emission controls.

The non-combustion stationary sources at bases tend to emit only one type of pollutant instead of the full range produced by combustion sources. Many sources have evaporative emissions of hydrocarbons (HC) as the only air pollution of concern. Sand and salt piles, on the other hand, emit particulate matter to the atmosphere during loading, unloading and wind erosion of the piles.

Air bases may store large quantities of jet fuel, aviation gasoline, diesel fuel and other fuel types in storage tanks on site. Evaporative HC emissions from the tanks occur during fuel loading and unloading as well as during daily expansion and contraction of the tank contents due to ambient temperature changes.

A variety of coating and painting operations also are performed at bases. Roadway and runway maintenance requires the occasional application of paint, and some aircraft maintenance facilities may include aircraft painting. These operations usually result in the evaporation of HC from the various coatings and solvents used.
Solvent degreasing units are regularly used for aircraft and ground vehicle maintenance, paint stripping and other miscellaneous activities utilizing organic solvents. Solvent degreasers use organic solvents to remove fats, oils, grease, wax or soil from various metal, glass or plastic items. There are two types of solvent degreasers commonly used: cold cleaning and open-top vapor degreasers. Cold cleaning operations use alcohol, ketones and petroleum distillates as solvents for parts cleaning through immersion, brushing, spraying or flushing. Open-top vapor systems are boiling degreasers that clean by the condensation of solvent on the surface of parts being cleaned. Each of these operations causes HC emissions due to evaporation of the solvent.

5.5.4 **Construction/Demolition**

**Construction Phases**

Construction (including demolition) is an art, not a science. Generally, each construction project is unique and therefore there is no one systematic approach to estimating emissions associated with a contraction project. Recognizing the uniqueness of every construction project, the Air Force defines construction in typical phases that result in quantifiable emissions for each construction project:

1) Demolition,
2) Site Grading,
3) Trenching/Excavation,
4) Building Construction,
5) Architectural Coating, and
6) Paving.

A construction project may be composed of any combination of these predefined phases; a project may be defined by all phases, a single phase or any combination of phases.

**Emission Classes**

Each construction phase results in a unique combination of construction emission classes. There are five construction emission classes that may attributed to the emissions for any specific construction phase, which include:

- Fugitive Dust,
- Construction Exhaust (Off-road equipment),
- Vehicle Exhaust (On-road vehicles),
• Worker Trips,

• Vendor Trips, and

• Off-Gassing.

Table 5, Summary of Construction Phases and Their Emission Classes, provides a summary of the emission classes that make up each construction phase. For each construction phase, an “X” in an emissions class’s column indicates that emission class must be considered in the overall emissions calculations for the phase. For example, the “site grading” phase will consider Fugitive Dust, Construction Exhaust (Off-road equipment), Exhaust (On-road vehicles), and Worker Trips in calculating the overall emissions associated with site grading.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Unique Phase Emission Classes</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Fugitive Dust</td>
</tr>
<tr>
<td>Demolition</td>
<td>X</td>
</tr>
<tr>
<td>Site Grading</td>
<td>X</td>
</tr>
<tr>
<td>Trenching/Excavation</td>
<td>X</td>
</tr>
<tr>
<td>Building Construction</td>
<td>X</td>
</tr>
<tr>
<td>Architectural Coatings</td>
<td></td>
</tr>
<tr>
<td>Paving (Asphalt)</td>
<td>X</td>
</tr>
</tbody>
</table>

5.6 Quick Steps for Level II, Air Quality Quantities Assessment

All Level II assessment throughout the Air Force must be evaluated with ACAM. ACAM provides simple emission modeling that is adequate for a General Conformity Applicability Assessment and cursory NEPA assessment for air quality. If the findings of the ACAM assessment indicate no significant impact to air quality, the findings are documented through the ACAM automated reports for inclusion in the overall EIAP document.

ACAM is written to be user-friendly and provides step-by-step progressive instructions and feedback for ease of use. The following are the basic steps for performing a Level II assessment with ACAM:

**Step 1, Obtain and Run ACAM**

ACAM must be used for all Level II assessments throughout the Air Force. ACAM may be requested through completing a DD Form 2875, System Authorization Access Request (SAAR), and submitting the completed form to Air Quality Subject Matter Expert (HQ AFCEC/CZTQ) for approval.

A SARR form that is already partially filled out with pertinent data can be obtained at [http://www.aqhelp.com/](http://www.aqhelp.com/). Click on the “Air Quality Tools” button at the top of screen and
then click on the blue "Air Conformity Applicability Model (ACAM)" text. At this point you can download the ACAM - System Authorization Access Request (SAAR) and ACAM - SAAR Help File.

**Figure 3, ACAM Application Main Sections**

Upon approval, a download link for the ACAM install file and instructions will be emailed to you usually within a day or two. The person installing ACAM can follow the simple instructions in the ACAM Quick Start Guide (see Appendix B, ACAM Quick Start Guide).

ACAM implements a results-oriented interface to provide an environment in which a user can quickly create, modify, and finalize an air analysis for various Air Force activities. The results-oriented interface inherits many designs and features from Microsoft Word and other Office products to give a familiar feel, allowing a user to have existing knowledge of how the program operates. The interface is divided into three main sections: Ribbon, Status Panel, and Workspace (see Figure 3, ACAM Application Main Menu). The ACAM Status Panel is designed as a guided tour through the complete use of an ACAM analysis; basically all you need to do is click the warnings starting at the top and clear them as directed until you clear the final warning.

**Step 2, Enter Proposed Action Information**

This step involves entering general information on the proposed action. All data entered will be regurgitated in the finalized reports generated by ACM; therefore, the entries should be concise and accurate (see Figure 4, ACAM Propose Action Information Screen).
Specific inputs include:

- **Title:** This is the official title of the proposed action as it appears in the AF Form 813 or Description of the Proposed Action and Alternatives (DOPAA)

- **Project Number/s:** This allows for affiliating any proposed project/s by the project number/s.

- **Purpose & Need:** This is an abridged description of the proposed action’s purpose and need. Both the purpose and need descriptions should be a condensed version of purpose and need descriptions of the proposed action as they appear in the AF Form 813 or DOPAA.

