



***AIR FORCE
AIR QUALITY
ENVIRONMENTAL
IMPACT ANALYSIS
PROCESS (EIAP)
GUIDE -
FUNDAMENTALS,
Volume 1 of 2***

***Air Force Civil Engineer Center,
Compliance Technical Support
Branch***

***250 Donald Goodrich Drive
Building #1650
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Based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

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PREFACE

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 (EIAP)*, is the United States Air Force's (USAF) implementing tool for NEPA and provides the USAF 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 when applicable. The USAF expanded on the EIAP process with this Guide to address specific air quality concerns with the objective to make defensible and credible air quality EIAP Assessments, in accordance with 32 Code of Federal Regulations (CFR) 989 and 40 CFR 93, with the least impact on scarce USAF resources (i.e., work effort and cost).

The air quality EIAP process is broken into three progressive 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). These levels are designed to ensure completion of an air quality assessment at the lowest level possible; with each level of assessment having a specific significance threshold that, if not exceeded, allows exiting the assessment.

This volume (1 of 2) of the *USAF Air Quality EIAP Guide* provides background information and comprehensive step-by-step instructions for performing Level 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 USAF actions. Furthermore, the Guide provides guidance, procedures, and methodologies for use in carrying out basic air quality EIAP Assessments that are sufficient for the vast majority of USAF actions. Additionally, with this revision, the Guide was expanded to provide interim guidance and procedures for addressing greenhouse gas emissions and climate change in light of CEQ rescinding their *Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews* (August 1, 2016), on April 5, 2017 in accordance with Executive Order 13783.

Advanced Level III assessments are outside the scope of this volume of the guidance. A *Level III, Advanced Air Quality Assessment*, should only be performed when a *Level II, Quantitative Air Quality Assessment*, indicates a Level III is warranted. See *Air Force Air Quality EIAP Guide Volume 2* for detailed guidance and procedures for air quality EIAP Level III assessments.

Per 40 CFR 93.102(a)(2), Transportation Conformity determinations are not required for individual projects that are not Federal Highway Administration or Federal Transit Administration (FHWA/FTA) projects. Given USAF does not receive funding from the

FHWA/FTA, USAF projects are generally NOT subject to Transportation Conformity. Therefore, Transportation Conformity is deliberately not included in Volumes 1 or 2 of the *Air Force Air Quality ELAP Guide*.

1 INTRODUCTION

This Guide provides *Environmental Impact Analysis Process* (EIAP) guidance in assessing the air quality impact associated with United States Air Force (USAF) proposed actions (activities that USAF or an instrumentality of the USAF engages in or supports in any way; e.g., construction project, permits applications, land management, etc.). Comprehensive instructions for performing a Level I, *Exempt Action Screening*, and Level II, *Quantitative Assessment* are included ([see Chapters 5 and 6 for step-by-step procedures](#)). The procedures in this Guide are consistent with current Federal air quality laws and regulations affecting the USAF 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 USAF's implementation tool for NEPA. EIAP provides the USAF 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 *General Conformity Rules* requirements.

This Guide only addresses USAF actions within the United States (U.S.), its territories, and possessions under the jurisdiction of the CEQ and the U.S. Environmental Protection Agency (EPA). Although this Guide does not cover actions abroad (i.e., outside CEQ and EPA jurisdiction), many of the calculation methodologies and resources are still applicable. In addition, many of the references identified address actions abroad and can be consulted for further information.

1.1 Air Quality EIAP Objective

The USAF's air quality EIAP approach is based on CEQ's regulations and guidance for assessing impact using the “**rule of reason**” and the “**concept of proportionality**”, which are inherent in NEPA and the CEQ Regulations.

Rule of Reason: Under the rule of reason, agencies evaluate the positive features of an action against its negative effects in order to decide whether or not the action should be prohibited. The rule of reason allows agencies to determine, based on their expertise and experience, how to consider an environmental effect and prepare an analysis based on the available information.

Concept of Proportionality: Under the concept of proportionality, agencies are guided by the principle that the extent of the analysis should commensurate with the quantity of projected emissions. In other words, if there are little to no emissions associated with an action, then there should be little to no analysis associated with the action.

Rule of Reason + Concept of Proportionality = Keep it Simple

Low Emissions = Short Analysis

The data quality objectives for air quality EIAP are to reach defensible decisions and to make credible estimates with the least impact on scarce resources. The goal is efficiency in achieving the objective at the simplest level with minimal work effort and cost. The objective drives and limits the effort and data needs; and inversely, the available data constrains the objective alternatives. In other words, only generate the minimal effort/data needed to meet the objective and the available data should restrict the objective alternatives. Most importantly, new data or extra work efforts should only be sought if the objective cannot be met with the available data.

Air Quality EIAP (NEPA and Conformity) analysis is an impact assessment based on a hypothetical best guess estimate of air pollutant emissions. Often concepts that are not fully defined actions are evaluated; therefore, it is necessary to make a best-guess rough estimate. USAF actions under evaluation are proposed and not actual actions. Consequently, there is an inherent uncertainty of potential emission sources associated with sub-activities that may be directly and indirectly connected to the proposed action. Additionally, the best result of the acceptable emission estimating methodologies is a rough order of magnitude estimate, so it is important to not over analyze.

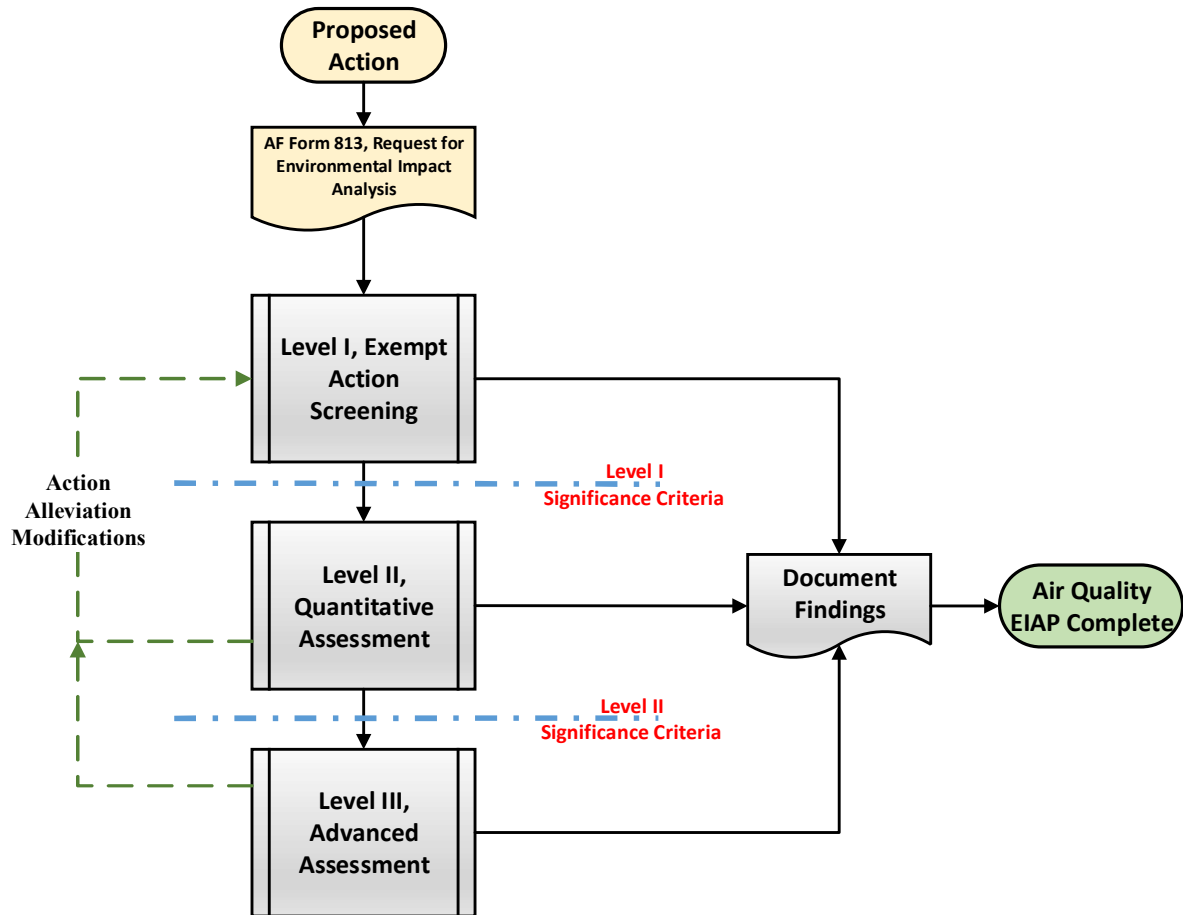
In this case, the objective is to make defensible and credible air quality EIAP Assessments, in accordance with 32 CFR 989 and 40 CFR 93 (for proposed actions that will occur in nonattainment and/or maintenance areas), with the least impact on scarce USAF resources (i.e., work effort and cost).

1.2 How to Use This Guide

The air quality impact assessments (i.e., Air Quality EIAP) differs from other environmental resources or media being assessed under the EIAP (e.g., water resources, biological resources, cultural resources, geological/soil resources, noise, solid waste, hazardous waste, and safety) because Air Quality EIAP incorporates an additional and legally separate impact assessment for General Conformity when proposed actions fall within areas that are designated nonattainment or maintenance for any National Ambient Air Quality Standards (NAAQS).

Generally speaking, where General Conformity is an issue, actions that trigger an assessment under NEPA will also require a General Conformity evaluation. As such, the USAF conducts NEPA and GENERAL CONFORMITY assessments in tandem within the EIAP process. The EIAP process starts with the Proponent (the office, unit, single manager, or activity at any level that initiates an Air Force action) formally initiating a proposed action by submitting an AF Form 813, *Request for Environmental Impact Analysis*. The air quality EIAP process then proceeds through up to three progressive levels of assessment (see *Figure 1-1, Air Quality EIAP*) based on significance thresholds. The goal is to exit at the lowest possible level of assessment.

Figure 1-1, Air Quality EIAP



1.2.1 Level I, Exempt Action Screening

Under this level, the proposed action is assessed to determine if a formal Air Quality EIAP Assessment is required. If no air emissions will occur or the proposed action is exempt [i.e., Categorical Excluded from NEPA and already Presumed to Conform for General Conformity), no further action is required.

1.2.2 Level II, 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. 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 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.

1.2.3 Level III, Advanced 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 are documented and usually integrated in an overall formal Environmental Assessment (EA) or Environmental Impact Statement (EIS). Level III assessments are addressed in Volume 2 of the *Air Quality EIAP Guide*.

1.2.4 Guide Structure and Navigation

This Guide is written with two general intentions: 1) to provide background on the Air Quality EIAP, and 2) to provide specific steps for performing Air Quality EIAP Assessments. The first three chapters comprise the background section, providing an introduction and overview of the USAF EIAP and expansion into Air Quality EIAP. The last four chapters comprise the “how to section” and are the most important fundamental essence of the Guide; providing specifics on how to perform Level I and II Air Quality EIAP Assessments.

Background Section:

Chapter 1, Introduction

Provides a quick cursory overview of Air Quality EIAP objectives, goals, and process; as well as, an overview on how to navigate the USAF Air Quality EIAP Guide – Fundamentals (Volume 1 of 2).

Chapter 2 Regulatory Context

Outlines environment-related regulations and directives associated with Air Quality EIAP.

Chapter 3, Environmental Impact Analysis Process

Provides an overview of 32 CFR 989, *Environmental Impact Analysis Process* (or EIAP), as the USAF’s implementation tool for NEPA and the framework for the USAF to comply with NEPA and the CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508, referred to as the CEQ Regulations).

How-to Section:

Chapter 4, Air Quality EIAP Overview

Provides an overview of how the Air Quality EIAP expands on the USAF EIAP process to address specific air quality concerns with the objective to make defensible and credible Air Quality EIAP Assessments, in accordance with 32 CFR 989 and 40 CFR 93, with the least impact on scarce USAF resources (i.e., work effort and cost).

Chapter 5, Air Quality EIAP Level I, Exempt Action Screening

Provides an overview of the Air Quality EIAP Level I assessment and step-by-step process for screening a proposed action for being CATEXed from NEPA and (if applicable) exempt from General Conformity.

Chapter 6, Air Quality EIAP Level II, Quantitative Assessment

Provides an overview of the Air Quality EIAP Level II assessment and step-by-step process for conducting a cursory quantitative air quality NEPA and (if applicable) General Conformity Applicability Analysis.

Chapter 7, Greenhouse (GHG) & Climate Change

Provides an overview and specific procedures on addressing Greenhouse Gases (GHGs) and climate change for air quality NEPA assessments.

Chapter 8, Air Quality EIAP Level III, Advanced Assessment

Briefly discusses the Air Quality EIAP Level III, Advanced Air Quality Assessment, and refers users to the *USAF Air Quality EIAP Guide – Advanced Assessments* (Volume 2 of 2) for step-by-step procedures.

Chapter 9, Special Issues

Addresses unique issues specific to Air Quality EIAP. These issues include: emissions budgets, Emissions Reduction Credits (ERCs), Metropolitan Planning Organizations (MPOs), classified actions, actions involving multiple Federal agencies, role of the community, and data quality.

2 REGULATORY CONTEXT

Air quality assessments for proposed Federal actions may be necessary for compliance with the requirements of EIAP, NEPA, Conformity Rules (CRs), CAA, and other environment-related regulations and directives. There are Federal regulations and orders that establish air quality requirements applicable to USAF installations, 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 apply to USAF installations. Relevant general DOD/USAF-specific Federal requirements and documents are summarized below, along with a brief discussion of possible state and/or local requirements.

2.1 Federal Requirements and Documents- General

2.1.1 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 to provide for the establishment of the CEQ. The act provides polices 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 affects 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.

2.1.2 Council on Environmental Quality (CEQ) - Regulations for Implementing the Procedural Provisions of the NEPA

CEQ was created by the *National Environmental Policy Act of 1969*, as amended (42 U.S.C. 4321 through 4347). The CEQ's authority is primarily derived from NEPA, the *Environmental Quality Improvement Act of 1970*, as amended (42 U.S.C. 4371-4374), *Reorganization Plan No. 1 of 1977* (July 15, 1977), and Executive Order 11514, *Protection and Enhancement of Environmental Quality*, March 5, 1970, as amended by Executive Order 11991, May 24, 1977.

Initially, NEPA created the CEQ as part of the Executive Office of the President and CEQ was considered only as an advisory body designed to provide the President with a consistent source of information on environmental issues (CEQ acts as the major presidential research and advisory body on environmental issues). Under NEPA's mandate, CEQ must review the programs and activities of the Federal Government in order to assess what impact these undertakings have on the environment. Additionally, CEQ must also continually develop and recommend to the President national policies designed to improve the quality of the environment and carry out whatever surveys, investigations, or reports the President deems necessary in order to fulfill the policies of NEPA.

Historically, in interpreting the authority of CEQ and the weight of their guidance, many courts have held that CEQ did not possess any regulatory powers and that their guidance is merely advisory. However, with the issuance of binding Regulations (40 CFR 1500 - 1508) and several court cases under NEPA which uphold CEQ guidelines, CEQ has become a quasi-regulatory authority. The CEQ guidelines draw their strength from their codification of judicial interpretation (consolidation of important cases under NEPA). This strength is seen in the influence CEQ guidelines have exerted in past NEPA court cases for various areas of statutory interpretation. This has enabled CEQ to exert its influence over other, far larger federal agencies by its ability to first influence the courts. However, the CEQ's overall influence, to date, has been limited. Although some courts have cited the CEQ guidelines or memorandum recommendations for support, they have never explicitly directed agencies to follow the guidelines, nor have they clearly identified the weight which an agency should attach to the guidelines. Thus, CEQ by a process of consolidation of cases, combined with its own initiative, has expanded their authority and supplemented NEPA's requirements to clarify and detail the procedure which federal agencies should follow in complying with NEPA.

Additionally, Section 102(2) of NEPA and 40 CFR 1515.2 contains “action-forcing” provisions to make sure that Federal agencies act according to the letter and spirit of NEPA and require all Federal agencies to comply with NEPA “to the fullest extent possible.” The phrase “to the fullest extent possible” in Section 102 means that each agency of the Federal Government shall comply with that section unless existing law applicable to the agency’s operations expressly prohibits or makes compliance impossible.

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., EA, Finding of No Significant Impact (FONSI), EIS] that serve to document compliance with NEPA requirements. (40 CFR 1500)

2.1.3 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. These Executive Orders, in the context of this Guide, should be reviewed for analysis requirements with respect to affected communities and requirements imposed on NEPA analysis with respect to air emissions impacts. The following are examples of these orders:

- ***Executive Order 12114, Environmental Effects Abroad of Major Federal Actions (EO 12114)***: The purpose of this Executive Order is to enable responsible officials of Federal Agencies having ultimate responsibility for authorizing and approving actions encompassed by this Order to be informed of pertinent environmental considerations and to take such considerations into account, with other pertinent considerations of national policy, in making decisions regarding such actions.
- ***Executive Order 11514, Protection and Enhancement of Environmental Quality (EO 11514, amended by EO 11991)***: The purpose of this Executive Order is for the Federal Government to provide leadership in protecting and enhancing the quality of the Nation's environment to sustain and enrich human life. Federal agencies shall initiate measures needed to direct their policies, plans and programs so as to meet national environmental goals. The CEQ, through the Chairman, shall advise and assist the President in leading this national effort.
- ***Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 12898)***: This Executive Order directs each Federal agency to make environmental justice part of its mission. Responsibilities for agencies are outlined, including developing a strategy to identify and address “disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” This applies equally to Native American programs. This

Executive Order also directs “after consultation with tribal leaders” a new Interagency Working Group “shall coordinate steps to be taken pursuant to this order that address federally recognized Indian tribes.”

- ***Executive Order 11593, Protection and Enhancement of the Cultural Environment (EO 11593)***: Directs federal agencies to inventory their cultural resources and establish policies and procedures to ensure the protection, restoration, and maintenance of federally owned sites, structures, and objects of historical, architectural, or archaeological significance.
- ***Executive Order 13783, Promoting Energy Independence and Economic Growth (EO 13738)***: Rescinded CEQ’s Guidance on GHG & Climate Change. While the EO 13783 resulted in revoking CEQ’s Guidance on GHG & Climate Change, the Executive Order did not remove the requirement for assessing a proposed action’s potential impact to air quality (including GHGs) which is still mandated under NEPA.

2.1.4 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 the NAAQS (see ***Table 2-1, National Ambient Air Quality Standards (NAAQS)***) 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 (VOCs), in these regions. Each state or tribe with an ozone nonattainment region has developed a State or Tribal Implementation Plan (SIP or TIP) 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 CAAA 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.

The CAAA 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 implemented the air quality approach by establishing a set of NAAQS for six “criteria pollutants”:

- **Ozone (O₃):** Ground-level ozone forms through the reaction of pollutants (chemicals that are precursors to ozone formation) emitted by industrial facilities, electric utilities, and motor vehicles. The precursors for ozone formation can also be emitted by natural sources, particularly trees and other plants. Ground-level ozone can pose risks to human health, in contrast to the stratospheric ozone layer that protects the earth from harmful wavelengths of solar ultraviolet radiation.
- **Carbon Monoxide (CO):** CO is a colorless, odorless gas that can be harmful when inhaled in large amounts. CO is released when something is burned. The greatest sources of CO to outdoor air are cars, trucks and other vehicles or machinery that burn fossil fuels.
- **Particulate Matter (PM):** PM is a mixture of solid particles and liquid droplets found in the air. Particles less than 10 micrometers in diameter pose the greatest problems, because they can get deep into your lungs, and some may even get into your bloodstream. Particulate matter contains microscopic solids or liquid droplets that are so small that they can be inhaled and cause serious health problems. Particles up to 10 microns in diameter are designated as PM₁₀ and particles up to 2.5 microns in size designated as PM_{2.5}.
- **Sulfur Dioxide (SO₂):** The EPA’s NAAQSs for SO₂ are designed to protect against exposure to the entire group of sulfur oxides (SO_x). SO₂ is the component of greatest concern; therefore, it is used as the indicator for the larger group of gaseous SO_x. The largest source of SO₂ in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities. SO₂ can affect both health and the environment with short-term exposures being harmful to the human respiratory system and make breathing difficult.
- **Nitrogen Dioxide (NO₂):** NO₂ is one of a group of highly reactive gases known as oxides of nitrogen or nitrogen oxides (NO_x). Other NO_x includes nitrous acid and nitric acid. NO₂ is used as the indicator for the larger group of nitrogen oxides. NO₂ primarily gets in the air from the burning of fuel. NO₂ forms from emissions from cars, trucks and buses, power plants, and off-road equipment. Breathing air with a high concentration of NO₂ can irritate airways in the human respiratory system and cause respiratory illnesses.
- **Lead (Pb):** The major sources of Pb in the air are from ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Pb can adversely affect the nervous system, kidney function, immune system, reproductive and

developmental systems and the cardiovascular system. Pb exposure may also affect the oxygen carrying capacity of the blood.

Table 2-1, National Ambient Air Quality Standards (NAAQS)

Pollutant [final rule citation]		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO) [76 FR 54294, Aug 31, 2011]		primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead (Pb) [73 FR 66964, Nov 12, 2008]		primary and secondary	Rolling 3-month average	0.15 $\mu\text{g}/\text{m}^3$ ⁽¹⁾	Not to be exceeded
Nitrogen Dioxide (NO₂) [75 FR 6474, Feb 9, 2010] [61 FR 52852, Oct 8, 1996]		primary	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	Annual	53 ppb ⁽²⁾	Annual Mean
Ozone [80 FR 65292, Dec 28, 2015]		primary and secondary	8-hour	0.070 ppm ⁽³⁾	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution (PM) Dec 14, 2012	PM_{2.5}	primary	Annual	12 $\mu\text{g}/\text{m}^3$	Annual mean, averaged over 3 years
		secondary	Annual	15 $\mu\text{g}/\text{m}^3$	Annual mean, averaged over 3 years
		primary and secondary	24-hour	35 $\mu\text{g}/\text{m}^3$	98th percentile, averaged over 3 years
	PM₁₀	primary and secondary	24-hour	150 $\mu\text{g}/\text{m}^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO₂) [75 FR 35520, Jun 22, 2010] [38 FR 25678, Sept 14, 1973]		primary	1-hour	75 ppb ⁽⁴⁾	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 $\mu\text{g}/\text{m}^3$ as a calendar quarter average) also remain in effect.

(2) The level of the annual NO₂ standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O₃ standards additionally remain in effect in some areas. Revocation of the previous (2008) O₃ standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

(4) The previous SO₂ standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO₂ standards or is not meeting the requirements of a SIP call under the previous SO₂ standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

Source: EPA (2017) <https://www.epa.gov/criteria-air-pollutants/naaqs-table>

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 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 CAAA 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)

2.1.5 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 nonattainment or 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 a USAF project should not exceed the emission forecast or budget included in a SIP for that installation.

The CRs require an air quality assessment to ensure Federal actions do not interfere with a state’s plans to meet the NAAQSs (as outlined in the SIP). Under 40 CFR 51.850-51.860 (Subpart W), states or eligible tribes may create conformity provisions that 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 Administration or Federal Transit Administration (FHWA/FTA) projects (i.e., federal highway and transit actions) only.
- Sets policy, criteria, and procedures for demonstrating and assuring conformity of federal highway and transit activities to applicable implementation plans (i.e., SIPs).

- Generally, USAF actions are not FHWA/FTA projects; therefore, **Transportation Conformity is generally NOT applicable to USAF actions.**

2. General Conformity (40 CFR 93 Subpart B):

- Applies to all other (i.e., non-federal highway and non-transit actions) Federal actions.
- For USAF actions that do not impact federal highway and transit, only the General Conformity Rule applies.

2.2 Federal Requirements and Documents - DOD/USAF Specific

2.2.1 DOD Directive 6050.1, Env. Effects in the United States of DOD Actions

This directive 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 U.S. The directive includes policy, responsibilities, how to determine if an EA or EIS is needed, EA content and format, and CATEX. (DoD 6050.1)

2.2.2 DoD Directive 4715.21, Climate Change Adaptation and Resilience

Issued on January 14, 2016 by the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, this document establishes policy and assigns responsibilities to provide the DoD with the resources necessary to assess and manage risks associated with the impacts of climate change. According to DoD Directive 4715.21, as a matter of policy, address the impacts of climate change in order to maintain an effective and efficient U.S. military.

2.2.3 U.S. Air Force Policy Directive (AFPD) 32-7, Environmental Quality

This directive establishes the USAF'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)

2.2.4 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 CAAA; other Federal, state, and local environmental regulations. (AFI 32-7040)

2.2.5 Environmental Impact Analysis Process (EIAP; 32 CFR 989)

32 CFR 989, EIAP (formally AFI 32-7061), implements AFPD 32-70 and describes specific tasks and procedures for the EIAP both within the U.S. and abroad. This regulation also identifies directives and instructions with further environmental requirements.

2.2.6 Executive Order 12114, Environmental Effects Abroad of Major Federal Actions (EO 12114)

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 affect the environment:

- Outside the jurisdiction of any nation,
- Of a foreign nation not participating with the U.S. 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 U.S., and
- Outside the U.S., its territories and possessions which significantly affect natural or ecological resources of global importance.

2.2.7 State and/or Local Requirements

In addition to Federal requirements, there often are state and/or local air quality requirements applicable to USAF 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 USAF actions 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.

2.3 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).

3 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

32 CFR 989, “*Environmental Impact Analysis Process*,” or EIAP, is the USAF’s implementation tool for the *National Environmental Policy Act* (NEPA). EIAP provides the USAF with a framework on how to comply with NEPA and the *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* requirements.

3.1 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 CAA, are focused on a particular resource, whereas NEPA is an umbrella law that brings numerous environmental regulations together in application.

3.2 What are the Conformity Rules?

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 nonattainment or maintenance for meeting the NAAQS. The Conformity Rules 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). There are two separate Conformity Rules: Transportation Conformity 40 CFR 93 Subpart A & B) and General Conformity (40 CFR 51 Subpart W and 40 CFR 93 Subpart B). Normally only General Conformity applies to USAF actions.

3.2.1 Transportation Conformity (40 CFR 93 Subpart A)

Transportation Conformity applies to Federal Highway Administration or Federal Transit Administration (FHWA/FTA) highway or transit projects (i.e., federal highway and transit actions) only. Transportation Conformity sets policy, criteria, and procedures for demonstrating and assuring conformity of federal highway and transit activities to applicable implementation plans (i.e., SIPs).

Per 40 CFR 93 Subpart A, 93.102 (a)(2), Transportation Conformity determinations are not required for individual projects which are not “FHWA/FTA projects.” A “FHWA/FTA project” is any highway or transit project which is proposed to receive funding assistance and approval through the Federal-Aid Highway program or the Federal mass transit program, or requires Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) approval for some aspect of the project, such as connection to an interstate highway or deviation from applicable design standards on the interstate system.

In the unlikely scenario that a proposed action meets the definition of “FHWA/FTA project” as defined above, contact the USAF Air Quality Subject Matter Expert (AFCEC/CZTQ) for confirmation prior to conducting any Transportation Conformity assessment.

3.2.2 General Conformity Rule (40 CFR 93 Subpart B)

The GCR ensures that proposed actions by federal agencies will not interfere with a state’s plans to attain and maintain NAAQSs. The GCR was established under CAA section 176(c)(4), to help states and tribes improve air quality in those areas that do not meet the NAAQS. Under the GCR, Federal agencies must work with state, tribal and local governments in a nonattainment or maintenance area to ensure that proposed Federal actions will conform to the air quality plans established in the applicable state or tribal implementation plan.

EPA initially promulgated the GCR in 1993. Subsequently, EPA collected information from other federal agencies on how to maintain the same environmental protections while streamlining the General Conformity implementation process. This information was used to revise the GCR on April 5, 2010. Additionally, under 40 CFR 51 Subpart W, *Determining Conformity of General Federal Actions to State or Federal Implementation Plans*, (40 CFR 51.850-51.860), states may create General Conformity provisions that may contain criteria and procedures more stringent than the requirements described in 40 CFR 93 Subpart B.

Per 40 CFR 93.153(k), newly designated nonattainment areas are not subject to the GCR until one year after the effective date of the final nonattainment designation. Additionally, states are allowed to take between 1.5 to 3 years after the effective date of a final designation to submit a SIP revision and the EPA usually takes another year to approve the revised SIP. This can create a time gap between the GCR applicability and having a formal SIP approval; however, according to 40 CFR 51.851, Federal agencies must meet 40 CFR Part 93 Subpart B requirements during this time gap.

