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

Air Force Civil Engineer Center, Compliance Technical Support Branch (AFCEC/CZTQ)

2261 Hughes Ave., Ste 155
JBSA Lackland TX 78236-9853

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Prepared For:

FRANK CASTANEDA, III, P.E., GS-14, DAF
Air Quality Subject Matter Expert
Air Force Civil Engineer Center,
Compliance Technical Support Branch (AFCEC/CZTQ)
2261 Hughes Ave., Ste 155
JBSA Lackland TX 78236-9853

Prepared By:

Solutio Environmental, Inc.
407 Eighth Street
San Antonio, TX 78215
http://www.solutioenv.com
http://www.aqhelp.com

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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 Department of the Air Force's (DAF) implementing tool for NEPA and provides the DAF 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 DAF 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 DAF resources (i.e., work effort and cost).

Air Quality EIAP = Air Quality NEPA + CAA Conformity

The air quality EIAP process is broken into three progressive levels of assessment: *Level I, Exempt Action Screening* (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 or indicator that, if not exceeded, allows exiting the assessment.

This volume (1 of 2) of the *DAF 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 DAF actions. Furthermore, the Guide provides guidance, procedures, and methodologies for use in carrying out basic air quality EIAP Assessments that are technically sufficient for the vast majority of DAF actions. Additionally, this guide provides interim guidance and procedures for addressing greenhouse gas emissions and climate change.

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 assessment 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 DAF does not receive funding from the FHWA/FTA, DAF projects are generally NOT subject to Transportation Conformity. Therefore, Transportation Conformity is deliberately only cursorily covered.

1 INTRODUCTION

This Guide provides *Environmental Impact Analysis Process* (EIAP) guidance in assessing the air quality impact associated with DAF proposed actions (activities that DAF or an instrumentality of the DAF 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 DAF 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 DAF's implementation tool for NEPA. EIAP provides the DAF 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 or NEPA Implementing Regulations). Additionally, for air quality (according to 32 CFR 989.30), all EIAP documents must address the CAA *General Conformity Rules* (40 CFR 93, subpart B) requirements.

This volume of the Guide specifically addresses DAF 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). See Volume 2 of the Guide for comprehensive instructions for Overseas Air Quality EIAP. Although this volume (1) of the Guide does not cover actions abroad (i.e., outside CEQ and EPA jurisdiction), many of the calculation methodologies and resources are still applicable.

1.1 Air Quality EIAP Objective

The DAF'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 be 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 enable reasoned choice amongst alternatives, 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 prediction or estimate of air pollutant emissions. Often actions that are not fully defined must be evaluated; therefore, it is necessary to make a rough estimate based on the available information and data. DAF 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.

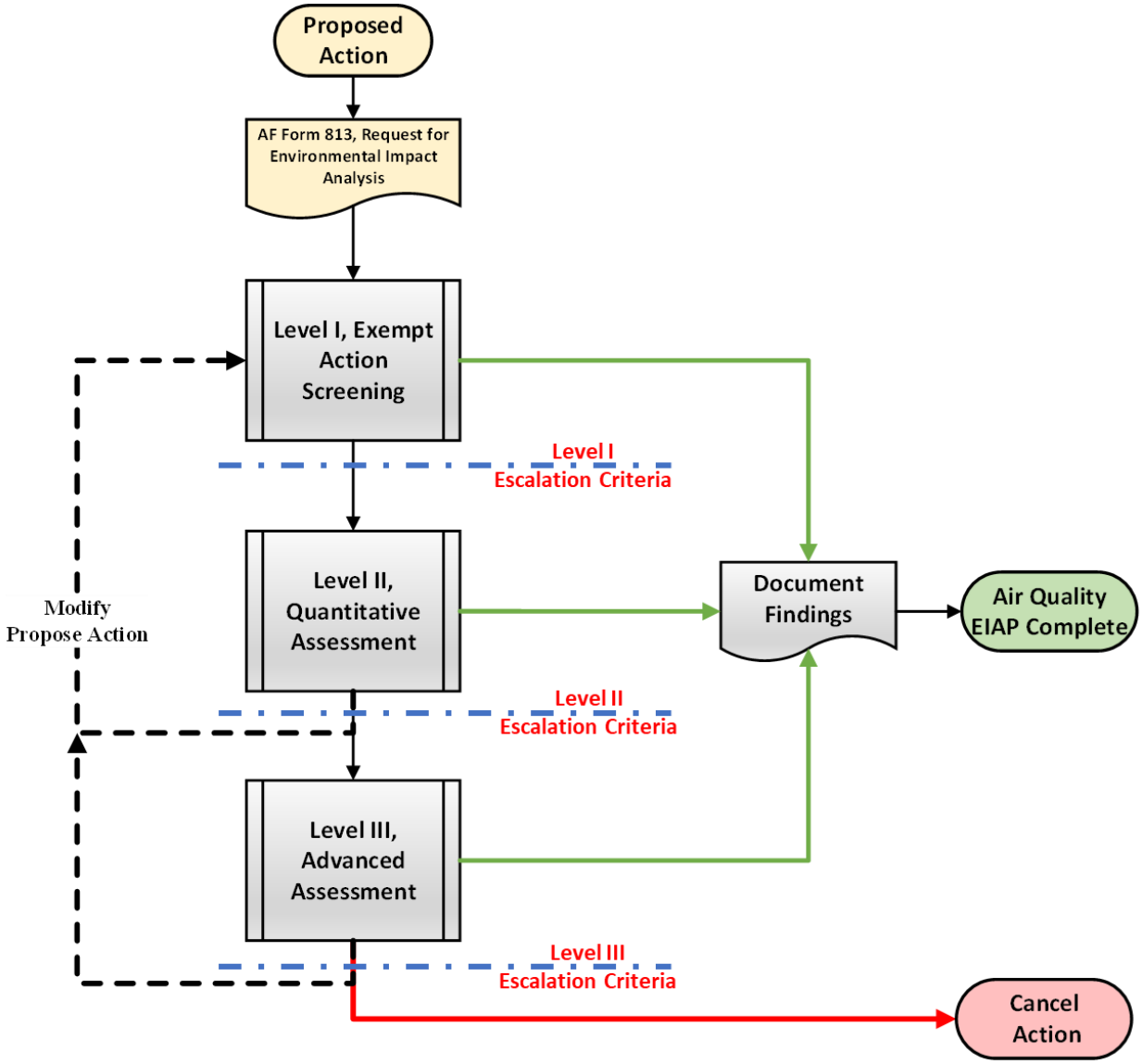
In this case, the objective is to make defensible and credible air quality EIAP Assessments that allow for reasoned choice amongst alternatives, in accordance with 40 CFR 1500 – 1508, 32 CFR 989, and 40 CFR 93 (for proposed actions that will occur in nonattainment and/or maintenance areas), with the least impact on scarce DAF 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 DAF conducts NEPA and General Conformity assessments merged into one assessment 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 exceeding escalation criteria. 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 emissions quantification assessment (*Level II, Quantification Assessment*) is required. If no air emissions will occur or the proposed action is exempt (i.e., a Categorical Exclusion from NEPA and an exemption from 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 change in 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 an initial

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. If the findings of the assessment indicate a potential significant impact to air quality, a *Level III, Advanced Assessment,* must be performed.

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 and an overview on the Air Quality EIAP, and

2) to provide specific steps for performing Air Quality EIAP Assessments.

The first three chapters comprise the background and overview section, providing an introduction and overview of the DAF 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 DAF 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 DAF's implementation tool for NEPA and the framework for the DAF 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 DAF 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 DAF 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 *DAF 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 DAF installations, as well as U.S. Department of Defense (DOD)/DAF-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 DAF installations. Relevant general DOD/DAF-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 is a procedural statute intended to ensure Federal agencies consider the environmental impacts of their actions in the decision-making process. Section 101 of NEPA establishes polices and goals to ensure that environmental considerations are given careful attention and appropriate weight in all decisions of the Federal Government. Federal agencies are to use all practicable means and measures to foster and promote the general welfare, create, and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans. Section 102(2) of NEPA establishes the procedural requirements to carry out the policy stated in section 101 of NEPA. In particular, it requires Federal agencies to provide a detailed statement on proposals for major Federal actions significantly affecting the quality of the human environment. 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 Qua*lity, 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 (EOs) 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 11514, Protection and Enhancement of Environmental Quality*** **(EO 11514):** The purpose of this EO 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. Directed Federal agencies to initiate measures needed to direct their policies, plans and programs so as to meet national environmental goals. The EO also directed the CEQ to issue guidelines to Federal agencies for the implementation of NEPA. The EO was later amended to direct CEQ to issue regulations for the implementation of NEPA. The CEQ, through the Chairman, shall advise and assist the President in leading this national effort.

- ***Executive Order 12114, Environmental Effects Abroad of Major Federal Actions (EO 12114):*** The purpose of this Executive Order is to require Federal agencies with facilities located outside the U.S. to consider the impact of major actions on the environment. The EO identifies four categories of "major" actions and requires Federal agencies with facilities overseas to establish procedures, in consultation with the Department of State and Council on Environmental Quality, for implementing the Order's requirements.

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

- **Ozone (O_3):** 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.

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

Pollutant [final rule citation]		Primary/ Secondary	Averaging Time	Level*	Form
Carbon Monoxide (CO)		primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead (Pb)		primary and secondary	Rolling 3-month average	0.15 $\mu g/m^3$ (1)	Not to be exceeded
Nitrogen Oxides (NOx, monitored as NO_2)		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 (O_3)		primary and secondary	8-hour	0.070 ppm (3)	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution (PM)	**$PM_{2.5}$**	primary	Annual	12 $\mu g/m^3$	Annual mean, averaged over 3 years
		secondary	Annual	15 $\mu g/m^3$	Annual mean, averaged over 3 years
		primary and secondary	24-hour	35 $\mu g/m^3$	98th percentile, averaged over 3 years
	PM_{10}	primary and secondary	24-hour	150 $\mu g/m^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Oxides (Sox, monitored as SO_2)		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 µg/m3 as a calendar quarter average) also remain in effect.

(2) The level of the annual NO_2 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) O_3 standards additionally remain in effect in some areas. Revocation of the previous (2008) O_3 standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

(4) The previous SO_2 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 SO_2 standards or is not meeting the requirements of a SIP call under the previous SO_2 standards (40 CFR 50.4(3)). A State Implementation Plan (SIP) call is an EPA action requiring a state to resubmit all or part of its plan to demonstrate attainment of the required NAAQS.

*ppm = parts per million, ppb = parts per billion, ug/m3 = micrograms per cubic meter of air

Source: EPA (August 2022) https://www.epa.gov/criteria-air-pollutants/naaqs-table

Note that while SOx and NOx are criteria pollutants, the NAAQSs for these pollutants are based on SO_2 and NO_2 respectively as indicator compounds of the actual criteria pollutant.

- **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 PM_{10} and particles up to 2.5 microns in size designated as $PM_{2.5}$.

- **Sulfur Oxides (SOx) with Sulfur Dioxide (SO_2) as an indicator:** The EPA's NAAQSs for SO_2 are designed to protect against exposure to the entire group of sulfur oxides (SO_x). SO_2 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 SO_2 in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities. SO_2 can affect both health and the environment with short-term exposures being harmful to the human respiratory system and make breathing difficult.

- **Nitrogen Oxides (NOx) with Nitrogen Dioxide (NO_2) as an indicator:** Nitrogen Oxides (NOx) are a family of poisonous, highly reactive gases. NOx forms when fuel is burned at high temperatures. NOx pollution is emitted by automobiles, trucks, and various non-road vehicles (e.g., construction equipment, boats, etc.) as well as industrial sources such as power plants, industrial boilers, cement kilns, and turbines. NOx is a strong oxidizing agent and plays a major role in the atmospheric reactions with volatile organic compounds (VOC) that produce ozone. NO_2 is used as the indicator for the larger group of nitrogen oxides.

- **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.

States must identify geographic areas that do not meet the NAAQS. These areas are termed "nonattainment" areas. 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 the 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 (CRs)

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 CAA. Conformity Rules (40 CFR 51 Subpart W and 40 CFR 93 Subpart A and B) apply only to air quality and only in areas that are designated by the EPA as nonattainment or maintenance areas. CRs are 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 DAF 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. There are two separate CRs:

1. **Transportation Conformity Rule (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, DAF actions are not associated with metropolitan transportation plans and they are not FHWA/FTA funded (i.e., FHWA/FTA projects); therefore, **Transportation Conformity is generally NOT applicable to DAF actions**.

2. **General Conformity Rule (GCR, 40 CFR 93 Subpart B):**

    - Applies to all other (i.e., non-federal highway and non-transit actions) Federal actions.

    - For DAF actions that do not impact federal highway and transit, only the General Conformity Rule applies. Therefore, **General Conformity applies to ALL DAF actions in designated nonattainment or maintenance areas**.

2.1.6 Environmental Effects Abroad of Major DoD Actions (32 CFR 187)

NEPA does not directly apply to areas abroad that are outside EPA's jurisdiction (i.e., overseas); however, EO 12114, *Environmental Effects Abroad of Major Federal Actions*, requires overseas Federal agencies to consider the impact of major actions on the environment. EO 12114 is implemented and supplemented through 32 CFR 187, *Environmental Effects Abroad of Major DoD Actions*, which effectively implements NEPA overseas. U.S. Air Force Instruction (AFI) 32-7091, *Environmental Management Outside the United States*, identifies requirements for

environmental compliance, remediation, and EIAP at Air Force installations and other enduring locations in overseas areas. Therefore, EIAP applies to DAF actions impacting the environment both within the EPA's jurisdiction and outside the U.S.

2.2 Federal Requirements and Documents - DOD/DAF Specific

2.2.1 DOD Directive 6050.1: *Environmental 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) 32-70L *Environmental Considerations in Air Force Programs and Activities*

This directive establishes the DAF's policy in achieving and maintaining environmental quality and compliance with NEPA and EO 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 Manual (AFMAN) 32-7002: *Environmental Compliance and Pollution Prevention*

This instruction implements Air Force Policy Directive (AFPD) 32-70, *Environmental Quality*; chapters 2 and 4 provide details on Air Quality Compliance and Resource Management. It is important to note that AFMAN 32-7002 mandates the use of the Air Conformity Applicability Model (ACAM) as the only approved automated air quality impact assessment tool for performing all air quality impact assessments under both NEPA and General Conformity. (AFMAN 32-7002)

2.2.5 U.S. Air Force Instruction (AFI) 32-7091: *Environmental Management Outside the U.S.*

Identifies requirements for environmental compliance, remediation, and EIAP at Air Force installations and other enduring locations in overseas areas. Chapter 5 implements and supplement 32 CFR 187, *Environmental Effects Abroad of Major DoD Actions*.

2.2.6 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.

2.2.7 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.

2.2.8 State and/or Local Requirements

In addition to Federal requirements, there often are state and/or local air quality requirements applicable to DAF 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 DAF 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. A word of warning about state and local NEPA-related regulations, do not apply to Federal action and only apply to actions or projects being executed by the State, regional or local agencies. For example, the California Environmental Quality Act (CEQA) only applies actions being executed by the State of California, regional or local agencies. State and local NEPA-related regulations that do not apply to Federal agencies, such as CEQA, should not be considered or even be included in an Air Quality EIAP document.

Some states and local air districts maintain their own General Conformity rules which predate the 2010 amendments to 40 CFR Part 93, Subpart B and 40 CFR 51.851(g). These state/local conformity rules which remain in a SIP must be followed in determining general conformity requirements.

2.3 Roles and Responsibilities

All roles and responsibilities for EIAP execution (including NEPA and Conformity) are prescribed in 40 CFR 989 (general roles and responsibilities), and AFMAN 32-7002 (air quality related roles and responsibilities).

3 ENVIRONMENTAL IMPACT ANALYSIS PROCESS

32 CFR 989, "*Environmental Impact Analysis Process*," or EIAP, is the DAF's implementation tool for the *National Environmental Policy Act* (NEPA). EIAP provides the DAF 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.

3.1.1 NEPA Applicability

NEPA is applicable to all Federal agencies when an agency has control and/or responsibility over a proposed major action. Control and/or responsibility includes situations when the agency provides any portion of financing for the project or if the project includes influence by the federal agency (for example, assistance, conducting, regulating, or approving).

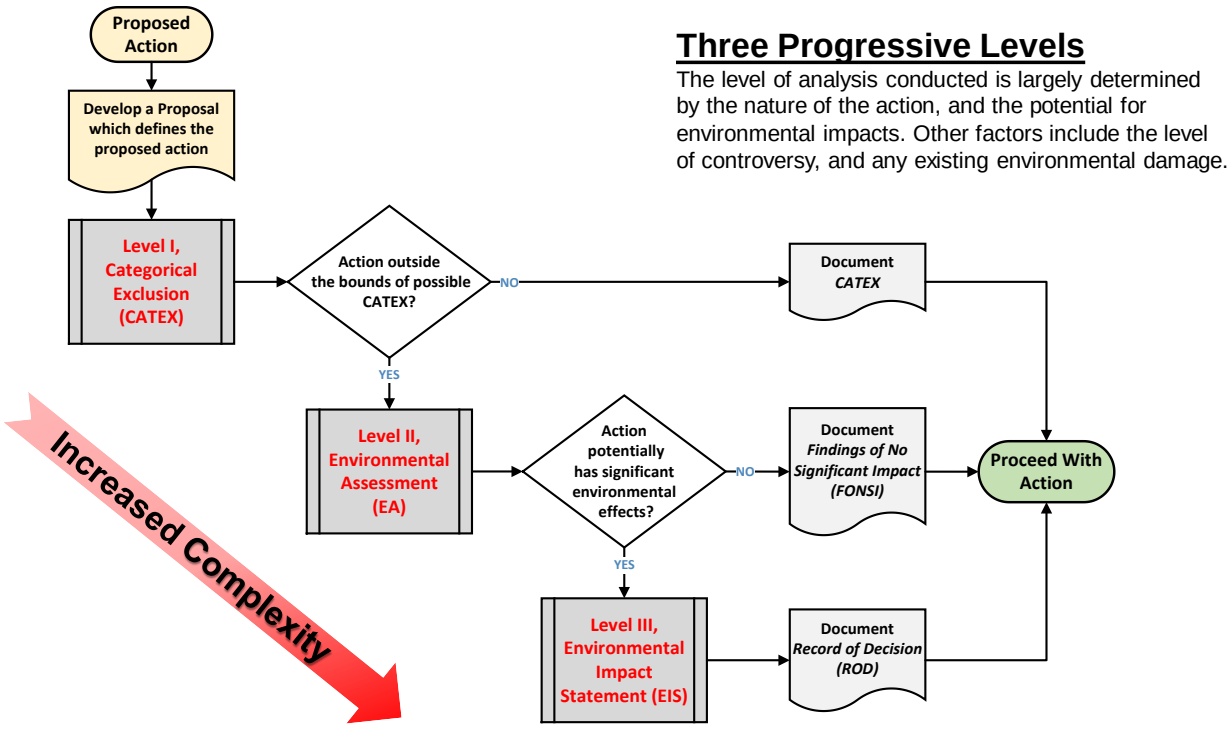
NEPA covers a vast array of Federal agency actions, but the act does not apply to state actions where there is a complete absence of federal influence or funding.