- **Description of Action & Alternatives:** This is an abridged description of the proposed action and alternatives that should be derived by distilling down the description from the DOPAA or expanding the description from the AF Form 813. The description should be short; however, it needs to also be concise in details and accurate.

**Step 3: Document Information**

This simple step involves entering general information on the ACAM user and which regulatory standards the user wishes to elevate. All data entered will be regurgitated in the finalized reports generated by ACM; therefore, the entries should be concise and accurate (see Figure 5, **ACAM Document Information Screen**).
Specific inputs include:

- **User Info**: This entry is to identify the ACAM user. Generally, the ACAM user is the person running ACAM and performing the air quality assessment. However, if ACAM is being run on the behalf of a government repetitive, the ACAM user may be entered as the individual ultimately responsible for the air quality assessment. Specific data collected includes: name, title, organization, phone number, and email address.

- **Regulatory Area Standards**: These entries allow the user to select type of Regulatory Areas they wish to include in the ACAM assessment. Regulatory Area Standards (types of regulatory areas by criteria pollutant) can be added or removed by simply toggling yes-or-no buttons. The default setting is to include all areas except for 8-hour ozone; which is the normal setting for nearly all actions. An example of a typical exception to the default setting scenario would be proposed actions occurring within areas California which still regulatorally impose the 1-hour ozone standard for anti-backsliding.

**Step 4: Select Base**

This step establishes the Air Force base the proposed action is associated with, which may not necessarily be where the action will occur. Base location can be selected by base name (A-Z) or zeroing in by MAJCOM or state (see Figure 6, ACAM Base Selection Screen).

Note: The proposed action may be located off base. As a reminder, a **Federal action** means any activity engaged in by a department, agency, or instrumentality of the Federal
government, or any activity that a department, agency or instrumentality of the Federal government supports in any way, provides financial assistance for, licenses, permits, or approves, other than activities related to transportation plans, programs, and projects developed, funded, or approved under title 23 U.S.C. or the Federal Transit Act (49 U.S.C. 1601 et seq.). Where the Federal action is a permit, license, or other approval for some aspect of a non-Federal undertaking, the relevant activity is the part, portion, or phase of the non-Federal undertaking that requires the Federal permit, license, or approval.

Figure 6, ACAM Base Selection Screen

Step 5: Insert Activities
This step accounts for all direct and indirect activities/sources attributed to the proposed action. In performing a Level II assessment, the emissions from all activities/sources associated with the action are “netted” on an annual basis. Emissions added by the action increase the total net emissions, while emissions removed by the action reduce the total net emissions. Only emissions resulting from the project or action under review are included, not the entire facility.

Netting also accounts for all direct and indirect potential sources of air emissions. NEPA and General Conformity both require consideration of both “direct” and “indirect” emissions. Both “direct” and “indirect” emissions are caused by or initiated by the Federal action. “Direct emissions” occur at the same time and place as the action. “Indirect emissions” are reasonably foreseeable emissions that may occur later in time and/or farther removed from the action. Figure 7, ACAM Example Activity Screen, show a typical activity data entry form from ACAM.
Figure 7, ACAM Example Activity Screen

Typical potential sources/activities of direct and/or indirect emissions at air bases (as discussed in detail in section 5.4) that may be add or removed within ACAM to reflect the composition of the proposed action are shown in Table 6, Typical Air Force Activates with Air Emissions.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Sources</th>
<th>Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft Operations</td>
<td>Flight operations</td>
<td>Aircraft engine exhaust</td>
</tr>
<tr>
<td></td>
<td>Engine test cell</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aerospace ground equipment</td>
<td>Combustion engine exhaust</td>
</tr>
<tr>
<td>Fire Training</td>
<td>Fuel-fired burning</td>
<td>External fuel combustion</td>
</tr>
<tr>
<td>Painting in booth</td>
<td>Paint solvents</td>
<td>Paint solvents fugitive/booth exhaust</td>
</tr>
</tbody>
</table>
Table 6, Typical Air Force Activities with Air Emissions (continued)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Sources</th>
<th>Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degreasing Operations</td>
<td>Solvent degreaser</td>
<td>Degreasing solvents</td>
</tr>
<tr>
<td>Emergency Generator</td>
<td>Internal combustion engines</td>
<td>Combustion engine exhaust</td>
</tr>
<tr>
<td>Personnel</td>
<td>Human activities</td>
<td>On-road vehicles, energy consumption, etc.</td>
</tr>
<tr>
<td>Storage Tanks</td>
<td>Horizontal tanks</td>
<td>Fuel, solvents, etc. standing storage and working losses</td>
</tr>
<tr>
<td></td>
<td>Vertical tanks</td>
<td></td>
</tr>
<tr>
<td>Construction/Demolition</td>
<td>Demolition</td>
<td>Fugitive dust, off-road construction equipment, on-road construction vehicles, worker on-road vehicles, vendor on-road vehicles, off-gassing of construction materials, etc.</td>
</tr>
<tr>
<td></td>
<td>Site Grading</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trenching/Excavation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Building Construction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Architectural Coating</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Paving</td>
<td></td>
</tr>
<tr>
<td>Heating</td>
<td>Boilers</td>
<td>External fuel combustion</td>
</tr>
</tbody>
</table>

Given an activity/source may be located at a location other than the location of the proposed action; the location of each activity/source must be identified. ACAM allows for selecting the exact location an activity/source will take place down to the county and regulatory area/s level.

Step 6: View & Validate Results

Upon including direct and indirect activities/sources attributed to the proposed action, a final review and validation of these activities/sources should be performed prior to finalizing the emission calculations. To assist in this review and validation ACAM provides two methods for graphically and illustratively viewing activity inputs; a List View and a Timeline View. Both views allow editing of activities.

- **List View:** This view provides graphical summary of emission results by activity and sub-phases down to each criteria pollutant. Activities may be fully edited or deleted by simply clicking on the “Edit” or “Delete” buttons on the left side of the desired activity.