General 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.

The GCR applies to all non-federal highway and non-transit Federal actions; therefore, the ***GCR will apply to Federal actions that will occur within nonattainment or maintenance areas.***

3.3 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 USAF, a major change may include changes of aircraft, reconfiguration of airspace, construction and/or renovation of facilities, range activities, exercises, or real estate actions.

Normally for GCR, any proposed action potentially impacting air quality and to be conducted within an area designated by the EPA as nonattainment or maintenance for the NAAQSs requires a

GCR assessment known as a Conformity Evaluation. However, *newly designated nonattainment areas are not applicable to the GCR until one year after the effective date of the final nonattainment designation.*

3.4 When Does EIAP, NEPA, and GCR Begin?

EIAP is the USAF's implementing tool for NEPA and GCR requirements. NEPA analysis is required to assess impacts of all USAF actions, while a GCR evaluation is only required for an action projected to occur within a NAAQS nonattainment or maintenance area. Generally, actions that trigger NEPA will also require a Conformity Evaluation if the action is located in a nonattainment or maintenance area. Therefore, conformity evaluation(s) should be performed in tandem with NEPA evaluations and be incorporated into the EIAP process/document. EIAP begins early in the planning process for a proposed action. The USAF's 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 adverse environmental and regulatory effects.

3.5 What are the Different Levels of NEPA Documentation?

Three levels of NEPA documents exist: CATEX, EA, and EIS. When the action requires EIAP/NEPA the USAF 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 effects to the environment?
- Could the action present any significant impacts or be controversial in nature?

3.5.1 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 nonattainment or maintenance area and if they are not exempt under the GCR or not listed as PTC.*

3.5.2 NEPA EA and Finding of No Significant Impact (FONSI)

If a CATEX cannot be applied and it is unknown whether an EIS is required, the USAF 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: FONSI, preparation of an EIS, or no action is taken.

When an EA results in no significant impact and a 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.

3.5.3 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 Record of Decision (ROD) serves as a public record documenting the USAF's 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.

3.6 What are the Different Levels of GCR Documentation?

There are two progressive levels of GCR assessments and documentation under a Conformity Evaluation: Applicability Analysis and Conformity Determination.

3.6.1 Applicability Analysis

Applicability Analysis is the process of determining if the Federal action must be supported by a Conformity Determination. This is accomplished through the first two levels of the Air Quality EIAP as progressive phases:

- **Level I, Exempt Screening:** The proposed action is assessed to conclude if a formal quantitative Applicability Analysis is required. If the proposed action is exempt from or already PTC for General Conformity, no further action is required.
- **Level II, Quantitative Assessment:** A formal quantitative Applicability Analysis is performed using the USAF's automated Air Conformity Applicability Model (ACAM) or other AFCEC approved automated tool. ACAM (currently the only AFCEC approved automated air quality impact assessment tool) will perform a quantitative analysis of projected emission against regulatory thresholds (de minimis value) which trigger a Conformity Determination.

3.6.2 Conformity Determination

Conformity Determination is the evaluation made after an Applicability Analysis is completed and identifies that a Conformity Determination is required. The Conformity Determination is a

complex assessment (generally performed under a Level III, Advanced Air Quality Assessment) of air quality impacts. If necessary, mitigation measures may be required to ensure that a Federal action conforms to the applicable implementation plan and meets the requirements of the GCR.

4 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 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 USAF's systematic procedures for the analysis of environmental impacts on installations to ensure USAF compliance with NEPA and the CEQ regulations.

The EIAP provides the USAF 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 an EIS and discusses the use of EAs. This process is intended to assist USAF 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 USAF expanded the EIAP process to address specific air quality concerns. This Air Quality EIAP guidance outlines the steps for the analysis of air quality related environmental impacts on installations in the U.S. and abroad. The policies and procedures set forth in the guidance are designed to ensure USAF compliance with NEPA and the CEQ regulations as they relate to air quality.

4.1 EIAP - Air Quality Background

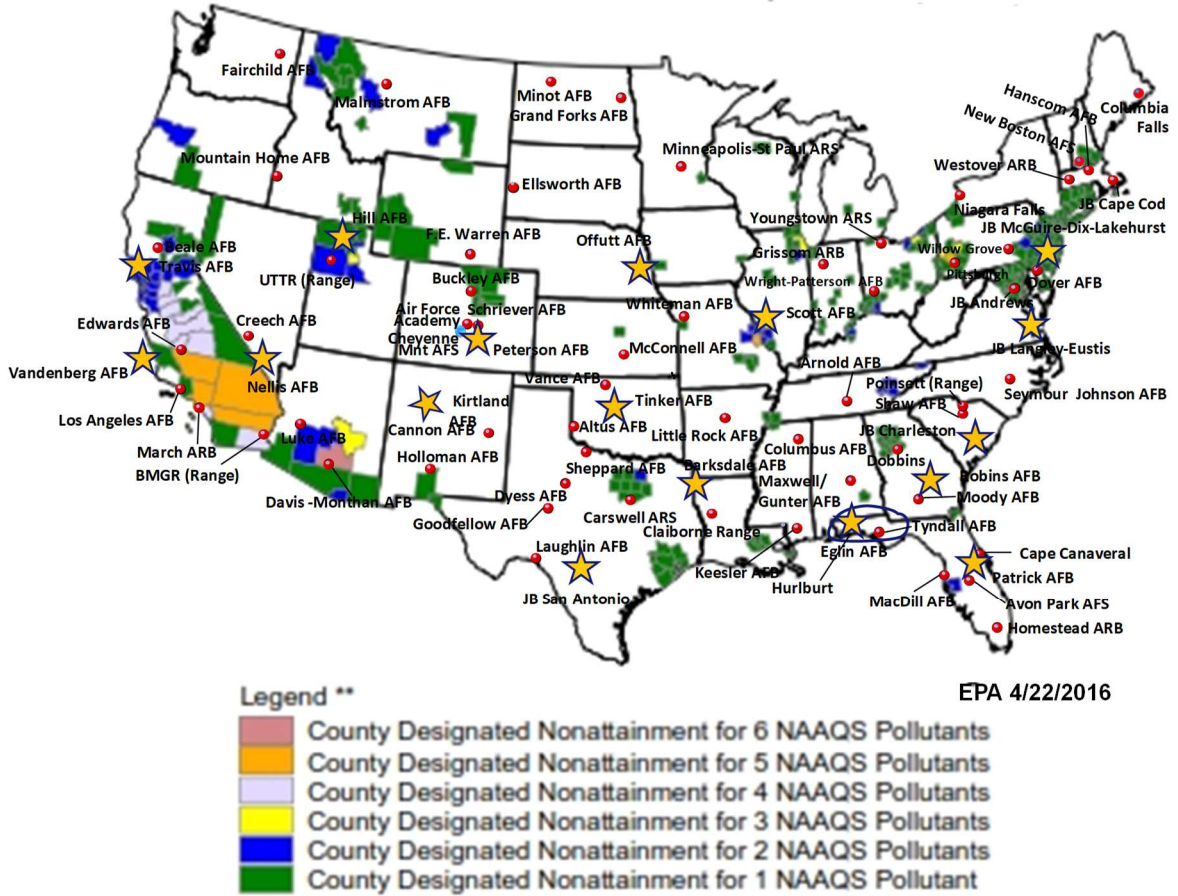
4.1.1 Clean Air Act and Amendments (CAAA)

The CAAA EPA to establish a list of pollutants that may reasonably be anticipated to endanger public health and welfare. The EPA established a list NAAQS to protect the public from adverse impacts of these pollutants. The list consists of six criteria pollutants: sulfur dioxide (SO₂), particulate matter (PM₁₀ & PM_{2.5}), 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 nonattainment areas by the EPA. The responsible air quality agency for these nonattainment areas must develop a strategy to attain the NAAQS by a specified deadline. This strategy is incorporated into the SIP. Once the SIP revision is approved by the EPA, the strategy is federally enforceable. Nonattainment areas where air quality has improved to meet the NAAQS may be redesignated as maintenance areas by EPA. The redesignation to maintenance requires an EPA approved plan to ensure the area does not exceed the NAAQS again. CAAA 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 USAF installations compared to the current nonattainment areas within the contiguous U.S. are shown in *Figure 4-1, Nonattainment Areas Relative to Air Force Bases*.

Figure 4-1, Nonattainment Areas Relative to Air Force Bases



4.1.2 NEPA

NEPA (1969 & amendments) established a broad national policy with goals for the protection, maintenance, and enhancement of the environment. This is accomplished 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), HAPs, and GHGs; and should include an analysis and conclusions which addresses the attainment and maintenance of the established NAAQS.

4.1.3 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 USAF due to potential impact on halting or delaying mission critical actions (e.g., military construction or MILCON). Additionally, the GCR only applies to nonattainment and maintenance areas and only for the criteria pollutant (and precursors) for which the area is in nonattainment or maintenance.

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.

4.1.3.1 GCR Exemptions

Exemptions from the GCR are listed 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 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)

4.1.3.1.1 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)

4.1.3.1.2 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; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) corrective actions; etc.

4.2 EIAP and Air Force Mandates

Under the AFD 32-70, *Environmental Quality* (AFPD 32-70), the USAF 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 USAF to hold all personnel (including military, civilian employees, and contractors) accountable for the environmental consequences of their actions. Additionally, the directive mandates the USAF to comply with applicable Federal, state, and local environmental laws and standards.

Given AFD 32-70’s requirement to comply with NEPA and applicable laws/standards, the USAF developed AFI 32-7061, *The Environmental Impact Analysis Process*, to implement the CEQ Regulations for Implementing the Procedural Provisions of the NEPA (40 CFR Parts 1500-1508). AFI 32-7061 was later codified through 32 CFR Part 989, *Environmental Impact Analysis Process*. 32 CFR Section 989.30 (*Air Quality*) also requires all EIAP documents to also address General Conformity (40 CFR Parts 51 and 93).

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 associated with USAF proposed actions.

4.3 Greenhouse Gases (GHGs) and Climate Change

On August 1, 2016, the CEQ released their final *Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews* (also referred to as CEQ’s Guidance on GHG & Climate Change). The CEQ guidance was applicable to all Federal actions subject to NEPA, including site-specific actions, certain funding of site-specific projects, rulemaking actions, permitting decisions, and land/resource management decisions. Under the guidance federal agencies should address climate change with two primary considerations: (1) the potential effects of a proposed action on climate change and, (2) the effects of climate change on a proposed action and its environmental impacts. However, on March 28, 2017, President Trump signed Executive Order (EO) 13783, *Promoting Energy Independence and Economic Growth*, requesting that the CEQ rescind their guidance. Consequently, the guidance was rescinded on April 5, 2017.

It is generally recognized (including by the CEQ, based on their revoked GHG and Climate Change guidance) that GHGs from human activities are the most significant driver of observed climate change (IPCC 2013). The totality of climate change impacts is not attributable to any single action, but are exacerbated by a series of actions including actions taken pursuant to decisions of the Federal Government. In light of the global scope of the impacts of GHG emissions, and the incremental contribution of each

single action to global concentrations, it is recommended that the projected GHG emissions associated with proposed actions be used as a proxy for assessing proposed actions' potential effects on climate change in NEPA analysis.

While EO 13783 resulted in revoking CEQ's Guidance on GHG & Climate Change, the requirement for assessing a proposed action's potential impact to air quality (including GHGs) is still mandated under NEPA. Therefore, all air quality NEPA assessments must include a **GHG Emissions Assessment** (treated like any other air pollutant).

4.4 Air Quality EIAP Data Quality Objective

The USAFs strategy for approaching the Air Quality EIAP is based on the concept of the EPA's data quality objectives to reach defensible decisions and to make credible estimates with the least impact on scarce resources. Under data quality objectives, the goal is efficiency in achieving the objective at the simplest level and minimal work effort and cost. The objective drives and limits the effort and data needs; and inversely, the available data constrains the objective alternatives. In other words, only generate the minimal effort/data needed to meet the objective, and the available data should restrict the objective alternatives. Most importantly, new data or extra work efforts should only be sought if the objective cannot be met with the available data.

Air EIAP (NEPA and Conformity) analysis is an impact assessment based on a hypothetical best guess estimate of air pollutant emissions. Often concepts that are not fully defined actions are evaluated; therefore, it is necessary to make a best-guess rough estimate. USAF actions under evaluation are proposed and not actual actions, and we can only speculate all the sub-activities and potential emission sources that may be involved directly and indirectly with the execution of the proposed action. Additionally, the acceptable emission estimating methodologies used are only a rough order of magnitude estimates; therefore, it is important to not over analyze because the best outcome is only a rough order of magnitude estimates.

In this case, the objective is to make defensible and credible Air Quality EIAP Assessments, in accordance with 32 CFR 989 and 40 CFR 93 (for proposed actions that will occur in nonattainment and/or maintenance areas), with the least impact on scarce USAF resources (i.e., work effort and cost).

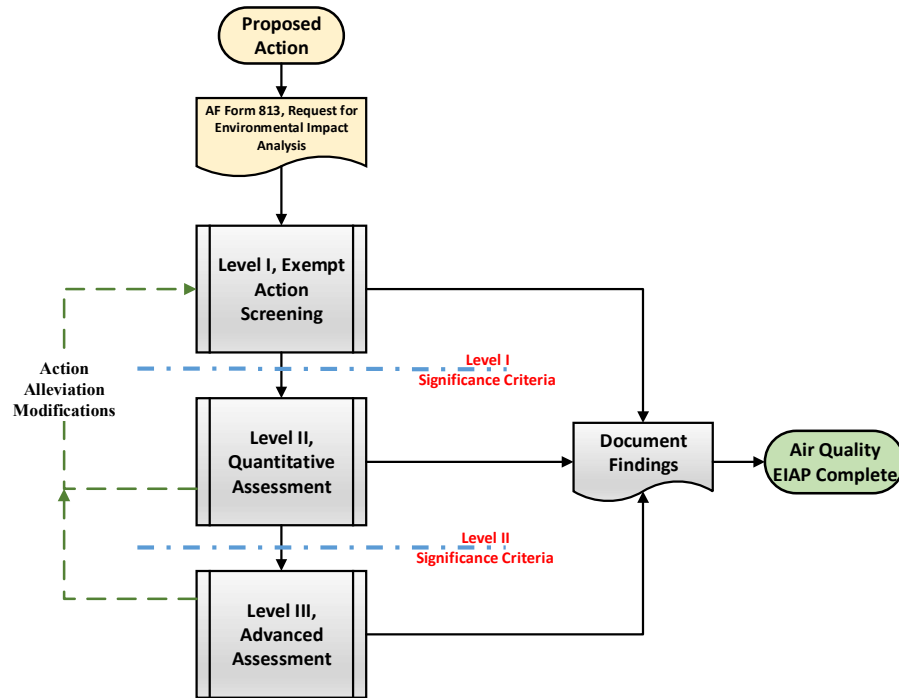
Keep it simple.
Do not get hung up on incidentals and trivia.
Too much detail = Not representative of actual action

4.5 Overview of 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 nonattainment or maintenance

area. As such, the USAF conducts NEPA and GCR assessments in tandem within the EIAP process. The EIAP process usually starts with the Proponent organization (the office, unit, single manager, or activity at any level that initiates Air Force Actions) formally initiating a proposed action by submitting an AF Form 813, *Request for Environmental Impact Analysis*. The Air Quality EIAP process then proceeds through up to three progressive levels of assessment (see *Figure 4-2, Air Quality EIAP Process*) based on significance thresholds.

Figure 4-2, Air Quality EIAP Process



4.6 Level I, Exempt Action Screening

Under this level, the proposed action is assessed to determine if a formal Air Quality Assessment is required. Additionally, Level I assessment are the first progressive phase of a General Conformity Applicability Analysis. If no air emissions will occur or the proposed action is exempt (i.e., CATEXed from NEPA, PTC, or exempted from General Conformity), no further action is required.

4.6.1 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.

4.6.2 Pollutant of Concern

Under EIAP, the air pollutant of concern includes: all criteria pollutant, GHGs, and total 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.

4.6.3 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.

4.6.4 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 PTC.

- Partial Exemption. The exclusion of subactivities or sources that are exempt emissions and/or emissions that are PTC 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) (AFCEC 2014c)

4.7 Level II, 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 USAF to perform this estimate. ACAM provides 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. The following points are important in performing a quantitative estimate of the annual net emissions:

4.7.1 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).

Steady state is the state or condition at which the emissions do not change (or only negligibly) in time. For air impacts assessments, steady state is reached when the action is

fully implemented and there no net increase or decrease in emissions attributed to the action from the previous year.

4.7.2 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.

4.7.3 Action Phases & Schedule

Emissions must be calculated on an annual basis. Schedules should clearly indicate the years in which a 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 GCR does not allow for phased schedules or spatially separated parts of an action (segmented into smaller actions) to avoid making a conformity determination.

4.8 Level III, Advanced 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 are documented and usually integrated in an overall formal EA or EIS.

4.8.1 Quantitative Analysis

In a quantitative analysis of air quality impacts, 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 a 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.

4.8.2 Qualitative Analysis

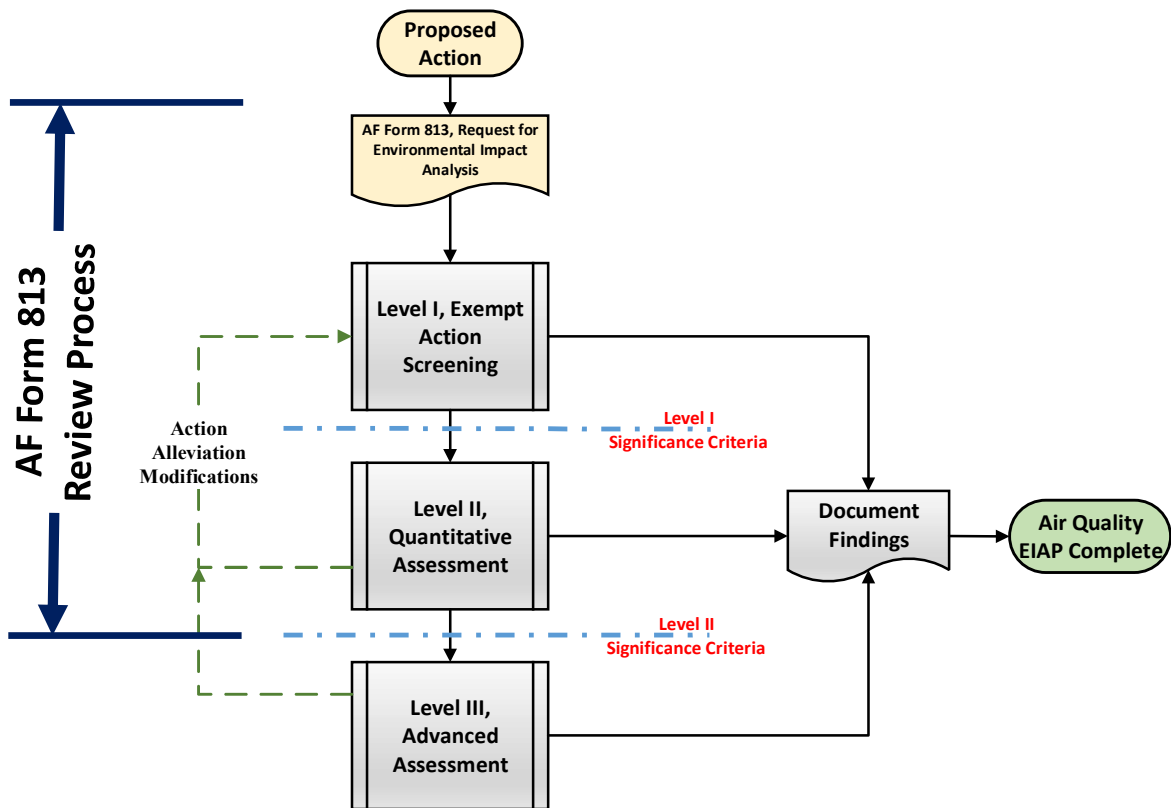
In a qualitative analysis of air quality impacts, the proposed action is assessed based on quality or characteristic(s), rather than on a firm quantity or measured value. Inferences are drawn from professional judgment on potential impacts from the available quantified data

and other scientifically related data. Air quality impact inferences should be derived from comparing the NAAQS against an amalgamation of the quantified worst-case annual emissions for each pollutant of concern and the current ambient air quality data.

4.9 AF Form 813 Air Quality Review Process

Given the Air Quality EIAP is a progressive process which can be applied into any level of NEPA documentation (including documenting air impacts with an AF Form 813), the AF Form 813 air quality review process follows the Air Quality EIAP in a corresponding progressive manner up to a Level II assessment (see *Figure 4-3, AF Form 813 Review Process*):

Figure 4-3, AF Form 813 Review Process



4.9.1 AF Form 813 - Stand Alone

Generally, the environmental impact analysis process begins with a proponent organization submitting an AF Form 813, *Request for Environmental Impact Analysis*, for a proposed action. The Proponent (each office, unit, single manager, or activity at any level that initiates USAF Actions) is responsible for notifying the Environmental Planning Function (EPF) of a pending action and completing Section I, *Proponent Information*, of AF Form 813, Request for Environmental Impact Analysis. As part of Section I of the AF Form 813, the Proponent must prepare the Proposed Action Title, the Purpose and Need for Action, and the Description of Proposed Action and Alternatives (DOPAA). If the proposed action

would not produce any direct or indirect air emission, simply document the findings on the AF Form 813 and the process is completed.

4.9.2 AF Form 813 – Within Air Quality EIAP Level I

If there are any direct or indirect emissions associated with the proposed action, the proposed action is assessed to determine if a formal Air Quality EIAP Assessment is required. Additionally, Level I assessments are the first progressive phase of a General Conformity Applicability Analysis. The action must be compared against both the CATEXed list for NEPA and (if applicable) the General Conformity exemption list. If no air emissions will occur or the proposed action is exempt (i.e., CATEXed from NEPA, PTC, or exempted from General Conformity), no further action is required. Simply document the CATEX and General Conformity exemption (if applicable) on the AF Form 813 and the process is completed.

4.9.3 AF Form 813 – Within Air Quality EIAP Level II

If there is no applicable CATEX or the action is not exempt from General Conformity, the Air Quality EIAP process must proceed to a Level II assessment (the next progressive level of assessment). The Level II assessment is accomplished using the ACAM model (see Chapter 5 for details). Note that the ACAM model is used for both NEPA and General Conformity quantitative assessments. Should the ACAM analysis conclude the proposed action does not pose a significant impact on air quality, document the ACAM findings on the AF Form 813 (suggest attaching the ACAM Summary Report to the AF Form 813) or other appropriate EIAP documentation, and then no further action is required from an air quality perspective.

4.10 Air Quality EIAP Summary

EIAP outlines the USAF's systematic procedures for the analysis of environmental impacts on installations to ensure USAF compliance with NEPA and the CEQ regulations. The EIAP provides a 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 USAF 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 USAF 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 U.S. and abroad. The policies and procedures set forth in the guidance are designed to ensure USAF compliance with NEPA and the CEQ regulations as they relate to air quality.

5 AIR QUALITY EIAP LEVEL I, EXEMPT ACTION SCREENING

As a Federal Agency, the USAF is required under *EIAP*, *NEPA*, and/or *CR* to prepare an environmental document (e.g., EIS, EA, or CATEX) 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 *EIAP* environmental document, or as a separate reporting document, (e.g., conformity determination), should include an analysis and conclusions. The analysis and conclusions should both address the attainment and maintenance of established air quality standards (e.g., NAAQS, 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 USAF instructions in *32 CFR 989, EIAP*. These procedures ensure compliance with *NEPA*, *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 *AFI 32-7040*) for more information.

5.1 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 4-2, *Air Quality EIAP Process*) based on significance thresholds. Fortunately for the air quality analyst/environmental specialist, not all 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.

5.1.1 Define the Action

As discussed in Section 4.9, the environmental impact analysis process begins with a Proponent organization submitting an AF Form 813, *Request for Environmental Impact Analysis*, for a proposed action. The Proponent (each office, unit, single manager, or activity at any level that initiates USAF Actions) is responsible for notifying the EPA of a pending action and completing Section I of the AF Form 813. As part of Section I of the AF Form 813, the Proponent must prepare the DOPAA.

The DOPAA is the most critical element in guiding an air quality impact analysis. The affected environment cannot be meaningfully determined, nor can the air quality impact

analysis be completed, until an adequate DOPAA is developed. All too frequently, DOPAA's simply do not contain the type of information that is needed to adequately describe the proposal and thoroughly analyze the environmental consequences of implementation. The result tends to be an ill-defined scope, a vague description of the affected environment, and an overly generalized and vague impact analysis. In contrast, a DOPAA that is properly prepared results in a well-defined scope, a relevant description of the affected environment, and specific air quality impact analyses.

The best way to improve the quality of an air quality impact analysis is to ensure that the DOPAA is appropriately specific about the particular actions that are being evaluated. Too many DOPAA's are not only vague and imprecise about exactly what activity or sub-activities of the proposed action need to be analyzed. This vagueness sometimes reflects a lack of detail in the DOPAA, but it also reflects a lack of precision in the analysis.

It is also important to emphasize that the amount of detail to be included in the DOPAA should be proportionate to the complexity and uniqueness of the proposed action. Depending on the proposed activities, the level of detail that is appropriate within the DOPAA can vary greatly.

The DOPAA is the first USAF 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.

5.1.2 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 where the proposed action will occur is of importance because the increase (or decrease) in emissions associated 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 813, 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 a particular part or aspect of the action takes 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 GCR 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.

5.2 Determine Attainment Status Where the Action Will Takes Place

Attainment status of the location the proposed activity will occur will dictate if General Conformity is relevant. According to section 176(c) of the CAA, 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 Rule does not apply.

Attainment status determination is usually relatively easy and is detailed below:

a. Air Conformity Applicability Model (ACAM): The ACAM software is preprogrammed with the attainment status of every county or equivalent (e.g., borough) within the contiguous U.S. (CONUS), Alaska, Hawaii, and the U.S. territories, including counties without USAF installations. Simply start the software and select the

applicable location down to any county within the U.S. and ACAM will provide a list of Air Quality Regulatory Areas and the NAAQS attainment status.

b. Authoritative USAF Base Attainment Status List: AFCEC maintains an authoritative list of attainment status' for all USAF installations located within CONUS, Alaska, Hawaii and the U.S. territories. This list is considered more reliable than the EPA Green Book because it is updated more frequently, validated quarterly by AFCEC, and evaluates whether the USAF installation is within the boundaries of a NAAQS nonattainment and/or maintenance regulatory area.

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 is 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.

5.3 Determine if the Action Would Cause Emissions of Pollutants of Concern

Under EIAP, the air pollutant of concern includes: all criteria pollutant, GHGs, and total 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 the action causes only Volatile Organic Compound (VOC) emissions, the General Conformity requirements are not applicable and only an EIAP analysis is required. Note that when using ACAM, identification of the air pollutant of concern is automated based on the selected location.

5.4 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 PTC.

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

5.4.1 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 nonattainment area.

CATEX categories apply to the proposed action as a whole, not to just a portion of the action. CATEX categories apply to the proposed action as a whole, not to just a portion of the action and there must not be any “extraordinary circumstances” that could potentially result in significant short- or long-term impacts. The list of CATEX actions is officially maintained in 32 CFR 989 Attachment B, *Categorical Exclusions*. ***Table 5-1, Air Force CATEX Action List***, provides a summary of the current USAF CATEX list.

An evaluation of the conformity exemptions in 40 CFR 93 Subpart B against the list of USAF-approved CATEXs in 32 CFR 989 was performed. Of the 38 CATEXed actions listed in 32 CFR 989, 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 that do not meet an exemption for General Conformity are identified in red, bold, and italicized text in Table 5-1, Air Force CATEX Action List.

When assessing CATEX applicability two criteria must be met:

- A CATEX must be applied to the entire action. Both the development (e.g., construction) and the implementation (e.g., operational) phases of the action must be included.
- There are no “extraordinary circumstances” that could potentially result in significant short- or long-term impacts. Under this unique situation, further analysis is required before deciding if a CATEX can be applied.

For Example: CATEX A2.3.9, “Repairing and replacing real property installed equipment,” applies solely to the repair and replacement of real property equipment that has already been installed. It does not apply to new (1st time non-replacement)

equipment or if any additional construction is required to install the repair or replacement of the equipment. Additionally, if the repair and replacement is not a one-for-one in-kind (e.g., same size or less, same fuel, etc.) replacement it must be evaluated for “extraordinary circumstances”. Evaluating an action for “extraordinary circumstances” can be accomplished with a quick run (literally minutes) of the ACAM. If the ACAM shows the action will NOT potentially result in significant short- or long-term impacts, the CATEX (from an air quality point of view) can be applied (a copy of the ACAM report should be attached to the AF Form 813).