There are a few exemptions and exclusions present within the NEPA's guidelines, including specific federal projects detailed in legislation and EPA exemptions. Exemptions also apply when compliance with other environmental laws that require an analysis similar to the impact analysis mandated by NEPA. Such laws mandating impact analysis include, but are not limited to, the *Clean Air Act*; *Resource Conservation and Recovery Act*; *Safe Drinking Water Act*; and the *Federal Insecticide, Fungicide, and Rodenticide Act*.

3.1.2 NEPA Process

The NEPA process must be completed before an agency makes a final decision on a proposed action. Federal agencies may differ slightly in how they comply with NEPA, but they follow the same basic procedures and steps. The level of documentation depends on the proposed action's complexity and impacts.

Figure 3-1, NEPA Process Diagram



The NEPA process (see *Figure 3-1, NEPA Process Diagram*) begins when an agency develops a proposal to address a need to take a Federal action. Once it has developed a proposed action, the agency will enter the initial analytical approach to help determine whether the agency will pursue the path of a Categorical Exclusion, an Environmental Assessment, or an Environmental Impact Statement. While the NEPA Process is generally progressive in nature, an agency may skip over lower levels based on the nature of the action, the potential for environmental impacts, the level of controversy, and any existing environmental damage.

3.1.2.1 Level I - Categorical Exclusions (CATEX)

The first level of the NEPA Process is the Categorical Exclusion or CATEX. A CATEX is a category or group of actions that the agency has determined does not individually or cumulatively have a significant effect on the quality of the human environment and which have been found to have no such effect in procedures adopted by a Federal agency in implementation of NEPA regulations. Agencies develop a list of CATEX actions specific to their operation. If an action is considered categorically excluded (or CATEXed), then neither an Environmental Assessment nor an Environmental Impact Statement is required. If the proposed action is not included in the agency's CATEXed list of actions, then the agency must prepare an Environmental Assessment, Environmental Impact Statement, or develop a new proposal that may qualify for a CATEX.

Even if a proposed action is on the agency's CATEX List, a CATEX cannot be applied if there are any extraordinary circumstances. Extraordinary circumstances potentially include, but are not limited to, NAAQS nonattainment or maintenance areas and inadequate insignificant air

impact documented. Therefore, it is important for an agency to verify and document that no extraordinary circumstances exist that may cause the proposed action to potentially have a significant effect in a particular situation.

3.1.2.2 Level II - Environmental Assessment (EA)

The second level of the NEPA Process is the EA. The EA is a public document used to determine the significance of the environmental effects of a proposed action and the need to look at alternative means to achieve the agency's objectives.

Every EA must be resolved with a Finding of No Significant Impact (or FONSI), a determination that an Environmental Impact Statement (or EIS) is required, or a "no action" decision. If a proposed action is not categorically excluded and it is unclear if the action would result in significant impacts (for example, has not previously required an EIS), an EA is prepared to determine if a FONSI or an EIS is appropriate. Additionally, in situations where it is not clear whether the action would result in significant impacts, an EA is prepared to definitively determine if an EIS is required. The preparation of an EA may be bypassed in favor of the preparation of an EIS if the proposed action is known to have significant impacts on the environment, is potentially controversial, or in instances where past similar actions required an EIS. An agency does not have to prepare an EA if they decide to go straight to an EIS.

A FONSI documents why an action would not have a significant effect on the environment; and therefore, would not require further environmental analysis. A FONSI is a factual statement of the finding of why no significant environmental impacts will occur as a result of an action.

In the final analysis, every EA should include the need for proposal, any alternatives and its environmental impacts, a listing of agencies or persons consulted, and a determination of a FONSI, the need for an EIS, or a "no action" decision.

3.1.2.3 Level III - Environmental Impact Statement (EIS)

The third and final level of the NEPA Process is the EIS which is the most detailed and comprehensive environmental analysis specified under NEPA and focuses on significant environmental impacts of the proposed action and alternatives, including short-term and long-term effects. An EIS must be prepared for the proposed action if the action has the potential for significant degradation of the environment, poses a significant threat to public health or safety, potentially has substantial environmental controversy, and/or had a preceding EA for the same action that is not resolved with a FONSI.

Prior to the preparation of an EIS, a Notice of Intent (NOI) must be published in the Federal Register and provided to newspapers and other media in the area potentially affected by the proposed action. The NOI announces to the public the intent of the agency to prepare an EIS for a project.

EIS Scoping Process:

After the NOI is published, the agency initiates the public scoping process. The scope consists of the range of actions, alternatives, and impacts to be considered in the EIS. To determine the

scope of an EIS, agencies shall consider three types of actions, three types of alternatives, and three types of impacts. The three types of actions are connected actions (closely related), cumulative actions (incremental), and similar actions (comparable). Types of alternatives include no action alternative, other reasonable courses of actions, and mitigation measures that are not in the proposed action. The various impacts can be direct (occurring immediately in time and place), indirect (occurring in the future or another location), or cumulative (viewed with other impacts) to an action. As part of the process, agencies are required to identify and invite the participation of interested persons.

Finalize EIS and Record of Decision (ROD):

After the public scoping process is completed, the responsible agency analyzes and resolves comments, conducts further analysis as necessary, and prepares the final EIS. Once the agency publishes the EIS, EPA will publish a Notice of Availability in the Federal Register. The Record of Decision or ROD is the final step for agencies in the EIS process. The ROD is a document that states the final decision of the federal agency, identifies all the evaluated alternatives, and discusses any mitigation plans, including any enforcement and monitoring commitments. Additionally, in the ROD, the agency discusses all the decision factors, including any considerations of national policy, that were contemplated when it reached its decision on whether to, and if applicable, how to proceed with the proposed action.

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 DAF 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 DAF Air Quality Subject Matter Expert (AFCEC/CZTQ) for confirmation prior to conducting any Transportation Conformity assessment.

3.2.2 General Conformity Rule (GCR, 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 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 *Determination* in performing the EIAP, the *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 all Federal actions or parts of Federal actions that will occur within nonattainment or maintenance areas***.

3.3 What are the Different Levels of GCR Documentation?

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

Conformity Evaluation is the entire process from the *Applicability Analysis* through the *Conformity Determination* that is used to demonstrate that an action conforms to the requirements of this subpart (see *Figure 3-2, Conformity Evaluation Process*). The Conformity Evaluation Process is generally performed merged into one assessment with the NEPA process and starts with a

proposed action that is anticipated to occur within an area that is either designated as nonattainment or maintenance area for any NAAQS.

3.3.1 Applicability Analysis

Step 1, *Applicability Analysis*, is the exemption review and (if needed) quantitative emission net-change analysis process used to determine 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 DAF'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.

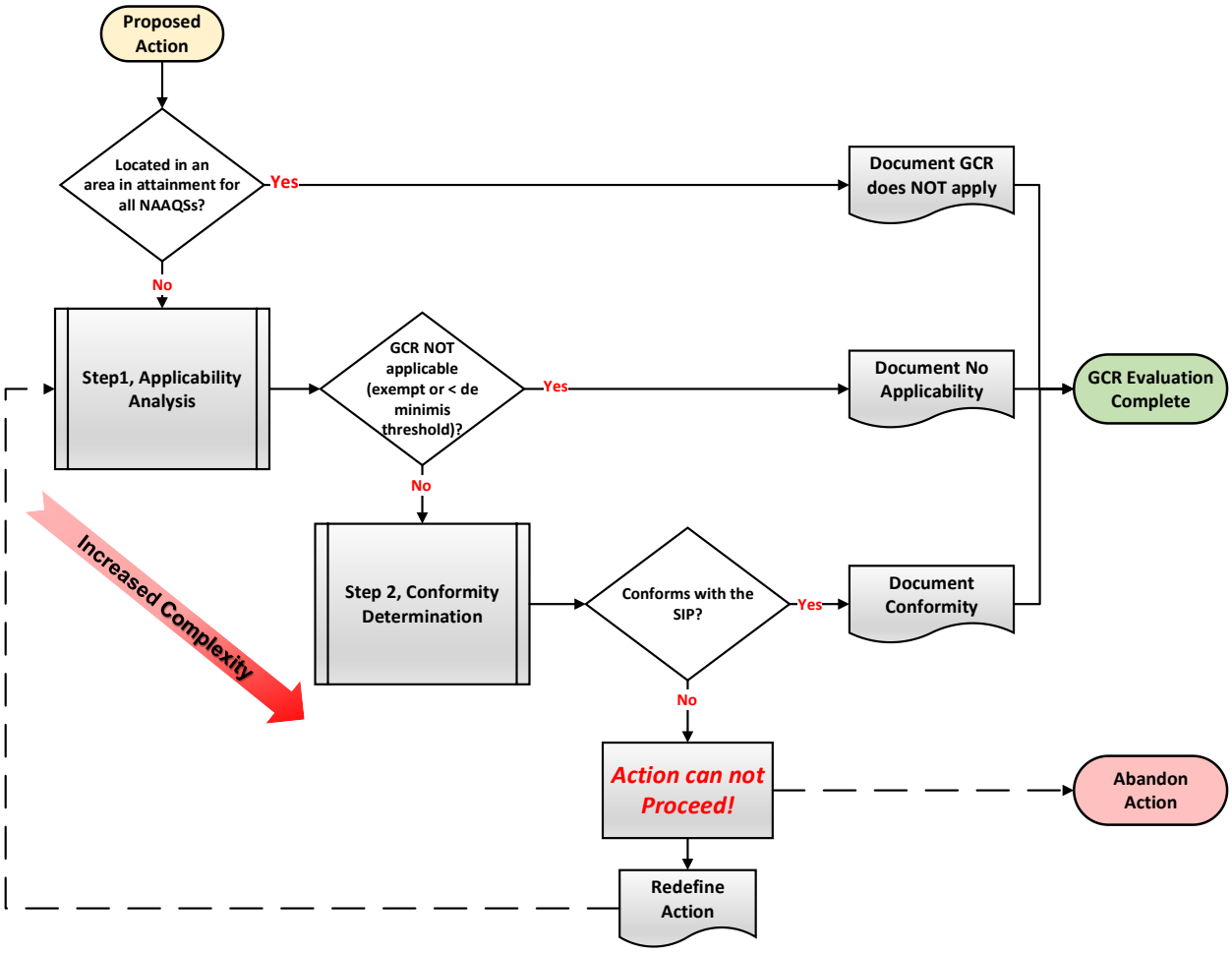
If the analysis indicates the proposed action has a specific exemption or the net-change in emissions are below the General Conformity de minimis thresholds, the process ends with documentation of the analysis findings and the action can proceed. If the analysis indicates the proposed action does not have a specific exemption or the net-change in emissions are above the General Conformity de minimis thresholds, the process proceeds to the next step, a *Conformity Determination*.

3.3.2 Conformity Determination

Step 2, *Conformity Determination,* is an extensive evaluation (made after an applicability analysis indicates a Conformity Determination is applicable) to ensure a proposed action "conforms" to the applicable SIP and meets all GCR requirements. If then evaluation determines the proposed action "conforms" with the SIP and meets all GCR requirements, the process ends with documentation of the determination and the action can proceed. If then the evaluation determines the proposed action does not conform with the SIP and meets all GCR requirements, the action can NOT proceed and must be either abandoned or redefined (changed to reduce air impacts) and reevaluated (back to Step 1 after redefining).

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.

Figure 3-2, Conformity Evaluation Process



3.4 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 DAF, 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***.

3.5 When Does EIAP, NEPA, and GCR Begin?

EIAP is the DAF's implementing tool for NEPA and GCR requirements. NEPA analysis is required to assess impacts of all DAF actions, while a GCR evaluation is only require 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 merged into one assessment with NEPA evaluations and be incorporated into the EIAP process/document. EIAP begins early in the planning process for a proposed action. The DAF'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.

3.6 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 DAF evaluates the proposal in one of three ways:

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

3.6.1 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. However, the Conformity Evaluation may be as simple as documenting the action is exempt under the GCR or listed as Presumed to Conform (PTC)***.

3.6.2 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 DAF 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.

3.6.3 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 ROD serves as a public record documenting the DAF'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.

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 DAF's systematic procedures for the analysis of environmental impacts on installations to ensure DAF compliance with NEPA and the CEQ regulations. 32 CFR 187, *Environmental Effects Abroad of Major DoD Actions*, effectively implements NEPA overseas and AFI 32-7091, *Environmental Management Outside the United States*, identifies requirements for EIAP at Air Force installations in overseas areas. Therefore, EIAP applies to DAF actions impacting the environment both within the EPA's jurisdiction and outside the U.S.

The EIAP provides the DAF 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 DAF 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 DAF expanded the EIAP process to address specific air quality concerns through AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*. The *Air Force Air Quality EIAP Guide Volume I & II* (this Guide) implements the air quality requirements of AFMAN 32-7002 and outlines the steps for the analysis of air quality related environmental impacts on installations in the U.S. and abroad. The guidance and procedures set forth in this Guide are designed to ensure DAF compliance with NEPA and the CEQ regulations as they relate to air quality.

4.1 EIAP - Air Quality Background

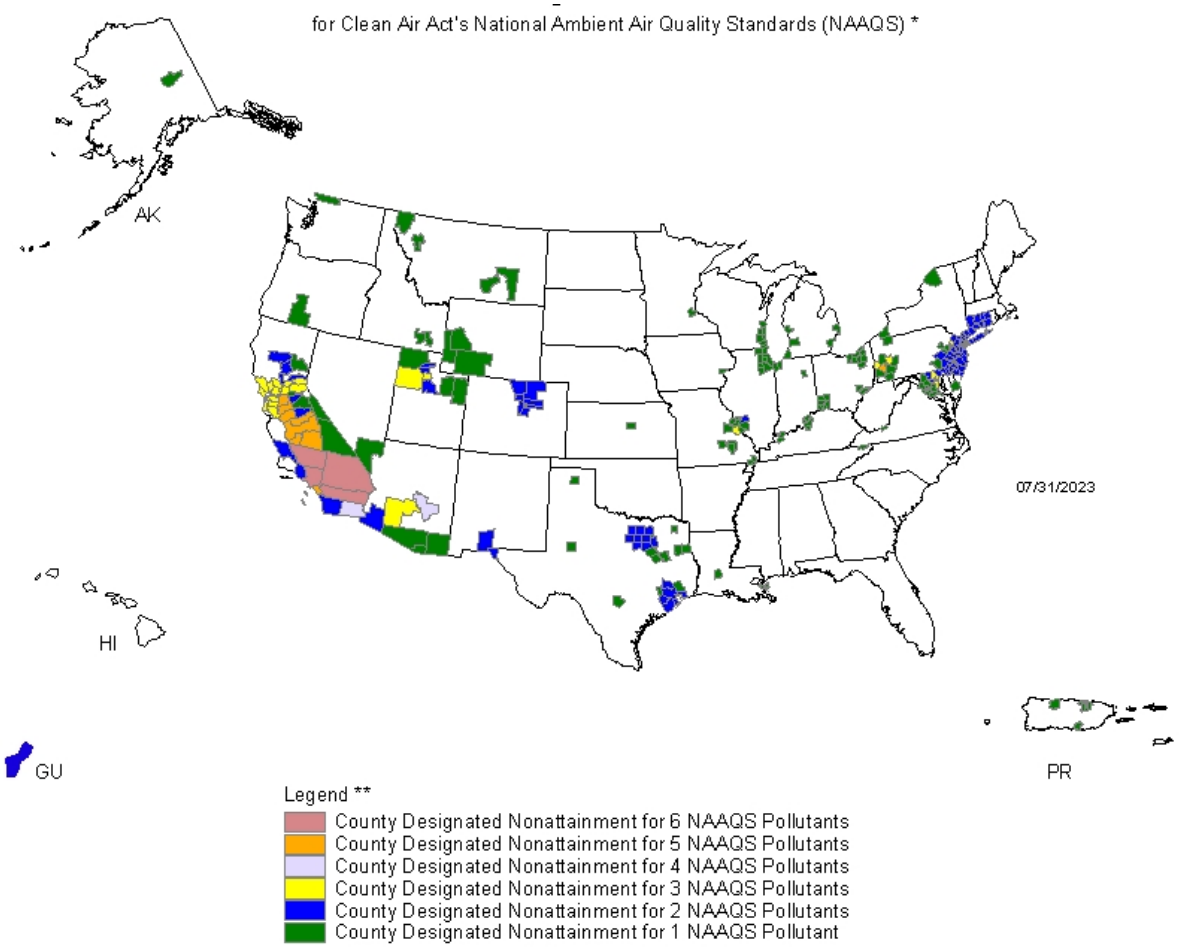
4.1.1 Clean Air Act and Amendments (CAAA)

The CAA, as amended (CAAA), directed EPA to establish a list of pollutants that may reasonably be anticipated to endanger public health and welfare. The EPA established a list of NAAQS to protect the public from adverse impacts of these pollutants. The list consists of six criteria pollutants: sulfur oxides (SO_X), particulate matter (PM_{10} & $PM_{2.5}$), nitrogen oxides (NO_X), carbon monoxide (CO), ozone (O_3), and lead (Pb). Sulfur dioxides (SO_2) and nitrogen oxides (NO_2) are used as indicators to measure SO_X and NO_X in the ambient air. (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. CAA Section 176(c) prohibits Federal agencies from taking various actions in nonattainment or maintenance areas unless they first demonstrate conformity with the EPA-approved SIP. The location of the current nonattainment areas within the U.S. are shown in *Figure 4-1, Counties Designated as Nonattainment*.

Figure 4-1, Counties Designated as Nonattainment



* The National Ambient Air Quality Standards (NAAQS) are health standards for Carbon Monoxide, Lead (1978 and 2008), Nitrogen Dioxide, 8-hour Ozone (2008), Particulate Matter (PM-10 and PM-2.5 (1997, 2006 and 2012), and Sulfur Dioxide.(1971 and 2010)

** Included in the counts are counties designated for NAAQS and revised NAAQS pollutants. Revoked 1-hour (1979) and 8-hour Ozone (1997) are excluded. Partial counties, those with part of the county designated nonattainment and part attainment, are shown as full counties on the map.

4.1.2 National Environmental Protection Act (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 (i.e., requires a process be followed before an action is taken), the GCR is a prohibitive law (i.e., forbids actions to be taken that do not conform). The GCR forbids Federal actions that are non-compliant with SIPs, or other EPA approved CAA implementation plans. This is of interest to the DAF 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 the 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 GCR. (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 AFPD 32-70, *Considerations in Air Force Programs and Activities*, the DAF acknowledges achieving and maintaining environmental quality is an essential part of the Air Force mission and that the Air Force will "reduce risk and conserve natural resources by eliminating, reducing, and/or managing environmental impacts and risks". This directive is a commitment by the DAF to hold all personnel (including military, civilian employees, and contractors) accountable for the environmental consequences of their actions. Additionally, the directive mandates the DAF to comply with applicable Federal, state, and local environmental laws and standards.

Given the predecessor to the current AFPD 32-70 required compliance with NEPA and applicable laws/standards, the DAF 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).

AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*, 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 requirements for addressing potential air quality impacts associated with DAF proposed actions.

4.2.1 Air Quality EIAP Evaluations

All actions must be evaluated for potential air quality impacts following the Air Quality EIAP Process as outlined in AFMAN 32-7002 (or its successor document) and the most recent version of the *Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide*. The Air Quality EIAP Process is an all-in-one air impact assessment that covers both NEPA and *General Conformity Rule* air quality requirements. The Air Quality EIAP Process is broken into three progressive levels of assessment: *Level I, Exempt Action Screening* (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 progressively designed to ensure completion of an air quality assessment at the lowest level possible. The Air Quality EIAP levels are independent of the required level of NEPA analysis (e.g., CATEX, EA, or EIS).