- **Timeline View:** Provides visual interactive timeline of all activities (including sub-phases) and emissions summary of each criteria pollutant. The timelines are interactive with the user, allowing for immediate comparison of alternatives, quick mitigation scenarios, and what-if analysis.
Activities may be fully edited by simply clicking on the title of the activity you wish to edit.

The timeline graphically shows the start and end of each activity and their sub-phases, and allows for timeline adjustments by simply clicking the “L” or “R” buttons next to the activity/sub-phase name. Clicking “L” button moves the activity/sub-phase timeline one month back, while clicking “R” button moves the activity/sub-phase timeline one month forward.

Emission calculations are instantly adjusted with timeline movements and the tons/year of above/below each criteria pollutant’s annual threshold (see Table 6, General Conformity De Minimis Levels (Thresholds), for summary of thresholds) are displayed at the bottom two lines of each activity’s timeline. Green numbers and a green “▲” symbols indicates the remaining tons/year before reaching a threshold. Red numbers and a red “▼” symbols indicate the tons/year you will exceed over the threshold. See Figure 8, ACAM Timeline View, for details.

Figure 8, ACAM Timeline View

Mitigation of an action’s exceedances of thresholds is often easily performed by adjusting the activity timelines. Simply clicking the “L” or “R” buttons next to the activity/sub-phase name that drives the exceedance until the numbers and red “▼” symbols are replaced with green numbers and a green “▲” symbols. If you are unable to fully mitigate with the timelines, then you may wish to modify the individual activities to lessen the overall emissions.
### Table 7, General Conformity De Minimis Levels (Thresholds)

<table>
<thead>
<tr>
<th>Criteria Pollutant</th>
<th>Area Classification</th>
<th>Pollutant of Interest</th>
<th>Ozone Transport Region (a)</th>
<th>De Minimis Level (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ozone</td>
<td>Extreme nonattainment</td>
<td>VOC or oxides of nitrogen (NO_x)</td>
<td>NA (b)</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Severe nonattainment</td>
<td>VOC or NO_x</td>
<td>NA</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Serious nonattainment</td>
<td>VOC or NO_x</td>
<td>NA</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>VOC or NO_x</td>
<td>Outside</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NO_x</td>
<td>Inside</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VOC</td>
<td>Inside</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NO_x</td>
<td>Outside</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Maintenance</td>
<td>NO_x</td>
<td>NA</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VOC</td>
<td>Inside</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VOC</td>
<td>Outside</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>CO, SO_2, NO_2</td>
<td>Nonattainment</td>
<td>CO, SO_2, NO_2</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>Maintenance</td>
<td>CO, SO_2, NO_2</td>
<td>NA</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>PM_10</td>
<td>Serious nonattainment</td>
<td>PM_10</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderate nonattainment</td>
<td>PM_10</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maintenance</td>
<td>PM_10</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>PM_2.5</td>
<td>Nonattainment or maintenance</td>
<td>PM_2.5 Direct emissions</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SO_2</td>
<td>NA</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NO_x (c)</td>
<td>NA</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VOC or Ammonia (NH_3) (d)</td>
<td>NA</td>
<td>100</td>
</tr>
<tr>
<td>Pb</td>
<td>Nonattainment</td>
<td>Pb</td>
<td>NA</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Maintenance</td>
<td>Pb</td>
<td>NA</td>
<td>25</td>
</tr>
</tbody>
</table>

Source: 40 CFR 93.153(b)(1) and (2).

(a) Section 184 of the CAA defines a single ozone transport region consisting of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the Consolidated Metropolitan Statistical Area around the District of Columbia.

(b) NA = not applicable.

(c) Unless it is determined that NO_x is not a significant precursor.

(d) If either a VOC or ammonia is determined to be a significant precursor.

### Step 7: Mitigation
Mitigation is an important mechanism for agencies to use to avoid, minimize, rectify, reduce, or compensate the adverse environmental impacts associated with their actions (40 C.F.R. § 1508.2). Federal agencies typically rely upon mitigation to reduce environmental...
impacts through modification of proposed actions and consideration and development of mitigation alternatives during the NEPA/Conformity process. Planned mitigation at times can serve to reduce the projected impacts of agency actions to below a threshold of significance or to otherwise minimize the effects of agency action.

In a Level II assessment, mitigation measures are any measures that would lower the total emissions of a proposed action. The goal of mitigation is to reduce emissions associated with a prosed action sufficiently to achieve emissions below de minimis thresholds. Mitigation Measures are emission reductions that are defined as follows: they are (1) quantifiable; (2) consistent with the SIP attainment and reasonable further progress demonstrations; (3) surplus to the reductions required by other applicable SIP provisions; (4) implemented through a SIP revision or similarly enforceable measure; and (5) permanent within the timeframe of the action.

To demonstrate achieving emissions below de minimis thresholds when using mitigation measures, the total direct and indirect emissions from the proposed action must be fully offset within the affected nonattainment or maintenance area so that there is no net increase in emissions of the pollutants of interest above the de minimis thresholds.

Mitigation/offset efforts should be incorporated into ACAM prior to establishing a final report. Mitigation efforts can be incorporated into ACAM through editing/modifying actions already input into ACAM (see procedures if Step 6 above) or by selecting another activity by clicking on “Insert” in the Ribbon Section of ACAM (see procedure for inserting in Step 5 above). Note that when adding a new activity you have the option of selecting that the action is being added (as a new activity) or being removed (as an existing activity that will be discontinued).

**Step 8: Steady State Calculation**

A Level II EIAP assessment requires evaluation of the greatest annual (worst-case calendar year) net change in emissions for each pollutant of concern. To ensure capture of the worst-case year, ACAM calculates emissions from the start of the action annually until a steady state is reached. Steady state is reached when the action is fully implemented and there is no increase or decrease in emissions from the previous year. Upon addressing all mitigation/offset efforts (as discussed in Step 7), steady state calculations are initiated by the user through one of two procedures by the user:

- **In “Timeline View”:** Click on “Steady State” button and all calculations are automatically performed through steady state.