Table 5-1, Air Force CATEX Action List

Citation	CATEX Action
32 CFR 989 A2.3.1.	Routine procurement of goods and services.
32 CFR 989 A2.3.2.	Routine Commissary and Exchange operations.
32 CFR 989 A2.3.3.	Routine recreational and welfare activities.
32 CFR 989 A2.3.4.	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).
32 CFR 989 A2.3.5.	Preparing, revising, or adopting regulations, instructions, directives, or guidance documents that do not, themselves, result in an action being taken.
32 CFR 989 A2.3.6.	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.
32 CFR 989 A2.3.7.	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.
32 CFR 989 A2.3.8.	<i>Performing interior and exterior construction within the 5-foot line of a building without changing the land use of the existing building.</i>
32 CFR 989 A2.3.9.	Repairing and replacing real property installed equipment.
32 CFR 989 A2.3.10.	Routine facility maintenance and repair that does not involve disturbing significant quantities of hazardous materials such as asbestos and lead-based paint.
32 CFR 989 A2.3.11.	<i>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.</i>

Red, bold, and italicized text indicates CATEX actions that do not meet conformity exemptions.

Table 5-1, Air Force CATEX Action List (continued)

Citation	CATEX Action
32 CFR 989 A2.3.12.	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.
32 CFR 989 A2.3.13.	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.
<i>32 CFR 989 A2.3.14.</i>	<i>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.</i>
32 CFR 989 A2.3.15.	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.
32 CFR 989 A2.3.16.	Acquiring land and ingranths (50 acres or less) for activities otherwise subject to CATEX. The EPF must document application of this CATEX on AF Form 813.
32 CFR 989 A2.3.17.	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.
32 CFR 989 A2.3.18.	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.
32 CFR 989 A2.3.19.	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.
32 CFR 989 A2.3.20.	Converting in-house services to contract services.
32 CFR 989 A2.3.21.	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).
32 CFR 989 A2.3.22.	Routine, temporary movement of personnel, including deployments of personnel on a TDY basis where existing facilities are used.
32 CFR 989 A2.3.23.	Personnel reductions resulting from workload adjustments, reduced personnel funding levels, skill imbalances, or other similar causes.

Red, bold, and italicized text indicates CATEX actions that do not meet conformity exemptions.

Table 5-1, Air Force CATEX Action List (continued)

Citation	CATEX Action
32 CFR 989 A2.3.24.	Study efforts that involve no commitment of resources other than personnel and funding allocations.
32 CFR 989 A2.3.25.	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.
32 CFR 989 A2.3.26.	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.
32 CFR 989 A2.3.27.	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.
32 CFR 989 A2.3.28.	Routine transporting of hazardous materials and wastes in accordance with applicable Federal, state, interstate, and local laws.
32 CFR 989 A2.3.29.	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.
32 CFR 989 A2.3.30.	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.
32 CFR 989 A2.3.31.	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.
32 CFR 989 A2.3.32.	<i>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.</i>

Red, bold, and italicized text indicates CATEX actions that do not meet conformity exemptions.

Table 5-1, Air Force CATEX Action List (continued)

Citation	CATEX Action
32 CFR 989 A2.3.33.	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.
32 CFR 989 A2.3.34.	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.
32 CFR 989 A2.3.35.	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.
32 CFR 989 A2.3.36.	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.
32 CFR 989 A2.3.37.	Participating in “air shows” and fly-overs by Air Force aircraft at non-Air Force public events after obtaining FAA coordination and approval.
32 CFR 989 A2.3.38.	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

5.4.2 General Conformity Exemptions

Exemptions from the GCR are listed in 40 CFR 93.153 or applicable SIP (40 CFR 51.851) and are generally routine and recurring in nature. GCR exemptions are either regulatory exemptions or as 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).

PRESUMED TO CONFORM (PTC)

If certain requirements are met, the following are PTC and therefore are exempt from General Conformity:

- Agency-Specific PTC List: If finalized in the Federal Register, actions on the USAF’s agency-specific PTC list [40 CFR 93.153(f)].

- Facility-Wide Emissions Budget: Actions with SIP-approved, facility-wide emissions budgets [40 CFR 93.153(i)(1)] (*Note: **Cannot be applied at a Level I or II assessment; requires a Level III, Advanced Air Quality Assessment, for each action to ensure the emissions from the action along with all other emissions from the installation will not exceed the facility-wide annual emission budget.***).
- Prescribed fires: Prescribed fires conducted in accordance EPA-specific requirements [40 CFR 93.153(i)(2)].
- Actions Specifically in SIPs: Actions specifically identified in the SIP as PTC [40 CFR 93.153(i)(3)].

a. Agency-Specific PTC List:

Generally, PTC actions may apply to the proposed action as a whole, not to a portion of the action. However, 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 (i.e., a Level II assessment is needed)** [40 CFR 93.153(f)]. Therefore, *if an action is comprised of combining two or more PTC on a list, a level II assessment must be performed using ACAM to document that the proposed act will not exceed the General Conformity de minimis thresholds.*

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

- Perform 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 PTC.
- 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 General Conformity exemptions and the ease of performing an Applicability Analysis with ACAM. Any USAF-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 “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 USAF 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. Facility-Wide Emissions Budget:

Actions at installations with a facility-wide emissions budget included in the SIP or TIP, and the emissions from the action, along with all other emissions from the installation, will not exceed the facility-wide emission budget are PTC. [40 CFR 93.153(i)(1)].

However, using a facility-wide budget approach cannot be applied at Level I or II Air Quality EIAP Assessments; this approach requires a Level III, Advanced Assessment, for each and every proposed action.

The General Conformity regulations [40 CFR 93.161] set up a voluntary program under which a Federal agency can negotiate with the state to develop and adopt a facility-wide emissions budget as part of the total state-wide SIP emission budget. The facility-wide emissions budget would be used for conformity evaluations at facilities subject to federal oversight, such as a USAF installation/facility. A Facility-wide emissions budget is for a set time-period and must include specific compliance measures, such as annual reporting to track how much of the original budget has been consumed each year.

The advantage of this approach is all actions (originally covered and new actions not originally accounted for in the facility-wide budget) may be PTC, and a conformity determination is not required, if the net annual emissions from the action along with all other emissions from the facility subject do not exceed the facility-wide budget. Additionally, the installation has great flexibility and liberty to apply parts of their facility-wide budget to any and as many actions in any year as long as they stay within their facility-wide budget for any given year.

A major disadvantage of a facility-wide budget approach is the up-front need for in-depth involvement in SIP development and the need for extensive record keeping and reporting requirements after the SIP (and emissions budget) has been approved by the EPA. Individual installations/facilities (facilities) must engage with their state up front to develop facility-specific budgets, keep required reports up to date, and notify the state in the event that a revision is needed. Prior to establishing a facility-wide budget, facilities must actively participate in the development of their facility-wide emission budget and the total state-wide SIP emission budget. This will require extensive knowledge of all future projected facility actions and providing the State with extensive data collection and projected emissions estimates. If a facility-wide budget is approved as part of the state-wide SIP emission budget, the facility must perform an emission inventory of all air emission associated with all actions within each year (actions often straddle multiple years) to demonstrate the facility-wide budget was not exceeded or projected to exceed for any given year. These estimates then must be reported to the local and/or state agency annually.

Generally, the disadvantages of a facility-wide budget approach (i.e., extensive SIP development involvement and record keeping/reporting requirements) more than outweigh the advantages (i.e., PTC with flexibility). Therefore, *a facility-wide budget approach is normally not worth pursuing.*

Complete requirements for facility-wide budget development and reporting are described in 40 CFR 93.161(a) and in the *USAF Guide to State Implementation Plan Development.*

c. Prescribed Fires:

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 are PTC; and therefore, are exempt from any further General Conformity Rule requirements. [40 CFR 93.153(i)(2)]

d. Including Actions Specifically in SIPs:

Specific actions may be exempt from General Conformity at installations where the state or tribe has specifically included the installation's proposed action in an EPA-approved SIP as PTC [40 CFR 93.153(i)(3)]. This requires cooperation with the local and/or state air quality agencies to specifically include the action(s) emissions into the

state-wide SIP emission budget and call out the action(s) in the approved SIP as PTC. The emissions from the specific USAF action(s) projected and identified in an EPA approved SIP have already been included in the state's SIP emission budget, and therefore, is exempt from any further General Conformity Rule requirements.

Generally, the “including actions specifically in a SIP approach” is preferred over the “facility-wide budget approach” because the USAF installation/facility receives the benefit of the action(s) being PTC without the necessity of on-going emissions estimating, record keeping, and compliance reporting. While the installation will still need to engage with their local and/or state air quality agency up front to help develop the state-wide SIP emission budget (which will require providing the state with action-specific data and projected emissions estimates), all SIP recordkeeping and compliance reporting is the responsibility of the state.

Complete requirements for including actions specifically in a SIP are described in 40 CFR 93.161(a) and in the *USAF Guide to State Implementation Plan Development*.

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 USAF 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, and
 - Aircraft operations above the mixing height.
- Actions having emissions that are not “reasonably foreseeable”:
 - Initial Outer Continental Shelf lease sales, and
 - 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:
 - 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;
 - Response to emergencies not to exceed 6 months;
 - Research, investigations, studies, demonstrations, or training;
 - Alteration and additions of existing structures required by environmental legislation or regulations; and
 - 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 USAF activities and citations are provided in Table 5-5-2, *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 5-5-2, *List of General Conformity Exemptions*) 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 5-5-2, *List of General Conformity Exemptions*) within the EIAP document; the Air Quality assessment process is complete (no further air quality review is required).

Table 5-5-2, List of General Conformity Exemptions

Citation	General Conformity Exemption
40 CFR 93.153 (a)	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
40 CFR 93.153 (c)(2)(iv)	Routine maintenance and repair activities , including repair and maintenance of administrative sites, roads, trails, and facilities.
40 CFR 93.153 (c)(2)(vii)	The routine, recurring transportation of material and personnel .
40 CFR 93.153 (c)(2)(viii)	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.
40 CFR 93.153 (c)(2)(ix)	Maintenance dredging and debris disposal where no new depths are required, applicable permits are secured, and disposal will be at an approved disposal site.
40 CFR 93.153 (c)(2)(x)	<p>Actions which would result in no emissions increase or an increase in emissions that is clearly de minimis (non-administrative only):</p> <p>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.</p>
40 CFR 93.153 (c)(2)(xii)	Routine operation of facilities, mobile assets and equipment .
40 CFR 93.153 (c)(2)(xxii)	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.

Table 5-2, List of General Conformity Exemptions (continued)

Citation	General Conformity Exemption
40 CFR 93.153 (c)(3)(ii)	Actions having emissions that are not “reasonably foreseeable” , such as: Electric power marketing activities that involve the acquisition, sale and transmission of electric energy.
40 CFR 93.153 (c)(4)	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.
40 CFR 93.153 (d)(1)	The portion of an action that includes major or minor new or modified stationary sources that require a permit under the new source review (NSR) program (Section 110(a)(2)(c) and Section 173 of the Act) or the prevention of significant deterioration program (Title I, Part C of the Act).
40 CFR 93.153 (d)(2)	Actions in response to emergencies 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).
40 CFR 93.153 (d)(3)	Research, investigations, studies, demonstrations, or training (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.
40 CFR 93.153 (d)(4)	Alteration and additions of existing structures as specifically required by new or existing applicable environmental legislation or environmental regulations (e.g., hush houses for aircraft engines and scrubbers for air emissions).
40 CFR 93.153 (d)(5)	Direct emissions from remedial and removal actions carried out under the CERCLA and associated regulations 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.

Table 5-2, List of General Conformity Exemptions (continued)

Citation	General Conformity Exemption
40 CFR 93.153 (j)(1)	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.
40 CFR 93.153 (j)(2)	Emissions from the following actions are “presumed to conform” : 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.
40 CFR 93.153 (j)(3)	Emissions for actions that the State or Tribe identifies in the EPA-approved SIP or TIP as “presumed to conform.”

5.4.3 CATEX Actions Potentially Not Exempt from Conformity

As discussed in Section 4.6.4, an evaluation of the conformity exemptions in 40 CFR 93 Subpart B against the list of USAF-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, four (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 nonattainment 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 USAF-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 General 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 USAF 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.

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.

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

5.5 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, which 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. When preparing the DOPAA, address the following:

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 813, 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 a particular part or aspect of the action takes 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 the Attainment Status Where the Action Will Take Place

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

If the action takes place in an attainment area, then 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 includes: all criteria pollutant, GHGs, and total 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 selected location.

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 General Conformity evaluation** if they are not exempt under the conformity regulations or listed as PTC.

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 USAF 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 5-1) 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 as either regulatory exemptions or as 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 PTC 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 2014 and newer versions 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 USAF 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 identified in the EPA-approved SIP or TIP as PTC.

- **Regulatory Exempt from General 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 USAF activities and citations are provided in Table 5-2, *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 5-2) 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 Tables 5-1 and 5-2) 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 Appendix B to Part 989, *Categorical Exclusions*, four of the CATEXed actions potentially may not be exempt from Conformity. In other words, these **CATEXed actions may still require a General Conformity evaluation** if they are not exempt under the conformity regulations and the action occurs in an air quality nonattainment 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; 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 USAF 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 General Conformity exempt, the prior FONSI action must have been evaluated and identified as not significant using the most recent version of ACAM. Additionally, 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 (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 nonattainment and maintenance areas, a worst-case General 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, this is a new level of significance that requires a quantitative assessment. Proceed to Level II, *Quantitative Assessment*.

If the action meets exemptions for both CATEX and Conformity, documentation of the 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, USAF Instruction (AFI) 32-7040, *Air Quality Compliance*, and 32 CFR 989, *Environmental Impact Analysis Process (EIAP)*, requires sufficient documentation for compliance purposes.

A finding of an exemption must be documented, along with the rationale for the finding. Depending on the situation, this finding could be accomplished as part of a CATEX document (if one is prepared) on AF Form 813, AF Form 332, or DoD Form 1391 or by using the Record of Non-Applicability (RONA) or ***Record of Conformity Applicability (ROCA)*** as described in the following may be used. 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 the action will occur in a nonattainment/maintenance area (as a record of Conformity non-applicability), or a Record of Air Analysis (ROAA) if the action will occur in attainment area. The ROCA or ROAA must be retained at the installation for a period of five years after signature.

6 AIR QUALITY EIAP LEVEL II, 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.

6.1 Level II Data Quality Objective

The USAFs strategy for approaching Level II assessments is based on the concept of the EPA's data quality objectives to reach defensible decisions and to make credible estimates with the least impact on scarce resources. Under data quality objectives, the goal is efficiency in achieving the objective at the simplest level and at the minimum work effort and cost. The objective drives and limits the effort and data needs; and inversely, the available data constrains the objective alternatives. In other words, only generate the minimal effort/data needed to meet the objective, and the available data should restrict the objective alternatives. Most importantly, new data or extra work efforts should only be sought if the objective cannot be met with the available data.

In this case, the objective is to make defensible and credible air quality quantitative assessments, in accordance with 32 CFR 989 and 40 CFR 93, with the least impact on scarce USAF resources (i.e., work effort and cost). Given USAF actions are proposed and not actual actions, we can only speculate all the sub-activities and potential emission sources that may be involved directly and indirectly with the execution of the proposed action.

Only estimating methodologies, algorithms, and emission factors from the current USAF Transitory Source Guide, Mobile Source Guide, and Stationary Source Guide are to be used. As with air emission inventories (AEIs), air quality quantitative assessments are performed using the AP-42 simple empirical model:

$$E = A \times EF \times \left(1 - \frac{ER}{100}\right)$$

Where:

- E = Emissions
- A = Activity Rate
- EF = Emission Factor
- ER = Overall mission reduction efficiency (%)

The Air Conformity Applicability Model (ACAM) must be used for Level II assessments throughout the USAF. 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.

6.2 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:

6.2.1 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, 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 emissions from the entire facility.

Net Emissions

40 CFR 93.152 defines “net” emissions as the sum of direct and indirect emission 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, emission controls included in the action design and planned mitigations should be included.

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.

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.

6.2.2 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 PM₁₀

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.

6.3 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 reasonably-foreseeable 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; however, can provide a direct gauge of potential impact. Although indicators do not trigger a regulatory requirement, they do 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.

6.3.1 General Conformity Thresholds

There are two General Conformity thresholds: Applicability Analysis Thresholds and Facility-Wide SIP Budget Thresholds. Both of these thresholds directly apply only to a proposed action that will occur within a nonattainment and/or maintenance area.

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 (see *Table 6-1, General Conformity De Minimis Thresholds*) are compared directly to the estimated net total direct and indirect emissions from the proposed action (or alternatives).

- **General Conformity Applicability Analysis Threshold:** In an Applicability Analysis (for nonattainment and maintenance areas only), General Conformity thresholds are de minimis values (see *Table 6-1, General Conformity De Minimis Thresholds*) used to compare against the action's the worst-case estimated annual net-change emissions for each pollutant of concern. The General Conformity thresholds are compared directly to the estimated net total change in direct and indirect emissions associated with a proposed action (or alternatives). *If the*

reasonably-foreseeable worst-case annual emissions estimate for each pollutant of concern associated with the action are below the corresponding de minimis threshold values:

- *General Conformity is NOT applicable,*
 - *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.*
- **Facility-Wide SIP Budget Threshold:** This threshold only applies if the proposed actions occurring at a facility that is in a nonattainment or maintenance area in which the facility actually negotiated its own Facility-Wide SIP Budget (a budgeted level of air emissions specifically assigned to the facility for future actions). In this case, the Facility-Wide SIP Budget limits specific to the facility are effectively thresholds that cannot be exceeded. The worst-case estimated annual net-change emissions for each pollutant of concern are added to the current baseline emissions and compared against the facility's specific Facility-Wide SIP Budget Thresholds (emissions maximum allowable values stated in the approved SIP). If the net-change emissions combined with the current baseline emissions DO NOT exceed the facility's specific Facility-Wide SIP Budget Thresholds, then:
 - *General Conformity is PTC,*
 - *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.*

6.3.2 NEPA Assessment Indicators

While the General Conformity thresholds are intended to be used to perform an Applicability Analysis, they can also be used as a general indicator for air quality NEPA assessments. Given the General Conformity de minimis threshold values (see Table 6-1, *General Conformity De Minimis Thresholds*) are the maximum net change an action can acceptably emit in nonattainment and maintenance areas. These threshold values would also be a conservative indicator that an action's emissions within an attainment area would also be acceptable. In other words, if the threshold is acceptable in nonattainment 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.*

Table 6-1, General Conformity De Minimis Thresholds

Criteria Pollutant	Area Classification	Pollutant of Interest	Ozone Transport Region ^{(a) (b)}	De Minimis Level (tons/yr)	
Ozone (O ₃)	Extreme nonattainment	VOC or Oxides of Nitrogen (NOx)	---	10	
	Severe nonattainment	VOC or NOx	---	25	
	Serious nonattainment	VOC or NOx	---	50	
	Other		VOC or NOx	Outside	100
			VOC	Inside	50
			NOx	Inside	100
	Maintenance		NOx	---	100
			VOC	Inside	50
VOC			Outside	100	
Carbon Monoxide (CO)	Nonattainment	CO, SO ₂ , NO ₂	---	100	
	Maintenance	CO, SO ₂ , NO ₂	---	100	
Sulfur Dioxide (SO ₂)	Nonattainment	CO, SO ₂ , NO ₂	---	100	
	Maintenance	CO, SO ₂ , NO ₂	---	100	
Nitrogen Dioxide (NO ₂)	Nonattainment	CO, SO ₂ , NO ₂	---	100	
	Maintenance	CO, SO ₂ , NO ₂	---	100	
Particulate Matter (PM ₁₀)	Serious nonattainment	PM ₁₀	---	70	
	Moderate nonattainment	PM ₁₀	---	100	
	Maintenance	PM ₁₀	---	100	
PM _{2.5}	Nonattainment or maintenance	PM _{2.5} Direct emissions	---	100	
		SO ₂	---	100	
		Nox	---	100 ^(c)	
		VOC or Ammonia (NH ₃)	---	100 ^(b)	
Pb	Nonattainment or maintenance	Pb	---	25	

Source: 40 CFR 93.153(b)(1) and (2) [58 FR 63253, Nov. 30, 1993 as last amended Aug. 24, 2016]

^(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) "—" = not applicable.

^(c) Excluded in areas where both the EPA and the State determined that NO_x is not a significant precursor.

^(d) Excluded in ALL areas where EITHER the EPA or the State has NOT determined that VOCs and/or NH₃ are a significant precursor of PM_{2.5}.

6.4 Action Phases & Schedule

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

6.4.1 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.

6.5 Algorithms and Emission Factors

All emission estimates should be realistic and technically defensible. The procedures and factors provided in the USAF Stationary and Mobile Source Guides are acceptable for conformity but may need to be 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

Table 6-2, Typical Air Force Activities and Sources with Air Emissions

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

and methodology in a ROCA or ROAA is recommended. As the agency responsible for conformity review, the USAF 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.

6.6 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 6-2, Typical Air Force Activities and Sources with Air Emissions*, provides a list of typical non-exempt USAF activities that emit direct and/or indirect emissions.

6.6.1 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 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 USAF 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. APUs 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 USAF 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 GSE at civilian airports and 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 USAF Mobile Source Guide.

6.6.2 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 6,000 pounds or less,
- Light-duty gasoline-fueled trucks with a GVW between 6,001 and 8,500 pounds,
- Heavy-duty gasoline-fueled vehicles with a GVW exceeding 8,500 pounds,
- Light-duty diesel-fueled passenger cars,
- Light duty diesel-fueled trucks with a GVW of 8,500 pounds or less,
- Heavy-duty diesel-fueled vehicles with a GVW exceeding 8,500 pounds, and
- Motorcycles (vehicles with no more than three wheels in contact with the ground and curb weight less than 1,500 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. Tracking takes place 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 ends when the vehicle 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 USAF Mobile Source Guide.

6.6.3 Stationary Sources

Stationary sources of air emissions at USAF installations 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 Hydrocarbons [HCs]), CO, NO_x, PM₁₀, 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 depends 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 HCs 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.

USAF installations 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.

6.6.4 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 construction project. Recognizing the uniqueness of every construction project, the USAF 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 six construction emission classes that may be 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 6-3, 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 6-3, Summary of Construction Phases and Their Emission Classes

Phase	Unique Phase Emission Classes					
	Fugitive Dust	Construction Exhaust	Vehicle Exhaust	Worker Trips	Vendor Trips	Off-Gassing
Demolition	X	X	X	X		
Site Grading	X	X	X	X		
Trenching/Excavation	X	X	X	X		
Building Construction		X	X	X	X	
Architectural Coatings				X		X
Paving (Asphalt)		X	X	X		X

6.7 Quick Steps for Level II, Quantitative Assessment

All Level II assessments throughout the USAF 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

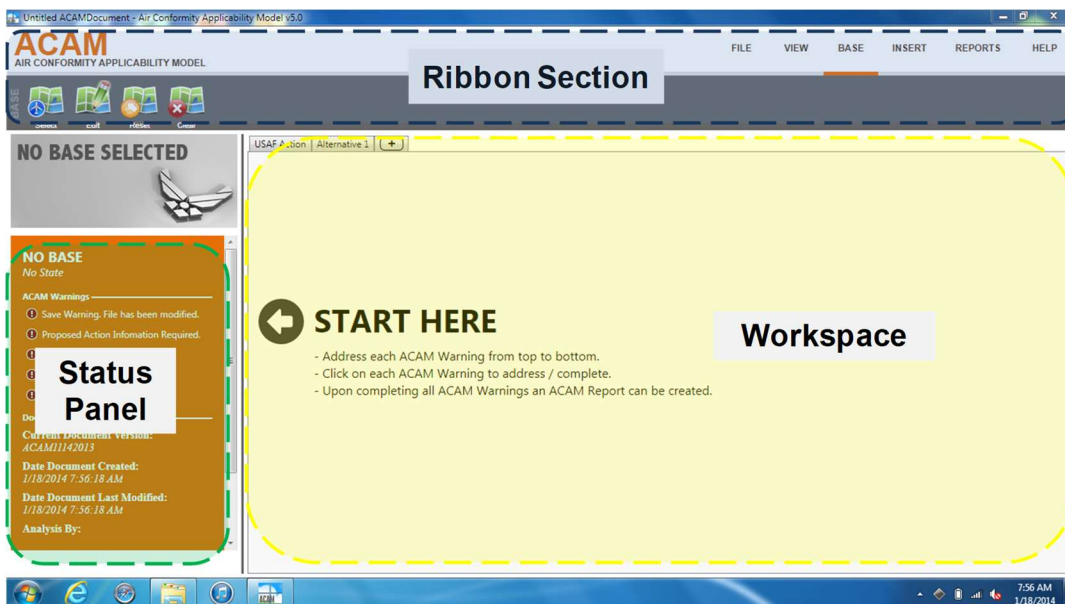
ACAM must be used for all Level II assessments throughout the USAF. ACAM may be requested through completing a DD Form 2875, *System Authorization Access Request*

(SAAR), and submitting the completed form to Air Quality Subject Matter Expert (HQ AFCEC/CZTQ) for approval.

A SAAR form that is already partially filled out with pertinent data can be obtained at <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 the ACAM - System Authorization Access Request (SAAR) and ACAM - SAAR Help File can be downloaded.

Upon approval, a download link for the ACAM install file and instructions will be emailed (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*).

Figure 6-1, ACAM Application Main Sections



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 USAF 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 6-1, ACAM Application Main Sections*). The ACAM Status Panel is designed as a guided tour through the complete use of an ACAM analysis. Basically, all the user needs to do is click the warnings starting at the top and clear them as directed until the final warning is cleared.

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 ACAM; therefore, the entries

should be concise and accurate (see *Figure 6-2, ACAM Proposed 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.

Figure 6-2, ACAM Proposed Action Information Screen

NO BASE SELECTED

ACAM
AIR CONFORMITY APPLICABILITY MODEL

FILE VIEW BASE INSERT REPORTS HELP

Select Edit Reset Clear

NO BASE
No State

ACAM Warnings

- Save Warning: File has been modified.
- Proposed Action Information Required.
- Document Information Required.
- No Base Selected.
- At Least One Activity Required.

Document Info

Current Document Version:
ACAM11142013

Date Document Created:
1/18/2014 7:56:18 AM

Date Document Last Modified:
1/18/2014 7:56:18 AM

Analysis By:

Proposed Action Information

INCOMPLETE

UNITED STATES AIR FORCE (USAF) ACTION

TITLE OF PROPOSED ACTION:

PROPOSED ACTION PROJECT NUMBER/s (if applicable):

PURPOSE AND NEED FOR ACTION (brief description):

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (brief description):

Check

7:57 AM
1/18/2014

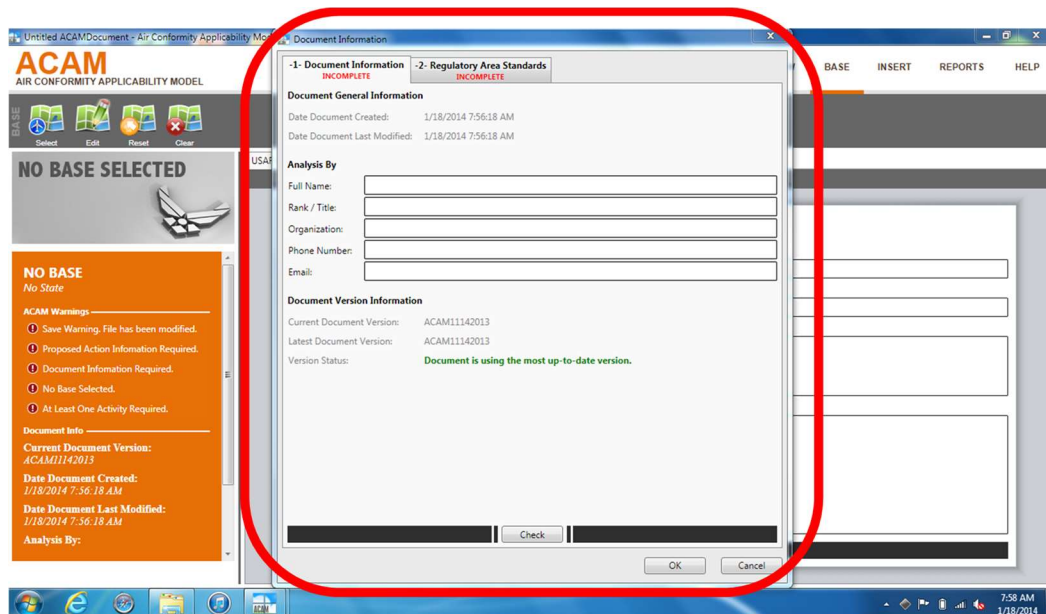
Step 3: Document Information

This simple step involves entering general information about the ACAM user and which regulatory standards the user wishes to evaluate. All data entered will be regurgitated in the finalized reports generated by ACAM; therefore, the entries should be concise and accurate (see *Figure 6-3, 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 behalf of a government representative, 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 her or she wishes 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 regulatorily impose the 1-hour ozone standard for anti-backsliding.