4.2.2 Methods and Procedures

In accordance with NEPA [42 USC § 4332(2)(B)], the Air Force (as an agency of the Federal Government) identified and developed Air Force-specific methods and procedures which will ensure that presently unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations. For air quality, only use an approved (i.e., listed on an approved product list) Air Quality database/tool, along with best available local information and estimating techniques, if available. All Air Quality database/tool, calculation methodologies or estimating techniques will be reviewed for technical sufficiency and approved by the Air Quality Subject Matter Expert (AFCEC Compliance and Technical Support Branch; AFCEC/CZTQ).

(1) Current approved methods and procedures are published in the most recent version of the *Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide*. It is important to note that AFMAN 32-7002 mandates the use of the Air Conformity Applicability Model (ACAM) as the only approved automated air quality impact assessment tool for performing all air quality impact assessments under both NEPA and General Conformity. (AFMAN 32-7002)

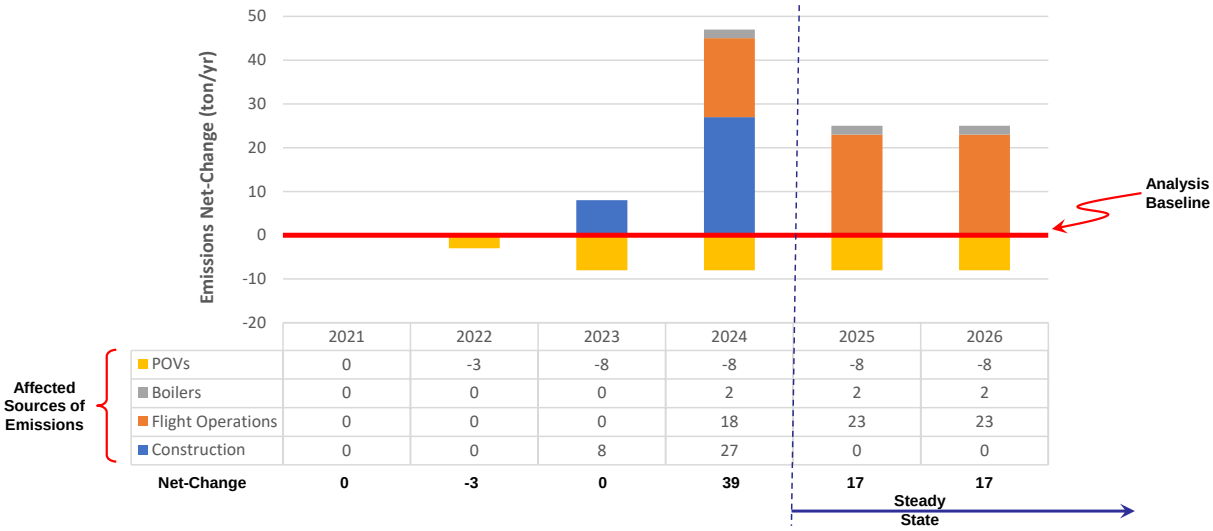
(2) For actions involving changes in fixed-winged aircraft operations, the data used in air quality impact assessments must be consistent with the data use for noise impact assessments. Therefore, the air quality impact assessment data will be derived from recent and relevant flight profile data used in noise impact assessments. Specific methodology and procedures for deriving the air quality impact assessment data is established by the Air Quality Subject Matter Expert to ensure professional and scientific integrity as required by NEPA (40 CFR 1502.23).

4.3 Net Change Inventory Analysis

The primary NEPA or General Conformity air analyses (i.e., Level II, Quantitative Air Quality Assessment) is a net-change inventory analyses, not baseline inventory analyses. According to AF guidance, NEPA (40 CFR 1508, and the General Conformity Rule (40 CFR 93 Subpart B), a net-change inventory analyses is an inventory of "effects or impacts" which only includes the emission sources/activities that will add to or reduce direct or indirect emission (i.e., net change). The starting point (baseline) for a net change inventory analysis is zero or the current situation (not the most recent Air Emissions Inventory). According to 40 CFR 93.153(b), General Conformity dictates the evaluation of "the total of direct and indirect emissions of the criteria pollutant or precursor." 40 CFR 93.152 defines "Total of direct and indirect emissions" as the "sum of direct and indirect emissions increases and decreases caused by the Federal action; i.e., the 'net' emissions considering all direct and indirect emissions." Similarly, according to 40 CFR 1508.1 (g), NEPA dictates the evaluation of "changes [net change] to the human environment from the proposed action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives, including those effects

that occur at the same time and place as the proposed action [direct emissions] or alternatives and may include effects that are later in time or farther removed in distance from the proposed action or alternatives [indirect emissions]". Therefore, NEPA/Conformity analyses should only include reasonably foreseeable emission sources/activities that will add to or reduce direct or indirect emissions (i.e., net change).

Figure 4-2, Net Change Inventory



	2021	2022	2023	2024	2025	2026
POVs	0	-3	-8	-8	-8	-8
Boilers	0	0	0	2	2	2
Flight Operations	0	0	0	18	23	23
Construction	0	0	8	27	0	0
Net-Change	**0**	**-3**	**0**	**39**	**17**	**17**

Note that using base-level annual Air Emissions Inventories (AEI) are generally inappropriate for NEPA/Conformity net-change inventory analyses because they are not representative of the affected sources and are seldom current. AEIs consist of a snapshot in time of partial emission inventories; Stationary AEIs only capture regulated stationary sources (often only permitted sources) and Mobile AEIs only capture a partial list of non-stationary sources (only partial accounting of aircraft and aircraft support equipment, on-road vehicles, and non-road engines). Given most DAF actions entail primarily transitory sources [which are non-routine and/or seasonal sources (may be stationary, mobile or neither) that are short-term in nature], AEIs usually do not even include the majority of the affected emission sources. Additionally, AEIs are rarely current because the status of included sources are often changing over time. Therefore, not only is using a base-wide AEI in NEPA/Conformity air analyses technically inappropriate, doing so would likely be considered technically deficient and wasting resources.

4.4 Greenhouse Gases (GHGs) and Climate Change

On March 28, 2017, President Trump signed EO 13783, *Promoting Energy Independence and Economic Growth, rescinding CEQ's Guidance on GHG & Climate Change*, directing CEQ to develop new guidance. On June 26, 2019, CEQ issued new draft guidance for GHGs titled, Draft National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emission (2019 GHG Guidance). Then on January 29, 2017, President Biden signed EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, which rescinded the 2019 GHG Guidance and reinstated the 2016 GHG

Guidance until CEQ reviews and revises the guidance. In April of 2022, under direction from President Biden, CEQ published National Environmental Policy Act Implementing Regulations Revisions (CEQ 2022), which is the basis for the present guidance. Finally, on January 9, 2023, CEQ published an interim guidance, National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change (2023 GHG Guidance), so that agencies may make use of it immediately while CEQ seeks public comment on the guidance." (CEQ 2023)

While the details on assessing GHGs and climate change under NEPA is currently (August 2023) in flux, see *Chapter 7, Greenhouse Gases (GHGs) and Climate Change*, for details on the current guidance.

4.5 Air Quality Impact Escalation Criteria

Escalation criteria are decision points and gauges (i.e., thresholds or indicators) of the potential severity of adverse impacts associated with a proposed action. Escalation criteria are used to determine whether further assessment or some other level of documentation is required.

Escalation criteria are generally quantifiable air quality impact severity gauges that are either thresholds or indicators. Thresholds are EPA-established emission related limits 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. Therefore, indicators do not trigger a regulatory requirement; however, they provide an indication or a warning of an action's potential severity on air quality.

The DAF Air Quality EIAP is deliberately structured as a progressive phased process with potential exits (decision points) at each phase based on specific escalation criterion with the goal to exit the process at the lowest possible level. If an action's EIAP level assessment concludes the action does not meet the significance criterion for that level of assessment, then the Air Quality EIAP assessment is complete. Inversely, if an EIAP level assessment concludes the action results in meeting the escalation criterion for that level of assessment, then the Air Quality EIAP is ratcheted up to the next level of assessment or implement appropriate mitigation measures to reduce associated air quality impacts.

4.5.1 General Conformity De Minimis Emission Levels

De minimis emission levels are criteria pollutant (or its precursors) annual emission rates (levels) that are too low to cause or contribute to exceeding one or more NAAQS. NAAQSs are the maximum amount of a criteria pollutant (or its precursors), averaged over a specified regional area and period of time (year), that can be present in outdoor air without harming public health and the environment. Therefore, **any action resulting in annual net change emissions (direct and indirect) below the de minimis levels, is considered clearly insignificant to public health and the environment locally, regionally, and cumulatively**.

In promulgating the General Conformity Regulations, EPA recognized that the many Federal agencies take thousands of actions every day, most of which do not result in significant increases in air emissions. Therefore, EPA promulgated de minimis emissions levels for each of the NAAQS pollutants. If the net change in annual direct and indirect emissions from the action are

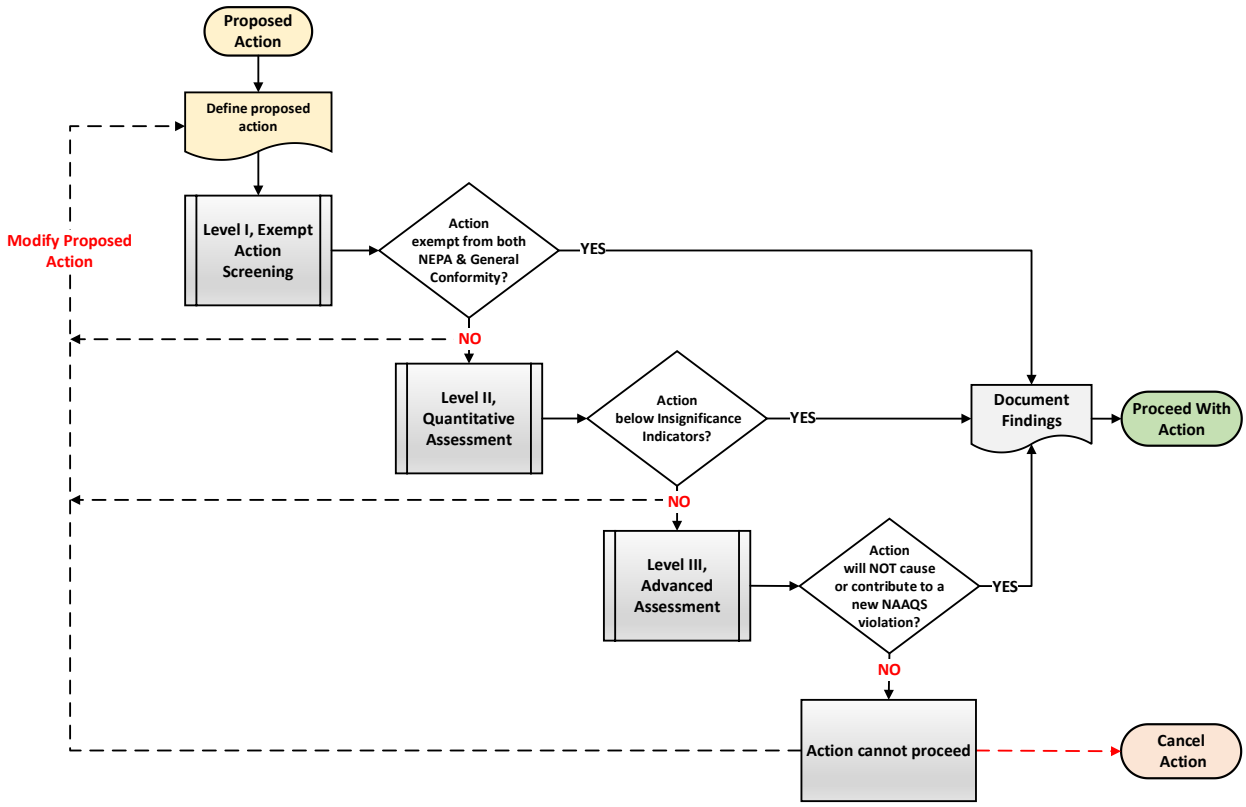
below the de minimis levels, the action is considered not to result in a significant increase in emissions (too trivial or minor to merit consideration).

While the de minimis levels were established as thresholds for use in General Conformity (nonattainment and maintenance areas) and are based on an area's attainment designation and severity classification, they also provide a valid significance indicator for actions that will occur within attainment areas. Given an attainment areas' (meets NAAQS) air quality is better than nonattainment and maintenance areas (exceeds or recently had exceeded NAAQS), the de minimis emission levels (which are intended to be used in areas where air quality worse) provide for a conservative significance indicator when used in attainment areas.

4.5.2 Air Quality EIAP Escalation Criteria

General Conformity has clearly defined escalation thresholds for all three Air Quality EIAP levels (phases) of assessment; however, NEPA air quality assessments only have one threshold, Categorically Excluded (CATEX), applied at the Air Quality EIAP Level I. Therefore, the General Conformity de minimis thresholds are used where needed as conservative insignificance indicators for NEPA assessment (i.e., actions that will occur within an area that is in attainment with all NAAQSs) for Air Quality EIAP Levels II and III (see Chapter 5, Insignificance Criteria, for details).

Figure 4-3, Air Quality EIAP with Escalation Criteria



The figure above (Figure 4-3, Air Quality EIAP with Escalation Criteria) demonstrated the progression or escalation of the Air Quality EIAP assessment. At each level the escalation

criteria (or decision point) determines if the assessment must intensify to the next level of assessment. However, at each level there is always the option to redefine the action to potentially result in reducing emissions.

4.5.2.1 Level I: Escalation Criteria = Not Exempt

In *Level I, Exempt Action Screening*, the proposed action is screened against exemptions (i.e., CATEX and/or GC exemptions) with the escalation criteria being the action is not exempt for both NEPA and General Conformity. Note that there are separate escalation criteria for NEPA and General Conformity that are distinct and separate requirements. Therefore, the action only proceeds to a Level II if there is no applicable CATEX (i.e., NEPA exemption) and no applicable General Conformity exemption (automatically exempt within an area that is in attainment for all NAAQSs).

4.5.2.2 Level II: Escalation Criterion = Exceeds De Minimis Value

As discussed, the General Conformity thresholds (i.e., de minimis emission rates) by definition are insignificant increases in emissions (too minor to harm public health or the environment and too trivial to merit consideration). Therefore, the General Conformity thresholds are used as a both indignance indicators and escalation criterion. In Level II assessments, the General Conformity thresholds are compared directly to the estimated net change in direct and indirect annual emissions from the proposed action. The proposed action's worst-year annual net change in emissions are screened against the applicable General Conformity threshold values (de minimis values) as a second phase significance thresholds or indicators. If the worst-year annual net change in emissions exceed the General Conformity de minimis emission levels, the proposed action is considered potentially significant and the assessment must proceed to a *Level III, Advanced Assessment*.

4.5.2.3 Level III, Escalation Criterion = Exceedance of NAAQSs

For General Conformity, a Level III assessment consists of performing a General Conformity Determination. The threshold for a General Conformity Determination is the NAAQSs. If a proposed action will cause or contribute to a new violation of any NAAQS, the action is considered a significant impact to air quality. "Cause or contribute to a new violation" means, the action:

(1) Causes a new violation of a NAAQS which would otherwise not be in violation of the NAAQS if the action were not taken; or

(2) Contributes to a new violation of a NAAQS in a manner that would increase the frequency or severity of the new violation.

Given there is no defined NEPA threshold for a Level III assessment, the NAAQS is also used as an indicator for Level III air quality NEPA assessments (i.e., for an action within an attainment area). If a proposed action in an attainment area will cause a new violation of any NAAQS, the action is considered to have a significant impact to air quality.

4.6 Air Quality EIAP Data Quality Objective

The DAFs 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 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 General Conformity) analysis is an impact assessment based on a hypothetical best guess estimate of air pollutant emissions. Often a proposed action is only a concept that is not fully defined; therefore, it is necessary to make a best-guess rough estimate. DAF actions under evaluation are proposed and not actual actions; consequently, all the sub-activities and potential emission sources that may be involved directly and indirectly with the execution of the proposed action can only be speculated. Additionally, the acceptable emission estimating methodologies used are only 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.

KEEP IT SIMPLE.
Do not get hung up on incidentals and trivia.

Too much detail = Not representative of actual action

Therefore, the objective is to make defensible and credible Air Quality EIAP Assessments, in accordance with 32 CFR 989 and 40 CFR, with the least impact on scarce DAF resources (i.e., work effort and cost).

4.7 Overview of Air Quality EIAP Levels

Air Quality EIAP is both a subset and an expansion of the U.S. Air Force EIAP. As a subset to the Air Force EIAP, it addresses air quality impacts as required under NEPA. As an expansion to the Air Force EIAP, it addresses air quality impacts as required under the CAA General Conformity Rule.

Air Quality EIAP = Air Quality NEPA + General Conformity

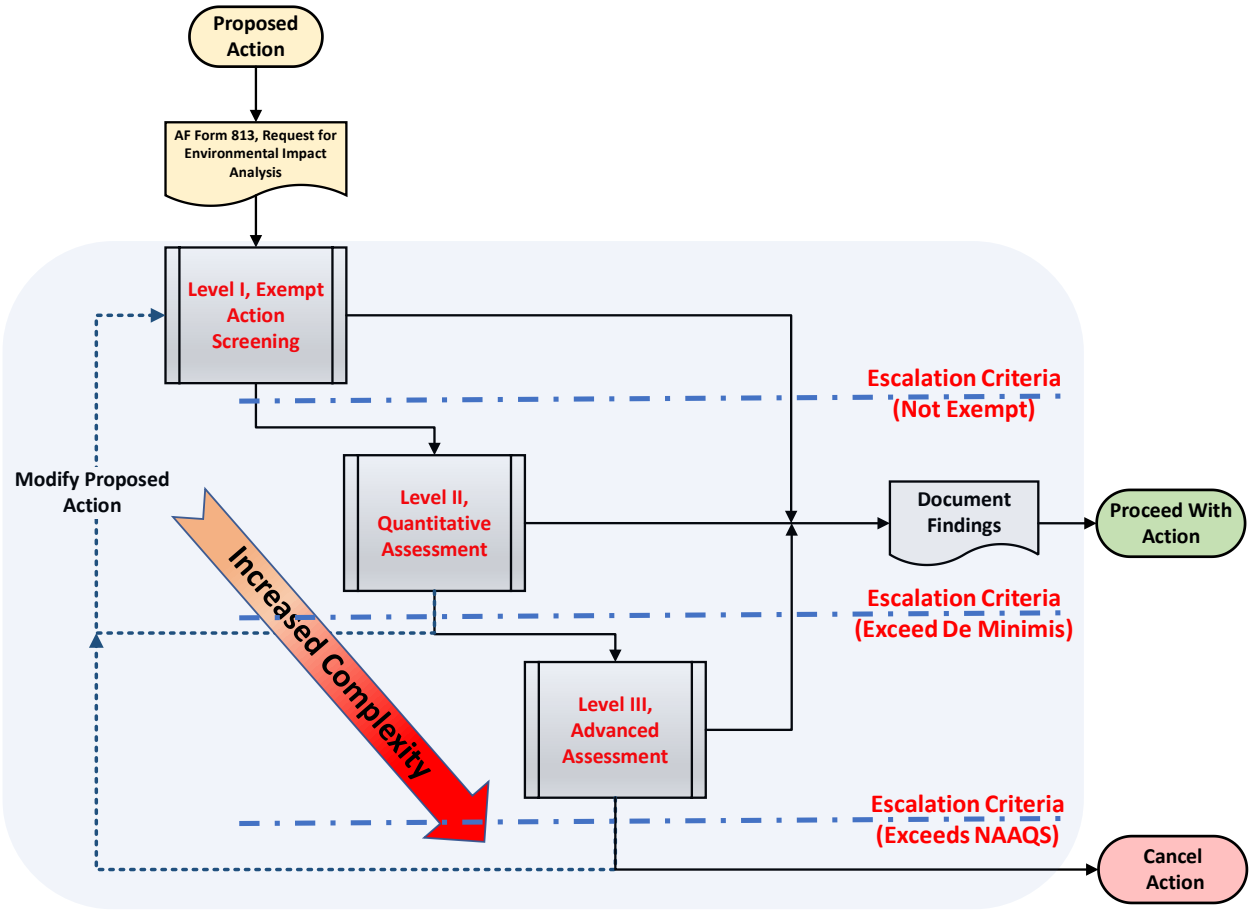
Actions that trigger an assessment under NEPA will generally also require a GCR evaluation if the action is located within a nonattainment or maintenance area. As such, the DAF conducts NEPA and GCR assessments merged into one assessment within the EIAP process. The EIAP process usually starts with the Proponent organization (the office, unit, single manager, or

activity at any level that initiates 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 4-4, Air Quality EIAP Process)* based on escalation criterion.