- **In the “Status Panel” under “ACAM Warnings”:** Click on “Steady State Calculation Required” warning and all calculations are automatically performed through steady state.
Step 9: Reports
ACAM calculates air criteria pollutants, criteria pollutant precursors, and greenhouse gases for an action and its alternatives for all of the above typical Air Force activities (see Table 5, Typical Air Force Activities with Air Emissions) that potentially are part of a proposed action. The resultant ACAM calculations are presented in a visual timeline (see Figure 8, ACAM Timeline View, above for example of timeline), an analysis report, and an in-depth calculation report.

There are two ACAM analysis reports, Record of Conformity Analysis (ROCA) and Record of Air Analysis (ROAA). ACAM will automatically select the appropriate analysis reports based on the NAAQS attainment status of the location that the proposed action will occur. ACAM selects a ROCA for actions that will occur in non-attainment and maintenance areas which require a General Conformity Applicability Analysis (per 40 CFR 93) and a ROAA for actions that will occur in attainment areas which only require a NEPA assessment.

Figure 9. ACAM Reports Screen

Upon calculating steady state conditions for the proposed action, ACAM reports can be generated by clicking on “REPORTS” in the upper-left side of the ribbon section of the ACAM window. The Reports screen opens, which allows the selection which type of report you wish to generate, an ACAM analysis report (i.e., ROCA or ROAA) or a Detailed ACAM Report (see Figure 9, ACAM Reports Screen). Then simply select which alternative you want to generate the report on and then click on “Create report”. ACAM
will open a Save Document window where you name the file and select the location for the file to be saved.

The finalized analysis report (i.e., ROCA or ROAA) provides the regulatory documentation needed for air quality compliance with NEPA and General Conformity Applicability requirements, and the Detailed ACAM Report (the bin-depth calculation report) provides the documentation for regulatory verification (see Figure 10, Examples of ACAM Reports).

![Figure 10, Examples of ACAM Reports](image)

The finalized analysis report (i.e., ROCA or ROAA) will automatically create tables of annual emissions by pollutant of concern (e.g., criteria pollutants) and compare these pollutants against the applicable thresholds, and also identify if the proposed action has a significant impact on air quality.
Step 10, Document No Significant Impact or Proceed to Level III

Should the ACAM analysis conclude the proposed action potentially poses a significant impact on air quality, a Level III, Advanced Air Quality Assessment, is required. Level III assessments are part science and part art, requiring both quantitative and qualitative assessments to fully evaluate the potential air quality impact associated with a proposed action. The results and findings of a Level III assessment documented and are usually integrated in an overall formal Environmental Assessment (EA) or Environmental Impact Statement (EIS). Level III, Advanced Air Quality Assessments, are outside of the scope of this guide.

If an action meets exemptions for both CATEX and Conformity, documentation of exemption is required. A factual basis for an exempt finding must be documented and maintained as part of the administrative record for the action. At a minimum, the federal Administrative Procedures Act requires a reviewable record of an agency’s environmental-related decision making at the time the decision is made, not afterwards. In addition, failure to document an applicability analysis under the CAA is tantamount to a failure to conduct such an analysis; such a failure or omission leaves the USAF vulnerable to regulatory or citizen-suit enforcement. In this regard, Air Force Instruction (AFI) 32-7040, Air Quality Compliance, and 32 CFR 989, Environmental Impact Analysis Process (EIAP), require sufficient documentation for compliance purposes.

A finding of exemption status must be documented, along with the rationale for the finding. Depending on the situation, this finding could be accomplished as part of a categorical exclusion (CATEX) document (if one is prepared) on Air Force Form 813, Air Force Form 332, or U.S. Department of Defense Form 1391, or by using the ROCA as described in the following. An AF 813 is required for EIAP/NEPA by 32 CFR 989.

The Proponents shall prepare required conformity documents in coordination with the installation and AFCEC/CZ air quality program managers.

To adequately document the finding, the following must be provided:

- A description of the proposed action,
- Adequate documentation to support the conclusion that the action is on the CATEX action list, and
- Adequate documentation to support the conclusion that a Conformity exemption does apply.

“Adequate documentation” must be in the form of a Record of Conformity Applicability (ROCA) if action will occur in a non-attainment/maintenance area (as a record of Conformity non-applicability) or a Record of Air Analysis (ROAA) if action will occur in attainment area. The ROCA or ROAA must be retained at the installation for a period of five years after signature.
5.7 Greenhouse Gas (GHG) Assessment

Many projects and programs proposed by the Federal government have the potential to produce GHGs. Currently guidance on addressing GHGs under NEPA is in flux. In a February 18, 2010 Memorandum for Heads of Federal Departments and Agencies, the Council on Environmental Quality provided draft NEPA guidance on consideration of the effects of climate change and greenhouse gas emissions. There were numerous interagency reviews and comments on the draft guidance that are yet to be resolved. However, based on the draft guidance and review of comments, the following GHG assessment should be made:

- Where a proposed Federal action is analyzed it is appropriate for the agency to quantify and disclose an estimate of the expected annual direct and indirect GHG emissions in the environmental documentation for the proposed action.

- If a proposed action is projected to cause direct emissions of 25,000 metric tons or more of CO-equivalent GHG emissions on an annual basis, agencies should consider this an indicator that a Level III, Advanced Air Quality Assessment, is needed. (Sutley 2010)

NOTE: ACAM does not currently perform a GHG Assessment; therefore, a manual GHG assessment must be performed on any proposed action proceeding to an EA or EIS.
6  Level III, Advance Air Quality Assessment

Level III assessment are complex evaluations that are part science and part art, and require both a quantitative and a qualitative assessment of the potential air quality impact associated with a proposed action. Generally speaking, the results and findings of the Level III assessment are usually associated with the requirement for a General Conformity Determination and are often integrated in an overall formal EA or EIS. As stated earlier, *Level III assessments are outside of the scope of this guide.*
7 Special Issues
This section covers planning for conformity, the role of the MPO, classified actions, making conformity determinations when multiple federal agencies are involved, and community relations.

7.1 Planning

7.1.1 General
In planning for an action or project, the time and resources for the conformity process and for coordination with regulators and other non-Air Force agencies should be included. Not only can the failure to comply with conformity requirements preclude an action from proceeding, but the conformity process adds to the time needed to approve and initiate an action or project, particularly when a full conformity determination is required (see Table 8, Time Requirements for Major Air Quality EIAP Tasks). Even if a determination is not required, calculating emissions for a large action may require a substantial amount of time, and a series of changes may be needed to reduce emissions below conformity thresholds. Time and resources for these changes should be included in the original plan.