Figure 6-3, ACAM Document Information Screen

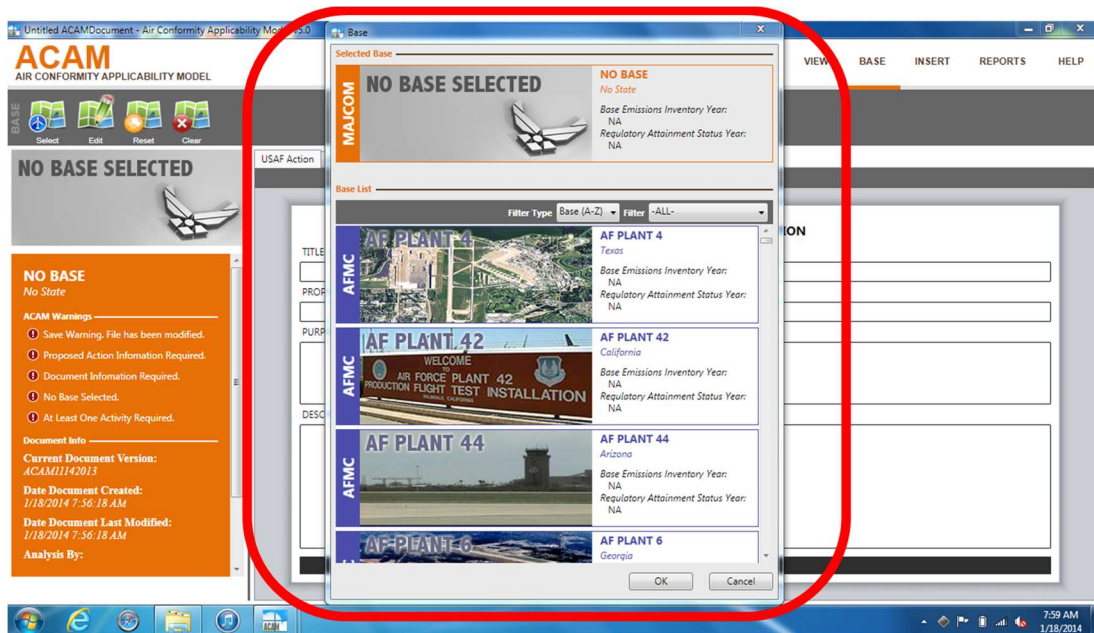


Step 4: Select Base

This step establishes the USAF installation the proposed action is associated with (which may not necessarily be where the action will occur). The USAF installation's location can be selected by name (A-Z) or by zeroing in on the MAJCOM or state (see **Figure 6-4, ACAM Base Selection Screen**).

Note: The proposed action may not be located on the USAF installation. 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 6-4, ACAM Base Selection Screen

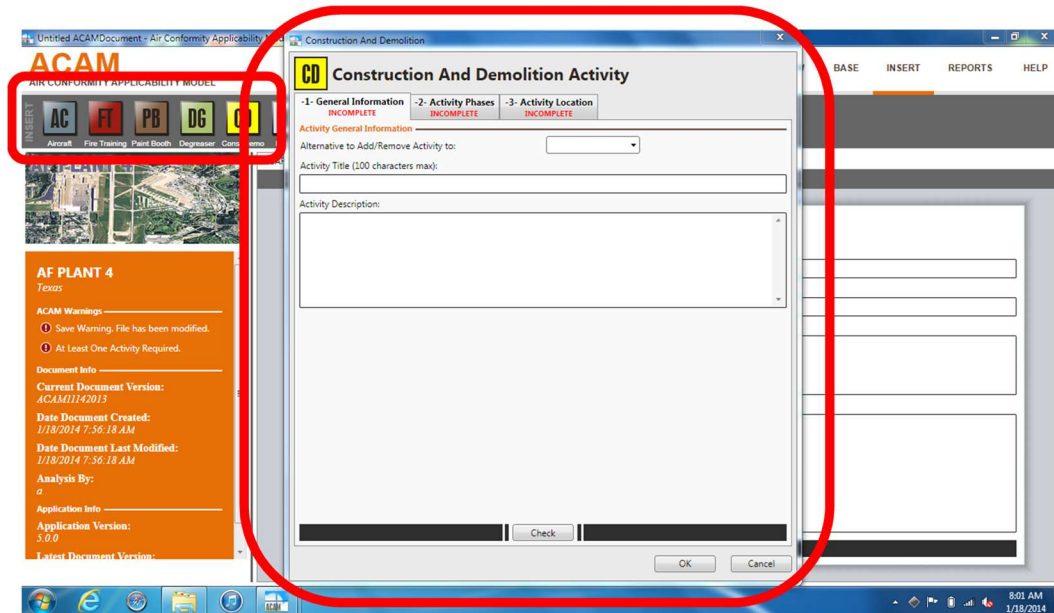


Step 5: Insert Activities

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 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 6-5, ACAM Example Activity Screen*, show a typical activity data entry form from ACAM.

Figure 6-5, ACAM Example Activity Screen



Typical potential sources/activities of direct and/or indirect emissions at USAF installations (as discussed in detail in Section 5.4) that may be added or removed within ACAM to reflect the composition of the proposed action are shown in *Table 6-4, Typical Air Force Activities with Air Emissions*.

Given an activity/source may be situated 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.

Table 6-4, Typical Air Force Activities with Air Emissions

Activity	Sources	Emissions
Aircraft Operations	Flight operations	Aircraft engine exhaust
	Engine test cell	
	Aerospace ground equipment	Combustion engine exhaust
Fire Training	Fuel-fired burning	External fuel combustion
Painting in booth	Paint solvents	Paint solvents fugitive/booth exhaust
Degreasing Operations	Solvent degreaser	Degreasing solvents
Emergency Generator	Internal combustion engines	Combustion engine exhaust
Personnel	Human activities	On-road vehicles, energy consumption, etc.
Storage Tanks	Horizontal tanks	Fuel, solvents, etc. standing storage and working losses
	Vertical tanks	
Construction/Demolition	Demolition	Fugitive dust, off-road construction equipment, on-road construction vehicles, worker on-road vehicles, vendor on-road vehicles, off-gassing of construction materials, etc.
	Site Grading	
	Trenching/Excavation	
	Building Construction	
	Architectural Coating	
Paving		
Heating	Boilers	External fuel combustion

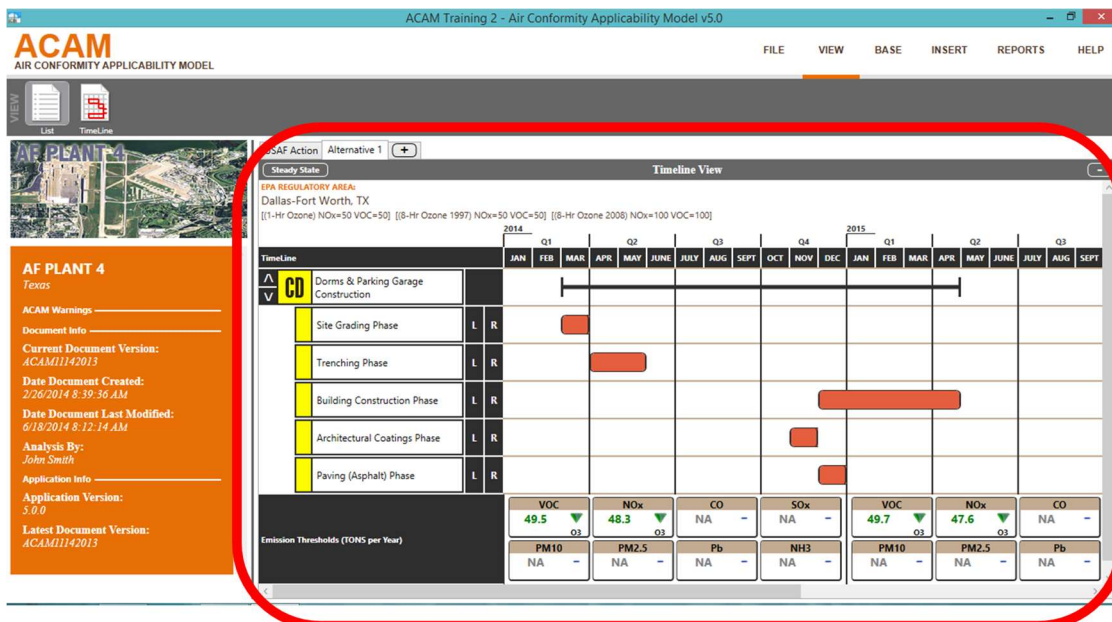
Step 6: View & Validate Results

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 as described below.

- **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 (see *Error! Reference source not found.*).
 - Activities may be fully edited by simply clicking on the title of the activity the user wishes 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 6-5, 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 “▲” symbol indicates the remaining tons/year before reaching a threshold. Red numbers and a red “▼” symbol indicate the tons/year that will exceed the threshold. See *Figure 6-6, ACAM Timeline View*, for details.

Figure 6-6, 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 unable to fully mitigate with the timelines, the user may wish to modify the individual activities to lessen the overall emissions.

Table 6-5, General Conformity De Minimis Levels (Thresholds)

Criteria Pollutant	Area Classification	Pollutant of Interest	Ozone Transport Region ^{(a) (b)}	De Minimis Level (tons/yr)	
Ozone (O ₃)	Extreme nonattainment	VOC or Oxides of Nitrogen (NO _x)	---	10	
	Severe nonattainment	VOC or NO _x	---	25	
	Serious nonattainment	VOC or NO _x	---	50	
	Other		VOC or NO _x	Outside	100
			VOC	Inside	50
			NO _x	Inside	100
	Maintenance		NO _x	---	100
			VOC	Inside	50
VOC			Outside	100	
Carbon Monoxide (CO)	Nonattainment	CO, SO ₂ , NO ₂	---	100	
	Maintenance	CO, SO ₂ , NO ₂	---	100	
Sulfur Dioxide (SO ₂)	Nonattainment	CO, SO ₂ , NO ₂	---	100	
	Maintenance	CO, SO ₂ , NO ₂	---	100	
Nitrogen Dioxide (NO ₂)	Nonattainment	CO, SO ₂ , NO ₂	---	100	
	Maintenance	CO, SO ₂ , NO ₂	---	100	
Particulate Matter (PM ₁₀)		Serious nonattainment	PM ₁₀	70	
		Moderate nonattainment	PM ₁₀	100	
		Maintenance	PM ₁₀	100	
PM _{2.5}	Nonattainment or maintenance	PM _{2.5} Direct emissions	---	100	
		SO ₂	---	100	
		No _x	---	100 ^(c)	
		VOC or Ammonia (NH ₃)	---	100 ^(b)	
Pb	Nonattainment or maintenance	Pb	---	25	

Source: 40 CFR 93.153(b)(1) and (2) [58 FR 63253, Nov. 30, 1993 as last amended Aug. 24, 2016]

^(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) "—" = not applicable.

^(c) Excluded in areas where both the EPA and the State determined that NO_x is not a significant precursor.

^(d) Excluded in ALL areas where EITHER the EPA or the State has NOT determined that VOCs and/or NH₃ are a significant precursor of PM_{2.5}.

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 CFR §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/General 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 proposed 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 inputted into ACAM (see procedures for 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, there is an option of selecting that either 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

Steady state is the state or condition at which the emissions do not change (or only negligibly) in time. For air impacts assessments, steady state is reached when the action is fully implemented, and there no net increase or decrease in emissions attributed to the action from the previous year.

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 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:

- **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.

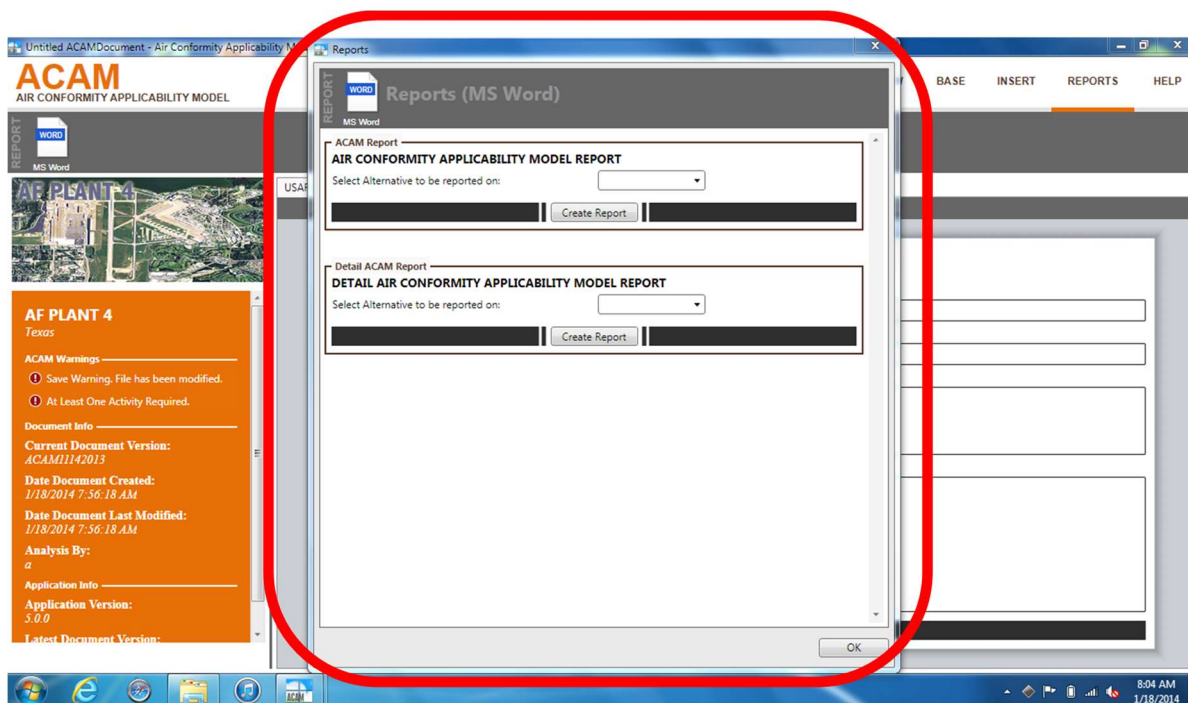
Step 9: Reports

ACAM calculates air criteria pollutants, criteria pollutant precursors, and GHGs, for an action and its alternatives for all typical USAF activities that potentially are part of a proposed action. The resultant ACAM calculations are presented in a visual timeline (see

Figure 6-6, 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 nonattainment 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 6-7, 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 of which type of report to be generated, an ACAM analysis report (i.e., ROCA or ROAA) or a Detailed ACAM Report (see **Figure 6-7, ACAM Reports Screen**). Then simply select which alternative to generate the report on and then click “Create report”. ACAM will open a Save Document window where the user names the file and selects the location for the file to be saved.

The finalized analysis report (i.e., ROCA or ROAA; see **Figure 6-8, Examples of ACAM Reports**) 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.

Figure 6-8, Examples of ACAM Reports

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

2. Aircraft

2.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
County: Linnier; Lowndes
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: A-29 LAS Moody AFB

- Activity Description:
The Proposed Action is to beddown up to 20 A-29 Super Tucano aircraft of the AAF training program. As part of the Proposed Action, the LA mission qualification training to AAF pilots (30) and maintainers (90).

- Activity Start Date
Start Month: 9
Start Year: 2014

- Activity End Date
Indefinite: No
End Month: 12
End Year: 2018

- Activity Emissions:

Pollutant	Total Emissions (TONs)	Pollut
VOC	5.760545	PM 2.5
SO _x	1.862376	Pb
NO _x	56.385106	NH ₃
CO	85.045726	
PM 10	6.240713	

2.2 Aircraft & Engines

2.2.1 Aircraft & Engines Assumptions

- Aircraft & Engine
Aircraft Designation: T-6A
Engine Model: PT6A-68
Primary Function: Trainer
Number of Engines: 1

- Aircraft & Engine Surrogate
Is Aircraft & Engine a Surrogate? Yes
Original Aircraft Name: A-29
Original Engine Name: PT6A-68C

2.2.2 Aircraft & Engines Emission Factor(s)

- Aircraft & Engine Emissions Factors (lb/1000lb fuel)

	Fuel Flow	VOC	SO _x	NO _x	CO
Idle	156.00	7.89	1.06	1.77	117.2
Approach	180.00	1.33	1.06	1.95	94.9
Intermediate	328.00	3.29	1.06	5.03	33.6
Military	449.00	0.71	1.06	4.73	10.9
Takeoff	612.00	0.20	1.06	8.18	3.88

2.3 Flight Operations

2.3.1 Flight Operations Assumptions

- Flight Operations
Number of Aircraft: 1
Number of Annual LTOs (Landing and Take-off) cycles: 313
Number of Annual TGOs (Touch-and-Go) cycles: 496

- Default Settings Used: Yes

- Flight Operations TIMs (Time In Mode)
Taxi/Idle Out (mins): 12.8 (default)
Takeoff (mins): 0.4 (default)

AIR CONFORMITY APPLICABILITY MODEL REPORT RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact's associated with the action in accordance with the Air Force Instruction 32-7040, Air Quality Compliance And Resource Management; the Environmental Impact Analysis Process (EIAAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:
Base: MOODY AFB
County(s): Linnier; Lowndes
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: A-29 LAS

c. Project Number's (if applicable):

d. Projected Action Start Date: 9 / 2014

e. Action Description:
The Proposed Action is to beddown up to 20 A-29 Super Tucano aircraft at a suitable U.S. AFB for the duration of the AAF training program. As part of the Proposed Action, the LAS program would provide baseline mission qualification training to AAF pilots (30) and maintainers (90).

f. Point of Contact:
Name: Phi Dang
Title: Ctr/ NEPA Air Quality SME
Organization: HQ AFCEC/CZ
Email: phi.dang_ctr@us.af.mil
Phone Number: DSN 945-5209

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

applicable
 not applicable

Total combined direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" and "steady state" (net gain/loss upon action fully implemented) emissions.

"Air Quality Indicators" were used to provide an indication of the significance of potential impacts to air quality. These air quality indicators are EPA General Conformity Rule (GCR) thresholds (de minimis levels) that are applied out of context to their intended use. Therefore, these indicators do not trigger a regulatory requirement; however, they provide a warning that the action is potentially significant. It is important to note that these indicators only provide a clue to the potential impacts to air quality.

Given the GCR 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 conservatively indicate an actions emissions within an attainment would also be acceptable. An air quality indicator value of 100 tons/yr is used based on the GCR de minimis threshold for the least severe non-attainment classification for all criteria pollutants (see 40 CFR 93.153). Therefore, the worst-case year emissions were compared against the GCR Indicator and are summarized below.

Analysis Summary:

Pollutant	Action Emissions (ton/yr)	2014 AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.443	100	
NO _x	4.337	100	
CO	6.542	100	
SO _x	0.143	100	
PM 10	0.481	100	
PM 2.5	0.352	100	
Pb	0.000	100	
NH ₃	0.000	100	

None of estimated emissions associated with this action are above the GCR thresholds, indicating no significant impact to air quality; therefore, no further air assessment is needed.

 NEPA Air Quality Program Manager

 DATE

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 will 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 EA or 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)*, requires 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 AF 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 nonattainment/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.

7 GREENHOUSE GAS (GHG) & CLIMATE CHANGE ASSESSMENT

Many projects and programs proposed by the Federal Government have the potential to produce GHGs. On August 1, 2016, the CEQ released their final *Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews* (also referred to as *CEQ's Guidance on GHG & Climate Change*). The CEQ guidance was applicable to all Federal actions subject to NEPA, including site-specific actions, certain funding of site-specific projects, rulemaking actions, permitting decisions, and land/resource management decisions. Under the guidance federal agencies should address climate change with two primary issues agencies should consider: (1) the potential effects of a proposed action on climate change and, (2) the effects of climate change on a proposed action and its environmental impacts. **However, On March 28, 2017, President Trump signed EO 13783, Promoting Energy Independence and Economic Growth, rescinding CEQ's Guidance on GHG & Climate Change.**

The CEQ has withdrawn its final guidance for Federal agencies on how to consider greenhouse gas emissions and the effects of climate change in National Environmental Policy Act (NEPA) reviews, a Notice of Availability for which was published on August 5, 2016 (81 FR 51866). As explained in the Notice of Availability, the withdrawn guidance was not a regulation. Pursuant to Executive Order 13783, "Promoting Energy Independence and Economic Growth," of March 28, 2017, the guidance has been withdrawn for further consideration. The withdrawal of the guidance does not change any law, regulation, or other legally binding requirement.

While the EO 13783 resulted in revoking *CEQ's Guidance on GHG & Climate Change*, the EO did not remove the requirement for assessing a proposed action's potential impact to air quality (include GHGs as a regulated pollutant) which is still mandated under NEPA. Therefore, ***until official DoD and USAF policy and guidance are established, all air quality NEPA assessments must still include an assessment of GHGs using the following as interim guidance:***

- **GHG Emissions Assessments:** GHGs shall be treated like any other air pollutant under EIAP. GHG emissions estimates are required which is automated when using ACAM.
- **Significance Indication Analysis:** "Significance Indication Analysis" as described in section 7.1 of this chapter.
- **CEQ Guidance Discussion:** As a result of Executive Order 13783 and the action of CEQ on April 5, 2017, the August 2016 CEQ guidance should no longer be referenced as authority for any portions of an EIAP document. **From an air quality point of view, evaluating "Effects of Climate Change on a Proposed Action and Environment" is not required.** However, the effects of Climate Change on a

proposed action and/or the environment may be included to address and document that an informed decision-making process was followed.

7.1 Effects of GHG Emissions

With CEQ withdrawing its final guidance for Federal agencies on how to consider GHG emissions and the effects of climate change in NEPA reviews, the USAF does not mandate that a climate change assessment be included in EIAP. However, the CEQ has made it clear the withdrawal of the guidance does not change any law, regulation, or other legally binding requirement for addressing regulated pollutants, such as GHGs.

CEQ's guiding principle for all NEPA assessments is to apply the *rule of reason* and the *concept of proportionality*. Under the rule of reason, agencies should attempt to evaluate the positive features of an action against its anticompetitive negative effects in order to decide whether or not the action should be prohibited. The rule of reason is inherent in NEPA and the CEQ Regulations which allows agencies to determine, based on their expertise and experience, how to consider an environmental effect and prepare an analysis based on the available information. Under the concept of proportionality, agencies should be guided by the principle that the extent of the analysis should commensurate with the quantity of projected GHG emissions. In other words, if there are little to no GHG emissions associated with an action, then there should be little to no GHG and climate change analysis associated with the action.

As such, ***GHGs are treated like any other air pollutant under Air quality EIAP (where the action's impacts on the environment are evaluated)***; however, there are no thresholds to apply to an indication of significance.

Relative Significance Indication Analysis

Currently there is no establish quantity or threshold of GHG emissions that would be considered "significant" relating to impacts to the environment or human health. While there is no established significance threshold for GHG emissions, the CEQ suggests a relative comparison analysis in which each alternative's annual GHG emissions value has significance in relation to other alternatives' annual GHG emissions values.

Therefore, it is recommended to weigh the results of the relative comparison analysis using the rule of reason and the concept of proportionality. Under the rule of reason, actions/alternatives with greater positive features and least negative effects weigh higher (more positive) than actions/alternatives with less positive features and greater negative effects. Under the concept of proportionality, actions/alternatives with the least quantity of projected GHG emissions weigh higher (more positive and desirable) than actions/alternatives with higher quantity of projected GHG emissions.

Therefore, ***GHG annual emissions of each action/alternative are to be compared against each other in a relative comparison analysis to established relative significance of each***. This concept of relative significance is no different than any other air pollutant under Air Quality EIAP (where the action's impacts on the environment are evaluated).

- As with any air pollutant, each action's/alternative's total GHG emission for both worst case (generally the construction phase) and steady state (generally the post-construction or execution phase) should be ranked and stacked highest to lowest relative to each other.
- The higher the GHG emission for specific actions/alternatives, the greater the relative significance compared to all the other actions/alternatives.

Generally, the relative significance analysis is documented with a table of GHG Emission (both worst case and steady state) for all alternatives and a written discussion of the relative significance based on quantity of emissions.

7.1.1 Effects of Climate Change on a Proposed Action & Environment

With CEQ's release of the final *Guidance on GHG and Climate Change* (and regardless of the fact the guidance was revoked), CEQ clearly intended for Federal agencies to consider the effects of climate change on a proposed action and its environmental impacts. ***"The effects of climate change on a proposed action and its environmental impacts" is not directly air quality related; therefore, this section is optional for air quality impact assessments.*** However, these steps may be of use in assessing the effects of climate change on other non-air quality resources.

To evaluate the effects of climate change on a proposed action, two subjective qualitative assessments are performed; 1) the impact of climate change on a proposed action, and 2) the impact of climate change on the action's environmental impacts.

The USAF is responsible for meeting the CEQ's guidance "to the fullest extent possible" per 40 CFR 1500.2; however, CEQ's Regulations (40 CFR Parts 1500-1508) make it clear that one should apply the *rule of reason* and the *concept of proportionality* (regulatory speak for keep it simple). Under the rule of reason, actions/alternatives with greater positive features and least negative effects weigh higher (more positive) than actions/alternatives with less positive features and greater negative effects. Under the concept of proportionality, actions/alternatives with the least quantity of projected GHG emissions weigh higher (more positive and desirable) than actions/alternatives with higher quantity of projected GHG emissions. Therefore, the effort that must be put into assessing the effects of climate change on a proposed action and its environmental impacts needs to be proportional to the actions potential to affect climate change and vice versa.

7.1.2 Impact of Climate Change on a Proposed Action

The earth's global temperature has risen by 1.5°F over the past century, and is projected to continue to rise. Small changes in the global temperature over time can translate into large and potentially dangerous shifts in climate and weather on a global scale and even at the state level. Many states have seen changes in rainfall, resulting in more floods, droughts, or intense rain, as well as more frequent and severe heat waves.

Under this part of the assessment, current and future potential impacts that climate change could have on the proposed action (both during construction and future steady state) are identified and qualitatively addressed. These impacts are generally needed for proper design and examples include: the need for shading and air conditioning at the guard posts, flooding and storm water drainage, continued drinking water supply, etc.

While assessing climate change's impact on a proposed action is a good idea for early planning and design, it is not necessarily found in a traditional NEPA analysis. NEPA was implemented to ensure potential environmental effects of proposed Federal agency actions are assessed, not the reverse of the impacts of the environment on the action. Nonetheless, USAF is still responsible for meeting CEQ's guidance. Therefore, assessing (as discussed above) climate change's impact on a proposed action is consistent with this requirement and prudent practice to ensure proper planning and design of the action to prevent mission failure in the future.

The following steps are suggested for addressing the potential impacts that climate change could have on the proposed action:

Step 1, Identify State-Specific Potential Impacts

Under this step, distinguish the potential climate change impacts (e.g., changes in rainfall, resulting in more floods, droughts, or intense rain, as well as more frequent and severe heat waves) that are applicable to the specific state that the action will occur in.


The EPA has developed state-specific factsheets, *What Climate Change Means for Your State*, which identifies and discusses potential climate change impacts specific to the conditions and circumstances of each state. Therefore, to simplify the identification of potential climate change impacts for the specific action, start by downloading the EPA factsheet for the state within which the action will occur. These factsheets can be found at: <http://www.aqhelp.com/AQdocs.html>

Each state-specific factsheet is two pages long with an introduction on the front page and a list of specific potential climate change impacts within a blue background. An example of an EPA *What Climate Change Means for Your State* factsheet for Alabama is provided in Figure 7-1, Example State-Specific Climate Change Factsheet. In this example, the specific potential climate change impacts for Alabama are:

- Rising Seas and Retreating Shores
- Coastal Storms, Homes, and Infrastructure
- Precipitation and Water Resources
- Flooding, River Transportation, and Hydroelectric Power
- Agriculture and Forest Resources

- Human Health

Figure 7-1, Example State-Specific Climate Change Factsheet



United States
Environmental Protection
Agency

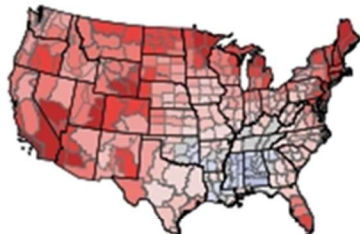
August 2016
EPA 430-F-16-003

What Climate Change Means for Alabama

In the coming decades, **Alabama** will become warmer, and the state will probably experience more severe floods and drought. Unlike most of the nation, Alabama has not become warmer during the last 50 years. But soils have become drier, annual rainfall has increased in most of the state, more rain arrives in heavy downpours, and sea level is rising about one inch every eight years. Changing the climate is likely to increase damages from tropical storms, reduce crop yields, harm livestock, increase the number of unpleasantly hot days, and increase the risk of heat stroke and other heat-related illnesses.