4.8 Level I, Exempt Action Screening

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

Figure 4-4, Air Quality EIAP Process



4.8.1 Segmentation

Larger actions cannot be segmented (broken down into multiple smaller actions) to reduce apparent emissions or to avoid making a conformity determination. If one action would not be taken unless another is taken, then both actions should be considered as portions of a single action.

4.8.2 Pollutant of Concern

Under EIAP, the air pollutant of concern includes: all criteria pollutant and GHGs. However, General Conformity requires analysis only of emissions of those criteria pollutants and their precursors for which the area is designated nonattainment or maintenance.

4.8.3 Attainment status

Attainment status (i.e., nonattainment, maintenance, or attainment) of the location the proposed activity will occur at will dictate if the GCR is applicable. The attainment status sets the context of an air quality impact assessment. Additionally, if the action is proposed to take place in an attainment area, the GCR does not apply.

4.8.4 Exemptions

Exemptions under NEPA are listed as "categorically excluded" (CATEXed) actions; however, CATEXed actions may still require a conformity evaluation if they are not exempt under the conformity regulations or listed as Presumed to Conform (PTC).

4.9 Level II, Quantitative Assessment

Level II requires a formal measurable assessment of air impacts to be performed. A quantitative estimate of the annual net change in total direct and indirect emissions of pollutants of concern must be calculated. Currently, the Air Conformity Applicability Model (ACAM) must be used throughout the DAF to perform this estimate. ACAM provides simplified emission modeling that is adequate for a General Conformity Applicability Analysis 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:

4.9.1 Worst Case Annual Emissions

The greatest annual (calendar year) emissions for each pollutant of concern form the basis of the analysis. Steady state is the condition at which the emissions do not change (or only negligibly) in time. Emissions must be calculated from the start of the action annually until the direct and indirect emissions reach a steady state (i.e., no net increase or decrease in air emissions from the previous year). 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.

4.9.2 Net Change 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. The total action-related annual increased emissions combined with the total action-related annual decreased emissions results in an annual net change in emissions.

4.9.3 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 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.

4.10 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. If General Conformity is applicable, a "determination" that the action conforms to the applicable SIP is required.

4.10.1 Quantitative Analysis

In a quantitative analysis of air quality impacts, the proposed action is assessed based on if the action's estimated emissions would cause or contribute to an increase the frequency or severity of any violation of any NAAQS. This often requires advance modeling such as dispersion modeling.

4.10.2 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.

4.11 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 4-5, AF Form 813 Review Process*):

4.11.1 AF Form 813

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 DAF uses AF Form 813 to document the need for environmental analysis or the CATEX and General Conformity exemption determinations for proposed actions. The Proponent (each office, unit, single manager, or activity at any level that initiates DAF Actions) is responsible for notifying the Environmental Planning Function (EPF) of a pending action and completing Section I, *Proponent Information*, of AF Form 813. 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 will not produce any direct or indirect air emission, simply document the findings on the AF Form 813 and the process is completed.

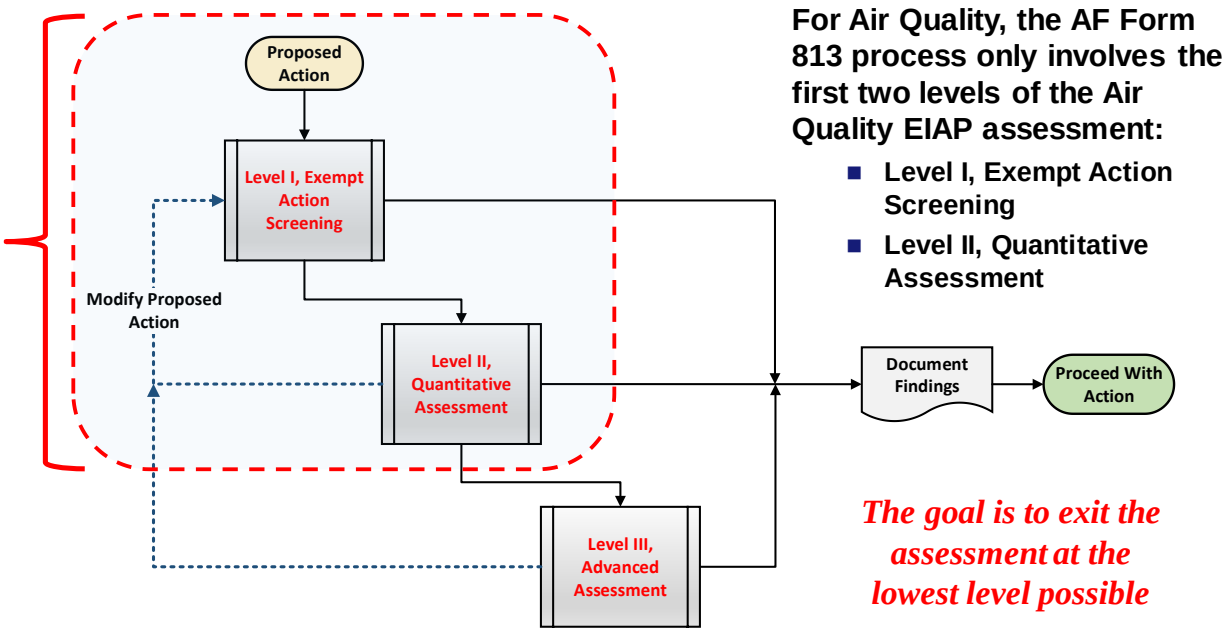
4.11.2 AF Form 813 – Within Air Quality EIAP Level I

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.

4.11.3 AF Form 813 – Within Air Quality EIAP Level II

If there is no applicable CATEX or the action is not exempt form 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.

Figure 4-5, AF Form 813 Review Process



4.12 Air Quality EIAP Summary

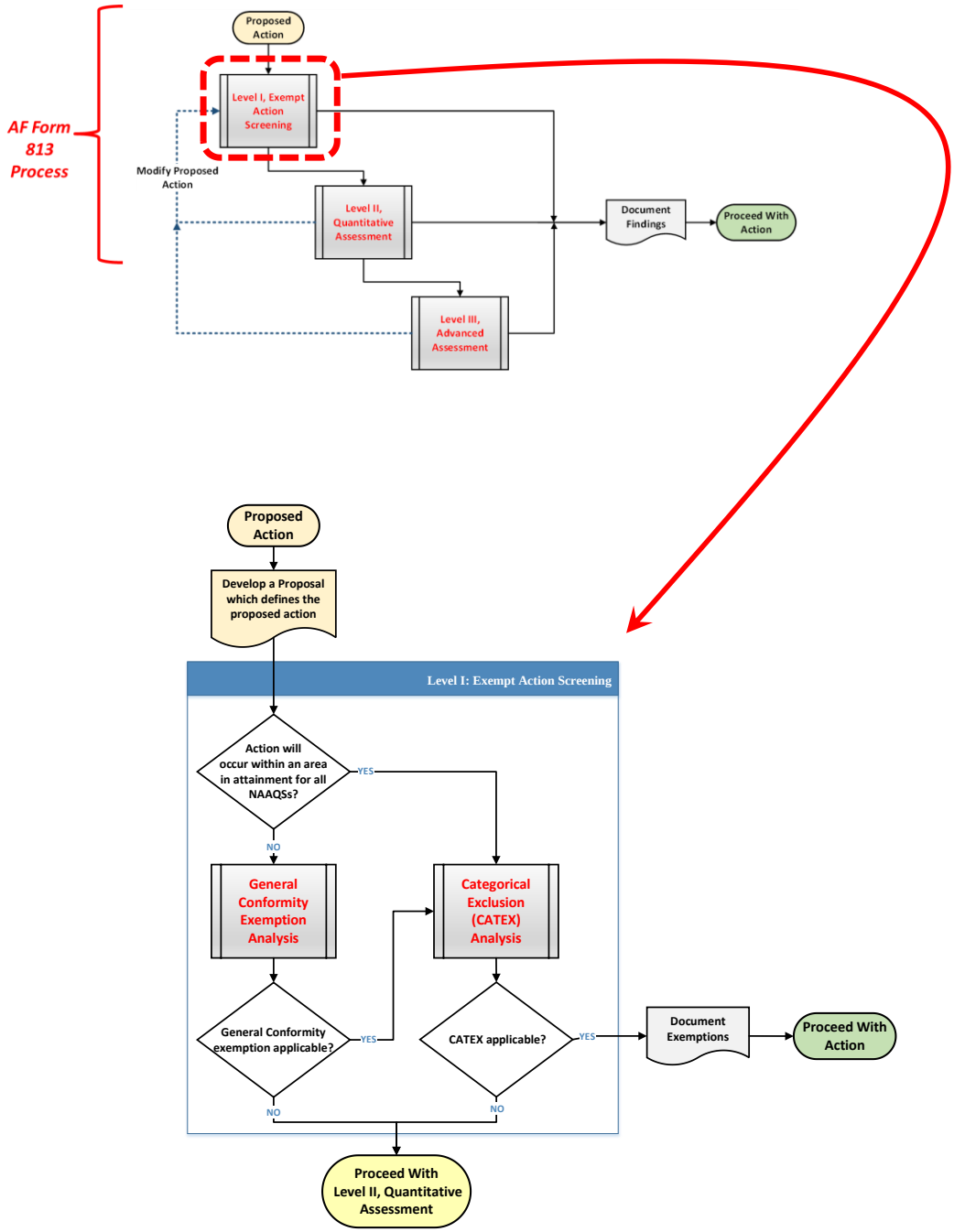
EIAP outlines the DAF's systematic procedures for the analysis of environmental impacts on installations to ensure DAF compliance with NEPA and the CEQ regulations. The EIAP provides a methodical interdisciplinary approach to environmental planning and the evaluation of proposed actions that may affect the environment. Additionally, the EIAP regulation outlines

a detailed process for preparing EISs and EAs. This process assists DAF 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 DAF 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 DAF compliance with NEPA and the CEQ regulations as they relate to air quality.

5 AIR QUALITY EIAP LEVEL I, EXEMPT ACTION SCREENING

This section discusses the key steps involved in the air quality Level I assessment process. The procedures discussed in this section are consistent with those provided in DAF 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 AFMAN 32-7002) for more information.

Figure 5-1, Level I - Exempt Action Screening



5.1 Step #1, 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 Analysi*s. The Air Quality EIAP process 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 4-4, 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

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 DAF 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, DOPAAs 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 action's activities that are being evaluated. Too many DOPAAs are vague and imprecise about exactly what activity or sub-activities of the proposed action need to be analyzed. This vagueness not only reflects a lack of detail in the DOPAA, but it also indicates 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.

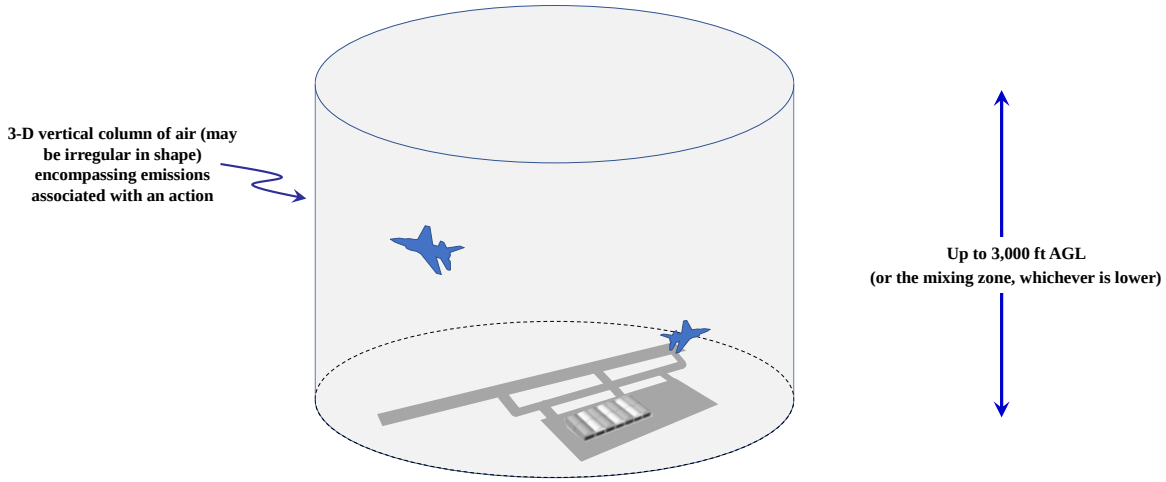
The DOPAA is the first DAF document required by the Proponent of an action to initiate the EIAP. The initial (usually cursory) DOPAA is documented within the AF Form 813 and is the basis for all follow-on environmental analyses.

5.1.2 Define the Action in Terms of Air Quality

It is important to describe and define the action clearly and properly. 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:

b. Is the location of the action well defined? For air quality impact assessments for criteria pollutants, a Region of Influence (ROI) for an action is generally a three-dimensional vertical column of air within the mixing zone (i.e., up to the mixing height, 3,000 ft AGL as default) where pollutant emissions associated with a proposed action will occur. Unlike criteria pollutants where the ROI is the immediate local area and constrained below the mixing height, when accomplishing GHG estimates the ROI is global because the impact of GHGs is at global scale.

Both the current EPA method for estimating aircraft flight operations emissions (EPA 420-R-92-009) and the General Conformity Rule (40 CFR 93 Subpart B) call for only including criteria pollutant emissions below the mixing height. Given that the mixing height is only associated with microscale air quality criteria pollutant modeling, use of the mixing height for global-scale GHG emissions modeling is considered inadequate. Therefore, logically, if flight-specific fuel consumption data can be reasonably foreseeably predicted, aircraft flight operations GHG emissions used for the "relative comparison analysis" should be calculated using the flight-specific fuel consumption data.



For actions occurring within areas that are classified as nonattainment or maintenance for any NAAQS, General Conformity mandates separate ROIs and associated assessments for each nonattainment or maintenance area. Separate nonattainment or maintenance areas are established by the EPA for each criteria pollutant that an area is or has been nonattainment for; therefore, these separate ROIs (by criteria pollutant) can often overlap or even overlay each other.

For actions occurring within areas that are classified as attainment for all NAAQS, each non-contiguous area must be considered as a separate criteria pollutant ROI. While there is usually only one ROI for actions in attainment areas, there may be actions with multiple ROIs (multiple non-contiguous areas). An example would be new aircraft flight operations that start at a base, go above 3,000 ft AGL, and then continue through a Military Operations Area (MOA) where the aircraft fly below 3,000 ft AGL. In this example the base area would be an ROI and the MOA would be another ROI.

NOTE: Consult with the Air Quality SME for actions which involve aircraft flight operations changes.

Also, if you have an action that has emissions occurring within a nonattainment area and also outside the nonattainment area (e.g., adjacent attainment area), then you have two separate and distinct ROIs (ROI #1 is the nonattainment area and ROI #2 is the attainment area). Both ROIs require a separate impact assessment (i.e., net-change inventory analyses) and the effects (net-change in emissions) should not be combined in a regional or cumulative impacts assessment.

c. 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."

d. 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.

e. Is the action segmented? A small action is less likely to require a Level II or III assessment than a larger action that includes the small action. However, larger actions cannot be segmented (subdivide or fragmented into multiple action) to avoid having to perform a Level II or III assessment. Unfortunately, there is no clear guidance for

determining when two or more actions must be considered as portions of a single action for air quality 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 Step #2, Determine Attainment Status

The attainment status of the location the proposed activity will occur within 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 DAF 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 DAF Base Attainment Status List: AFCEC maintains an authoritative list of attainment statuses for all DAF 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 DAF 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 Step 3: Determine if the action would cause emissions of Pollutants of Concern (POCs)

There are a variety of air pollutants associated with DAF actions that can potentially have an impact on the environment, these pollutants are known as Pollutants of Concern (POCs). Under EIAP, the air pollutants of potential concern include all Criteria Pollutants, Hazardous Air Pollutants (HAPs), and Greenhouse Gases (GHGs). General Conformity requires analysis only of emissions of those criteria pollutants and their precursors for which the area is designated nonattainment or maintenance. Currently, NEPA only requires analysis of emissions of all Criteria Pollutants and potentially HAPs and GHGs.

- **Criteria pollutants** are the primary POCs related to DAF actions. All DAF actions must be evaluated in a net-change inventory assessment for the potential impacts for each criteria pollutant. Based on health concerns, the EPA set primary National Ambient Air Quality Standards (NAAQSs) for six principal pollutants (known as criteria pollutants): carbon monoxide (CO), nitrogen dioxide (NO2), ozone (O3), particulate matter (PM), sulfur dioxide (SO2), and lead (Pb). Criteria pollutant (or precursor) net-change inventory assessments are always required as part of EIAP assessments for screening significance of actions' impact and for disclosure, reporting, and comparative purposes.

- **HAPs** are only secondary POCs relating to DAF actions. Currently there are no Federal regulations specifically pertaining to HAPs emissions from aircraft engines or DAF bases. While a net-change inventory assessment is useful for disclosure, reporting, and comparative purposes, it does not provide results that are directly comparable to any regulatory or enforceable ambient air quality standards or emission thresholds. Generally, HAPs net-change inventory assessments are only required when specifically required by the state and only for disclosure, reporting, and comparative purposes.

- **GHGs** are also secondary POCs relating to DAF actions. GHGs are emitted principally from the combustion of fossil fuels and decomposition of waste materials and are linked to the "greenhouse effect" which is attributed to the gradual increase in the earth's average temperature. GHGs produced by fossil-fuel combustion are primarily carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O). While there are many other GHGs, for NEPA GHG and climate change assessments the only speciated GHGs accounted for are CO2, CH4, and N2O. These three speciated GHGs account for greater than 97% of U.S. total GHG emissions; therefore, using only these three GHGs allows for making a reasoned choice among alternatives. GHGs are generally non-hazardous to health at normal ambient concentrations; however, GHGs absorb infrared radiation in the atmosphere, and an increase in emissions of these gases is the primary cause of

warming of the climatic system. GHGs are generally non-hazardous to health at normal ambient concentrations and can only potentially cause warming of the climatic system at a cumulative global scale. Therefore, the action-related GHGs generally have no significant impact to local air quality and are of a global concern.