If a determination is required, time and resources will need to be allocated for discussions with regulators to identify appropriate conformity criteria and ensure that acceptable models and planning data are used. If modeling, mitigation, or offsets are needed, additional time-consuming negotiations and coordination with regulatory agencies may be required.

7.1.2 Emissions Budgets
The simplest demonstrations of conformity are those where the proposed federal action is already included in the SIP or the associated emissions are already in a SIP emissions budget or a facility-wide budget. The resultant efficiencies often exceed the time and resources spent to work with regulators to ensure that projected Air Force projects are included in the applicable SIPs, as either specific line items or in the appropriate budgets. Any inclusions should be documented, if possible, to ensure ease of identification when the action is undertaken. In addition, base personnel should become familiar with general budgets for growth of particular activities, such as a budget for construction-generated particulate emissions in the SIP, as these general budgets might, with state approval, be used to demonstrate conformity.

7.1.3 Early Emission Reduction Credits
40 CFR 93.165 establishes a program for early emissions reduction credits. With state approval, USAF facilities can establish a facility-specific early emissions reduction credit (EERC) program. Once established, the facility can generate EERCs if they are quantifiable, consistent with the SIP and reasonable further progress milestones, subject to enforcement, permanent, and documented. To be creditable, the reductions cannot be required by or credited to any other SIP provisions.
Table 8, Time Requirements for Major Air Quality EIAP Tasks

<table>
<thead>
<tr>
<th>Action (a)</th>
<th>Approximate Time Range (b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level I, Exempt Actions Assessment (determine if a formal Air Quality Assessment is required)</td>
<td>1 – 2 days</td>
</tr>
<tr>
<td>Level II, Quantitative Air Quality Assessment (a formal assessment of air impacts using ACAM)</td>
<td>1 day – 2 week</td>
</tr>
<tr>
<td>Level III, Advance Air Quality Assessment</td>
<td></td>
</tr>
<tr>
<td>• Secure an EIAP/conformity contractor, if needed</td>
<td>4 – 6 weeks</td>
</tr>
<tr>
<td>• Perform draft assessment</td>
<td>1 – 6 months</td>
</tr>
<tr>
<td>• Internal coordinate</td>
<td>1 – 2 months</td>
</tr>
<tr>
<td>• Public participation</td>
<td>2 – 3 months</td>
</tr>
<tr>
<td>• Finalize report</td>
<td>1 – 2 weeks</td>
</tr>
<tr>
<td>• SAF/IEE approval &amp; signature</td>
<td>1 – 3 weeks</td>
</tr>
</tbody>
</table>

(a) Every action needed is not listed, and some listed actions may not be required for particular actions.
(b) Some of these tasks can be accomplished simultaneously.

Credits can be used in the same year in which they are generated to reduce the emissions from a USAF facility for conformity evaluation. If the technique used to generate the credit occurs at the same facility as the action and could have occurred in conjunction with the action, the credit can be used to reduce the total emissions during applicability analysis and as an offset or mitigation measure to demonstrate conformity. If the technique does not occur at the same facility or could not have occurred in conjunction with the action, the credit cannot be used to reduce total emissions during applicability analysis but can be used as an offset or mitigating measure. Once credits are used, they cannot be used for another conformity evaluation. Unused credits can be used in other evaluations. For example, assuming they have a lifetime greater than one year, EERCs may be used to offset construction emissions in one year and to mitigate operational emissions increases in subsequent years.
7.2 Metropolitan Planning Organizations (MPO)

MPOs are designated by governors to plan and program regional transportation system improvements for urbanized areas. MPOs are heavily involved in transportation conformity. All planning assumptions, including population and growth projections used in a conformity determination, must be derived from those most recently approved by the MPO or other authorized agency.

The regulation requires additional contacts with the MPO. The USAF must give a 30-day notice that describes the proposed action and the draft conformity determination to the MPO and must provide them with the draft determination and supporting materials, if requested. In addition, the USAF must notify the MPO within 30 days of making a final conformity determination.

Proactive involvement with the MPO is also recommended to build support for facility activities into local plans. The inclusion of anticipated actions in local plans, including the applicable SIP, can ease making a positive conformity demonstration. Involvement with the MPO also gives the facility the opportunity to ensure that facility concerns and plans are addressed in the planning assumptions that would be used in making future conformity determinations.

7.3 Classified Actions

The Air Force must comply with the general conformity requirements for classified actions. Any internal documentation for the applicability analysis and conformity determination, and, if required, draft and final conformity determinations, must be prepared, safeguarded, and distributed according to established procedures for classified documents.

Classification of the conformity determination may be required for two situations:

- The proposed action is classified, and a conformity action concerning the action is classified; or

- The proposed action is not itself classified, but certain aspects of the documentation required for the determination are classified.

When the entire proposed action is classified, the entire conformity determination process may be kept classified and safeguarded according to USAF security classification procedures. The conformity process would still be completed, but only those persons at the State or the EPA with security clearance would be allowed to review the determination.

When only a portion of the conformity determination is classified, the documentation should be organized with the classified information in a separate classified attachment. The unclassified portions of the documentation can be released to the public.
7.4 Actions Involving Multiple Federal Agencies

Other federal agencies may have jurisdiction over parts of Air Force actions for which the agency is granting a permit or approval or conducting a consultation. For example, the action may require Endangered Species Act consultations or Federal Aviation Administration (FAA) air space designations, or joint funding may be involved. When different federal agencies have jurisdiction over the same project, the Air Force may choose to adopt the analysis of another agency or may choose to develop its own analysis (40 CFR 93.154). However, each agency must make its own determination on the basis of the analysis. Several situations could arise:

- When only the Air Force has jurisdiction (multiple agencies are not involved), it must perform the analysis.

- When more than one agency has jurisdiction over parts of the action, for example, when the Air Force builds additional aircraft ramp space for the U.S. Coast Guard to locate an expanded mission, either agency can perform an analysis for the entire action, and the other agency can either adopt that analysis or develop its own analysis but must make its own determination.