Our climate is changing because the earth is warming. People have increased the amount of carbon dioxide in the air by 40 percent since the late 1700s. Other heat-trapping greenhouse gases are also increasing. These gases have warmed the surface and lower atmosphere of our planet about one degree (F) during the last 50 years. Evaporation increases as the atmosphere warms, which increases humidity, average rainfall, and the frequency of heavy rainstorms in many places—but contributes to drought in others. While most of the earth warmed, natural cycles and sulfates in the air cooled Alabama. Sulfates are air pollutants that reflect sunlight back into space. Now sulfate emissions are declining, and the factors that once prevented the state from warming are unlikely to persist.

Greenhouse gases are also changing the world's oceans and ice cover. Carbon dioxide reacts with water to form carbonic acid, so the oceans are becoming more acidic. The surface of the ocean has warmed about one degree during the last 80 years. Warming is causing snow to melt earlier in spring, and mountain glaciers are retreating. Even the great ice sheets on Greenland and Antarctica are shrinking. Thus the sea is rising at an increasing rate.



Temperature change (°F):
-1 -0.5 0 0.5 1 1.5 2 2.5 3 3.5

Changing temperatures in the last century. While most of the nation has warmed, Alabama and a few other states have cooled. Source: EPA, Climate Change Indicators in the United States.


Rising Seas and Retreating Shores

Sea level is rising more rapidly in Alabama than most coastal areas because the land is sinking. If the oceans and atmosphere continue to warm, sea level along the Alabama coast is likely to rise eighteen inches to four feet in the next century. Rising sea level submerges wetlands and dry land, erodes beaches, and exacerbates coastal flooding.

Coastal Storms, Homes, and Infrastructure

Tropical storms and hurricanes have become more intense during the past 20 years. Although warming oceans provide these storms with more potential energy, scientists are not sure whether the recent intensification reflects a long-term trend. Nevertheless, hurricane wind speeds and rainfall rates are likely to increase as the climate continues to warm.

Whether or not storms become more intense, coastal homes and infrastructure will flood more often as sea level rises, because storm surges will become higher as well. Rising sea level is likely to increase flood insurance rates, while more frequent storms could increase the deductible for wind damage in homeowner insurance policies. Many cities, roads, railways, ports, airports, and oil and gas facilities along the Gulf Coast are vulnerable to the combined impacts of storms and sea level rise. People may move from vulnerable coastal communities and stress the infrastructure of the communities that receive them.



Hurricane Katrina's storm surge destroyed homes and roads on Dauphin Island in 2005. Credit: FEMA.

Precipitation and Water Resources

Annual precipitation in Alabama has increased 5 to 10 percent since the first half of the 20th century. Although rainfall during spring is likely to increase during the next 40 to 50 years, the total amount of water running off into rivers or recharging ground water is likely to decline 2.5 to 5 percent, as increased evaporation offsets the greater rainfall. Droughts are likely to be more severe, because periods without rain may be longer and very hot days will be more frequent.

Flooding, River Transportation, and Hydroelectric Power

Flooding is becoming more severe in the Southeast. Since 1958, the amount of precipitation during heavy rainstorms has increased by 27 percent in the Southeast, and the trend toward increasingly heavy rainstorms is likely to continue. While some rivers such as the Tennessee have dams to help prevent flooding, other rivers either have no dams or have dams with too little capacity to significantly reduce flooding. Heavy rains have caused the Pea River to flood Etowah several times, and the Alabama River flooded two thousand homes in Selma and Montgomery during 1990.

Droughts create a different set of challenges. When reservoirs release water for navigation along the Tennessee or Black Warrior rivers, too little water may be available for lake recreation or hydropower. Low flows from drought occasionally limit navigation along the Alabama River. During severe droughts in the Mississippi River's watershed, however, navigation can potentially increase on the Tennessee-Tombigbee Waterway, which provides an alternative route to the Gulf of Mexico.



Flooding of a small stream in June 2014 destroyed this roadbed in Foley. Credit: Patsy Lynch, FEMA.

The sources of information about climate and the impacts of climate change in this publication are: the national climate assessments by the U.S. Global Change Research Program, synthesis and assessment products by the U.S. Climate Change Science Program, assessment reports by the Intergovernmental Panel on Climate Change, and EPA's *Climate Change Indicators in the United States*. Mention of a particular season, location, species, or any other aspect of an impact does not imply anything about the likelihood or importance of aspects that are not mentioned. For more information about climate change science, impacts, responses, and what you can do, visit EPA's Climate Change website at www.epa.gov/climatechange.

Droughts also affect the amount of electricity that Alabama Power and the Tennessee Valley Authority (TVA) can produce from their hydroelectric dams, which account for about 8 percent of the electricity produced in the state. During the 2007 drought, total production from the TVA's hydroelectric plants fell by more than 30 percent, which forced the TVA to meet customer demand by using more expensive fuel-burning power plants.

Agriculture and Forest Resources

Changing the climate will have both harmful and beneficial effects on farming. Seventy years from now, Alabama is likely to have 30 to 60 days per year with temperatures above 95°F, compared with about 15 days today. Even during the next few decades, hotter summers are likely to reduce yields of corn. But higher concentrations of atmospheric carbon dioxide increase crop yields, and that fertilizing effect is likely to offset the harmful effects of heat on soybeans, cotton, wheat, and peanuts—if adequate water is available. More severe droughts, however, could cause crop failures. Higher temperatures are also likely to reduce livestock productivity, because heat stress disrupts the animals' metabolism.

Higher temperatures and changes in rainfall are unlikely to substantially reduce forest cover in Alabama, although the composition of trees in the forests may change. More droughts would reduce forest productivity, and climate change is also likely to increase the damage from insects and disease. But longer growing seasons and increased carbon dioxide concentrations could more than offset the losses from those factors. Forests cover more than two-thirds of the state. Oak, hickory, and white pine trees tend to be most common in the northern part of the state, while loblolly pines are more common in the southern forests. As the climate warms, forests in southern Alabama are likely to have more white pines and oaks, and fewer loblolly pines.

Human Health

Hot days can be unhealthy—even dangerous. Certain people are especially vulnerable, including children, the elderly, the sick, and the poor. High air temperatures can cause heat stroke and dehydration and affect people's cardiovascular and nervous systems. Warmer air can also increase the formation of ground-level ozone, a key component of smog. Ozone has a variety of health effects, aggravates lung diseases such as asthma, and increases the risk of premature death from heart or lung disease. EPA and the Alabama Department of Environmental Management have been working to reduce ozone concentrations. As the climate changes, continued progress toward clean air will become more difficult.

Step 2, Identify Location-Specific Potential Impacts

Under this step, further differentiate location-specific potential climate change impacts from the list of state-specific potential climate change impacts identified in Step 1 above. Simply apply the rule of reason and the concept of proportionality (regulatory speak for “keep it

simple”); many of the state-specific potential impact can be eliminated as “not applicable” to the location of the proposed action.

For example, if the action will occur inland on a USAF installation within Alabama, the state-specific list above can be simply distilled down to only:

- Precipitation and Water Resources
- Flooding
- Forest Resources
- Human Health

Step 3, Assess Location-Specific Potential Impacts

Under this step, perform a cursory qualitative (interpretive) assessment of the differentiated location-specific potential climate change impacts from the list generated in Step 2 above. Again, the goal is to keep it simple while addressing each potential impact. The assessment should generally be explanatory in nature, unless location-specific quantitative (measures) data is readily available. Ensure the assessment includes a discussion on the probability of each impact occurring and any efforts the USAF may take to mitigate or alleviate the impact.

7.1.3 Impact of Climate Change on the Action’s Environmental Impacts

Under this step, current and future potential environmental impacts attributed to the action that are exacerbated (i.e., cause to worsen) by climate change are identified and qualitatively addressed. These impacts are generally needed for proper planning and design and examples include: impacts on water resources, Native Americans, forests and other ecosystems, erosion, etc. This assessment is effectively a continuation of the steps describe in Section 6.4.1, *Impact of Climate Change on a Proposed Action*, above. To evaluate potential environmental impacts attributed to the action that are exacerbated (i.e., cause to worsen) by climate change:

Step 4, Assess Location-Specific Potential Exacerbating Impacts

Again, this is a cursory qualitative (interpretive) assessment of the differentiated location-specific potential climate change impacts from the list generated in Step 2 above (Note that only the potential impacts identified in Step 2 are addressed). And, once again, the goal is to keep it simple while addressing each potential impact.

The assessment should generally be explanatory in nature unless location-specific quantitative (measures) data is readily available. Ensure the assessment includes a discussion on the conditions that climate change is exacerbating (i.e., worsening) the impacts of the action, the probability of each impact occurring, and any efforts the USAF may take to mitigate or alleviate the impact of climate change exacerbating (i.e., worsening) the impacts of the USAF action.

8 AQ EIAP LEVEL III, ADVANCE AIR QUALITY ASSESSMENT

Level III assessments 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.*

9 AIR QUALITY SPECIAL ISSUES

This section covers planning for conformity, the role of the Metropolitan Planning Organization (MPO), classified actions, making conformity determinations when multiple Federal agencies are involved, and community relations.

9.1 Planning

9.1.1 General

In planning for an action or project, the time and resources for the General Conformity process and for coordination with regulators and other non-USAF agencies should be included. Not only can the failure to comply with General Conformity requirements preclude an action from proceeding, but the General Conformity process adds to the time needed to approve and initiate an action or project, particularly when a full conformity determination is required.

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. 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.

9.1.2 Emissions Budgets

The simplest demonstrations of General Conformity are those where the emission increases caused by an action are already included in the SIP (the action is specifically identified and accounted for in the SIP or the installation has a facility-wide emissions budget). However, the resultant efficiencies often exceed the time and resources spent to work with regulators to ensure that projected USAF projects are included in the applicable SIPs, as either specific line items or in the appropriate budgets. Any inclusions must be documented in the SIP to ensure easy identification of what specially is the definition of the action and when the action will be undertaken. In addition, installation 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.

9.1.3 Early Emission Reduction Credits

40 CFR 93.165 establishes a program for early emissions reduction credits. With state approval, USAF installations 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 9-1, Time Requirements for Major Air Quality EIAP Tasks

Action ^(a)	Approximate Time Range ^(b)
Level I, Exempt Actions Assessment (determine if a formal Air Quality Assessment is required)	1 – 2 days
Level II, Quantitative Air Quality Assessment (a formal assessment of air impacts using ACAM)	1 day – 2 weeks
Level III, Advanced Air Quality Assessment	
• Secure an EIAP/conformity contractor, if needed	4 – 6 weeks
• Perform draft assessment	1 – 6 months
• Internal coordination	1 – 2 months
• Public participation	2 – 3 months
• Finalize report	1 – 2 weeks
• SAF/IEE approval & signature	1 – 3 weeks

(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 will 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.

9.2 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 the notice 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 the process of 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.

9.3 Classified Actions

The USAF 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.

9.4 Actions Involving Multiple Federal Agencies

Other Federal agencies may have jurisdiction over parts of USAF 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 USAF 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 USAF 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 USAF 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 USAF 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 USAF adopts the analysis of another agency, the determination must state that the USAF is adopting the other agency's analysis. The other agency's determination should be included by reference with any necessary amplification. In addition, the USAF 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 USAF procedures.

The GCR 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.

9.5 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, USAF 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.

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 summary of each reference.

- 32 CFR 989, “Code of Federal Regulations, Title 32: National Defense, Environmental Impact Analysis Process (EIAP),” U.S. Department of Defense, U.S. Air Force
- 40 CFR 51, “Code of Federal Regulations, Title 40-Protection of Environment, Part 51, Appendix W, Guideline on Air Quality Models (Revised),” U.S. Environmental Protection Agency, EPA Publication No. EPA-450/2-78-027R
- 40 CFR 52, “Code of Federal Regulations, Title 40-Protection of Environment, Chapter I-Environmental Protection Agency, Subchapter C- Air Programs, Part 52, Approval and Promulgation of Implementation Plans,” U.S. Environmental Protection Agency
- 40 CFR 93, “Code of Federal Regulations, Title 40-Protection of Environment, Chapter I-Environmental Protection Agency, Subchapter C- Air Programs, Part 93, Determining Conformity of Federal Actions to State or Federal Implementation Plans,” U.S. Environmental Protection Agency
- 40 CFR 1500, “Code of Federal Regulations, Title 40-Protection of Environment, Chapter V—Council on Environmental Quality, Part 1500—Purpose, Policy, and Mandate,” U.S. Environmental Protection Agency
- ACAM 2014, “Air Conformity Applicability Model (ACAM),” Air Impact Modeling Software by Solutio Environmental, Inc. for U.S. Air Force Civil Engineering Center (AFCEC/CZTQ), Version 5.0.0b, July 2014
- AFCEC 2014a, “Air Emissions Factor Guide to Air Force Stationary Sources,” U.S. Air Force Civil Engineering Center, Compliance Technical Support Branch (AFCEC/CZTQ), August 2014
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Appendix A - GLOSSARY

This section discusses basic terms and definitions used in assessing the air quality impacts from USAF 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 all criteria pollutants.

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 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 emission 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 (PM₁₀ & PM_{2.5}), 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 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 USAF 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 USAF 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 USAF organization at the installation, major command or field operating agency that manages the EIAP including evaluation and completion of USAF 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 “practicably 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 (NO_x)

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 USAF installations this pollutant is emitted by automobiles, aircraft engines, electric power plants, and other

combustion equipment. Takeoff and climbout are the significant 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 (O₃)

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 installation source.

Point Source

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

Pollutant(s) of Concern

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

PM-10 or PM₁₀

A criteria pollutant, are fine particles less than 10 micrometers in diameter. PM₁₀ includes solid and liquid material suspended in the atmosphere formed as a result of incomplete combustion. Aircraft are the primary source of PM₁₀ emissions at USAF Installations.

PPM

Parts per million (10⁶) by volume.

Precursor

A chemical compound that leads to the formation of a pollutant. HC and 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.

Significance Indicators

EPA thresholds that are partially applied or applied out of context to their intended use; however, they provide an indication of potential impacts or air quality significance. 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 significance thresholds provide a definitive impact determination, significance indicators only provide a clue and evidence to the potential significance of GHG emissions impacts to air quality and climate change.

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.

Steady State

Steady state is the state or condition at which the emissions do not change (or only negligibly) in time. For air impacts assessments, steady state is reached when the action is fully implemented and there no net increase or decrease in emissions attributed to the action from the previous year.

Sulfur Dioxide (SO₂)

This is a corrosive and poisonous gas produced mainly from the burning of sulfur containing fuel. Very little SO₂ 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

ACAM

U.S. AIR FORCE
AIR CONFORMITY APPLICABILITY MODEL



QUICK START GUIDE

Version 5.0

July 2017

Prepared for:
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1.0 INTRODUCTION

As amended, Section 176(c) of the Clean Air Act (CAA) requires federal agencies to assure and make evident that every action and decision conforms to applicable air quality requirements including State Implementation Plan (SIP) for purposes of attaining the National Ambient Air Quality Standards (NAAQS). The U.S. Environmental Protection Agency (EPA) published its final conformity rules in November 1993 (amending 40 Code of Federal Regulations (CFR) 51 and 93); establishing procedures and requirements that federal agencies must satisfy in determining whether a certain action will conform. The conformity regulations differentiate federal actions into transportation actions and non-transportation-related actions; however, most Air Force proposed actions consist of non-transportation related projects. Therefore, the Air Force has developed an automated screening tool known as the Air Conformity Applicability Model (ACAM) to perform a simplified General Conformity Rule Applicability Analysis for non-transportation proposed actions and projects.

ACAM is a computer model used by Air Force planners and Environmental Impact Analysis Process (EIAP) personnel in the determination of General Conformity applicability for proposed actions in nonattainment or maintenance designated areas. This tool is used to identify proposed actions and alternatives which would likely result in no or minimal emission increases, and those actions which may result in no or minimal emission increases, and those actions which may require further air quality analysis and undergo a General Conformity determination. ACAM calculates criteria pollutants, hazardous air pollutants (HAPs), and greenhouse gas (GHG) for proposed Air Force action while requiring minimal inputs from the user. The resultant calculations are entered into standardized reports that follow the requirements for the Air Forces Record of Conformity Analysis (ROCA) reporting format.

TECHNICAL ASSISTANCE

For additional information or technical assistance, contact:

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ACAM Developer

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1.1 ACAM Software Installation and Uninstallation Instructions

SYSTEM REQUIREMENTS

ACAM is a standalone desktop application for use on Standard Government Computers running Microsoft Windows XP service pack 3 through Windows 10.

INSTALLATION

Obtain the latest version of ACAM from AFCEC eDash website or www.AQhelp.com.

To install ACAM, double-click to run the ACAM installer File (e.g. ACAMSetup111413.exe), then follow the instructions in the Setup Wizard. ACAM creates a desktop icon automatically after installation.

UNINSTALLATION

ACAM can be uninstalled through the Microsoft Window's Control Panel and following the normal steps to uninstall a program on a PC.

1.2 Interface and Features

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 Office products such as Microsoft Word to give a familiar feel to the user. This assists in the ease of usability of the program as the user will likely possess knowledge of how certain aspects operate.

The interface of ACAM is divided into 3 main sections, shown in Figure 1.1. The 3 main sections will be referred to as the Ribbon, Status Panel, and the Workspace.

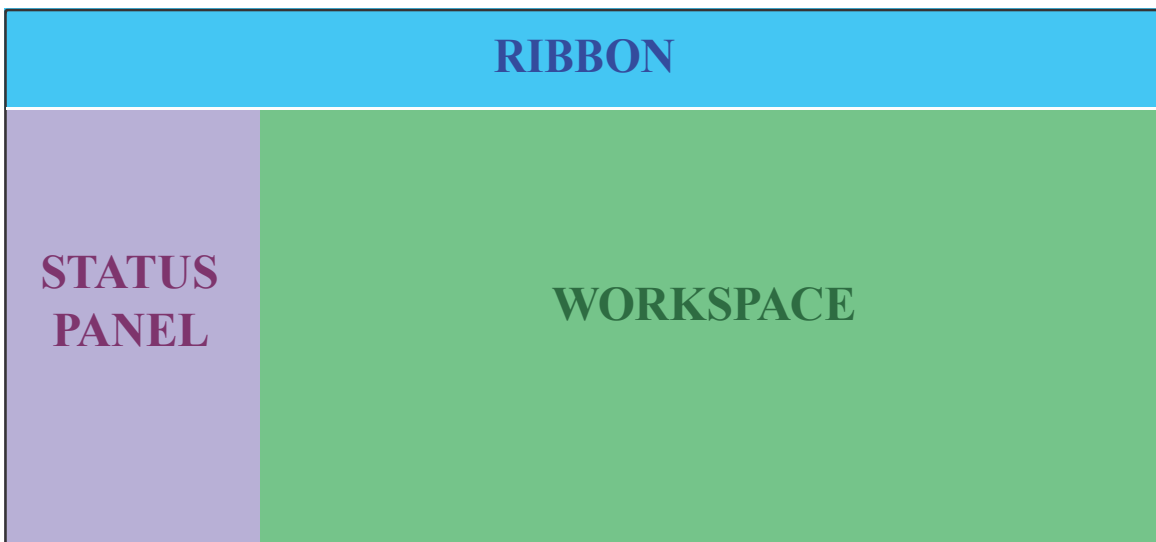









Figure 1.1 - ACAM Application Main Section



1.2.1 RIBBON

The first main section of ACAM's results-oriented interface is the Ribbon. ACAM's Ribbon is the area above the Workspace and Status Panel. The Ribbon section is made up of tabs (the upper white portion) and their menus (the lower grey portion). This section gives the user easy 2-click access to all functions in the program.


RIBBON - FILE MENU

Button	Button Name	Button Use (What is it for?)
	New	Creates a new ACAM file (and closes the currently open ACAM file).
	Open	Opens an existing ACAM file (and closes the currently open ACAM file).
	Save	Saves all changes made to the current ACAM file.
	Save As	Saves all changes made to the current ACAM file in a specified file.
	Close	Closes the current ACAM file.
	Document Information	Displays the Document Information window.
	Fleet Mixture	Displays the vehicle Fleet Mixture window.




RIBBON - VIEW MENU

Button	Button Name	Button Use (What is it for?)
	List View	Changes ACAM's Workspace current display format to a list view.
	Timeline View	Change ACAM's Workspace current display format to a timeline view.

RIBBON - REPORT MENU

Button	Button Name	Button Use (What is it for?)
	Microsoft Word Reports	Displays the Microsoft Word Reports window for generating summary and detailed ACAM reports.

RIBBON - HELP MENU

Button	Button Name	Button Use (What is it for?)
	Help	For further assistance when using ACAM, clicking this button opens an electronic copy of this ACAM Quick Start Guide.
	Support	If encountering an issue with ACAM not addressed in this Guide, clicking this button will display contact information for additional technical support.
	About	Displays background information for owners/creators of ACAM.

1.2.2 STATUS PANEL

The second main section of ACAM's result-oriented interface is the Status Panel. As shown previously in Figure 1.1, the Status Panel is the area to the left of the workspace. The purpose of the status panel is to give the user a fast and easy to use summary of the minimum report requirements needed to generate an ACAM Report with the current ACAM File.

This section is broken up into four parts, starting from top to bottom:

1. Base Selection
2. ACAM Warnings
3. Document Information
4. Application Information

The four parts listed above are shown in Figure 1.2.

Base Selection displays information about the Air Force base that the air analysis is for. This includes the base name and state that the base is located in.

ACAM warnings displays a list of tasks that are the minimum requirements to complete an ACAM file. This part of the Status Panel lists out all of the tasks required to complete an ACAM file and generates an ACAM Report in order from top to bottom (the first task is the top warning and the last task is the bottom).

Document Information displays data about the currently opened ACAM file. This will display who created the ACAM file and what version of the ACAM file is opened.

Application Information displays data about the ACAM program. This is where a user can see what version of the ACAM program he/she has.

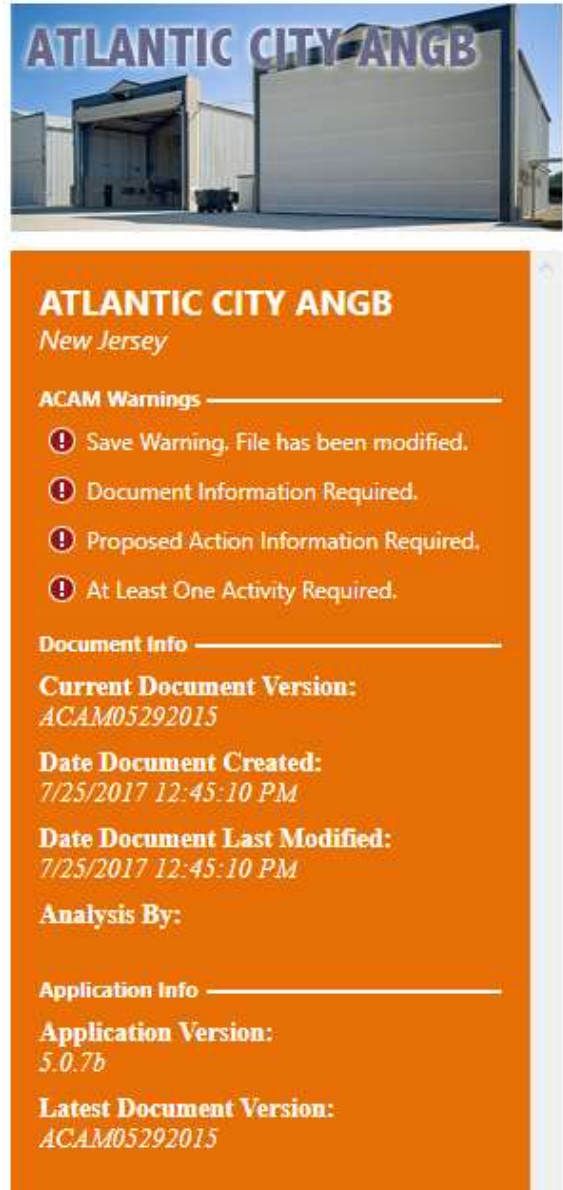






Figure 1.2 – ACAM Status Panel



NOTE: The best way to complete an ACAM file is to start at the top of the ACAM warnings list and work your way down. Doing this will allow the user to take advantage of all the smart features that make completing an ACAM file easy. The warnings presented when opening an ACAM file, as well as other frequent warnings will be discussed on the following page.

STATUS PANEL - ACAM WARNINGS LIST

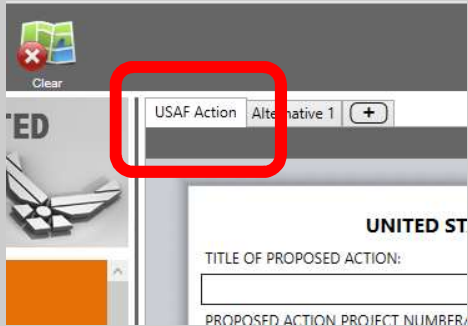
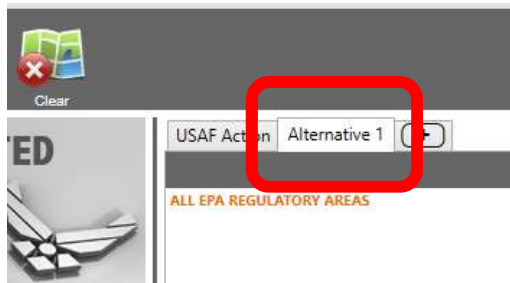



Warning / Button	Task Required to Complete	What the Button Does When Clicked
 Save Warning. File has been modified.	Indicates that the ACAM file has been modified and the user should save the file.	Button will save all changes made to the current ACAM file.
 Document Information Required.	Indicates that the Proposed Action Information is not complete.	Button will navigate the user's workspace to the "USAF Action" tab.
 Proposed Action Information Required.	Indicates that the Document Information and Regulatory Area Standards are not complete.	Button will display the Document Information window.
 No Base Selected.	Indicates that no Air Force base is selected.	Button will navigate the user's ribbon to the "Insert" tab
 At Least One Activity Required.	Indicates that no Activities have been added to the ACAM file.	Button will navigate the user's ribbon to the "Insert" tab
 Steady State Calculation Required.	Indicates that the ACAM file needs to re-calculate when air emission steady state will occur.	Button will re-calculate air emissions steady state.

1.2.3 WORKSPACE

The third and final main section of ACAM's results-oriented interface is the Workspace. ACAM's Workspace is the area below the Ribbon and two the right of the status panel. Refer to Figure 1 for reference. The Workspace section is made up of tabs and pages, similar to Microsoft Excel's tabs and spreadsheets.

Buttons specific to the Workspace will be discussed in the table on the following page.

WORKSPACE - TABS / BUTTONS

Tab / Button	Tab / Button Name	What the Tab/Button Does When Clicked
	<p>Proposed Action Information (USAF Action) Tab</p>	<p>Tab will display the proposed action information tab on the user's workspace</p>
	<p>Alternative (1 to 3) Tab.</p>	<p>Tab will display the alternative summary information tab on the user's workspace.</p>
	<p>Add Alternative Button</p>	<p>This button will add another alternative to the ACAM document. *Note that only up to 3 alternatives can be added.</p>
	<p>Remove Alternative Button</p>	<p>Button will remove the currently displayed alternative. *Use caution as data can be lost.</p>
	<p>Re-Calculate Steady State Button</p>	<p>Button will re-calculate steady state for the currently displayed alternative.</p>

1.3 Flow and Results-Oriented Design

ACAM's results-oriented design also provides the user with a clear and easy to follow path for completing an ACAM Report. This is achieved with three interface designs:

1. The Status Panel
2. Check and Status Forms
3. Numbered Status Tabs.

These will be discussed in the following corresponding paragraphs.