5.4 Step #4, Determine if the Action is Exempt

Under EIAP there are NEPA exemptions and Conformity exemptions. Exemptions under NEPA are listed as "categorically excluded" (CATEXed) actions; however, CATEXed actions **may still require a conformity evaluation** if they are not **e**xempt 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.

If the entire action is NOT exempt for both NEPA and General Conformity, a Level II Air Quality EIAP assessment (i.e., ACAM assessment) is required

5.4.1 NEPA Categorically Excluded (CATEX)

According to 32 CFR 989.13 (a), Categorical Exclusions (CATEX) are 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 and there must not be any "extraordinary circumstances" that could potentially result in significant short- or long-term impacts. For some CATEXs air quality can potentially pose "extraordinary circumstances". There are three situations that may be "extraordinary circumstances" for air quality: when CATEXs are vaguely defined, when General Conformity is relevant, or when a CATEX is adopted from another federal agency. For detailed information on air quality CATEX extraordinary circumstances, refer to the most recent version of the *Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide*.

(1) CATEX Vaguely Defined: There are DAF CATEXs that are written so vaguely that in certain situations the action described by that CATEX can actually have a significant negative impact on air quality. Therefore, an air quality impact assessment must be performed and documented before vague CATEXs can be taken.

(2) General Conformity Requirements: General Conformity requirements apply for actions that will occur within nonattainment and maintenance areas. General Conformity requirements can be an "extraordinary circumstance" to a CATEX; therefore, a positive (conforming) General Conformity assessment must be documented before a CATEX can be taken.

(3) CATEX Adopted from Another Agency: All adopted CATEXs must be approved by the Air Quality Subject Matter Expert to ensure professional and scientific integrity as required by NEPA (40 CFR 1502.23).

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 DAF CATEX list.

An evaluation of the conformity exemptions in 40 CFR 93 Subpart B against the list of DAF-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.

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.

5.4.1.1 CATEX Usage Warning

You cannot blindly take a CATEX without performing due diligence! To take a CATEX there must not be any "extraordinary circumstances" that could potentially result in significant short- or long-term impacts [32 CFR 989.13(b)]. Unfortunately, there are a few CATEX Actions that must be evaluated for "extraordinary circumstances" for air quality impacts. There are two situations that may be "extraordinary circumstances" for air quality:

a. **CATEX Vaguely Defined**: There are Air Force CATEXs that are written so vaguely that in certain situation the action described by that CATEX can actually have a significant negative impact on air quality. The following CATEXs are too vaguely defined and require further assessment before potentially taking the CATEX:
   - 32 CFR 989 A2.3.8
   - 32 CFR 989 A2.3.11
   - 32 CFR 989 A2.3.14
   - 32 CFR 989 A2.3.32

   For Example: CATEX A2.3.9, "Repairing and replacing real property installed equipment."

   This CATEX applies solely to the repair and replacement of real property equipment that was previously installed. It cannot 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).

b. **General Conformity Requirements**: General Conformity requirement can be an "extraordinary circumstance." General Conformity requirements apply for actions that will occur within nonattainment and maintenance areas. Compliance with General Conformity must be documented. Therefore, for actions that will occur within one or more nonattainment and/or maintenance areas, a General Conformity exemption, de minimis net change in annual emissions, or demonstration of compliance with the local SIP must be documented before a CATEX can be taken.

The four CATEX actions that may have "extraordinary circumstances" for air quality and/or may not meet an exemption for General Conformity are identified in red, bold, and italicized text in Table 5-1, Air Force CATEX Action List.

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

Red text indicates a CATEX that is vaguely defined and/or there may be "extraordinary circumstances" for air quality.

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

Citation	CATEX Action
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.	***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.***
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.
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.***
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 in grants (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.

Red text indicates a CATEX that is vaguely defined and/or there may be "extraordinary circumstances" for air quality.

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

Citation	CATEX Action
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.
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.

Red text indicates a CATEX that is vaguely defined and/or there may be "extraordinary circumstances" for air quality.

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

Citation	CATEX Action
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.	***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.***
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 enroute 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

Red text indicates a CATEX that is vaguely defined and/or there may be "extraordinary circumstances" for air quality.

5.4.1.2 Potential Extraordinary Circumstances

a. <u>CATEX Action 32 CFR 989 A2.3.8.</u>

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

Regrettably, large construction activities can potentially produce a lot of air emissions that could be a health hazard. As the CATEX is written, the size of the construction activities cannot be distinguished.

Sustainment, Restoration, and Modernization (SRM) projects/actions:
SRM projects, which can be identified with EEIC 521, 522, and 524, are smaller projects and the 40 CFR 93.153(c)(2)(iv) General Conformity exemption applies. Therefore, CATEX A2.3.8 can be taken for SRM projects without further assessment. However, documentation is required, specifically state:

- CATEX 32 CFR 989 A2.3.8 and
- General Conformity exemption 40 CFR 93.153(c)(2)(iv) if action will occur within a nonattainment or maintenance area.

Military Construction (MILCON) projects/actions:
MILCON, on the other hand, are generally larger projects that are not routine maintenance and repair; therefore, MILCON projects/actions ARE NOT to be CATEXed without undergoing a Level II, Quantitative Assessment, with ACAM. Additionally, the 40 CFR 93.153(c)(2)(iv) General Conformity exemption does not apply. The CATEX may be taken on MILCON projects/actions ONLY if the ACAM assessment (Level II) indicates an insignificant air quality impact. Additionally, documentation is required, specifically state:

- CATEX 32 CFR 989 A2.3.8 (only if ACAM assessment indicate insignificant air impact) and
- General Conformity exemption 40 CFR 93.153(c)(1) if action will occur within a nonattainment or maintenance area.

Attainment Areas:

- Only SRM projects/actions can apply this CATEX directly
- MILCON projects/actions must undergo a Level II assessment with ACAM regardless of the area's NAAQS attainment status.
- Must specifically document CATEX 32 CFR 989 A2.3.8 applies.

Nonattainment and Maintenance Areas:

- Only SRM projects/actions can apply this CATEX directly
- MILCON projects/actions must undergo a Level II assessment with ACAM regardless of the area's NAAQS attainment status.
- Must specifically document CATEX 32 CFR 989 A2.3.8 and the 40 CFR 93.153(c)(2)(iv) General Conformity exemption both apply

b. 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 DAF 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 meanings of "similar to other actions" and "similar setting." For air quality assessments "similar to other actions" means that the action is equal to or less than the scope, activity, and size of the FONSI action and "similar setting" means the same relative location and attainment status.

Non-MILCON projects/actions:
Only projects/actions with no air emissions or that are equal to or less than the scope, activity, and size of the FONSI Action can use this CATEX directly. If an action is greater in scope, activity, or size than the FONSI action, the project/action is NOT to be CATEXed without undergoing a Level II, Quantitative Assessment, with ACAM. This CATEX may be taken ONLY if the ACAM assessment indicates an insignificant air quality impact. Additionally, documentation is required, specifically state:

- CATEX 32 CFR 989 A2.3.11 and
- General Conformity exemption 40 CFR 93.153(c)(1), if action will occur within a nonattainment or maintenance area

MILCON projects/actions:
Due to the size and complexity of MILCOM projects/actions, they MUST undergo a Level II, Quantitative Assessment, with ACAM. Therefore, for MICON projects CATEX A2.3.11 can only apply if an ACAM assessment indicate an insignificant air quality impact. Thie CATEX requires a "similar setting". Therefore, if the location or attainment status is different than the original action, CATEX A2.3.11 cannot be applied unless the ACAM assessment indicates an insignificant air quality impact.

For General Conformity, 40 CFR 93.153(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 General 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.

Finally, documentation is required, specifically state:

- CATEX 32 CFR 989 A2.3.11, and
- General Conformity exemption 40 CFR 93.153(c)(1), if action will occur within a nonattainment or maintenance area

Attainment Areas:

- **If the proposed action's location or attainment status is different than the** original action, CATEX A2.3.11 cannot be applied.
- To apply this CATEX, the prior FONSI action must have been previously evaluated and identified as not significant with ACAM, and the new proposed

action's scope, activity, and size MUST BE equal to or less than the FONSI action.
- Must also provide written reference to previously evaluated insignificant impact ACAM assessment.

Nonattainment and Maintenance Areas:
- If the proposed action's location or attainment status is different than the original action, CATEX A2.3.11 cannot be applied.
- To apply this CATEX, the prior FONSI action must have been previously evaluated and identified as not significant with ACAM, and the new proposed action's scope, activity, and size MUST BE equal to or less than the FONSI action.
- Must specifically document CATEX 32 CFR 989 A2.3.11 and the 40 CFR 93.153(c)(2)(iv) General Conformity exemption both apply. Must also provide written reference to a previously evaluated insignificant impact ACAM assessment.

c. <u>CATEX Action 32 CFR 989 A2.3.14.</u>

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.

No Emissions or In-Kind Equipment Replacement Projects/Actions:
Only projects/actions with no air emissions or that are replacing existing equipment with an <u>in-kind replacement</u> can be CATEXed without further assessment. To take the CATEX specifically document all exemptions:
- State "in-kind replacement",
- CATEX 32 CFR 989 A2.3.14, and
- General Conformity exemption 40 CFR 93.153 (c)(2)(x), if action will occur within a nonattainment or maintenance area

Attainment Areas:
- Only in-kind replacement projects/actions can apply this CATEX directly.
- All other projects/actions must undergo a level II assessment with ACAM.
- If ACAM assessment indicate an insignificant impact, specifically document the ACAM assessment indicated an insignificant impact; therefore CATEX 32 CFR 989 A2.3.14 applies.

Nonattainment and Maintenance Areas:

- Only in-kind replacement projects/actions are both CATEXed and Conformity exempt; however, must specifically document CATEX and 40 CFR 93.153(c)(20(x) applies.
- All other projects/actions must undergo a General Conformity Applicability Analysis (level II assessment with ACAM).
- If the ACAM assessment indicated a de minimis (insignificant) impact, specifically document the ACAM applicability assessment indicate the action was de minimis and that both CATEX 32 CFR 989 A2.3.14 and General Conformity exemption 40 CFR 93.153(c)(1) apply.
    - The General Conformity Applicability Analysis must be retained as documentation.

d. 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.

No projects/actions can be CATEXed without further assessment and documentation; these actions require at least a one-time ACAM assessment. Due to the complex nature of evaluating aircraft flight operations you cannot directly apply this CATEX and must consult with the Air Quality SME for any activities associated with aircraft flight operations changes. Projects/actions cannot apply this CATEX without undergoing a Level II, Quantitative Assessment, with ACAM. This CATEX may ONLY be applied if the ACAM assessment (Level II) indicates an insignificant air quality impact. A one-time ACAM assessment (Level II) may be used for all future temporary increases in air operations provided that the specific aircraft and flight patterns remain the same.

Additionally, while 40 CFR 93.153 (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 93.153(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.

Attainment Areas:

- Must perform a Level II ACAM assessment that clearly demonstrate the action will be insignificant before applying the CATEX.

- May perform one-time Level II assessment (ACAM assessment) for all future temporary increases in air operations provided that the specific aircraft and flight patterns remain the same and the number of operations are less than or equal to what was recorded in the one-time Level II assessment.
- If the ACAM assessment indicate an insignificant impact and flight aircraft, patterns, and quantities remain the same, specifically document the ACAM assessment indicated an insignificant impact; therefore CATEX 32 CFR 989 A2.3.32 applies.
- The ACAM reports must be retained as documentation.

Nonattainment and Maintenance Areas:

- Must perform a Level II General Conformity Applicability Analysis (in ACAM) that clearly demonstrate the action will be below de minimis thresholds before considering this action as both CATEXed and General Conformity exempt.
- May perform one-time Level II assessment (ACAM assessment) for all future temporary increases in air operations provided that the specific aircraft and flight patterns remain the same and the number of operations are less than or equal to what was recorded in the one-time Level II assessment.
- If the ACAM assessment indicates an insignificant impact and flight aircraft, patterns, and quantities remain the same, specifically document the ACAM assessment indicated an insignificant impact; therefore CATEX 32 CFR 989 A2.3.32 applies.
- The ACAM assessment reports must be retained as documentation of the General Conformity Applicability Analysis.

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 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).

5.4.2.1 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 DAF'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)].

- 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 Air Force-generated PTC actions/activities in the Federal Register. However, a PTC list has little value given existing General Conformity exemptions and the ease of performing an Applicability Analysis with ACAM. Any DAF-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 DAF will not pursue a PTC list.

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 DAF 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 *DAF Guide to State Implementation Plan Development*.

c. <u>Prescribed Fires</u>:

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. <u>Including Actions Specifically in SIPs</u>:

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 DAF 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 DAF 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 *DAF Guide to State Implementation Plan Development*.

5.4.2.2 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 no 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. Action 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.

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 DAF activities (and citations) are provided in *Table 5-2, List of General Conformity Exemptions*.

NOTE:

- **If a proposed action is on the GCR exempt list, document the specific GCR exemption and citation (as shown in Table 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 5-2, *List of General Conformity Exemptions*) within the EIAP document; the Air Quality assessment process is complete (no further air quality review is required).**

Table 5-2, 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 DAF action for purposes of General Conformity	
40 CFR 93.153 (c)(2)(iv)	Actions which would result in **no emissions increase or an increase in emissions that is clearly de minimis** (non-administrative only):	**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 personne**l.
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)		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.
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)	Notwithstanding the other requirements of this subpart, a **conformity determination is not required for the following Federal actions (or *portion thereof*)**:	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)	Notwithstanding the other requirements of this subpart, a **conformity determination is not required for the following Federal actions (or *portion thereof*)**:	**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.
40 CFR 93.153 (j)(1)	Emissions from the following actions are "**presumed to conform**":	**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)		**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."**

5.5 Step 4, 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 DAF vulnerable to regulatory or citizen-suit enforcement. In this regard, DAF 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 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 an 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 DAFs 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 DAF resources (i.e., work effort and cost). Given DAF actions are proposed and not actual actions, we can only speculate on 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 DAF Transitory Source Guide (AFCEC 2023a), Mobile Source Guide (AFCEC 2023b), and Stationary Source Guide (AFCEC 2023c) are to be used. As with air emission inventories (AEIs), air quality quantitative assessments are performed using the AP-42 simple empirical model:

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

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 DAF. 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 Data Requirements

The DAF's air quality EIAP approach is based important principles inherent to NEPA and General Conformity, which include "reasonably foreseeable", the "rule of reason" and the "concept of proportionality". The principles s of reasonably foreseeable, rule of reason, and the concept of proportionality caution against providing an in-depth analysis of emissions regardless of the insignificance of the quantity of emissions that the proposed action would cause.

Reasonably Foreseeable: Reasonably foreseeable means sufficiently likely to occur such that a person of ordinary prudence would take it into account in reaching a decision. Therefore, only emission sources that a normal person would take it into account in reaching an impact decision should be considered.

Rule of Reason: The "rule of reason" that 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 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.

Concept of Proportionality: Under the concept of proportionality, agencies are guided by the principle that the extent of the analysis should be 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.

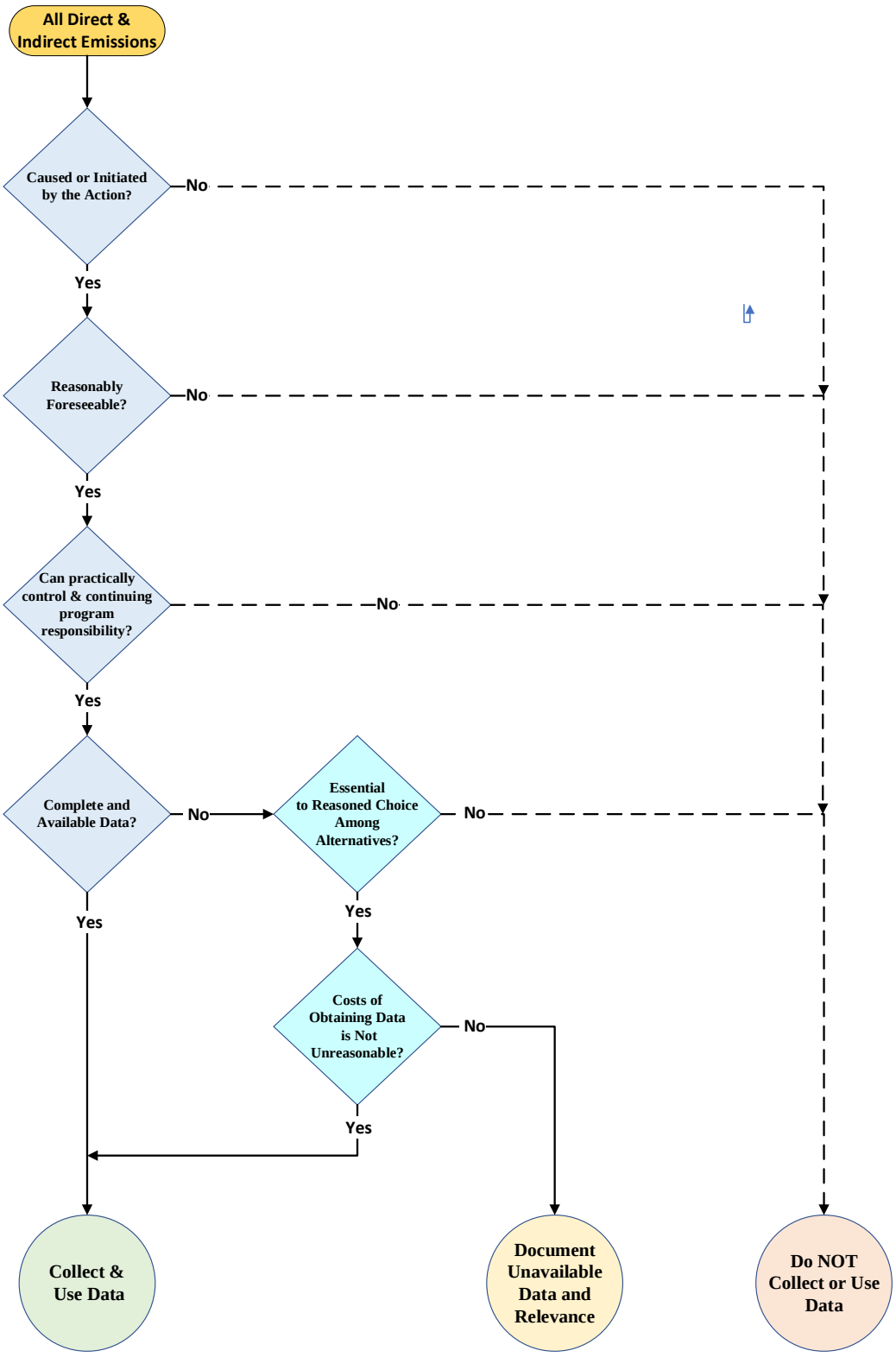
Reasonably Foreseeable + Rule of Reason + Concept of Proportionality = Keep it Simple

High Net Change in Emissions = Comprehensive Analysis

Low Net Change in Emissions = Abbreviated Analysis

The DAFs strategy for acquiring data associated with air impact assessments is based on the EPA's Data Quality Objectives (DQO) Process. The DQO Process was established for the resource-effective acquisition of environmental data. It applies to both decision-making (e.g., compliance/non-compliance with a standard) and estimation (e.g., ascertaining the annual emissions level of a contaminant). The DQO Process is used to establish performance and acceptance criteria, which serve as the basis for collecting data of sufficient quality and quantity to support the goals of the study. Use of the DQO Process leads to efficient and effective expenditure of resources; consensus on the qualitative and quantitative criteria (i.e., type, quality, and quantity) of data needed to meet the project goal; and the full documentation of actions taken during the development of the project.