- When the action is jointly undertaken, for example, when the Air Force and another agency jointly fund construction of a joint-use facility, the general conformity rule does not explicitly address the situation. However, using the logic of the previous example, either agency can perform an analysis for the entire action and the other agency can either adopt that analysis or develop its own analysis but must make its own determination.

When the Air Force adopts the analysis of another agency, the determination must state that the Air Force is adopting the other agency’s analysis. The other agency’s determination should be included by reference with any necessary amplification. In addition, the Air Force is still responsible for ensuring that the notification and reporting requirements and public participation requirements are satisfied for the adopted analysis. This may be performed either by participating in the procedures of the other agency or by conducting independent Air Force procedures.

The conformity rule covers only interagency situations, not situations involving multiple branches of the military. Any questions involving such overlaps should be directed through HQ USAF/A7CAN to SAF/IEE and SAF/GCN.

7.5 Role of the Community

Except for the requirements for public notification and consideration and response to public comments, public participation is not required during the conformity evaluation. However, during the conformity determination process, Air Force policy seeks to involve the public as a partner rather than as an adversary, in addition to meeting the regulatory requirements.
Thus, the Public Affairs Office and the Office of the Staff Judge Advocate should be brought into the conformity determination process as early as possible to help ensure that the partnering relationship is fostered and established.

Planning is crucial to the success of any community relations effort. Installations must keep complete and up-to-date administrative records of the determination process. All written and verbal comments from the public and official reviewers and the associated responses should be documented as required by the regulations. Failure to document comments and responses properly may result in an installation being unable to sustain a legal defense of its determination.

Planning should include scheduling of the required public participation and time for comment acceptance and comment response. Installation and contractor personnel involved in public meetings should be able to communicate effectively about technical and legal issues. If a contractor is required for community relations activities, its Statement of Work (SOW) needs to address these requirements.

Maintenance of open communications and good public relations cannot be overemphasized. It is important to establish an atmosphere of partnership that enables installation personnel to discover and remedy public misconceptions.
8 REFERENCES

This section provides a list of documents, models, and sources referenced in the guide. The reference list also identifies how to obtain or contact the reference (e.g., a publication number). Following the reference list is an annotated reference list, which includes a brief summary of each reference.


EO 12898, “Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” U.S. President


Appendix A - GLOSSARY

This section discusses basic terms and definitions used in assessing the air quality impacts from Air Force actions. It also includes some key conversion factors, which are used in analyzing aviation data.

**Affected Environment**
The section of an environmental document (e.g. Environmental Impact Statement or Environmental Assessment) which describes the resource categories (e.g. air, water, flora, fauna, historic sites, etc.) that are affected or potentially affected by the proposed action and any alternative.

**Air Quality**
Ambient pollutant concentrations and their temporal and spatial distribution.

**Air Quality Control Region (AQCR)**
An EPA designated interstate or intrastate geographic region that has significant air pollution or the potential for significant air pollution and, due to topography, meteorology, etc., needs a common air quality control strategy. The region includes all the counties that are affected by or have sources that contribute directly to the air quality of that region.

**Air Quality Model**
An algorithmic relationship between pollutant emissions and pollutant concentrations used in the prediction of a project’s pollutant impact.

**Air Quality Standard**
A legal requirement for air quality, usually expressed in terms of maximum allowable pollutant concentration, averaged over a specified interval.

**Ambient Concentrations**
Initial concentration sensed/measured at a monitoring/sampling site.

**Area of Potential Effects**
Under Section 106 of the National Historic Preservation Act, area in which undertaking may affect any historic or cultural resources.

**Area Source**
The agglomeration of many sources that have low emission rates spread over a large area that are too numerous to treat individually. An example of this type of source would be a parking lot.

**Attainment Area**
An area that meets NAAQS for a particular pollutant.
Carbon Monoxide (CO)
A colorless, odorless, toxic gas produced by the incomplete combustion of organic materials used as fuels. CO is emitted as a byproduct of essentially all combustion. Idling and low speed mobile source operations, such as aircraft taxiing are the most prevalent CO emission sources commonly found at airports.

Categorical Exclusion (CATEX)
A category of actions that do not individually or cumulatively have a significant effect on human environment based on agency experience. CATEX’s have been found to have no such effect in procedures adopted by a Federal agency in implementation of these regulations (40 CFR 1507.3) and do not require preparation of an environmental assessment (EA), a FONSI, or an EIS.

CFRs
Code of Federal Regulations.

Clean Air Act (CAA)
The Federal law regulating air quality. The first Clean Air Act (CAA), passed in 1967, required that air quality criteria necessary to protect the public health and welfare be developed. Since 1967, there have been several revisions to the CAA. The Clean Air Act Amendments of 1990 represent the fifth major effort to address clean air legislation.

Clean Air Act Amendments of 1990 (CAAA)
The Clean Air Act Amendments of 1990 (CAAA) represent the fifth major effort to address clean air legislation. Revisions include significant strengthening of the Clean Air Act, especially by adding detailed requirements for Federal actions to conform to State Implementation Plans (SIP), expanding the list of hazardous air pollutants from eight to 189, and strengthening the operating permit program.

Conformity
The act of meeting Section 176(c)(1) of the CAAA that requires Federal actions to conform to the SIP for air quality. The action may not increase the severity of an existing violation nor can it delay attainment of any standards.

Connected Actions
Actions that are closely related and therefore should be discussed in the same environmental document. Actions are connected if they automatically trigger other actions which may require an EIS; if they cannot or will not proceed unless other actions are taken previously or simultaneously; and if they are interdependent parts of a larger action and depend on the larger action for their justification.

Control
The ability to regulate, in some way, the emissions from a Federal action. The ability to regulate can be demonstrated directly through the use of emissions control equipment on a boiler or indirectly through the implementation of regulation or conditions in the nature of activity that must be established in permits of approvals or by design of the action. An
example of indirect control is limiting vehicle emissions by controlling the size of a parking facility.