1.3.1 The Status Panel

As stated previously, the Status Panel gives the user a quick and easy to use summary of the minimum requirements needed to generate an ACAM Report with the current ACAM file. The Status Panel can be thought of as a roadmap for creating an ACAM report. This roadmap contains two great features that help to make using ACAM fast and easy. The first feature is every warning listed in the ACAM Warnings list is a button that will either open the appropriate window or will navigate the user to the section of the ACAM file that needs to be completed. The second feature that enhances the users' experience is that these Warnings are displayed to the user in the most optimal order (from top to bottom) to be addressed in the process of completing the ACAM file. These two features working together gives the user a on stop shop for completing the ACAM File.



NOTE: A user can click on the first ACAM warning until all of the warnings are gone to complete an ACAM file.

1.3.2 Check and Status Forms

Every screen or form that requires user input in ACAM follows the same design; a Check Form Button (Figure 3) at the bottom of the form and a Form Completion Status Indicator (Figure 1.3) at the top of the form. Clicking on the check button will start a validation process in which ACAM will check the entire form for correctness and completion. If any field is incorrectly filled out or empty, ACAM will highlight the field(s) in red and the form completion status indicator will display "Incomplete". If all fields are filled out correctly, ACAM will update the form completion status indicator with "Complete". Check and Status Forms provide the user with immediate feedback on the correctness and completion of all user inputs for any given form in ACAM.



Figure 1.3 – ACAM Check and Status Forms

1.3.3 Numbered Status Tabs

A window that contains multiple forms implements ACAM's numbered status tabs (Figure 1.4). Numbered status tabs are tabs that indicate the completion status of the form in the tab area and are ordered in a way that allows the user to take advantage of all the smart features that make completing an ACAM file easy.



NOTE: Some smart features and automations in ACAM require the user to complete all tab in the order that they are numbered.

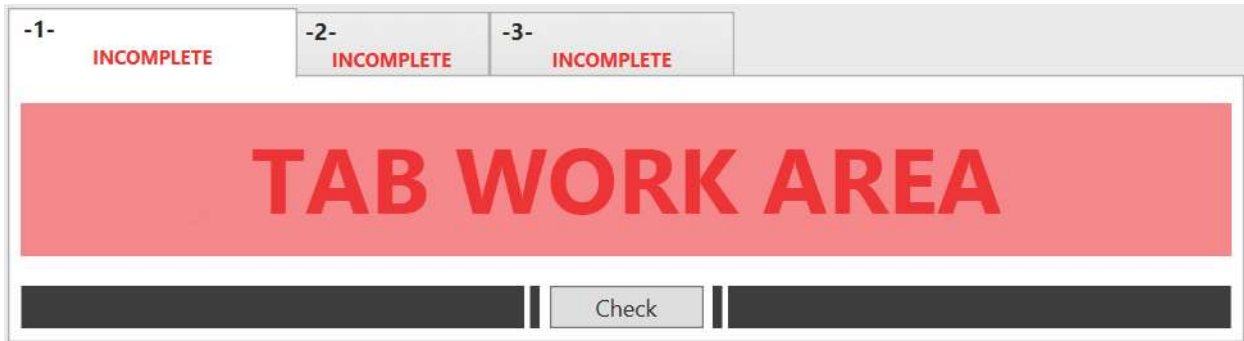


Figure 1.4 - ACAM Numbered Status Tabs

2.0 BASIC ACAM OPERATIONS

2.1 Running and Exiting ACAM

Windows usually provides more than one way to perform a task, and starting ACAM is no exception. The standard way to get ACAM started is double clicking the ACAM program icon (Figure 2.1) on your desktop. This will open a new ACAM file.

Another way to start ACAM is by double clicking the name or icon of an ACAM file (Figure 2.2) in Windows Explorer or My Computer. This will open the ACAM file that the user double clicked on.



Figure 2.1 - Program Icon



Figure 2.2 - File Icon

Exiting ACAM is just like any other Microsoft office product, just click on the “x” icon in the upper right-hand corner (Figure 2.3); just as would be done when exiting any program on a PC.



Figure 2.3 – “x” Icon



NOTE: If there are any unsaved changes to the current ACAM file, the user will be prompted with the option to save, such as when exiting a Microsoft Word document.

2.2 ACAM Files and Reports

ACAM has two basic outputs.

1. ACAM File (.ACAM)
2. ACAM Report (.docx)

These outputs are vastly different but can be easily confused. To help understand the difference we will compare ACAM to Microsoft Word and its outputs.

2.2.1 ACAM FILE

An ACAM file can be used to store and share user inputs via email, flash drives, shared drives and by using other mediums so long as the other user has ACAM installed on their computer. Once the file is shared, changes can be made or updated and then be shared again. ACAM provides the user(s) with immense flexibility in usage and storage.

ACAM files are created by either opening the ACAM program in the manners previously discussed, or if the program is already open by clicking the “New” button shown in Figure 2.4; this button is located by clicking the “File” button in the Ribbon of ACAM.

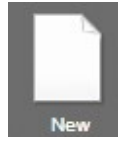


Figure 2.4 - “New” Button

2.2.2 ACAM REPORTS

An ACAM report can be thought of as the final product of an ACAM file. Similarly, a printed paper from Word can be thought of as the final product of a Word file. ACAM reports display the final estimated total air emission generated by the all the activities inputted by the user in an ACAM file. ACAM reports just like files can be email and shared with anyone. ACAM reports can be created after an ACAM file is complete and has no warnings listed in the Status Panel

There are two types of ACAM Reports. The ACAM Summary Report compiles the total yearly emissions for a given set of activities in the ACAM File. It will flag any pollutant thresholds that are exceeded. This type of report is beneficial in determining if the selected Air Force Base exceeds any thresholds, or just displays the amount of pollutant contributed by the base activity by displaying an indicator level. The ACAM detail report provides more information regarding the actual pollutant sources. Each activity in the ACAM document has its own section in the detail report, which helps show which activities are causing the most pollution. It should be noted that the values for the activities, are the **total amount for the time period**; they are not annual values.

ACAM Reports can be created after an ACAM file is complete and has no warnings in the status panel. Steps for creating an ACAM report will be discussed later in this document.

2.3 ACAM Views

ACAM allows the user to analyze and interact with data through two different layouts called “views”. The two types of views are accessed by clicking on the “VIEW” tab in the ribbon of ACAM. The user will then be presented with two options; List View and Timeline View.

List View, like the name suggests, lists all the activity inputs (in the Workspace) compiled by the user as well as the emission totals for the entire activity, or annually if it is set to run indefinitely for each individually created activity. These summary blocks are designed to be easy to read and refer to so the user can make observations before generating a report. Furthermore, activities can be edited or deleted by clicking the corresponding buttons. For reference, an example of activities in a given ACAM file in List View are shown below in Figure 2.5.

USAF Action Alternative 1 +

List View

ALL EPA REGULATORY AREAS

AC	F-5	Start Date	End Date
		1/2018	INDEF
ACTIVITY ADDED	Activity Description Example for ACAM Quick Start Guide		
	Activity Emission for 1 Year (Tons/Year)		
	VOC	NO _x	CO
	SO _x	PM 10	PM 2.5
	Pb	NH ₃	
	1.82	0.61	5.59
	0.13	0.63	0.28
	0	0	
CD	ACAM Example Construction	Start Date	End Date
		1/2018	3/2018
ACTIVITY ADDED	Activity Description ACAM Example for Quick Start Guide		
	Demolition Phase Total Emissions (Tons)		
	VOC	NO _x	CO
	SO _x	PM 10	PM 2.5
	Pb	NH ₃	
	0.05	0.3	0.3
	0	0.02	0.02
	0	0	
HT	ACAM Example	Start Date	End Date
		1/2018	INDEF
ACTIVITY ADDED	Activity Description ACAM Example for Quick Start Guide		
	Activity Emission for 1 Year (Tons/Year)		
	VOC	NO _x	CO
	SO _x	PM 10	PM 2.5
	Pb	NH ₃	
	0.04	0.64	0.54
	0	0.05	0.05
	0	0	

Figure 2.5 – ACAM List View

Timeline View provides the user with an interactive timeline for all activities. The timeline is broken up by year blocks and displays emissions thresholds for that year. If the total yearly emissions are below emission thresholds designated by the regulatory areas that encompass the Air Force Base selected, then the number displayed for a given criteria pollutant represents the total tons **under** the emission threshold, and will be green in color. If the total yearly emissions exceed a threshold, then the number will represent the total tons **over** the emissions thresholds. Refer to Figure 2.6 for reference.

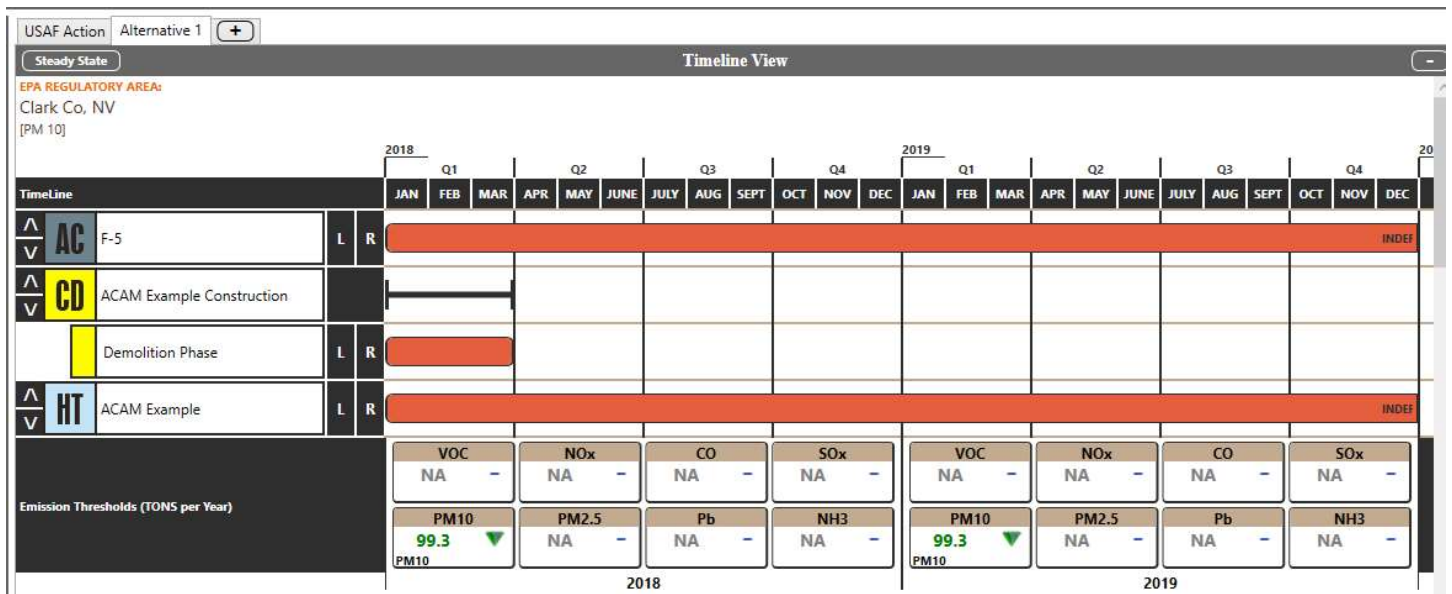


Figure 2.6 – Timeline View

3.0 NINE STEPS TO CREATE AN ACAM REPORT

3.1 Introduction

ACAM can create air emissions analysis reports in nine easy steps. To make this process easier, ACAM also provides an interactive road map in the form of the Status Panel as previously mentioned. In this section of the ACAM Quick Start Guide. An overview of the nine steps is provided below, and each step will be discussed in further detail in the following pages of this Guide.

THE 9 STEPS TO CREATE AN ACAM REPORT

Step 1: Launch ACAM and Save/Create the ACAM File

Step 2: Input Document Information

Step 3: Select Desired USAF Base

Step 4: Proposed Action Information

Step 5: Add All Desired Activities

Repeat until all Activities are inputted and reviewed for accuracy

Step 6: Calculate Steady State (whenever prompted in the Status Panel)

Step 7: Analyze Proposed Action

Step 8: Re-Calculate Steady State

Step 9: Create the desired ACAM Report(s)



NOTE: Be sure to save any changes to the ACAM File when prompted to in the Status Panel.

STEP 1: Launch ACAM and Save/Create ACAM File

Launch ACAM as previously discussed by clicking the ACAM Icon on the Desktop of the in-use Personal Computer (PC), or wherever the program launch icon is located. The user will be greeted with the default ACAM opening page with numerous warnings located in the status panel. The user should tackle these warnings in order from top to bottom. The first warning presented to the user is shown below.



“Warning” Button

OR



“Save” Button

OR



“Save As” Button

Figure 3.1

By clicking this warning (pictured above, Figure 3.1 left), or by navigating to the “FILE” menu in the ribbon of ACAM and clicking the “Save” (pictured above, Figure 3.1 middle) or “Save As” button (pictured above, Figure 3.1 right) the user will be prompted with the “Save As” window presented when saving any file on a PC for the first time (see Figure 3.2).

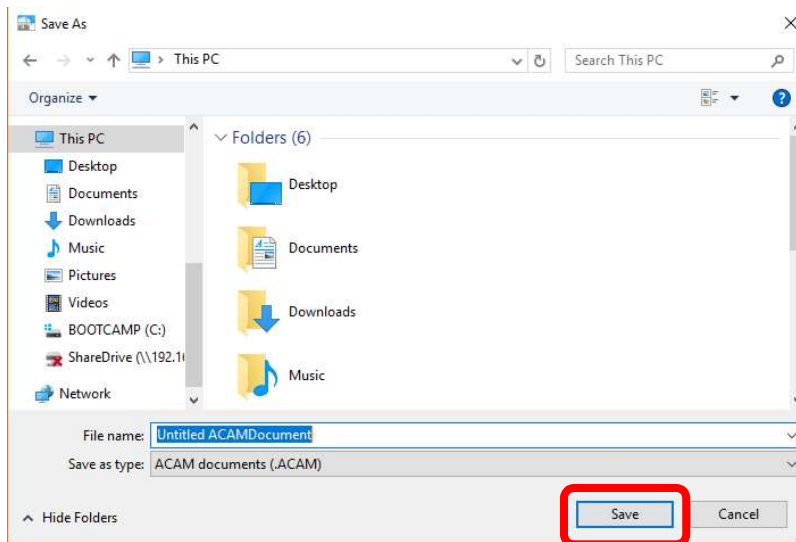


Figure 3.2 - “Save As” Window

Title the ACAM document and select a desired location on the PC in use to save the file. Finalize the process by clicking “Save” on the Save Window.



NOTE: Once this step is completed, the “save warning” in Figure 3.1 (left side) will pop up anytime the document is changed. Clicking the “save warning” button updates any changes made to the document.

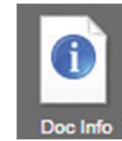
If the user does not want to make any changes to the current document, but wants to continue to alter it as another version of the current ACAM document, click “Save As” (shown in Figure 3.1, right) to save.

STEP 2: Input Document Information

The second warning in the ACAM Status Panel to address is the “Document Information Warning”. By clicking the warning (Figure 3.3 left) or the “Doc Info” button in the “FILE” menu of the ribbon (Figure 3.3 right), a Document information window will open.



“Document Information Warning” Button



“Document Information” Button

Figure 3.3

The user will be prompted to fill out the required information in both tabs, shown in Figures 3.4. Click “Check” at the bottom of each tab to ensure all the required information is entered. Click “OK” once both tabs have been completed.

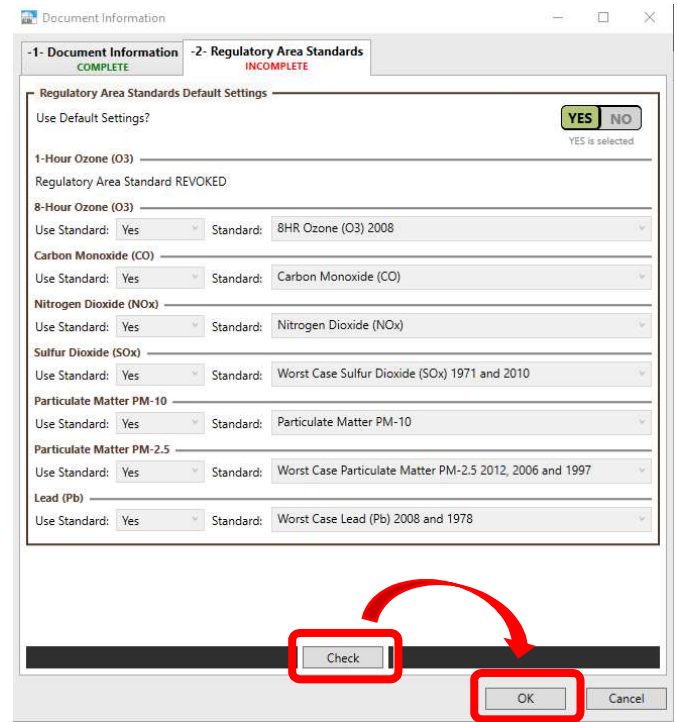
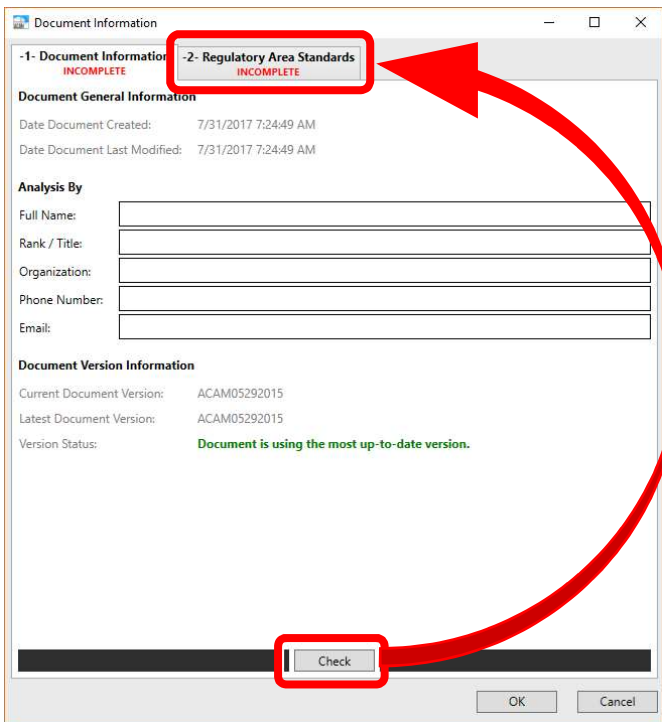


Figure 3.4 – Document Information Tab



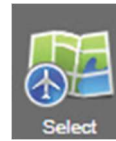
NOTE: Once this step is completed, the save warning (Figure 3.1 left) will pop up as when anytime the document has been changed. Clicking it updates the changes made to the document.

STEP 3: Select Desired Air Force Base

The next ACAM warning in the status panel to be addressed is shown in Figure 3.5 (left). Clicking this “No Base Selected Warning” button, or by navigating to the “BASE” menu in the ribbon and clicking “Select” (Pictured in Figure 3.5 right) opens a window allowing the user to select the Air Force Base the proposed action is taking place at.



“No Base Selected Warning” Button



Base “Select” Button

Figure 3.5

Clicking on either of these buttons opens the “Base” window shown in Figure 3.6. The user should navigate through this list and then click on their desired base once they locate it in the list. The drop-down menus for filter and filter type can be utilized for easier location of the desired base. Click “OK” once the base is selected.

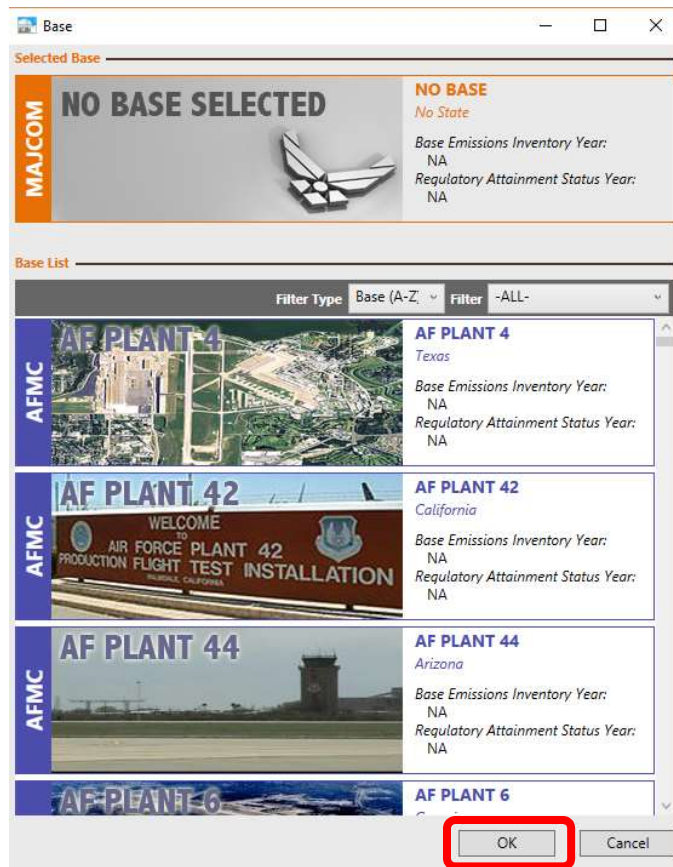


Figure 3.6 – Base Window



NOTE: Once this step is completed, the save warning (Figure 3.1 left) will pop up anytime the document has been changed. Clicking it updates the changes made to the document.

STEP 4: Proposed Action Information

Step 4 requires the user to enter the Proposed Action Information. This is where the user will give an overview of the proposed action, as well as a title for ACAM report purposes. By clicking on either the warning in the ACAM Status Panel (Figure 3.7) or the USAF Action tab in the Workspace (Figure 3.8), the table shown in Figure 3.8 will be shown in the Workspace

Proposed Action Information Required.

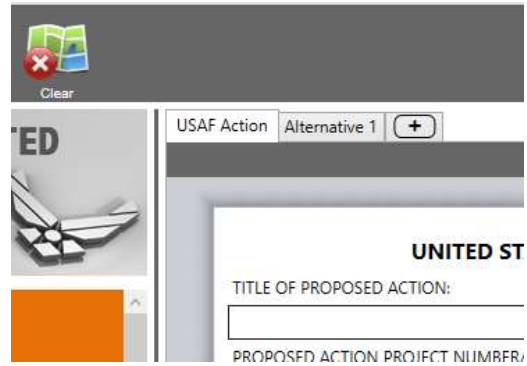


Figure 3.7 – Proposed Action Warning

Figure 3.8 – Proposed Action Tab

A screenshot of a software interface titled 'Proposed Action Information'. At the top, there are tabs for 'USAF Action' and 'Alternative 1' with a plus sign. The main area is a form with a red 'INCOMPLETE' warning at the top. The form has four input fields: 'TITLE OF PROPOSED ACTION:', 'PROPOSED ACTION PROJECT NUMBER/s (if applicable):', 'PURPOSE AND NEED FOR ACTION (brief description):', and 'DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (brief description):'. At the bottom of the form, there is a 'Check' button highlighted with a red box.

Figure 3.9 – Proposed Action Information

Type all the required information in the respective text boxes (Figure 3.9), then click “Check”.



NOTE: Once this step is completed, the save warning (Figure 3.1 Left) will pop up anytime the document is changed. Clicking it updates the changes made to the document.

STEP 5: Add All Desired Activities

Step 5 is perhaps the most important step in the process of creating an ACAM document. This step is where the user will add all the necessary activities related to the proposed action. Clicking the warning in the Status Panel (Figure 3.10, left) or by clicking the “INSERT” menu tab (Figure 3.10, right) in the ribbon displays all the options for activities in ACAM (Figure 3.11).

! At Least One Activity Required.



Activity Warning

Activity “Insert” Button

Figure 3.10

It is recommended the user review their proposed action documentation and construct a list of all proposed actions for a given Alternative. Once this list has been constructed, click on the desired activity(s) for the proposed action. All the Activities in ACAM are shown below in Figure 3.11.



Figure 3.11 – ACAM Activities

Clicking on the desired icon (located in the ribbon) opens that activity’s corresponding window. The user will need to complete each numbered tab in numerical order by entering in the appropriate data and reviewing the default data settings to ensure they adequately reflect the proposed action. Each time a tab is completed, click “Check” to ensure all required information is entered.

This step will need to be repeated until all activities are added or removed from the desired Alternative in ACAM.

NOTE: Each time an activity is added or altered, the save warning (Figure 3.1, left) will pop up in the Status Panel of ACAM. Clicking it updates the changes made to the document.

The steady state warning that will appear after each activity is added or altered will be discussed in Step 6.

STEP 6: Calculate Steady State

A steady state calculation **must** be done before producing an ACAM Report; however, it is recommended to calculate steady state each time the warning (Figure 3.12) presents itself in the Status Panel of ACAM.



Figure 3.12 – “Steady State Calculation” Warning

Clicking this button calculates steady state. The user can also calculate steady state manually by navigating to the “Timeline View” via the “VIEW” menu in the ribbon, and clicking the steady state button in the Workspace as shown in Figure 3.13.



Figure 3.13 – Steady State Button



NOTE: Once this step is completed, the save warning (Figure 3.1, left) will pop up anytime the document is changed. Clicking it updates the changes made to the document.

STEP 7: Analyze Proposed Action

Once the user has added all relevant activities and calculated steady state for a proposed action, the user should now review the emission totals from the proposed action. As previously discussed in this guide, it is beneficial to use the List View under the “VIEW” menu in the ACAM ribbon to review emission totals from each given activity; and it is useful to utilize the Timeline View so see emission totals for all activities for the year(s) being analyzed. Figure 3.14 displays an example of activities in the List View, and 3.15 displays the same activities in the Timeline View.

USAF Action Alternative 1 +

List View

ALL EPA REGULATORY AREAS

AC	F-5	Start Date	End Date				
		1/2018	INDEF				
Activity Description Example for ACAM Quick Start Guide							
Activity Emission for 1 Year (Tons/Year)							
VOC	NOx	CO	SOx	PM 10	PM 2.5	Pb	NH3
1.82	0.61	5.59	0.13	0.63	0.28	0	0

CD	ACAM Example Construction	Start Date	End Date				
		1/2018	3/2018				
Activity Description ACAM Example for Quick Start Guide							
Demolition Phase Total Emissions (Tons)							
VOC	NOx	CO	SOx	PM 10	PM 2.5	Pb	NH3
0.05	0.3	0.3	0	0.02	0.02	0	0

HT	ACAM Example	Start Date	End Date				
		1/2018	INDEF				
Activity Description ACAM Example for Quick Start Guide							
Activity Emission for 1 Year (Tons/Year)							
VOC	NOx	CO	SOx	PM 10	PM 2.5	Pb	NH3
0.04	0.64	0.54	0	0.05	0.05	0	0

Figure 3.14 – Activity List View

In the List View, the user can utilize the “EDIT” button to the left of each individual activity to review any inputted data or make any changes.

The “DELETE” button can be used to remove an activity entirely. **Use caution when deleting an activity, as it cannot be recovered and the user will have to re-enter all information should it be necessary to add the deleted activity back.**

The Timeline View gives the user the option to adjust the start dates for an activity by clicking the “L” and “R”. This allows the user to reanalyze emission totals by time. Since emission thresholds or indicators are relevant for one year, having the ability to alter the activities by time allows the user to explore other alternatives if the proposed action is exceeding a threshold.

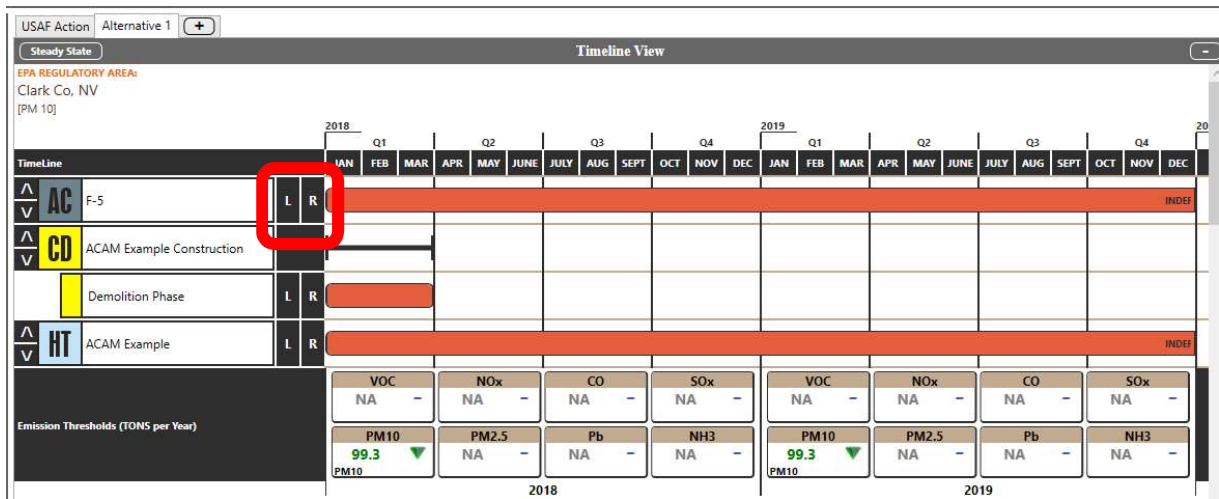


Figure 3.15 – Activity Timeline View



NOTE: Once this step is completed, the save warning (Figure 3.1, left) will pop up anytime the document is changed. Clicking it updates the changes made to the document, if any were made.