Figure 6-1, Air Quality EIAP Data Requirements Screening



Under the DQO Process, the analysis objective drives and limits the effort and data needed for an analysis; and inversely, the type, quality, and quantity of available data may constrain precision the objectives. Both the NEPA Implementing Regulations (40 CFR 1500 - 1508) and the General Conformity Rule (40 CFR 93 Subpart B) provide (dictate) the objective of an air quality analysis and the associated data qualitative/quantitative criteria. The objective is to provide adequate data that will allow a "reasoned choice among alternatives" while the data qualitative/quantitative criteria are "reasonably foreseeable" and "essential to a reasoned choice among alternatives." The NEPA and General Conformity regulations also provide more specific data qualitative/quantitative criteria:

- Direct and indirect emissions cause or initiated by action
- Reasonably foreseeable
- Practically control & continuing program responsibility
- Incomplete or unavailable information

The above diagram (*Figure 6-1, Air Quality EIAP Data Requirements Screening*) and the following accompanying narrative steps outline the progressive DQO Process for identifying data collection requirements needed for adequate air quality impact assessments. The process is intended as a line of thought for scoping the inclusion or elimination of potential emission sources. Documentation of an elimination of potential emission sources is only required as shown within the diagram (i.e., data essential for reasoned choice among alternatives that is cost prohibitive). The accompanying narrative for the above diagram follows:

Step 1. All Direct and indirect Emissions:
Start by considering and evaluating all potential changes in emission sources (i.e., direct and indirect emissions).

Step 2. Caused or Initiated by the Action?
All direct and indirect emission sources that would be caused (directly bring about) or initiated (indirectly facilitate the beginning of) by the action must be further considered. Eliminate any potential direct and indirect emission sources that would not be directly brought about (caused) by the action or would not beginning if not indirectly facilitate (initiated) by the action.

a. Direct Emissions Information/Data: All emissions information/data where the net changes in emissions are directly caused (directly bring about) or are initiated (indirectly facilitate the beginning of) by the action that would not otherwise occur in the absence of the action and will occur at the same time and place as the action.

40 CFR 1508.1(g)(1) **Direct effects**, which are caused by the action and occur at the same time and place.

40 CFR 93.152 **Direct emissions** means those emissions of a criteria pollutant or its precursors that are caused or initiated by the Federal action and originate in a

nonattainment or maintenance area and occur at the same time and place as the action and are reasonably foreseeable.

b. Indirect Emissions Information/Data: All information/data on changes in emissions incidentally caused or initiated by the action that would not otherwise occur in the absence of the action and are later in time or farther removed in distance.

40 CFR 1508.1(g)(2) **Indirect effects**, which are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

40 CFR 93.152: **Indirect emissions** means those emissions of a criteria pollutant or its precursors:
(1) That are caused or initiated by the Federal action and originate in the same nonattainment or maintenance area but occur at a different time or place as the action;
(2) That are reasonably foreseeable;
(3) That the agency can practically control; and
(4) For which the agency has continuing program responsibility.
For the purposes of this definition, even if a Federal licensing, rulemaking, or other approving action is a required initial step for a subsequent activity that causes emissions, such initial steps do not mean that a Federal agency can practically control any resulting emissions.

Step 3. Reasonably Foreseeable?
Only include all direct and indirect emissions information/data where the location of the emissions is known, the emissions are quantifiable, and emissions are sufficiently likely to occur such that a person of ordinary prudence would take it into account in reaching a decision. Further eliminate any potential direct and indirect emission sources information/data that would not meet all three of the reasonably foreseeable criteria (i.e., location of emissions is unknown, the emissions are unquantifiable, or emissions are so unlikely that a normal person would take them into account in reaching a decision).

40 CFR 1508.1 (aa) **Reasonably foreseeable** means sufficiently likely to occur such that a person of ordinary prudence would take it into account in reaching a decision.

40 CFR 93.152 **Reasonably foreseeable emissions** are projected future direct and indirect emissions that are identified at the time the conformity determination is made; the location of such emissions is known, and the emissions are quantifiable as described and documented by the Federal agency based on its own information and after reviewing any information presented to the Federal agency.

Step 4. Can practically control & continuing program responsibility?
Further consider all direct and indirect emission sources caused by or initiated by the action where the agency will have practical control (reasonably can regulate or constrain) and

continuing program responsibility (oversight role over the activities generating the emissions or has the ability to limit the emissions). Eliminate any potential indirect emission sources that the agency cannot practically control and/or where the agency will NOT have oversight role over the activities generating the emissions or the ability to limit the emissions.

> 40 CFR 93.152 **Indirect emissions** means those emissions of a criteria pollutant or its precursors:
> (1) That are caused or initiated by the Federal action and originate in the same nonattainment or maintenance area but occur at a different time or place as the action;
> (2) That are reasonably foreseeable;
> (3) That the agency can practically control; and
> (4) For which the agency has continuing program responsibility.
> For the purposes of this definition, even if a Federal licensing, rulemaking, or other approving action is a required initial step for a subsequent activity that causes emissions, such initial steps do not mean that a Federal agency can practically control any resulting emissions.

> EPA NEAP Training Module (https://www.epa.gov/general-conformity/general-conformity-training-module-22-emissions-and-review)
> **2.2.1 Estimation of the emissions caused by the action**
> For indirect emissions, the emissions must be of the type that "the agency can practically control" and for which "the agency has continuing program responsibility." A continuing program responsibility means that the agency has an oversight role over the activities generating the emissions or has the ability to limit the emissions. For example, an agency would have the ability to limit the emissions by specifying requirements in a contract or by conditioning a permit.

Step 5. Complete and Available Data?
Generally, only complete (having all necessary parts or elements) and available (able to be used or obtained) data/information is required. Any data/information not eliminated by the preceding which is complete and available must be collected and used in the analysis. However, further eliminate any potential indirect emission sources data/information that the available data is incomplete and is NOT essential (decisively necessary) for reasoned choice among alternatives. Additionally, further eliminate incomplete data is essential (decisively necessary) for reasoned choice among alternatives where the costs of obtaining data is not unreasonable; however, you must document the unavailability of the data, why it is cost prohibitive, and its relevance in evaluating reasonably foreseeable significant adverse impacts. Incomplete data essential for reasoned choice among alternatives that is not cost prohibitive must be collected and used. Agencies are not required to undertake new scientific and technical research to obtain unavailable data (40 CFR 1502.23); however, they must provide a whiten statement of relevance of the incomplete or unavailable information (40 CFR 1502.21(b) & (c))

> 40 CFR 1502.21 **Incomplete or unavailable information.**
> (a) When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement, and there is incomplete or unavailable information, the agency shall make clear that such information is lacking.

(b) If the incomplete but available information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives, and the overall costs of obtaining it are not unreasonable, the agency shall include the information in the environmental impact statement.
(c) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are unreasonable or the means to obtain it are not known, the agency shall include within the environmental impact statement:
(1) A statement that such information is incomplete or unavailable;
(2) A statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment;
(3) A summary of existing credible scientific evidence that is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; and
(4) The agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community.
(d) For the purposes of this section, "reasonably foreseeable" includes impacts that have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.

40 CFR 1502.23 **Methodology and scientific accuracy**.
Agencies shall ensure the professional integrity, including scientific integrity, of the discussions and analyses in environmental documents. Agencies shall make use of reliable existing data and resources. Agencies may make use of any reliable data sources, such as remotely gathered information or statistical models. They shall identify any methodologies used and shall make explicit reference to the scientific and other sources relied upon for conclusions in the statement. Agencies may place discussion of methodology in an appendix. Agencies are not required to undertake new scientific and technical research to inform their analyses. Nothing in this section is intended to prohibit agencies from compliance with the requirements of other statutes pertaining to scientific and technical research.

6.3 Net Change Emissions Inventory

The primary and first tier NEPA/Conformity air analyses are a net-change inventory analyses, not a baseline inventory analysis. According to AF guidance, NEPA (40 CFR 1508, and the General Conformity Rule (40 CFR 93 Subpart B), a net-change inventory analyses is an inventory of "effects or impacts" which only includes the emission sources/activities that will add to or reduce direct or indirect emission (i.e., net change). The starting point (baseline) for a net change inventory analysis is zero or the current situation, not the most recent Air Emissions Inventory. According to 40 CFR 93.153(b), General Conformity dictates the evaluation of "the total of direct and indirect emissions of the criteria pollutant or precursor." 40 CFR 93.152 defines "Total of direct and indirect emissions" as the "sum of direct and indirect emissions increases and decreases caused by the Federal action; i.e., the 'net' emissions considering all direct and indirect emissions." Similarly, according to 40 CFR 1508.1 (g), NEPA dictates the evaluation of "changes [net change] to the human environment from the proposed action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the

proposed action or alternatives, including those effects that occur at the same time and place as the proposed action [direct emissions] or alternatives and may include effects that are later in time or farther removed in distance from the proposed action or alternatives [indirect emissions]". Therefore, NEPA/Conformity analyses should only include reasonably foreseeable emission sources/activities that will add to or reduce direct or indirect emissions (i.e., net change).

Note that using base-level annual Air Emissions Inventories (AEI) are generally inappropriate for NEPA/Conformity net-change inventory analyses because they are not representative of the affected sources and are seldom current. AEIs consist of a snapshot in time of partial emission inventories; Stationary AEIs only capture regulated stationary sources (often only permitted sources) and Mobile AEIs only capture a partial list of non-stationary sources (only partial accounting of aircraft and aircraft support equipment, on-road vehicles, and non-road engines). Given most DAF actions entail primarily transitory sources [which are non-routine and/or seasonal sources (may be stationary, mobile or neither) that are short-term in nature], AEIs usually do not even include the majority of the affected emission sources. Additionally, AEIs are rarely current because the status of included sources are often changing over time. Therefore, not only is using a base-wide AEI in NEPA/Conformity air analyses technically inappropriate, doing so would likely be considered technically deficient and wasting resources.

6.3.1 Annual Worst Case Net Emissions (Temporal Considerations)

The net change in emissions from an action may vary from year to year. A Levell II Quantitative Assessment must consider the greatest annual net change in emissions associated with the action. If more than one pollutant or precursor is involved, the greatest net change in emissions may occur in different years for different pollutants. For example, a new source of VOCs could have its greatest total net change in PM_{10} emissions during construction and its greatest total VOC net change in emissions during a year of full operations in which there are no construction activities.

To find the greatest annual net change in emissions, it may be necessary to estimate the total net direct and indirect net change in 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, net change in 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.

6.4 Insignificance 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 net change in emissions for each pollutant of concern are compared against defined insignificance thresholds or indicators. Insignificance thresholds are EPA-established annual emission rates that, if exceeded, would trigger a regulatory

requirement. Insignificance indicators are EPA-established rate 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.

6.4.1 General Conformity Insignificance Thresholds

There are two General Conformity thresholds: Applicability Analysis Thresholds and Facility-Wide SIP Budget Thresholds. Both 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.***

6.4.2 NEPA Insignificance Indicators

While the General Conformity thresholds are intended to be used to perform an Applicability Analysis, they can also be used as a general insignificance 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 to still be considered de minimis (insignificant), these threshold values are also a conservative indicator that an action's emissions within an attainment area would be insignificant and acceptable. In other words, if the threshold is acceptable in nonattainment areas, it must be more than suitable 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.***

6.5 Action Phases & Schedule

Emissions must be calculated on an annual basis. Schedules should clearly indicate the years and months 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 prevent circumventing a conformity determination.

6.5.1 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 circumvent the need for 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.

Table 6-1, General Conformity De Minimis Thresholds

Criteria Pollutant	Area Classification (attainment Status)	Pollutant of Interest	Ozone Transport Region [a]	De Minimis Level [b] (tons/yr)
Ozone (O_3)	Extreme nonattainment	VOC or Nox	NA	10
	Severe nonattainment	VOC or NOx	NA	25
	Serious nonattainment	VOC or NOx	NA	50
	Other nonattainment	VOC or NOx	Outside	100
	Other nonattainment	VOC	Inside	50
	Other nonattainment	NOx	Inside	100
	Maintenance	NOx	NA	100
	Maintenance	VOC	Inside	50
	Maintenance	VOC	Outside	100
Carbon Monoxide (CO), Sulfer Oxides (SOx), or Nitrogen Oxides (NOx)	Nonattainment	CO, SOx, NOx	NA	100
	Maintenance or within 10% of nonattainment	CO, SOx, NOx	NA	100
Particulate Matter 10 micrometers and smaller (PM_{10})	Serious nonattainment	PM10	NA	70
	Moderate nonattainment	PM10	NA	100
	Maintenance	PM10	NA	100
Particulate Matter 2.5 micrometers and smaller ($PM_{2.5}$)	Nonattainment	$PM_{2.5}$ Direct emissions	NA	100
	Nonattainment	SO_2	NA	100
	Nonattainment	NO_x [c]	NA	100
	Nonattainment	VOC or Ammonia (NH_3) [d]	NA	100
Lead (Pb)	Nonattainment	Pb	NA	25
	Maintenance	Pb	NA	25

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

Note: NO_2 is no longer a criteria pollutant.

[a] NA = not applicable. 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] Values are de minimis thresholds for nonattainment/maintenance areas or a significance indicator value for attainment areas.

[c] Unless, per applicable SIP, it is determined that NO_x is not a significant precursor.

[d] If, per applicable SIP, either a VOC or ammonia is determined to be a significant precursor.

6.6 Algorithms and Emission Factors

All emission estimates should be realistic and technically defensible; therefore, the procedures algorithms, and emission factors provided in the DAF Stationary, Mobile, and Transitory Source Guides must be used for air quality Level II assessments. Documentation of all assumptions and methodology in a ROCA or ROAA is recommended. As the agency responsible for conformity review, the DAF has ultimate responsibility for determining acceptable emissions calculation procedures. However, if there is doubt about the validity of methods, the local regulator or EPA Regional Office should be consulted.

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

Activity	Sources	Emissions
Aircraft Operations	Flight operations	Aircraft engine exhaust
	Engine test cell	
	Auxiliary power units	Unit engine exhaust
	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.)	Vehicle exhaust, combustion emissions associated with 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

6.7 Identification of Sources

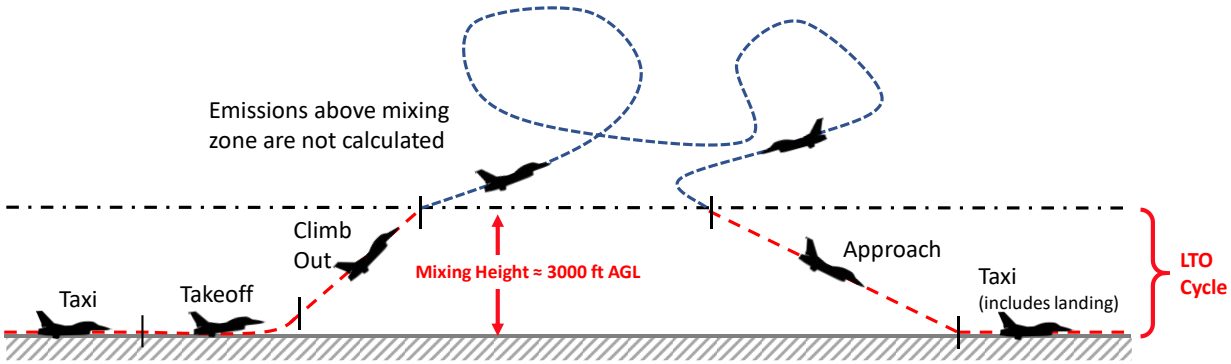
Typical potential sources of emissions at air bases include aircraft, ground support equipment, ground access vehicles, stationary sources, and construction activities. *Table 6-2, Typical Air Force Activities and Sources with Air Emissions*, provides a list of typical non-exempt DAF activities that emit direct and/or indirect emissions.

6.7.1 Aircraft Operations

As the single largest contributor to air base emissions, aircraft operations activity should be well scrutinized in a net change emissions inventory. Developing an air analysis of criteria pollutant emissions for aircraft activities can be complicated because of the possible combinations of various components associated with aircraft activities. ACAM accounts for and calculates emissions for a variety of these activities. Emissions from flight operations include: Landing and Takeoff Cycles, Closed Pattern Cycles, Low Flight Pattens Cycles, Trim Tests, and APUs. ACAM also calculates emissions from Engine Test Cell(s) and AGE.

- ***Landing and Takeoff Cycles (LTO Cycles)***

A Landing and Take Off (LTO) cycle is flight operation consisting of one complete repetitive takeoff and landing sequence or cycle. An LTO cycle is the beginning and ending portion of an individual sortie. Each LTO cycle for fixed-wing aircraft is comprised of five operating modes/power settings: Taxi/Idle Out, Takeoff, Climb Out, Approach, and Taxi/Idle In.



The five operating modes for fixed-wing aircraft, also referred to as Time in Mode (TIM), are described below:

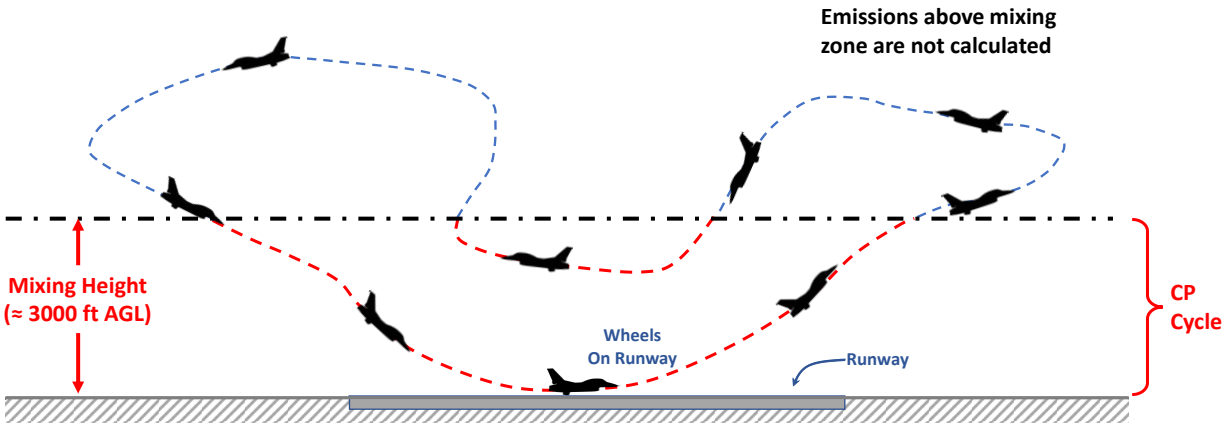
- Taxi/Idle Out: The period of time from engine startup to takeoff mode,
- Takeoff: Characterized by full engine thrust, this is the period of time it takes the aircraft to reach between 500 and 1,000 feet (ft) Above Ground Level (AGL). This transition height is standard and does not vary much from location to location or among aircraft categories,
- Climb out: The period of time following takeoff that concludes when an aircraft exits the Mixing Zone (~3,000 ft AGL) and continues on to cruise altitude,
- Approach: The period of time from the moment the aircraft enters the Mixing Zone until the aircraft lands, and
- Taxi/Idle In: The period of time spent after landing, until the aircraft is parked, and the engines are switched off.