**Cooperating Agency**
A cooperating agency may be any Federal agency that has jurisdiction by law or special expertise with respect to any potential environment impact involved in a proposal for legislation or Federal action that significantly affects the quality of the human environment. A cooperating agency may also be a state or local agency of similar qualifications or, when the effects influence a reservation, an Indian Tribe. By agreement with the lead agency, an Indian Tribe may become a cooperating agency.

**Criteria Pollutants**
The six pollutants listed in the CAA that are regulated by the EPA through the NAAQS because of their health and/or environmental effects. They are: nitrogen dioxide (NO₂), sulfur dioxide (SO₂), carbon monoxide (CO), ozone (O₃), particulate matter (PM-10 & PM2.5), and lead (Pb).

**Cumulative Impact**
Impacts on the environment which result from the incremental impact of the action when added to other past, present and reasonable foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

**De Minimis**
So small as to be negligible or insignificant. If an action has de minimis emissions (Conformity Rule 40 CFR part 93.153c), then a conformity determination pursuant to the CAA of 1990 is not required.

**Description of the Proposed Action and Alternatives (DOPAA)**
The first Air Force document required by the proponent of an action to initiate the EIAP. The DOPAA is documented with AF Form 813 and is the basis for all follow-on environmental analyses.

**Direct Effect**
An effect that is caused by the implementation and/or operation of an action that occurs at the same time and place. These type of effects are also often referred to as primary effects.

**Direct Emissions**
Direct emissions are those caused by or initiated by the implementation and/or operation of an action, and that occur at the same time and place as the action.

**DOD**
Department of Defense.


**Emission Factor**
The rate at which pollutants are emitted into the atmosphere by one source or a combination of sources.

**Emission Inventory**
A complete list of sources and rates of pollutant emissions within a specific area and time interval.

**Environmental Assessment (EA)**
A concise public document that provides sufficient data, evidence, and analysis to determine if Federal agency should prepare an EIS for an action or issue a FONSI. An EA is not necessary in cases where the Federal agency has decided to prepare an EIS. An EA can be prepared at any time to aid agency decision making.

**Environmental Impact Analysis Process (EIAP)**
The Air Force process for complying with NEPA and CEQ regulations.

**Environmental Impact Statement (EIS)**
A detailed, concise public document required for major Federal actions likely to have significant effects on the human environment. The document may be directly prepared, without first doing an EA, if the action will have significant environmental impacts. An EIS provides the public and decision makers with clear, written documentation of potential significant environmental effects of the proposed action, and reasonable alternatives including the no action alternative.

**Environmental Planning Function (EPF)**
The Air Force organization at the base, major command or field operating agency that manages the EIAP including evaluation and completion of Air Force environmental forms, identifies environmental quality standards that relate to the action being evaluated, and prepares environmental documents and related logistical information.

**EPA**
U.S. Environmental Protection Agency.

**Federal Action**
*Federal action* means any activity engaged in by a department, agency, or instrumentality of the Federal government, or any activity that a department, agency or instrumentality of the Federal government supports in any way, provides financial assistance for, licenses, permits, or approves, other than activities related to transportation plans, programs, and projects developed, funded, or approved under title 23 U.S.C. or the Federal Transit Act (49 U.S.C. 1601 et seq.). Where the Federal action is a permit, license, or other approval for some aspect of a non-Federal undertaking, the relevant activity is the part, portion, or phase of the non-Federal undertaking that requires the Federal permit, license, or approval.
Finding of No Significant Impact (FONSI)

A document which briefly presents evidence of why a Federal agency has determined that a proposed action, not otherwise categorically excluded, will not have a significant impact on the environment. The FONSI justifies why the preparation of an EIS is unnecessary. The FONSI must include the EA or be attached to the EA, or a summary of it, and reference any other associated environmental documents. The FONSI should state all mitigation that will be undertaken, if any.

Hydrocarbons (HC)
Total hydrocarbons excluding methane and ethane. These gases represent unburned and wasted fuel. They come from incomplete combustion of gasoline and from evaporation of petroleum fuels.

Indirect Control
Control of air quality by altering activities that influence the rate and distribution of emissions (e.g., traffic patterns, land use). Indirect control contrasts with direct control at the source of emissions (e.g. devices on automobiles or smoke stack).

Indirect Effect
Effects that are caused by the implementation and/or operation of an action, that occur later in time or are further removed by distance from the action, but which are still reasonable foreseeable. Often referred to as secondary effects.

Indirect Emissions
Indirect emissions are those caused by the implementation and/or operation of an action, are reasonably foreseeable, but which occur later in time and/or are farther removed in distance from the action itself. Under General Conformity, indirect emissions are further limited to those indirect emissions that the responsible Federal agency can “practically control and will maintain control over due to a continuing program responsibility of the Federal agency.”

Indirect Source
Any structure or installation which attracts an activity which creates emission of pollutants; for example, a shopping center, an airport, or a stadium.

Lead (Pb)
A heavy metal that, when ingested or inhaled, affects the blood forming organs, kidneys and the nervous system. The chief source of this pollutant at airports is the combustion of leaded aviation gasoline in piston-engine aircraft.

Lead Agency
The agency preparing or having taken primary responsibility for preparing the EIS.

LTO
An aircraft’s landing and takeoff (LTO) cycle. One aircraft LTO is equivalent to two aircraft operations (one landing and one takeoff). The standard LTO cycle begins when the
aircraft crosses into the mixing zone as it approaches the airport on its descent from cruising altitude, lands and taxis to the gate. The cycle continues as the aircraft taxis back out to the runway for takeoff and climbout as its heads out of the mixing zone and back up to cruising altitude. The five specific operating modes in a standard LTO are: approach, taxi/idle-in, taxi/idle-out, takeoff, and climbout. Most aircraft go through this sequence during a complete standard operating cycle.

**Maintenance Area (MA)**
Any geographic area of the United States and territories previously designated nonattainment pursuant the CAA Amendments of 1990 and subsequently re-designated to attainment.

**Mitigation**
This term is defined in 40 CFR 1508.20. It includes: (1) avoiding the impact altogether by not taking a certain action or parts of an action or finding a new site; (2) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (3) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (5) compensating for the impact by replacing or providing substitute resources or environments.