STEP 8: Re-Calculate Steady State

Step 8 is identical to Step 6. If any changes were made to the activities in Step 7, the user will be prompted with the ACAM warning to calculate steady state (Figure 3.16).

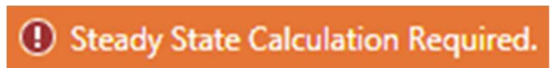


Figure 3.16 - “Steady State Calculation” Warning

Clicking on this button will re-calculate steady state just as it did before. After clicking, the user will be shown another warning requiring the document to be saved.

STEP 9: Creating the ACAM Report(s)

Once all the information has been reviewed by the user and steady state for the finalized data has been calculated, the user can now create an ACAM Report. As mentioned before in the Basic ACAM Operations section of this guide, there are two types of ACAM Reports that can be generated. The process for generating a report, regardless of which one(s) selected by the user is identical. The user should navigate to the “REPORTS” menu in the ribbon. Clicking the “MS Report” button shown in Figure 3.17, brings forth the window shown in Figure 3.18.



Figure 3.17- ACAM Report Icon

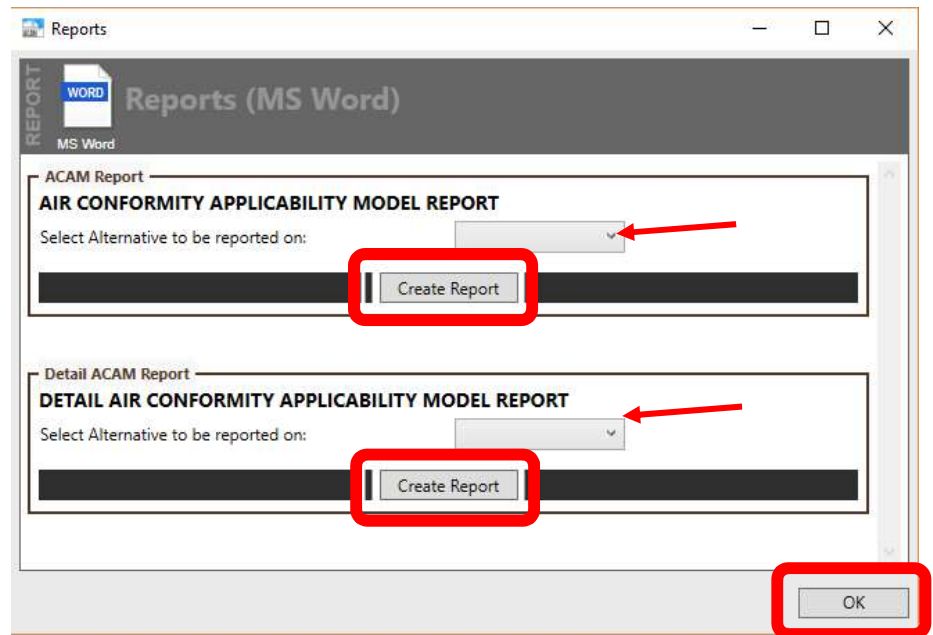


Figure 3.18 – ACAM Report Window

By utilizing the drop-down menus for the Detail and Summary report respectively, the user can select which Alternative in ACAM he or she wishes to create a report for. Clicking the “Create Report” button within the desired report type’s tab work area will create the report in word document form.

The user will be presented with the save window shown in Figure 3.19.

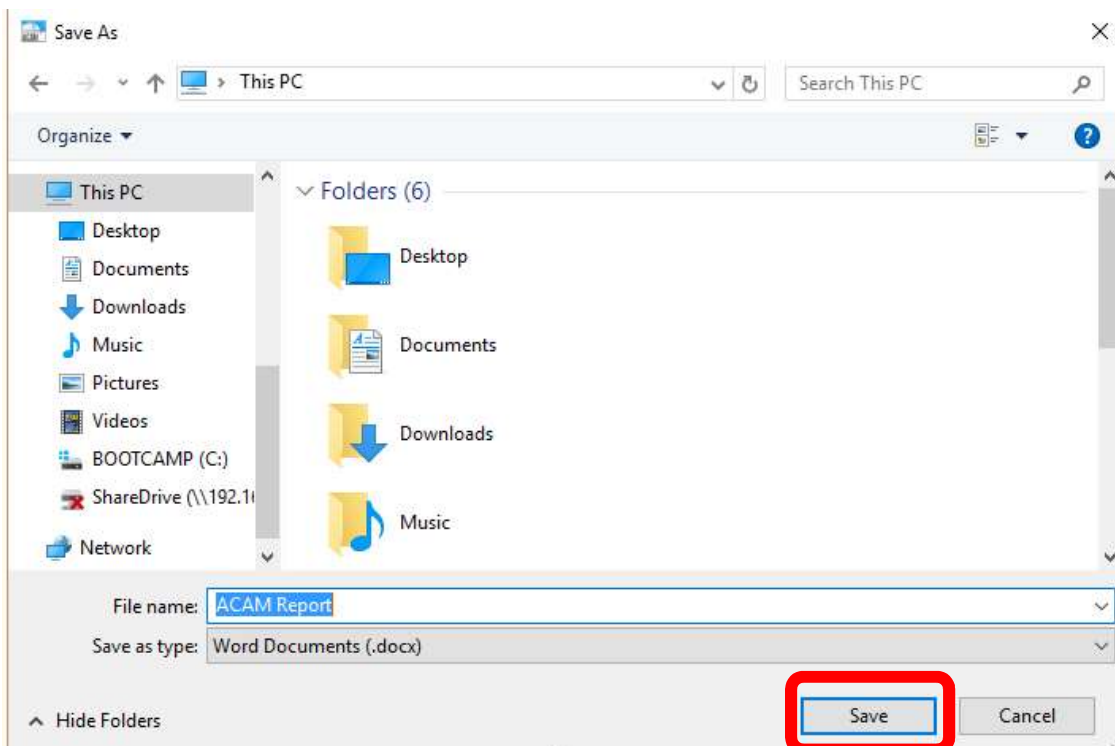


Figure 3.19 – ACAM Report Save Window

The user will need to name the ACAM Report and select a location to save it on their PC. Once the file has been named and a location is selected, click “Save” to close the window.

The user has now completed all the steps to create an ACAM file. The ACAM report(s) as well as the ACAM File can be shared with other individuals. The ACAM file can also be altered in anyway the user deems necessary based upon the data presented in the report(s). Any changes should follow the general 9 step process discussed in this guide. Once any changes are made to the file a new ACAM report(s) can be created.

ACAM

U.S. AIR FORCE
AIR CONFORMITY APPLICABILITY MODEL



QUICK START GUIDE

Version 5.0

July 2017

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1.0 INTRODUCTION

As amended, Section 176(c) of the Clean Air Act (CAA) requires federal agencies to assure and make evident that every action and decision conforms to applicable air quality requirements including State Implementation Plan (SIP) for purposes of attaining the National Ambient Air Quality Standards (NAAQS). The U.S. Environmental Protection Agency (EPA) published its final conformity rules in November 1993 (amending 40 Code of Federal Regulations (CFR) 51 and 93); establishing procedures and requirements that federal agencies must satisfy in determining whether a certain action will conform. The conformity regulations differentiate federal actions into transportation actions and non-transportation-related actions; however, most Air Force proposed actions consist of non-transportation related projects. Therefore, the Air Force has developed an automated screening tool known as the Air Conformity Applicability Model (ACAM) to perform a simplified General Conformity Rule Applicability Analysis for non-transportation proposed actions and projects.

ACAM is a computer model used by Air Force planners and Environmental Impact Analysis Process (EIAP) personnel in the determination of General Conformity applicability for proposed actions in nonattainment or maintenance designated areas. This tool is used to identify proposed actions and alternatives which would likely result in no or minimal emission increases, and those actions which may result in no or minimal emission increases, and those actions which may require further air quality analysis and undergo a General Conformity determination. ACAM calculates criteria pollutants, hazardous air pollutants (HAPs), and greenhouse gas (GHG) for proposed Air Force action while requiring minimal inputs from the user. The resultant calculations are entered into standardized reports that follow the requirements for the Air Forces Record of Conformity Analysis (ROCA) reporting format.

TECHNICAL ASSISTANCE

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ACAM Developer

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1.1 ACAM Software Installation and Uninstallation Instructions

SYSTEM REQUIREMENTS

ACAM is a standalone desktop application for use on Standard Government Computers running Microsoft Windows XP service pack 3 through Windows 10.

INSTALLATION

Obtain the latest version of ACAM from AFCEC eDash website or www.AQhelp.com.

To install ACAM, double-click to run the ACAM installer File (e.g. ACAMSetup111413.exe), then follow the instructions in the Setup Wizard. ACAM creates a desktop icon automatically after installation.

UNINSTALLATION

ACAM can be uninstalled through the Microsoft Window's Control Panel and following the normal steps to uninstall a program on a PC.

1.2 Interface and Features

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 Office products such as Microsoft Word to give a familiar feel to the user. This assists in the ease of usability of the program as the user will likely possess knowledge of how certain aspects operate.

The interface of ACAM is divided into 3 main sections, shown in Figure 1.1. The 3 main sections will be referred to as the Ribbon, Status Panel, and the Workspace.

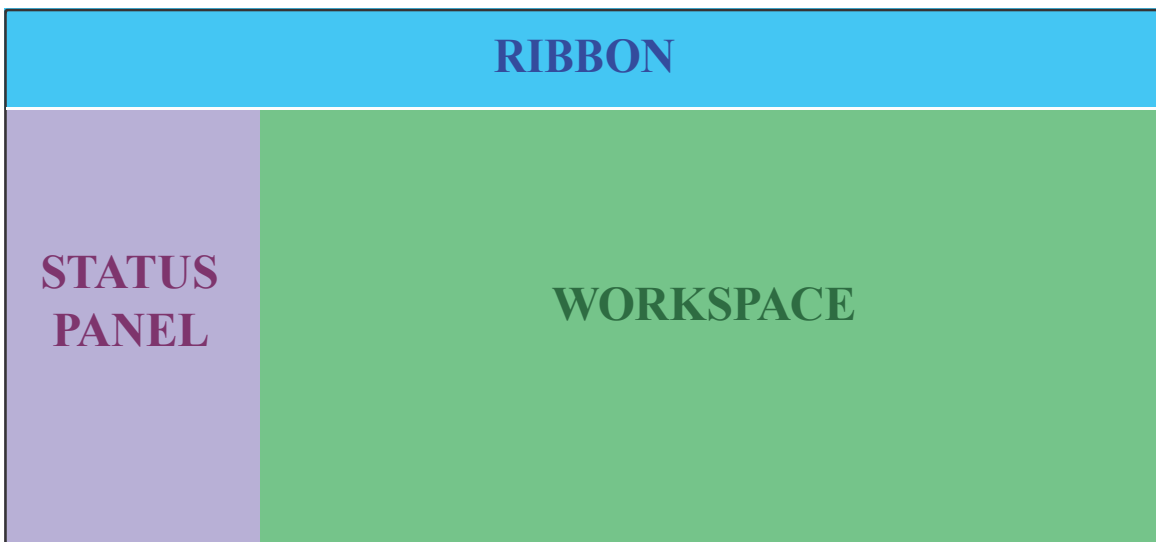









Figure 1.1 - ACAM Application Main Section



1.2.1 RIBBON

The first main section of ACAM's results-oriented interface is the Ribbon. ACAM's Ribbon is the area above the Workspace and Status Panel. The Ribbon section is made up of tabs (the upper white portion) and their menus (the lower grey portion). This section gives the user easy 2-click access to all functions in the program.


RIBBON - FILE MENU

Button	Button Name	Button Use (What is it for?)
	New	Creates a new ACAM file (and closes the currently open ACAM file).
	Open	Opens an existing ACAM file (and closes the currently open ACAM file).
	Save	Saves all changes made to the current ACAM file.
	Save As	Saves all changes made to the current ACAM file in a specified file.
	Close	Closes the current ACAM file.
	Document Information	Displays the Document Information window.
	Fleet Mixture	Displays the vehicle Fleet Mixture window.




RIBBON - VIEW MENU

Button	Button Name	Button Use (What is it for?)
	List View	Changes ACAM's Workspace current display format to a list view.
	Timeline View	Change ACAM's Workspace current display format to a timeline view.

RIBBON - REPORT MENU

Button	Button Name	Button Use (What is it for?)
	Microsoft Word Reports	Displays the Microsoft Word Reports window for generating summary and detailed ACAM reports.

RIBBON - HELP MENU

Button	Button Name	Button Use (What is it for?)
	Help	For further assistance when using ACAM, clicking this button opens an electronic copy of this ACAM Quick Start Guide.
	Support	If encountering an issue with ACAM not addressed in this Guide, clicking this button will display contact information for additional technical support.
	About	Displays background information for owners/creators of ACAM.

1.2.2 STATUS PANEL

The second main section of ACAM's result-oriented interface is the Status Panel. As shown previously in Figure 1.1, the Status Panel is the area to the left of the workspace. The purpose of the status panel is to give the user a fast and easy to use summary of the minimum report requirements needed to generate an ACAM Report with the current ACAM File.

This section is broken up into four parts, starting from top to bottom:

1. Base Selection
2. ACAM Warnings
3. Document Information
4. Application Information

The four parts listed above are shown in Figure 1.2.

Base Selection displays information about the Air Force base that the air analysis is for. This includes the base name and state that the base is located in.

ACAM warnings displays a list of tasks that are the minimum requirements to complete an ACAM file. This part of the Status Panel lists out all of the tasks required to complete an ACAM file and generates an ACAM Report in order from top to bottom (the first task is the top warning and the last task is the bottom).

Document Information displays data about the currently opened ACAM file. This will display who created the ACAM file and what version of the ACAM file is opened.

Application Information displays data about the ACAM program. This is where a user can see what version of the ACAM program he/she has.

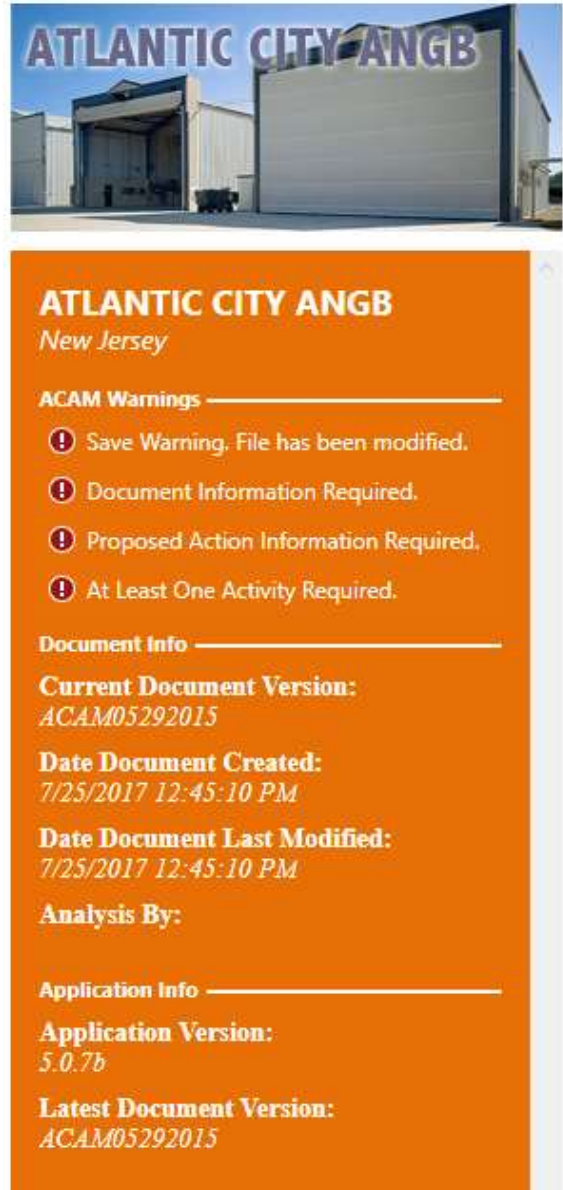








Figure 1.2 – ACAM Status Panel



NOTE: The best way to complete an ACAM file is to start at the top of the ACAM warnings list and work your way down. Doing this will allow the user to take advantage of all the smart features that make completing an ACAM file easy. The warnings presented when opening an ACAM file, as well as other frequent warnings will be discussed on the following page.

STATUS PANEL - ACAM WARNINGS LIST

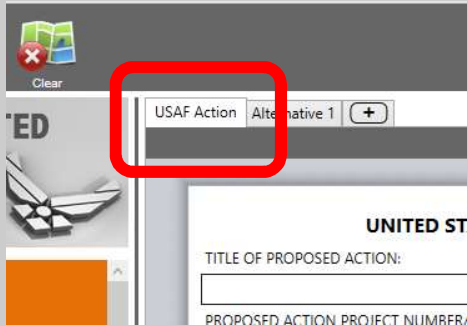




Warning / Button	Task Required to Complete	What the Button Does When Clicked
 Save Warning. File has been modified.	Indicates that the ACAM file has been modified and the user should save the file.	Button will save all changes made to the current ACAM file.
 Document Information Required.	Indicates that the Proposed Action Information is not complete.	Button will navigate the user's workspace to the "USAF Action" tab.
 Proposed Action Information Required.	Indicates that the Document Information and Regulatory Area Standards are not complete.	Button will display the Document Information window.
 No Base Selected.	Indicates that no Air Force base is selected.	Button will navigate the user's ribbon to the "Insert" tab
 At Least One Activity Required.	Indicates that no Activities have been added to the ACAM file.	Button will navigate the user's ribbon to the "Insert" tab
 Steady State Calculation Required.	Indicates that the ACAM file needs to re-calculate when air emission steady state will occur.	Button will re-calculate air emissions steady state.

1.2.3 WORKSPACE

The third and final main section of ACAM's results-oriented interface is the Workspace. ACAM's Workspace is the area below the Ribbon and two the right of the status panel. Refer to Figure 1 for reference. The Workspace section is made up of tabs and pages, similar to Microsoft Excel's tabs and spreadsheets.

Buttons specific to the Workspace will be discussed in the table on the following page.

WORKSPACE - TABS / BUTTONS

Tab / Button	Tab / Button Name	What the Tab/Button Does When Clicked
	<p>Proposed Action Information (USAF Action) Tab</p>	<p>Tab will display the proposed action information tab on the user's workspace</p>
	<p>Alternative (1 to 3) Tab.</p>	<p>Tab will display the alternative summary information tab on the user's workspace.</p>
	<p>Add Alternative Button</p>	<p>This button will add another alternative to the ACAM document. *Note that only up to 3 alternatives can be added.</p>
	<p>Remove Alternative Button</p>	<p>Button will remove the currently displayed alternative. *Use caution as data can be lost.</p>
	<p>Re-Calculate Steady State Button</p>	<p>Button will re-calculate steady state for the currently displayed alternative.</p>

1.3 Flow and Results-Oriented Design

ACAM's results-oriented design also provides the user with a clear and easy to follow path for completing an ACAM Report. This is achieved with three interface designs:

1. The Status Panel
2. Check and Status Forms
3. Numbered Status Tabs.

These will be discussed in the following corresponding paragraphs.

1.3.1 The Status Panel

As stated previously, the Status Panel gives the user a quick and easy to use summary of the minimum requirements needed to generate an ACAM Report with the current ACAM file. The Status Panel can be thought of as a roadmap for creating an ACAM report. This roadmap contains two great features that help to make using ACAM fast and easy. The first feature is every warning listed in the ACAM Warnings list is a button that will either open the appropriate window or will navigate the user to the section of the ACAM file that needs to be completed. The second feature that enhances the users' experience is that these Warnings are displayed to the user in the most optimal order (from top to bottom) to be addressed in the process of completing the ACAM file. These two features working together gives the user a on stop shop for completing the ACAM File.



NOTE: A user can click on the first ACAM warning until all of the warnings are gone to complete an ACAM file.

1.3.2 Check and Status Forms

Every screen or form that requires user input in ACAM follows the same design; a Check Form Button (Figure 3) at the bottom of the form and a Form Completion Status Indicator (Figure 1.3) at the top of the form. Clicking on the check button will start a validation process in which ACAM will check the entire form for correctness and completion. If any field is incorrectly filled out or empty, ACAM will highlight the field(s) in red and the form completion status indicator will display "Incomplete". If all fields are filled out correctly, ACAM will update the form completion status indicator with "Complete". Check and Status Forms provide the user with immediate feedback on the correctness and completion of all user inputs for any given form in ACAM.

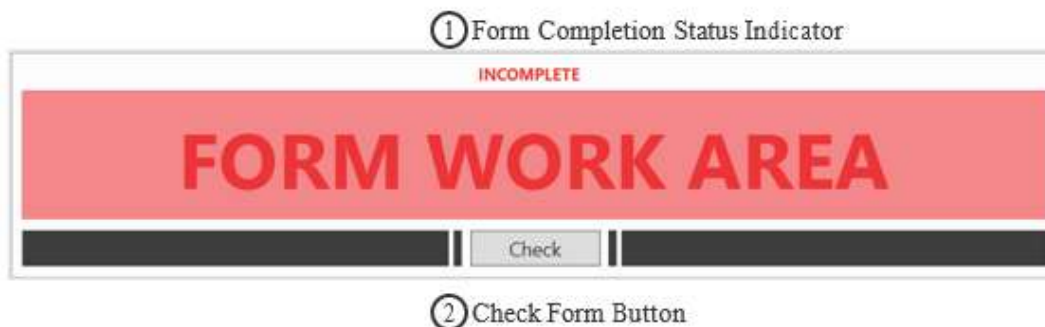


Figure 1.3 – ACAM Check and Status Forms

1.3.3 Numbered Status Tabs

A window that contains multiple forms implements ACAM's numbered status tabs (Figure 1.4). Numbered status tabs are tabs that indicate the completion status of the form in the tab area and are ordered in a way that allows the user to take advantage of all the smart features that make completing an ACAM file easy.



NOTE: Some smart features and automations in ACAM require the user to complete all tab in the order that they are numbered.

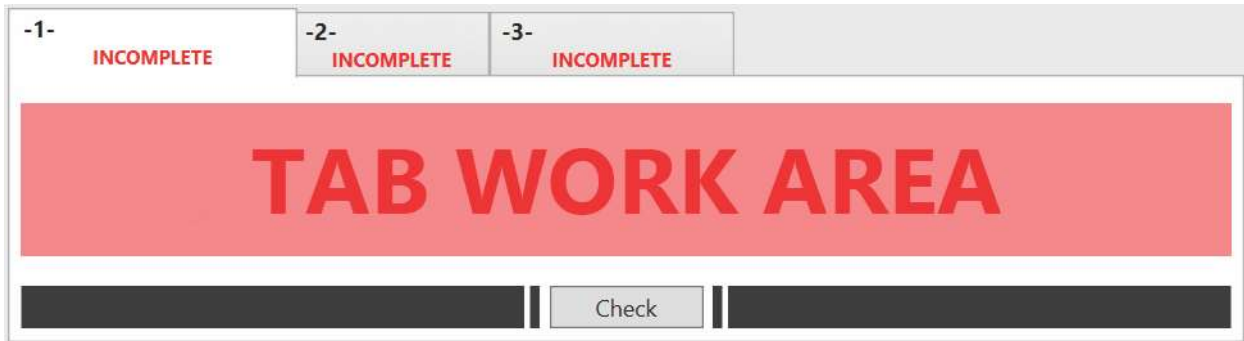


Figure 1.4 - ACAM Numbered Status Tabs

2.0 BASIC ACAM OPERATIONS

2.1 Running and Exiting ACAM

Windows usually provides more than one way to perform a task, and starting ACAM is no exception. The standard way to get ACAM started is double clicking the ACAM program icon (Figure 2.1) on your desktop. This will open a new ACAM file.

Another way to start ACAM is by double clicking the name or icon of an ACAM file (Figure 2.2) in Windows Explorer or My Computer. This will open the ACAM file that the user double clicked on.



Figure 2.1 - Program Icon



Figure 2.2 - File Icon

Exiting ACAM is just like any other Microsoft office product, just click on the “x” icon in the upper right-hand corner (Figure 2.3); just as would be done when exiting any program on a PC.



Figure 2.3 – “x” Icon



NOTE: If there are any unsaved changes to the current ACAM file, the user will be prompted with the option to save, such as when exiting a Microsoft Word document.

2.2 ACAM Files and Reports

ACAM has two basic outputs.

1. ACAM File (.ACAM)
2. ACAM Report (.docx)

These outputs are vastly different but can be easily confused. To help understand the difference we will compare ACAM to Microsoft Word and its outputs.

2.2.1 ACAM FILE

An ACAM file can be used to store and share user inputs via email, flash drives, shared drives and by using other mediums so long as the other user has ACAM installed on their computer. Once the file is shared, changes can be made or updated and then be shared again. ACAM provides the user(s) with immense flexibility in usage and storage.

ACAM files are created by either opening the ACAM program in the manners previously discussed, or if the program is already open by clicking the “New” button shown in Figure 2.4; this button is located by clicking the “File” button in the Ribbon of ACAM.

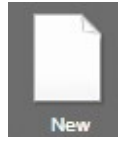


Figure 2.4 - “New” Button

2.2.2 ACAM REPORTS

An ACAM report can be thought of as the final product of an ACAM file. Similarly, a printed paper from Word can be thought of as the final product of a Word file. ACAM reports display the final estimated total air emission generated by the all the activities inputted by the user in an ACAM file. ACAM reports just like files can be email and shared with anyone. ACAM reports can be created after an ACAM file is complete and has no warnings listed in the Status Panel

There are two types of ACAM Reports. The ACAM Summary Report compiles the total yearly emissions for a given set of activities in the ACAM File. It will flag any pollutant thresholds that are exceeded. This type of report is beneficial in determining if the selected Air Force Base exceeds any thresholds, or just displays the amount of pollutant contributed by the base activity by displaying an indicator level. The ACAM detail report provides more information regarding the actual pollutant sources. Each activity in the ACAM document has its own section in the detail report, which helps show which activities are causing the most pollution. It should be noted that the values for the activities, are the **total amount for the time period**; they are not annual values.

ACAM Reports can be created after an ACAM file is complete and has no warnings in the status panel. Steps for creating an ACAM report will be discussed later in this document.

2.3 ACAM Views

ACAM allows the user to analyze and interact with data through two different layouts called “views”. The two types of views are accessed by clicking on the “VIEW” tab in the ribbon of ACAM. The user will then be presented with two options; List View and Timeline View.

List View, like the name suggests, lists all the activity inputs (in the Workspace) compiled by the user as well as the emission totals for the entire activity, or annually if it is set to run indefinitely for each individually created activity. These summary blocks are designed to be easy to read and refer to so the user can make observations before generating a report. Furthermore, activities can be edited or deleted by clicking the corresponding buttons. For reference, an example of activities in a given ACAM file in List View are shown below in Figure 2.5.