The amount of time in minutes the aircraft spends in each operating mode/power setting is of significance to flight operations. This is because the amount of thrust required to move the aircraft through the air and overcome drag and gravity changes when the power setting/operational mode changes. These changes are reflected in the amount of fuel combusted by the aircraft's engine(s), which produce emissions.

Note: Emissions above the 3,000 ft AGL mixing height are excluded from emissions calculations.

- ***Closed Pattern Cycles (CP Cycles)***

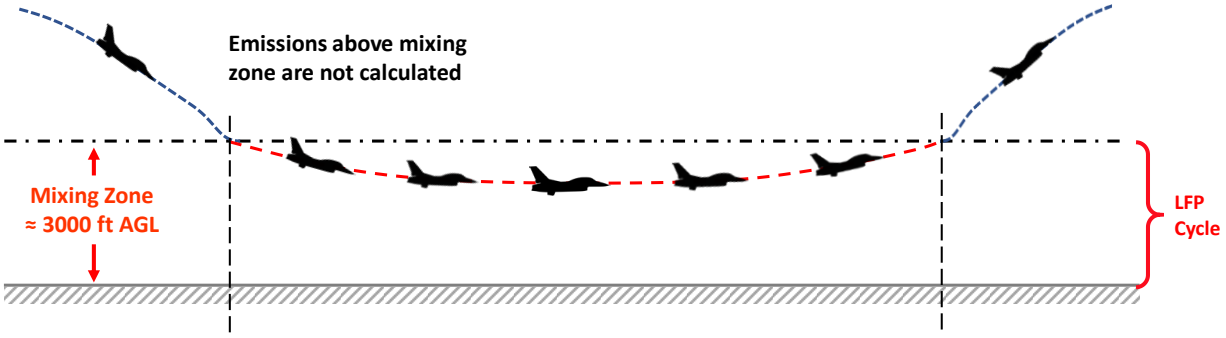
A fixed-wing CP cycle, also known as a Touch and Go (TGO), is a flight maneuver that involves practice landing on a runway by briefly touching the landing gear to the runway, or coming very close, and transitioning immediately into climb out and associated flying to maneuver into another practice landing. A fixed-wing CP cycle is effectively a combination of one LTO cycle (specific to the CP cycle) and one LFP for the portion of the return flight below the mixing height.



As with LTO Cycles, the emissions from CP Cycles are based on the amount of fuel combusted by the engine(s) of the aircraft.

- ***Low Flight Patterns (LFP) Cycles***

A fixed-wing Low Flight Pattern (LFP) cycle is a reoccurring flight maneuver that occurs below the mixing height (EPA default = 3,000 ft AGL) that is not part of an LTO or CP cycle. LFP cycles generally occur away from the runway area within Military Operations Areas (MOAs) or Military Training Ranges (MTRs).



- ***Maintenance Tests***

Aircraft maintenance test are on-aircraft (on-wing) engines tests, trim tests, or engine run-ups, performed prior to flight operations. Note: The engine(s) is/are still attached to the aircraft for Trim Tests. Emissions associated with maintenance testing are based on the type of aircraft, engine model, testing times, the power settings and associated fuel flow rates, and engine-specific EFs. Estimating emissions from aircraft engine testing may be challenging since the data required for calculations may be difficult to obtain.

- ***Auxiliary Power Units***

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

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

- ***Engine Test Cell***

Aircraft engine testing is necessary to ensure proper engine operation prior to flight, especially after any maintenance has been performed. Advanced engine testing can be performed in an Engine Test Cell. Test Cells are typically located in a building. Enclosed test cell assessment of aircraft engines is conducted when engines are removed from the aircraft and mounted in the test cell for testing. Engine test cell emissions result from fuel combustion by the aircraft engine.

- ***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 snowplows. 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 DAF Mobile Source Guide.

6.7.2 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 DAF Mobile Source Guide.

6.7.3 Stationary Sources

Stationary sources of air emissions at DAF 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 VOCs [as Hydrocarbons (HCs)], CO, NO_X, PM_{10}, and SO_2. 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 is also 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.

DAF 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.

6.7.4 Construction/Demolition

6.7.4.1 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 DAF 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.

6.7.4.2 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

6.8 Quick Steps for Level II, Quantitative Assessment

All Level II assessments throughout the DAF 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:

6.8.1.1 Step 1, Obtain and Run ACAM

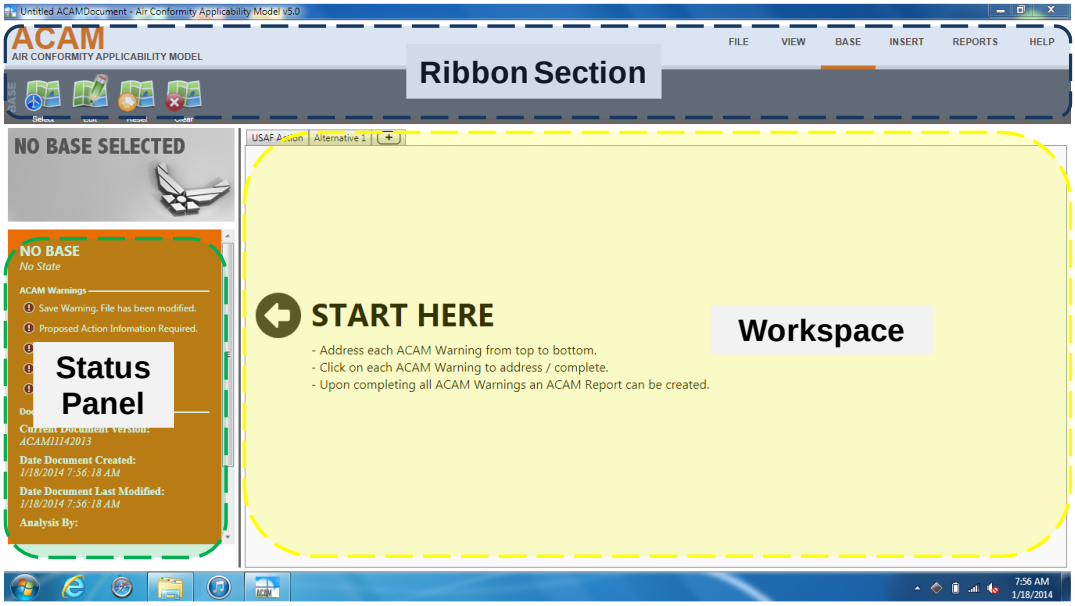
ACAM must be used for all Level II assessments throughout the DAF. ACAM may be requested through completing a DD Form 2875, *System Authorization Access Request (SAAR)*,

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 6-6-2, ACAM Application Main Sections

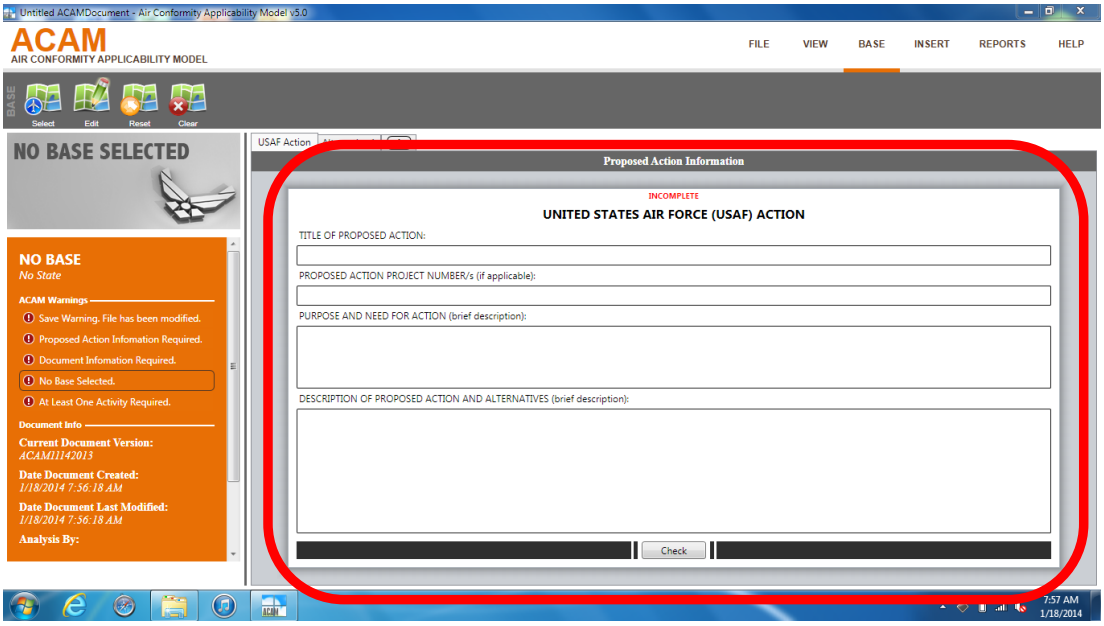


ACAM implements a results-oriented interface to provide an environment in which a user can quickly create, modify, and finalize an air analysis for various DAF activities. The results-oriented interface inherits many designs and features from Microsoft Word and other Office products to give a familiar 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 6-6-2, 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.

6.8.1.2 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 6-6-3, ACAM Proposed Action Information Screen*).

Figure 6-6-3, 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).

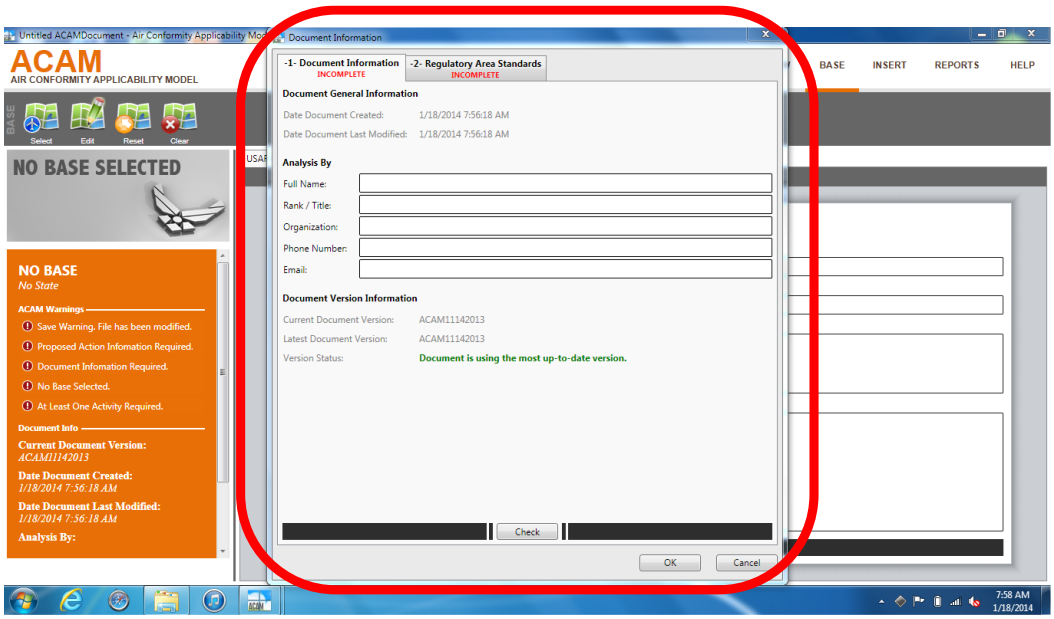
- **Purpose & Need:** This is an abridged description of the proposed action's purpose and need. Both the purpose and need descriptions should be a condensed version of purpose and need descriptions of the proposed action as they appear in the AF Form 813 or DOPAA.

- **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.

6.8.1.3 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 6-6-4, ACAM Document Information Screen*).

Figure 6-6-4, 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 he 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.

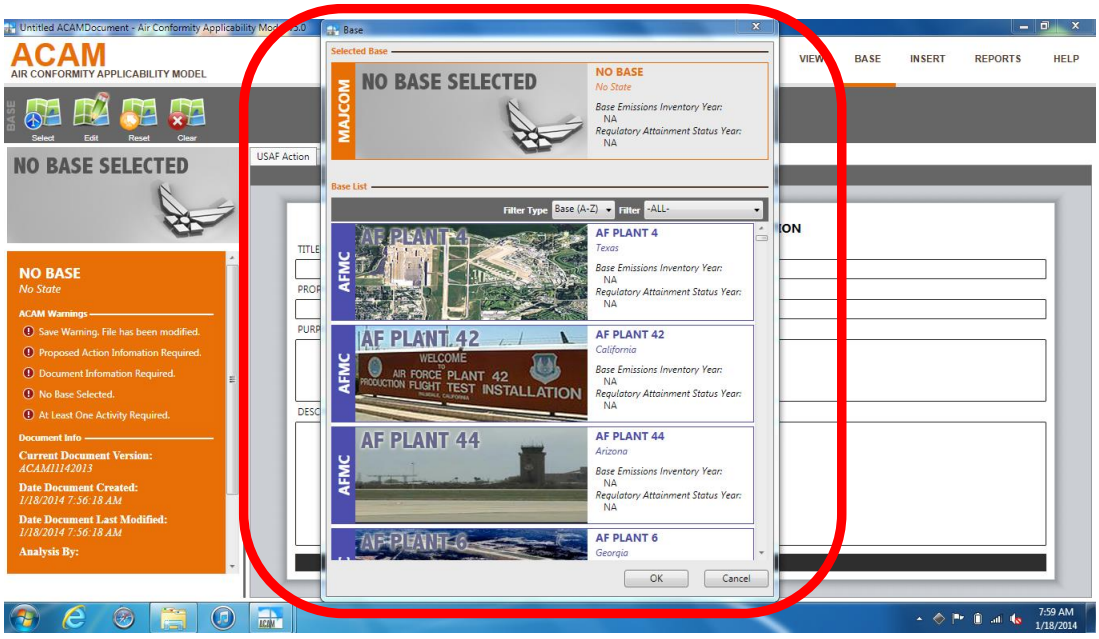
6.8.1.4 Step 4: Select Base

This step establishes the DAF installation the proposed action is associated with (which may not necessarily be where the action will occur). The DAF installation's location can be selected by

name (A-Z) or by zeroing in on the MAJCOM or state (see *Figure 6-6-5, ACAM Base Selection Screen*).

Note: The proposed action may not be located on the DAF 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 6-6-5, ACAM Base Selection Screen



6.8.1.5 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 6-6-6, ACAM Example Activity Screen, show a typical activity data entry form from ACAM.

Figure 6-6-6, ACAM Example Activity Screen

Typical potential sources/activities of direct and/or indirect emissions at DAF 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.

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.

6.8.1.6 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 a 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.

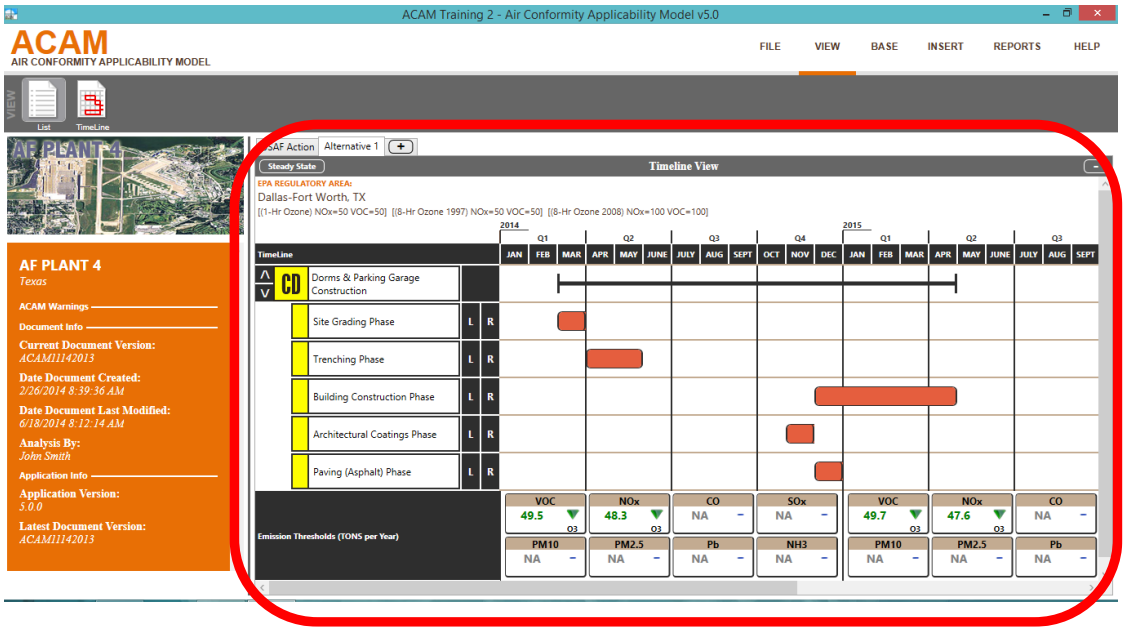
- **Timeline View:** Provides visual interactive timeline of all activities (including sub-phases) and emissions summary of each criteria pollutant. The timelines are interactive with the user, allowing for immediate comparison of alternatives, quick mitigation scenarios, and what-if analysis (see *Figure 6-6-7, ACAM Timeline View*).

- 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 6-4, 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 6-6-7, ACAM Timeline View*, for details.

Figure 6-6-7, 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 6-4, General Conformity De Minimis Levels (Thresholds)

Criteria Pollutant	Area Classification (attainment Status)	Pollutant of Interest	De Minimis Level (tons/yr)
Ozone (O_3)	Extreme nonattainment	VOC or Nox	10
	Severe nonattainment	VOC or NOx	25
	Serious nonattainment	VOC or NOx	50
	Other nonattainment	VOC or NOx	100
	Other nonattainment within an Ozone Transport Region	VOC	50
	Other nonattainment within an Ozone Transport Region	NOx	100
	Maintenance	NOx	100
	Maintenance within an Ozone Transport Region	VOC	50
	Maintenance	VOC	100
Carbon Monoxide (CO), Sulfer Oxides (SOx), or Nitrogen Oxides (NOx)	Nonattainment	CO, SOx, NOx	100
	Maintenance	CO, SOx, NOx	100
Particulate Matter 10 micrometers and smaller (PM_{10})	Serious nonattainment	PM10	70
	Moderate nonattainment	PM10	100
	Maintenance	PM10	100
Particulate Matter 2.5 micrometers and smaller ($PM_{2.5}$)	Nonattainment	$PM_{2.5}$ Direct emissions	100
	Nonattainment	SO_2	100
	Nonattainment	Nox	100
	Nonattainment	VOC or Ammonia (NH_3)	100
Lead (Pb)	Nonattainment	Pb	25
	Maintenance	Pb	25

6.8.1.7 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).

6.8.1.8 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.