**Mobile Source**
A moving vehicle that emits pollutants. Such sources include airplanes, automobiles, trucks, and ground support equipment.

**Modal Emissions Factors**
Vehicular emissions factors for individual modes of operation. For aircraft, these modes are takeoff, climbout, approach, and taxi.

**Model**
A quantitative or mathematical representation or simulation which attempts to describe the characteristics or relationships of physical events.

**National Ambient Air Quality Standard (NAAQS)**
Air Quality standards established by the EPA to protect human health (primary standards) and to protect property and aesthetics (secondary standards).

**National Environmental Policy Act (NEPA)**
An Act established to declare a national policy that will encourage productive and enjoyable harmony between society and the environment; to promote efforts that will prevent or eliminate damage to the environment and the biosphere, and stimulate the health and welfare of man; and to enrich the understanding of the ecological systems and natural resources important to the nation.

**Nitrogen Oxides (NOx)**
A poisonous and highly reactive gas produced when fuel is burned at high temperatures causing some of the abundant nitrogen in the air to burn also. At air bases this pollutant is
emitted by automobiles, aircraft engines, electric power plants, and other combustion equipment. Takeoff and climbout are the significant \( \text{NO}_x \) producing modes of aircraft operation.

**Nonattainment Area (NAA)**
Any geographic area of the United States or its territories that is in violation of any NAAQS and therefore has been designated as nonattainment under the CAA.

**Notice of Availability (NOA)**
A notice printed in the *Federal Register* announcing that an EIS is available for public comment.

**Notice of Intent (NOI)**
A brief notice placed in the *Federal Register* by the Federal agency noting that the agency will prepare an EIS. The NOI describes the proposed action and possible alternatives, details the proposed scoping process (i.e., location and time of meetings), and provides the name and address of a point of contact within the Federal agency to answer questions about the proposed action and the EIS.

**Ozone (\( \text{O}_3 \))**
A colorless, toxic gas formed by the photochemical reactions in the atmosphere of VOCs with the oxides of nitrogen. Ozone commonly is referred as “Smog”. Ozone is not emitted directly by any base source.

**PM-10**
A criteria pollutant, are fine particles less than 10 micrometers in diameter. PM-10 includes solid and liquid material suspended in the atmosphere formed as a result of incomplete combustion. Aircraft are the primary source of PM-10 emissions at air bases.

**Point Source**
A pollutant source that is fixed to the ground and that releases pollutants through a relatively small area. Common stationary sources at air bases include boilers, heaters, incinerators, and fuel storage tanks.

**PPM**
Parts per million \( (10^6) \) by volume.

**Precursor**
A chemical compound that leads to the formation of a pollutant. HC and \( \text{NO}_x \) are precursors of photochemical oxidants.

**Preferred Model**
A refined model that is recommended for a specific type of regulatory application.

**Prevention of Significant Deterioration (PSD) Area**
A geographic area that contains air which is relatively clean and not in violation of NAAQS. The emissions in these areas are regulated to prevent degradation of its air quality.
**Primary Pollutant**
Chemical contaminants which are released directly to the atmosphere by a source.

**Primary Standard**
A NAAQS set to protect human health.

**Record of Decision (ROD)**
The decision document, prepared after the EIS, that states what the decision is, identifies all alternative considered by the lead agency in reaching its decision, and states whether all practicable means to avoid or minimize environmental harm have been adopted, and if not, why not.

**Regionally Significant**
Previously defined under General Conformity Rule, as when a Federal action’s direct and indirect emissions exceed 10 percent of the total emissions inventory for a particular criteria pollutant in a nonattainment or maintenance area. Now is subjective and open for interpretation based on the specific circumstances of the action.

**Scoping**
An early and open process (that invites the participation of affected Federal, state and local agencies, any affected Indian tribe, the proponent of the action and other interested persons) that determines the issues to be addressed in an environmental document and identifies relevant and/or significant issues related to a proposed action.

**Screening Technique**
A relatively simple analysis technique to determine if a given source is likely to pose a threat to air quality. Concentration estimates from screening techniques are conservative.

**Secondary Pollutant**
Atmospheric contaminants formed in the atmosphere as a result of such chemical reactions, as hydrolysis, oxidation, and photochemistry.

**Secondary Standard**
A NAAQS set to protect human welfare.

**Similar Actions**
Actions, when viewed with other reasonably foreseeable or proposed actions, that have similarities that provide a basis for evaluating their environmental consequences altogether (in one document), such as common timing or geography.

**State Implementation Plan (SIP)**
The strategy to be used by a state to control air pollution in order that the NAAQS will be met. EPA regulations require that each state devise such a plan or the EPA will impose its own plan for that state.
Stationary Source
A source of pollutants which is immobile. Such sources include power plants, individual heater, incinerators, fuel tanks, facilities, and solvent degreasers, among others.

Sulfur Dioxide (SO$_2$)
This is a corrosive and poisonous gas produced mainly from the burning of sulfur containing fuel. Very little SO$_2$ is emitted from any aviation sources.

Tiering
Already published environmental analyses (EAs and EISs) of broader scope that are incorporated by reference in support of a specific project assessment or statement as a method of reducing paperwork to the best advantage of the NEPA and EIAP process.

Total Organic Gases (TOG)
This term includes all hydrocarbon compounds in an emission sample. See also HC and VOC. These terms are not interchangeable.

Total Suspended Particulate (TSP)
These are solid or liquid particles small enough to remain suspended in air. They range widely in size from particles visible as soot or smoke to those too small to detect except with an electron microscope.

Transportation Control Plan (TCP)
A plan specifying measures to regulate the emission of pollutants from mobile sources.

Vehicle Miles Traveled (VMT)
The sum of distances traveled by all motor vehicles in a specified region. VMT is equal to the total number of vehicle trips multiplied by the trip distance (measured in miles). This sum is used in computing an emission inventory for motor vehicles.

Volatile Organic Compounds (VOCs)
VOCs are created when fuels or organic waste materials are burned. Most HCs are presumed to be VOCs in the regulatory context, unless otherwise specified by the EPA.
Appendix B - ACAM Quick Start Guide