USAF Action Alternative 1 +

List View

ALL EPA REGULATORY AREAS

AC	F-5	Start Date	End Date
		1/2018	INDEF
ACTIVITY ADDED	Activity Description Example for ACAM Quick Start Guide		
	Activity Emission for 1 Year (Tons/Year)		
	VOC	NOx	CO
	SOx	PM 10	PM 2.5
	Pb	NH3	
	1.82	0.61	5.59
	0.13	0.63	0.28
	0	0	

CD	ACAM Example Construction	Start Date	End Date
		1/2018	3/2018
ACTIVITY ADDED	Activity Description ACAM Example for Quick Start Guide		
	Demolition Phase Total Emissions (Tons)		
	VOC	NOx	CO
	SOx	PM 10	PM 2.5
	Pb	NH3	
	0.05	0.3	0.3
	0	0.02	0.02
	0	0	

HT	ACAM Example	Start Date	End Date
		1/2018	INDEF
ACTIVITY ADDED	Activity Description ACAM Example for Quick Start Guide		
	Activity Emission for 1 Year (Tons/Year)		
	VOC	NOx	CO
	SOx	PM 10	PM 2.5
	Pb	NH3	
	0.04	0.64	0.54
	0	0.05	0.05
	0	0	

Figure 2.5 – ACAM List View

Timeline View provides the user with an interactive timeline for all activities. The timeline is broken up by year blocks and displays emissions thresholds for that year. If the total yearly emissions are below emission thresholds designated by the regulatory areas that encompass the Air Force Base selected, then the number displayed for a given criteria pollutant represents the total tons **under** the emission threshold, and will be green in color. If the total yearly emissions exceed a threshold, then the number will represent the total tons **over** the emissions thresholds. Refer to Figure 2.6 for reference.

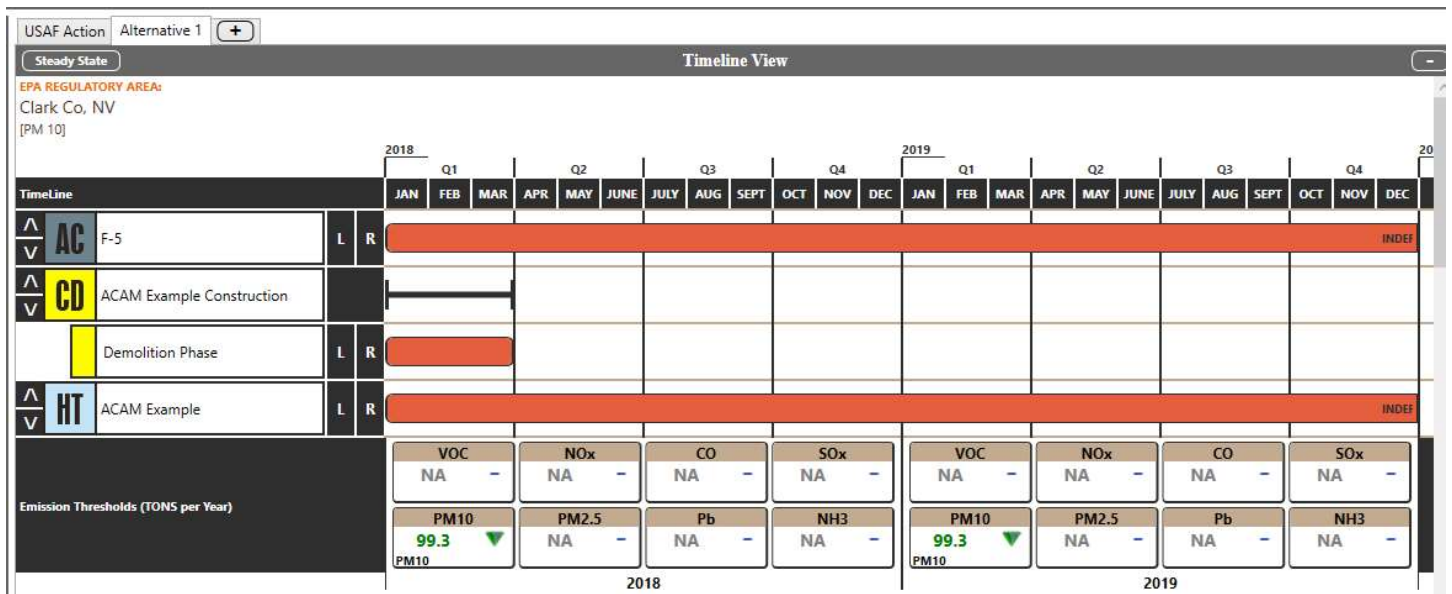


Figure 2.6 – Timeline View

3.0 NINE STEPS TO CREATE AN ACAM REPORT

3.1 Introduction

ACAM can create air emissions analysis reports in nine easy steps. To make this process easier, ACAM also provides an interactive road map in the form of the Status Panel as previously mentioned. In this section of the ACAM Quick Start Guide. An overview of the nine steps is provided below, and each step will be discussed in further detail in the following pages of this Guide.

THE 9 STEPS TO CREATE AN ACAM REPORT

Step 1: Launch ACAM and Save/Create the ACAM File

Step 2: Input Document Information

Step 3: Select Desired USAF Base

Step 4: Proposed Action Information

Step 5: Add All Desired Activities

Repeat until all Activities are inputted and reviewed for accuracy

Step 6: Calculate Steady State (whenever prompted in the Status Panel)

Step 7: Analyze Proposed Action

Step 8: Re-Calculate Steady State

Step 9: Create the desired ACAM Report(s)



NOTE: Be sure to save any changes to the ACAM File when prompted to in the Status Panel.

STEP 1: Launch ACAM and Save/Create ACAM File

Launch ACAM as previously discussed by clicking the ACAM Icon on the Desktop of the in-use Personal Computer (PC), or wherever the program launch icon is located. The user will be greeted with the default ACAM opening page with numerous warnings located in the status panel. The user should tackle these warnings in order from top to bottom. The first warning presented to the user is shown below.



“Warning” Button

OR



“Save” Button

OR



“Save As” Button

Figure 3.1

By clicking this warning (pictured above, Figure 3.1 left), or by navigating to the “FILE” menu in the ribbon of ACAM and clicking the “Save” (pictured above, Figure 3.1 middle) or “Save As” button (pictured above, Figure 3.1 right) the user will be prompted with the “Save As” window presented when saving any file on a PC for the first time (see Figure 3.2).

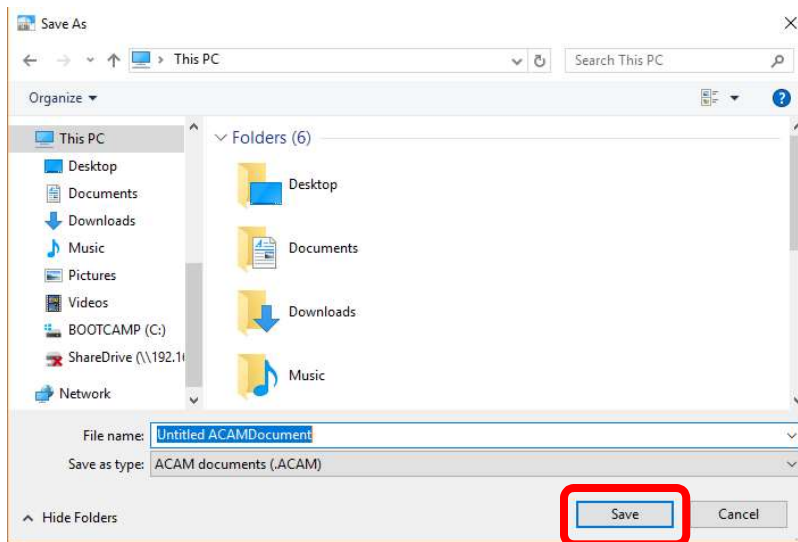


Figure 3.2 - “Save As” Window

Title the ACAM document and select a desired location on the PC in use to save the file. Finalize the process by Clicking “Save” on the Save Window.



NOTE: Once this step is completed, the “save warning” in Figure 3.1 (left side) will pop up anytime the document is changed. Clicking the “save warning” button updates any changes made to the document.

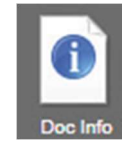
If the user does not want to make any changes to the current document, but wants to continue to alter it as another version of the current ACAM document, click “Save As” (shown in Figure 3.1, right) to save.

STEP 2: Input Document Information

The second warning in the ACAM Status Panel to address is the “Document Information Warning”. By clicking the warning (Figure 3.3 left) or the “Doc Info” button in the “FILE” menu of the ribbon (Figure 3.3 right), a Document information window will open.



“Document Information Warning” Button



“Document Information” Button

Figure 3.3

The user will be prompted to fill out the required information in both tabs, shown in Figures 3.4. Click “Check” at the bottom of each tab to ensure all the required information is entered. Click “OK” once both tabs have been completed.

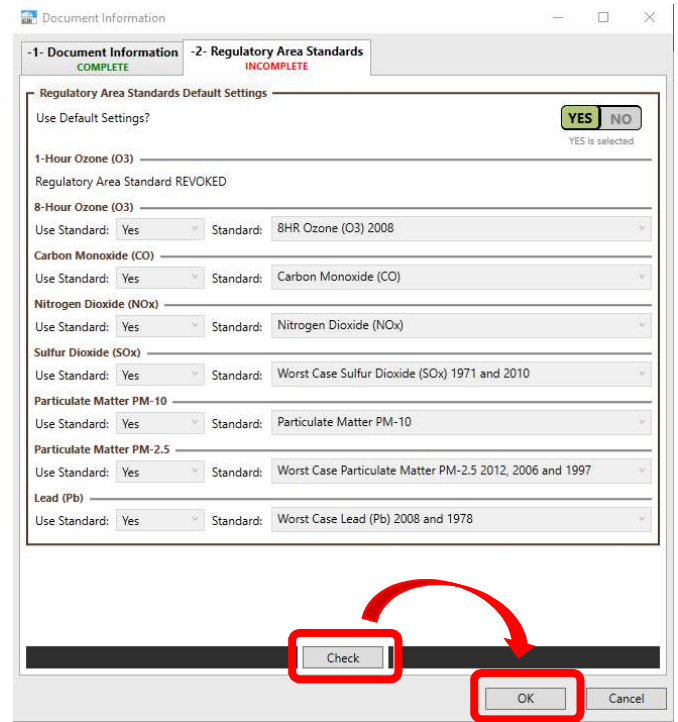
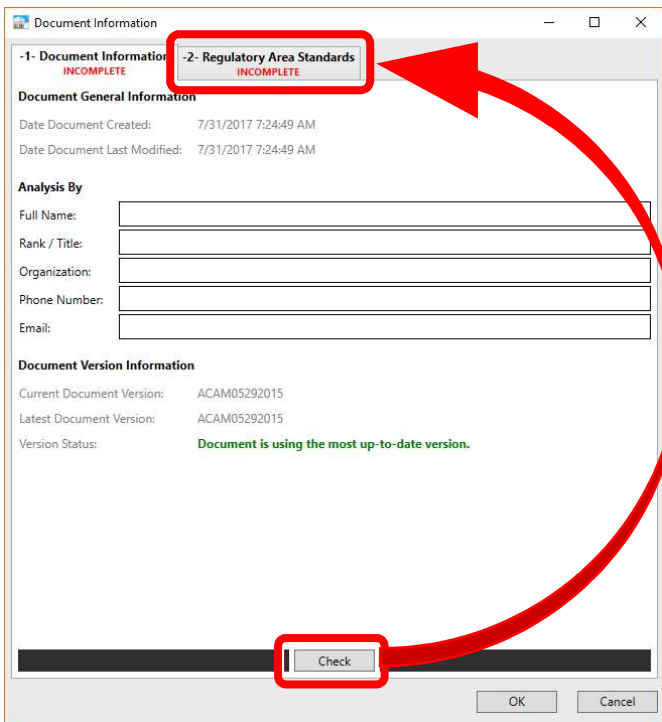


Figure 3.4 – Document Information Tab



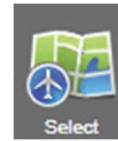
NOTE: Once this step is completed, the save warning (Figure 3.1 left) will pop up as when anytime the document has been changed. Clicking it updates the changes made to the document.

STEP 3: Select Desired Air Force Base

The next ACAM warning in the status panel to be addressed is shown in Figure 3.5 (left). Clicking this “No Base Selected Warning” button, or by navigating to the “BASE” menu in the ribbon and clicking “Select” (Pictured in Figure 3.5 right) opens a window allowing the user to select the Air Force Base the proposed action is taking place at.



“No Base Selected Warning” Button



Base “Select” Button

Figure 3.5

Clicking on either of these buttons opens the “Base” window shown in Figure 3.6. The user should navigate through this list and then click on their desired base once they locate it in the list. The drop-down menus for filter and filter type can be utilized for easier location of the desired base. Click “OK” once the base is selected.

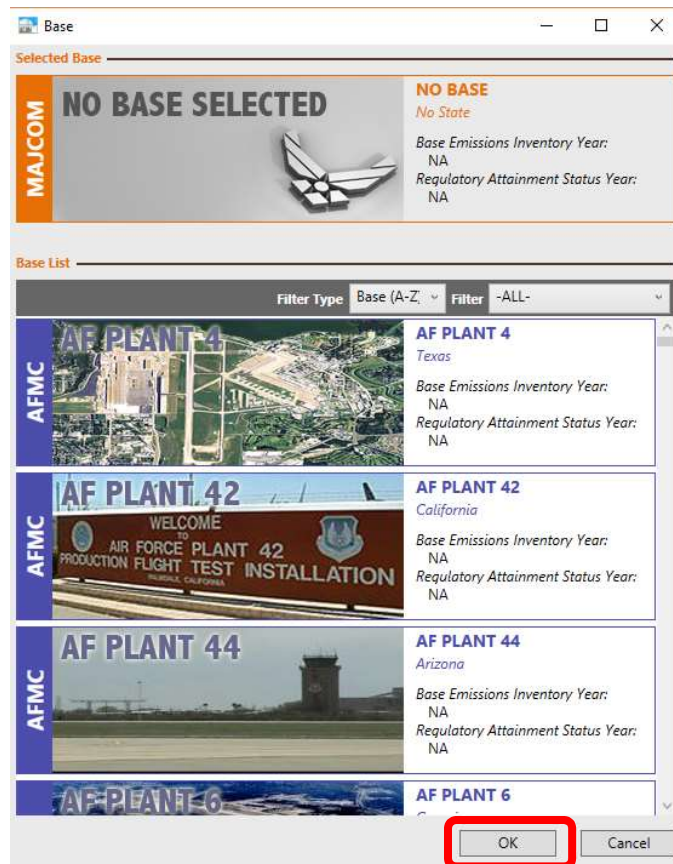


Figure 3.6 – Base Window



NOTE: Once this step is completed, the save warning (Figure 3.1 left) will pop up anytime the document has been changed. Clicking it updates the changes made to the document.

STEP 4: Proposed Action Information

Step 4 requires the user to enter the Proposed Action Information. This is where the user will give an overview of the proposed action, as well as a title for ACAM report purposes. By clicking on either the warning in the ACAM Status Panel (Figure 3.7) or the USAF Action tab in the Workspace (Figure 3.8), the table shown in Figure 3.8 will be shown in the Workspace

Proposed Action Information Required.

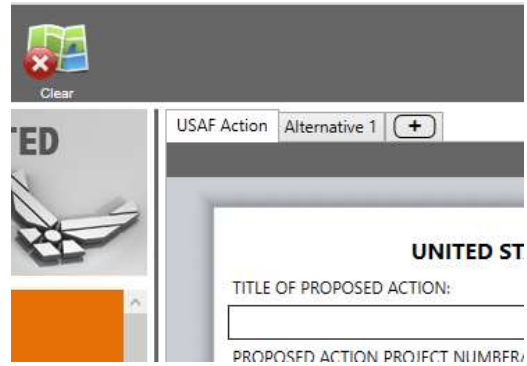


Figure 3.7 – Proposed Action Warning

Figure 3.8 – Proposed Action Tab

A screenshot of a software interface titled 'Proposed Action Information'. At the top, there are tabs for 'USAF Action' and 'Alternative 1' with a plus sign. The main area is a form with the following fields: 'INCOMPLETE' (in red), 'UNITED STATES AIR FORCE (USAF) ACTION', 'TITLE OF PROPOSED ACTION:' (with a text input field), 'PROPOSED ACTION PROJECT NUMBER/s (if applicable):' (with a text input field), 'PURPOSE AND NEED FOR ACTION (brief description):' (with a large text area), and 'DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES (brief description):' (with a large text area). At the bottom of the form, there is a 'Check' button highlighted with a red box.

Figure 3.9 – Proposed Action Information

Type all the required information in the respective text boxes (Figure 3.9), then click “Check”.



NOTE: Once this step is completed, the save warning (Figure 3.1 Left) will pop up anytime the document is changed. Clicking it updates the changes made to the document.

STEP 5: Add All Desired Activities

Step 5 is perhaps the most important step in the process of creating an ACAM document. This step is where the user will add all the necessary activities related to the proposed action. Clicking the warning in the Status Panel (Figure 3.10, left) or by clicking the “INSERT” menu tab (Figure 3.10, right) in the ribbon displays all the options for activities in ACAM (Figure 3.11).

! At Least One Activity Required.



Activity Warning

Activity “Insert” Button

Figure 3.10

It is recommended the user review their proposed action documentation and construct a list of all proposed actions for a given Alternative. Once this list has been constructed, click on the desired activity(s) for the proposed action. All the Activities in ACAM are shown below in Figure 3.11.



Figure 3.11 – ACAM Activities

Clicking on the desired icon (located in the ribbon) opens that activity’s corresponding window. The user will need to complete each numbered tab in numerical order by entering in the appropriate data and reviewing the default data settings to ensure they adequately reflect the proposed action. Each time a tab is completed, click “Check” to ensure all required information is entered.

This step will need to be repeated until all activities are added or removed from the desired Alternative in ACAM.

NOTE: Each time an activity is added or altered, the save warning (Figure 3.1, left) will pop up in the Status Panel of ACAM. Clicking it updates the changes made to the document.

The steady state warning that will appear after each activity is added or altered will be discussed in Step 6.

STEP 6: Calculate Steady State

A steady state calculation **must** be done before producing an ACAM Report; however, it is recommended to calculate steady state each time the warning (Figure 3.12) presents itself in the Status Panel of ACAM.



Figure 3.12 – “Steady State Calculation” Warning

Clicking this button calculates steady state. The user can also calculate steady state manually by navigating to the “Timeline View” via the “VIEW” menu in the ribbon, and clicking the steady state button in the Workspace as shown in Figure 3.13.



Figure 3.13 – Steady State Button



NOTE: Once this step is completed, the save warning (Figure 3.1, left) will pop up anytime the document is changed. Clicking it updates the changes made to the document.

STEP 7: Analyze Proposed Action

Once the user has added all relevant activities and calculated steady state for a proposed action, the user should now review the emission totals from the proposed action. As previously discussed in this guide, it is beneficial to use the List View under the “VIEW” menu in the ACAM ribbon to review emission totals from each given activity; and it is useful to utilize the Timeline View so see emission totals for all activities for the year(s) being analyzed. Figure 3.14 displays an example of activities in the List View, and 3.15 displays the same activities in the Timeline View.

USAF Action Alternative 1 +

List View

ALL EPA REGULATORY AREAS

AC	F-5	Start Date	End Date				
		1/2018	INDEF				
Activity Description Example for ACAM Quick Start Guide							
Activity Emission for 1 Year (Tons/Year)							
VOC	NOx	CO	SOx	PM 10	PM 2.5	Pb	NH3
1.82	0.61	5.59	0.13	0.63	0.28	0	0

CD	ACAM Example Construction	Start Date	End Date				
		1/2018	3/2018				
Activity Description ACAM Example for Quick Start Guide							
Demolition Phase Total Emissions (Tons)							
VOC	NOx	CO	SOx	PM 10	PM 2.5	Pb	NH3
0.05	0.3	0.3	0	0.02	0.02	0	0

HT	ACAM Example	Start Date	End Date				
		1/2018	INDEF				
Activity Description ACAM Example for Quick Start Guide							
Activity Emission for 1 Year (Tons/Year)							
VOC	NOx	CO	SOx	PM 10	PM 2.5	Pb	NH3
0.04	0.64	0.54	0	0.05	0.05	0	0

Figure 3.14 – Activity List View

In the List View, the user can utilize the “EDIT” button to the left of each individual activity to review any inputted data or make any changes.

The “DELETE” button can be used to remove an activity entirely. **Use caution when deleting an activity, as it cannot be recovered and the user will have to re-enter all information should it be necessary to add the deleted activity back.**

The Timeline View gives the user the option to adjust the start dates for an activity by clicking the “L” and “R”. This allows the user to reanalyze emission totals by time. Since emission thresholds or indicators are relevant for one year, having the ability to alter the activities by time allows the user to explore other alternatives if the proposed action is exceeding a threshold.

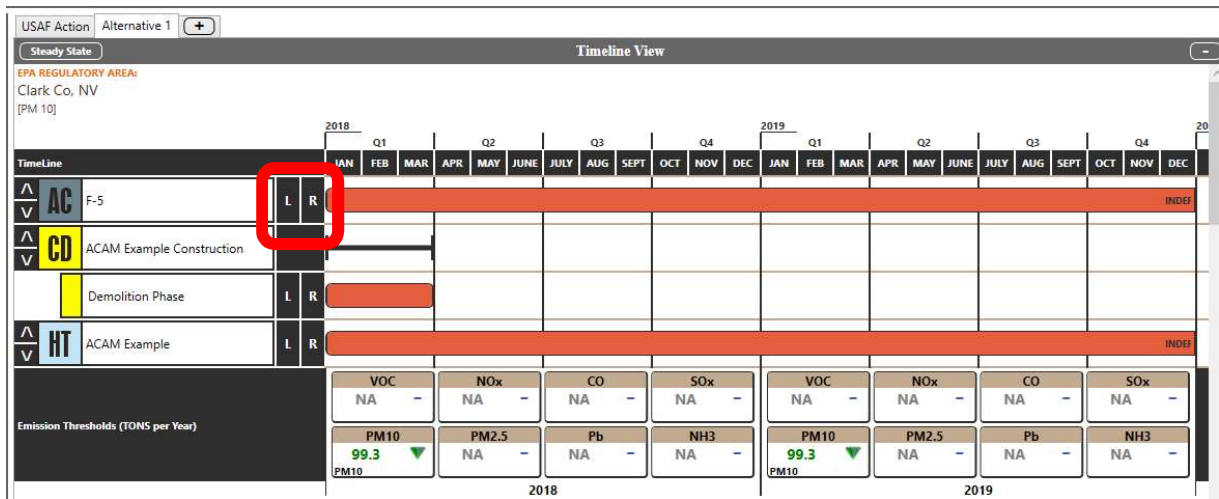


Figure 3.15 – Activity Timeline View



NOTE: Once this step is completed, the save warning (Figure 3.1, left) will pop up anytime the document is changed. Clicking it updates the changes made to the document, if any were made.

STEP 8: Re-Calculate Steady State

Step 8 is identical to Step 6. If any changes were made to the activities in Step 7, the user will be prompted with the ACAM warning to calculate steady state (Figure 3.16).

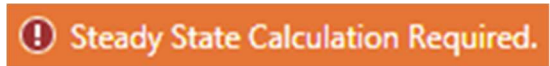


Figure 3.16 - “Steady State Calculation” Warning

Clicking on this button will re-calculate steady state just as it did before. After clicking, the user will be shown another warning requiring the document to be saved.

STEP 9: Creating the ACAM Report(s)

Once all the information has been reviewed by the user and steady state for the finalized data has been calculated, the user can now create an ACAM Report. As mentioned before in the Basic ACAM Operations section of this guide, there are two types of ACAM Reports that can be generated. The process for generating a report, regardless of which one(s) selected by the user is identical. The user should navigate to the “REPORTS” menu in the ribbon. Clicking the “MS Report” button shown in Figure 3.17, brings forth the window shown in Figure 3.18.



Figure 3.17- ACAM Report Icon

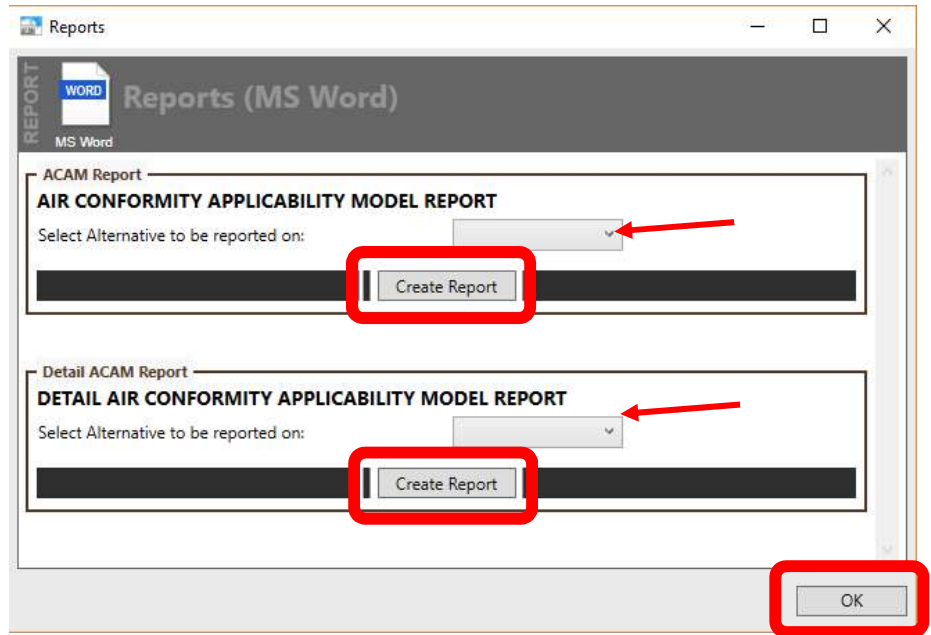


Figure 3.18 – ACAM Report Window

By utilizing the drop-down menus for the Detail and Summary report respectively, the user can select which Alternative in ACAM he or she wishes to create a report for. Clicking the “Create Report” button within the desired report type’s tab work area will create the report in word document form.

The user will be presented with the save window shown in Figure 3.19.

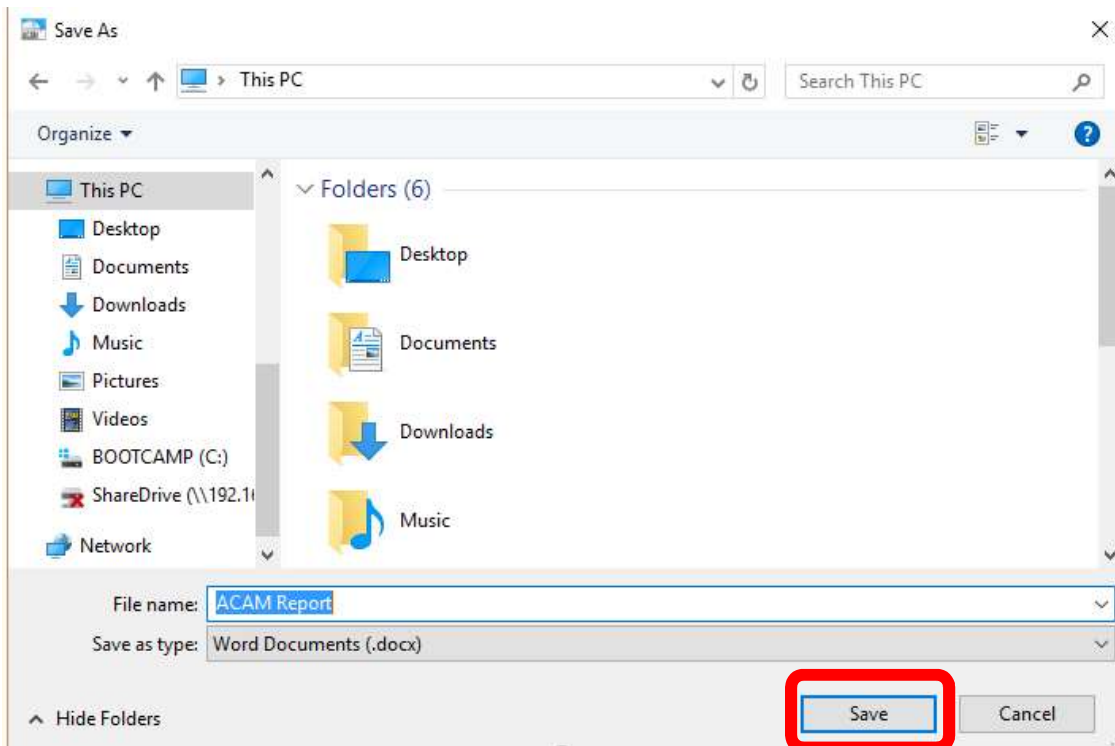


Figure 3.19 – ACAM Report Save Window

The user will need to name the ACAM Report and select a location to save it on their PC. Once the file has been named and a location is selected, click “Save” to close the window.

The user has now completed all the steps to create an ACAM file. The ACAM report(s) as well as the ACAM File can be shared with other individuals. The ACAM file can also be altered in anyway the user deems necessary based upon the data presented in the report(s). Any changes should follow the general 9 step process discussed in this guide. Once any changes are made to the file a new ACAM report(s) can be created.