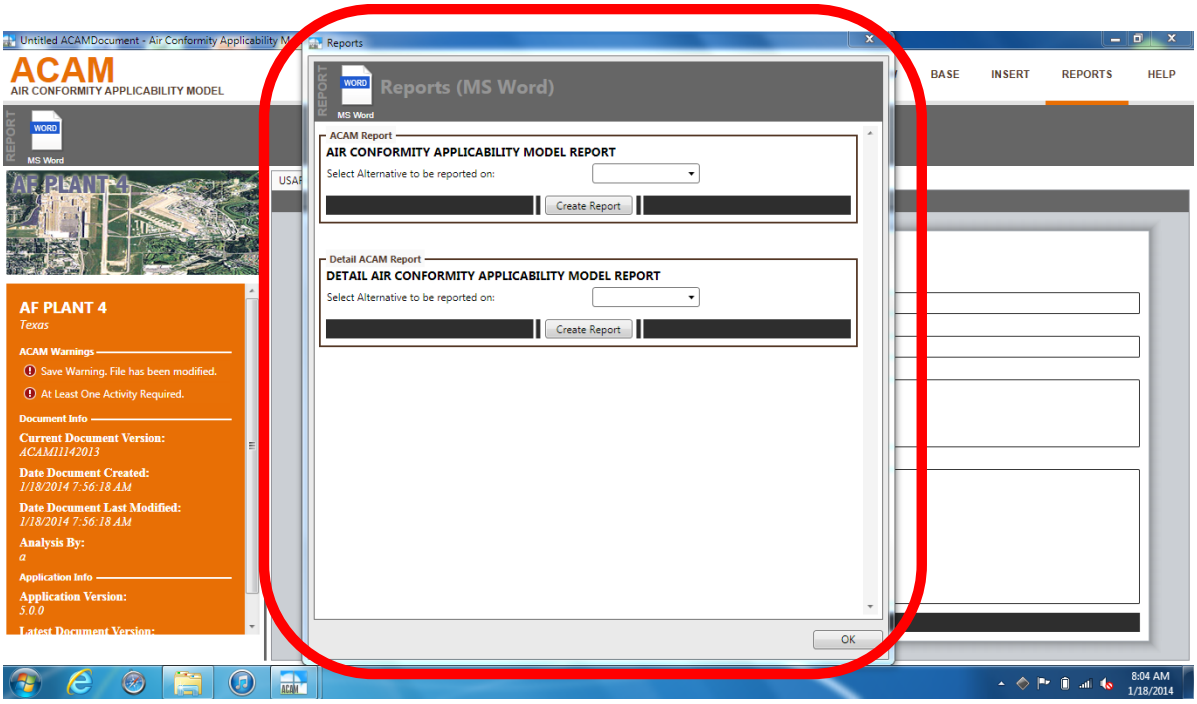
- **In the "Status Panel" under "ACAM Warnings:** Click on "Steady State Calculation Required" warning and all calculations are automatically performed through steady state.

6.8.1.9 Step 9: Reports

ACAM calculates air criteria pollutants, criteria pollutant precursors, and GHGs, for an action and its alternatives for all typical DAF activities that potentially are part of a proposed action. The resultant ACAM calculations are presented in a visual timeline (see *Figure 6-6-7, 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 6-6-8, ACAM Reports Screen

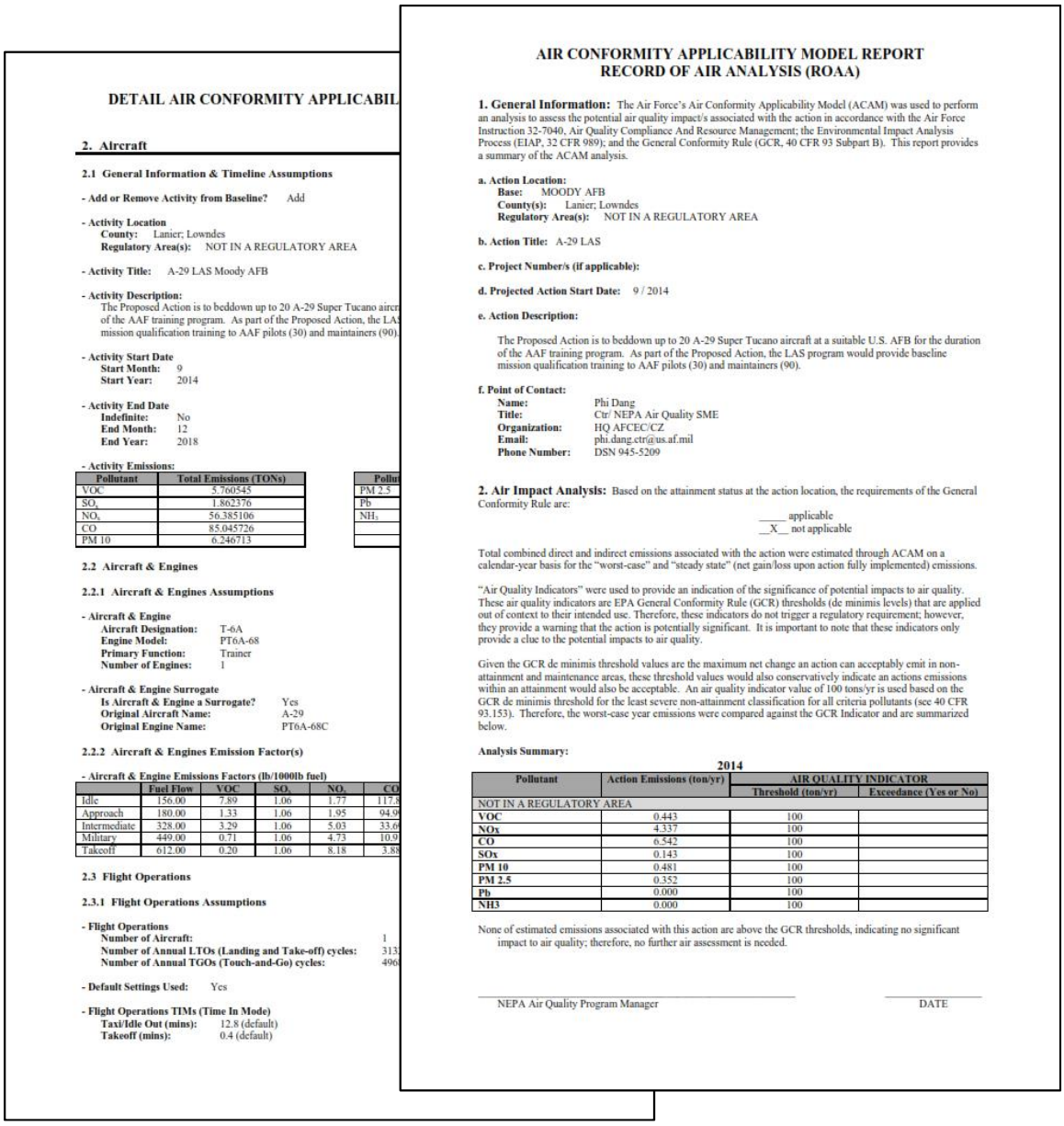


Upon calculating steady state conditions for the proposed action, ACAM reports can be generated by clicking on "REPORTS" in the upper-left side of the ribbon section of the ACAM window. The Reports screen opens, which allows the selection of which type of report to be generated, an ACAM analysis report (i.e., ROCA or ROAA) or a Detailed ACAM Report (see *Figure 6-6-8,* 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 6-6-9, 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 6-6-9, Examples of ACAM Reports



DETAIL AIR CONFORMITY APPLICABIL

2. Aircraft

2.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Add

- Activity Location
  County: Lanier; 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 aircr
  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)
VOC	5.760545
SO_x	1.862376
NO_x	56.385106
CO	85.045726
PM 10	6.246713

Pollu
PM 2.5
Pb
NH_3

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	117.8
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 (EIAP, 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): Lanier; 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
__X__ 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 (sec 40 CFR 93.153). Therefore, the worst-case year emissions were compared against the GCR Indicator and are summarized below.

Analysis Summary:

2014

Pollutant	Action Emissions (ton/yr)	AIR QUALITY INDICATOR	
		Threshold (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.443	100	
NOx	4.337	100	
CO	6.542	100	
SOx	0.143	100	
PM 10	0.481	100	
PM 2.5	0.352	100	
Pb	0.000	100	
NH3	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.

6.8.1.10 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 DAF 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

GHGs occur in the atmosphere both naturally and because of human activities, such as the burning of fossil fuels and land use change. GHGs produced by fossil-fuel combustion are primarily carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O). These three GHGs account for more than 97 percent of U.S. total GHG emissions. GHGs are generally non-hazardous to health at normal ambient concentrations; however, GHGs absorb infrared radiation in the atmosphere, and an increase in emissions of these gases is the primary cause of warming of the climatic system.

Climate change is the variation in the Earth's climate (including temperature, precipitation, humidity, wind, and other meteorological variables) over time. Climate change is primarily driven by accumulation of GHGs in the atmosphere due to the increased consumption of fossil fuels (e.g., Coal, petroleum, and natural gas) since the early beginnings of the industrial age and accelerating in the mid- to late-20th century.

A detailed discussion and step by step DAF procedures for both a GHG Emissions Evaluation and a Climate Change Evaluation are provided in the *DAF Greenhouse Gas (GHG) & Climate Change Assessment Guide* (AFCEC 2023). Note that the GHG Emissions Evaluation and most of the Climate Change Evaluation are automated within ACAM (version 5.0.21a or newer).

7.1 Regulatory Background

The Council on Environmental Quality (CEQ) is an entity within the executive office of the President that is responsible for coordinating federal efforts to improve, preserve, and protect America's public health and environment. The CEQ oversees the implementation of NEPA by issuing guidance, interpreting regulations, and approving federal agency NEPA procedures.

In 2016, during the Obama-Biden administration, CEQ directed agencies to consider the impact agency projects had on GHG emissions and climate change (CEQ 2016). When President Trump assumed office, he ordered that the division roll back the 2016 provisions while further streamlining NEPA reviews to facilitate permitting for infrastructure projects. When President Biden took office, he reversed course and halted all Trump era regulations, signaling a move towards extensive consideration of GHG emissions and climate change in NEPA reporting. In April of 2022, under direction from President Biden, CEQ published National Environmental Policy Act Implementing Regulations Revisions, which is the basis for the present guidance. Finally, on January 9, 2023, CEQ published an interim guidance, National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change (CEQ 2023), so that agencies may make use of it immediately while CEQ seeks public comment on the guidance."

While the details on assessing GHGs and climate change under NEPA is currently (October 2023) in flux, the requirement for assessing a proposed action's potential impact to air quality (include GHGs, as a regulated pollutants) is still mandated under the 2023 GHG Guidance. Additionally, 2023 GHG Guidance suggest providing additional context for GHG emissions

through the use of Social Cost of GHG (SC GHG) estimates. Additionally, 2023 GHG Guidance also suggests incorporating Environmental Justice (EJ) considerations into their analyses of climate-related effects.

7.2 GHG Emissions Evaluation

A GHG Emissions Evaluation establishes the quantity of speciated GHGs and CO2 equivalents (CO2e), determines if an action's emissions are insignificant, and provides a relative significance comparison. The GHG Emissions Evaluation is automated in the Air Conformity Applicability Model (ACAM) version 5.0.21a (ACAM 2023) or newer.

Based on the current guidance, a GHG Emissions Evaluation must include the following three interrelated elements:

- **GHG Emissions Quantification:** Based on the emission sources or activities entered into ACAM, the annual net change in speciated GHGs and CO2e emissions associated with an action (or alternative) are automatically quantified.

- **Insignificance Assessment:** The USAF has established an "insignificance indicator" below which actions annual net change in GHG emissions are too low to warrant further consideration. ACAM automatically performs an Insignificance Assessment based on the annual net change in CO2e emissions for an action (or alternative) which are compared relative to the "insignificance indicator".

- **Relative Significance Assessment:** To allow for a reasoned choice amongst alternatives, a relative comparison analysis is conducted by weighing each alternative's annual net change in GHG emissions value proportionally against the state (where action will occur) and U.S. annual emission value.

See the *DAF Greenhouse Gas (GHG) & Climate Change Assessment Guide* (AFCEC 2023) for detailed discussion and step-by-step DAF procedures for performing GHG Emissions Evaluations.

Note: The GHG Emissions Evaluation is automated within ACAM (version 5.0.21a or newer).

7.3 Climate Change Evaluation

The 2023 CEQ GHG Guidance requires addressing the potential climate change effects of proposed actions and providing additional context for GHG emissions using SC GHG estimates. (CEQ 2023)

In conducting a Climate Change Evaluation, be sure to apply the NEPA/CEQ principles:

- GHGs potentially cause warming of the climatic system at a cumulative global scale which, in turn, cause climate change; therefore, the context of a climate change assessment is only global.

- The intensity or degree of the proposed action's climate change effects are indirectly gauged through the quantity of GHG associated with the action.

- Perform the climate change assessments commensurate (proportional) with the anticipated quantity of projected GHG emissions.

To evaluate the effects of climate change on a proposed action, two assessments are performed: 1) the impact of a proposed action on climate change, and 2) the impact of climate change on the action's environment.

See the *DAF Greenhouse Gas (GHG) & Climate Change Assessment Guide* (AFCEC 2023) for detailed discussion and step-by-step DAF procedures for performing a Climate Change Evaluation.

Note that most of the Climate Change Evaluation is automated within ACAM (version 5.0.21a or newer).

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 an action or project, the time, and resources for the General Conformity process and for coordination with regulators and other non-DAF 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 DAF 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 specifically 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, DAF 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 DAF 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 DAF 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 DAF 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 in 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 DAF 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 must be kept classified and safeguarded according to DAF 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 DAF 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 DAF 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 DAF 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 DAF 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 DAF 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 DAF adopts the analysis of another agency, the determination must state that the DAF is adopting the other agency's analysis. The other agency's determination should be included by reference with any necessary amplification. In addition, the DAF 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 DAF 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 DAF/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, DAF 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.

10 REFERENCES

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Appendix A - GLOSSARY

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

Adverse Impact
An adverse impact to air quality means to cause or contribute to exceeding one or more NAAQSs. NAAQSs are the maximum amount of a criteria pollutant (or its precursors), averaged over a specified regional area and period of time (year), that can be present in outdoor air without harming public health and the environment. NAAQSs were established at annual emissions rates that are protective the health of 'sensitive' populations such as asthmatics, children, and the elderly.

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 of air pollutants in the ambient (outdoor) air sensed/measured at a monitoring/sampling site.

Applicability Analysis
The first stage of a General Conformity Evaluation which is an exemption review and (if needed) quantitative emission net-change analysis used to determine if an action must be supported by a GCR determination.

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.

Code of Federal Regulations (CFRs)
The codification of the general and permanent rules published in the Federal Register by the departments and agencies of the Federal Government.

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.

Closed Pattern (CP) Cycles
A flight operation consisting of one complete repetitive flight maneuver that involves practice landing on a runway by briefly touching the landing gear to the runway, or coming very close, and transitioning immediately into climb out and associated flying to maneuver into another practice landing.

Concept of Proportionality
A guiding principle under NEPA and General Conformity. Under the concept of proportionality, agencies are guided by the principle that the extent of the analysis should be 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.

Conformity
The act of meeting Section 176(c)(1) of the CAA 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 oxides (NO_x), sulfur oxides (SO_x), carbon monoxide (CO), ozone (O_3), particulate matter (PM_{10} & PM2), and lead (Pb). Nitrogen dioxide (NO_2) and sulfur dioxide (SO_2) are used as indicators for NO_x and SO_x in the ambient (outdoor) air.

Cumulative Impact
Are impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably 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. However, the General Conformity de minimis levels are too low to cause or contribute to exceeding one or more NAAQSs which are measured regionally and cumulatively to define adverse impacts, then they are also too low to be regionally or cumulatively harmful to public health and the environment. Therefore, any action resulting in annual net change emissions (direct and indirect) below the de minimis levels, is considered clearly insignificant to regional and cumulative air quality impacts.

De Minimis
Are criteria pollutant (or its precursors) annual emission rates (levels) that are too low to cause or contribute to exceeding one or more NAAQS. NAAQSs are the maximum amount of a criteria pollutant (or its precursors), averaged over a specified regional area and period of time (year), that can be present in outdoor air without harming public health and the environment. Therefore, any action resulting in annual net change emissions (direct and indirect) below the de minimis levels, is considered clearly insignificant to public health and the environment locally, regional, and cumulatively.

Description of the Proposed Action and Alternatives (DOPAA)
The first DAF 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.

Determination (or GCR Determination)
The second stage of a General Conformity Evaluation (made after an applicability analysis is completed) which is an extensive evaluation to ensure a proposed action "conforms" to the applicable SIP and meets all GCR requirements.

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 types 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 DAF 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 DAF organization at the installation, major command or field operating agency that manages the EIAP including evaluation and completion of DAF 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 smokestack).

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 reasonably 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.

Landing and Take Off (LTO) Cycle
A flight operation consisting of one complete repetitive takeoff and landing cycle.

Low Flight Pattern (LFP) cycle
A flight operation consisting of one complete repetitive flight cycle below the mixing height that does not include any part of a LTO or CP cycle.

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.

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). Primary NAAQSs were established at annual emissions rates that are protective the health of 'sensitive' populations such as asthmatics, children, and the elderly.

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 DAF 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 (O_3)
A colorless, toxic gas formed by the photochemical reactions in the atmosphere of VOCs with the oxides of nitrogen. Ozone commonly is referred as "Smog". Ozone is not emitted directly by any 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 DAF 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 PM_{10}
A criteria pollutant of fine particles less than 10 micrometers in diameter. PM_{10} includes solid and liquid material suspended in the atmosphere formed as a result of incomplete combustion. Aircraft are the primary source of PM_{10} emissions at DAF Installations.

PPM
Parts per million (10^6) 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. Primary NAAQSs were established at annual emissions rates that are protective the health of 'sensitive' populations such as asthmatics, children, and the elderly.

Reasonably Foreseeable

A guiding principle under NEPA and General Conformity. Reasonably foreseeable means sufficiently likely to occur such that a person of ordinary prudence would take it into account in reaching a decision. Therefore, only emission sources that a normal person would take it into account in reaching an impact decision should be considered.

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 Insignificant
Previously a regional insignificant impact was defined under General Conformity Rule, as when a Federal action's direct and indirect emissions were less than or equal to 10 percent of the total emissions inventory for a particular criteria pollutant in a specified nonattainment or maintenance area. Now regional impact is subjective and open for interpretation based on the specific circumstances of the action. However, the General Conformity de minimis levels were established as annual emission rates (levels) that are too low to cause or contribute to exceeding one or more NAAQS. NAAQSs are the maximum amount of a criteria pollutant (or its precursors), averaged over a specified regional area and period of time (year), that can be present in outdoor air without harming public health and the environment. Therefore, any action resulting in annual net change emissions (direct and indirect) below the de minimis levels, is considered clearly insignificant to public health and the environment locally, regional, and cumulatively.

Rule of Reason
A guiding principle under NEPA and General Conformity. The "rule of reason" that 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 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.

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 public welfare (e.g., damage to animals, crops, and buildings).

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 (SO_2)
This is a corrosive and poisonous gas produced mainly from the burning of sulfur containing fuel. Very little SO_2 is emitted from any aviation sources.

Total Organic Gases (TOG)
This term includes all hydrocarbon compounds in an emission sample. See also HC and VOCs. These terms are <u>not</u> 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.