DAF Air Quality Impacts Analysis (AQIA) Guide - Fundamentals

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

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Based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

// Signed //
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TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

LIST OF FIGURES

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 *Department of Defense National Environmental Policy Act Implementing Procedures (DOD [DOW] NEPA Implementing Procedures)* is DOD's (now known as Department of War or DOW) procedural and interpretive guidance for implementing NEPA and provides the DOD [DOW]with a framework on how to comply with NEPA and the President's Council on Environmental Quality (CEQ) guidance. Additionally, for air quality, all NEPA documents must address the CAA Conformity Rules requirements when applicable. The DAF expanded on the *DOD [DOW] NEPA Implementing Procedures* with the *DAF NEPA Implementing Procedures* and this Guide to address specific air quality concerns with the objective to make defensible and credible Air Quality Impacts Analyses (AQIA), in accordance with NEPA, *DOD [DOW] NEPA Implementing Procedures, DAF NEPA Implementing Procedures*, and the *General Conformity Rule* (40 CFR 93 Subpart B), with the least impact on DAF resources (i.e., work effort and cost).

AQIA = Air Quality NEPA + CAA Conformity

The AQIA 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 AQIA net emissions assessment of air impacts); and *Level III, Advanced Air Quality Assessment* (a formal in-depth AQIA 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 insignificance threshold or indicator that, if not exceeded, allows exiting (ending) the assessment.

This Guide provides background information and comprehensive step-by-step instructions for performing Level I and II AQIAs and is intended to assist Air Quality Program Managers and/or Environmental Specialists in assessing basic air quality impacts for DAF actions. Furthermore, the Guide provides guidance, procedures, and methodologies for use in carrying out basic AQIAs that will be technically sufficient for the vast majority of DAF actions. Additionally, this Guide provides revised guidance and procedures for addressing Heat Absorbing Gases (HAGs), formally referred to as greenhouse gases (or GHGs), and their potential global impacts.

Advanced Level III assessments are outside the scope of this Guide. 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. Detailed guidance and procedures for AQIA Level III Assessments will be published in Volume 2 of this Guide (*DAF Air Quality Impacts Analysis (AQIA) Guide - Advanced Assessments*) which will replace the currently defunct *Air Force Air Quality EIAP Guide Volume 2*.

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.

On January 20, 2025, President Trump issued Executive Order (EO) 14154*, Unleashing American Energy*, which rescinded EO 11991*, Environmental Impact Statements*, which established the requirement for NEPA Implementing Regulations (40 CFR 1500-1508). Consequently, President Trump removed CEQ's prior asserted basis for issuing and maintaining its NEPA Implementing Regulations and directed CEQ to simultaneously issue guidance on implementing NEPA and to remove CEQ's NEPA Implementing Regulations. Additionally, the DAF has rescinded its NEPA regulations (formally *32 CFR 989, Environmental Impact Analysis Process (EIAP)*) because the CEQ's *NEPA Implementing Regulations*, which 32 CFR 989 was meant to supplement, have been rescinded, and because the DOW is promulgating Department-wide NEPA procedures that guide DAF's (and all DOW) current NEPA process. The *DOD [DOW] NEPA Implementing Procedures* are now DAF's procedural and interpretive guidance for implementing NEPA and provided the framework for this Guide.

1 INTRODUCTION

This Guide, DAF Air Quality Impacts Analysis (AQIA) Guide – Fundamental, provides guidance in assessing the air quality impacts 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) as amended by the Fiscal Responsibility Act of 2023; Council on Environmental Quality (CEQ) guidance; *Clean Air Act*, (CAA) as amended; and other related statutes, regulations, directives, and orders.

The *DOD [DOW] NEPA Implementing Procedures* and the *Department of the Air Force National Environmental Policy Act Implementing Procedures (DAF NEPA Implementing Procedures)* provide the DAF with a framework on how to comply with NEPA and CEQ's NEPA guidance. Additionally, for air quality (according to the *DOD [DOW] NEPA Implementing Procedures*), all NEPA 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). Although this Guide does not cover actions abroad (i.e., outside CEQ and EPA jurisdiction), many of the calculation methodologies and resources are still applicable.

1.1 AQIA Objective and Approach

The objective of this guide is to fill the regulatory and procedural gap to enable legally defensible and technically credible AQIAs that allow for "reasoned choice" amongst alternatives, in accordance with NEPA, the *DOD NEPA Implementing Procedures*, the *DAF NEPA Implementing Procedures*, and the *General Conformity Rules* (when applicable).

This guide has been established to fill the regulatory and procedural gaps relating to evaluating air emission sources within AQIAs to meet the "reasoned choice" and other requirements of NEPA. Unlike the CAA and most other environmental laws, NEPA has no implementing regulations to provide specific regulatory definitions, requirements, and procedures. Instead, NEPA mandates agencies to develop their own procedures for complying with NEPA. As a result, the DOD established the *DOD NEPA Implementing Procedures* which were supplemented by the *DAF NEPA Implementing Procedures*; however, both the DOD and DAF NEPA procedures do not provide any specific definitions, requirements, or procedures for addressing AQIAs. Given the lack of specific regulatory, DOD, or DAF definitions, requirements, and procedures, this guide's format differs from most air quality guidance documents in that it must stand alone in being both legally defensible and technically credible. Therefore, this guide has been uniquely formatted to provide background, specific definitions, legal and regulatory context, and specific AQIA procedures.

The DAF's AQIA approach is based on CEQ's 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 a proposed action against its negative effects, in order to decide whether or not the action should proceed. 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.

The data quality objectives for AQIAs 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; 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.

Rule of Reason + Concept of Proportionality = Keep it Simple

Low Emissions = Short Analysis

An AQIA (covering both NEPA and Conformity) 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 AQIAs that allow for reasoned choice amongst alternatives, in accordance with NEPA, the *DOD [DOW] NEPA Implementing Procedures*, the *DAF NEPA Implementing Procedures*, and 40 CFR 93 (for proposed actions that will occur in nonattainment and/or maintenance areas), with the least impact on DAF resources (i.e., work effort and cost).

1.2 AQIA Overview

The AQIA differs from other environmental resources or media being assessed under NEPA (e.g., water resources, biological resources, cultural resources, geological/soil resources, noise, solid waste, hazardous waste, and safety) because AQIA 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).

NAAQS are the primary and secondary standards established pursuant to section 109 of the Clean Air Act for each criteria pollutant as allowable levels in ambient (outdoor) air. The acronym "NAAQS" may refer to a single primary or secondary air standard for a single criteria pollutant, the air standards (primary and secondary) for a single criteria pollutant, or collectively as the air standards (primary and secondary) for more than one criteria pollutant. However, "NAAQSs" is also used is within this document on occasion for clarification to specifically refer to the air standards (primary and secondary) for more than one criteria pollutant.

Where General Conformity is an issue, actions that trigger an assessment under NEPA will also require a General Conformity Rule (GCR) evaluation. As such, the DAF generally conducts NEPA and GCR assessments merged into one assessment within the AQIA process. The AQIA 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 DAF Form 813, *Request for Environmental Impact Analysis*. The AQIA process then proceeds through up to three progressive levels of assessment (see *Figure 1-1, AQIA Process*) based on exceeding escalation criteria. The goal is to exit at the lowest possible level of assessment.

Note: While there are three progressive levels of AQIA process, they do not corollate to the three levels of NEPA assessment (i.e., CATX, EA, and EIS).

1.2.1 Level I, Exempt Action Screening

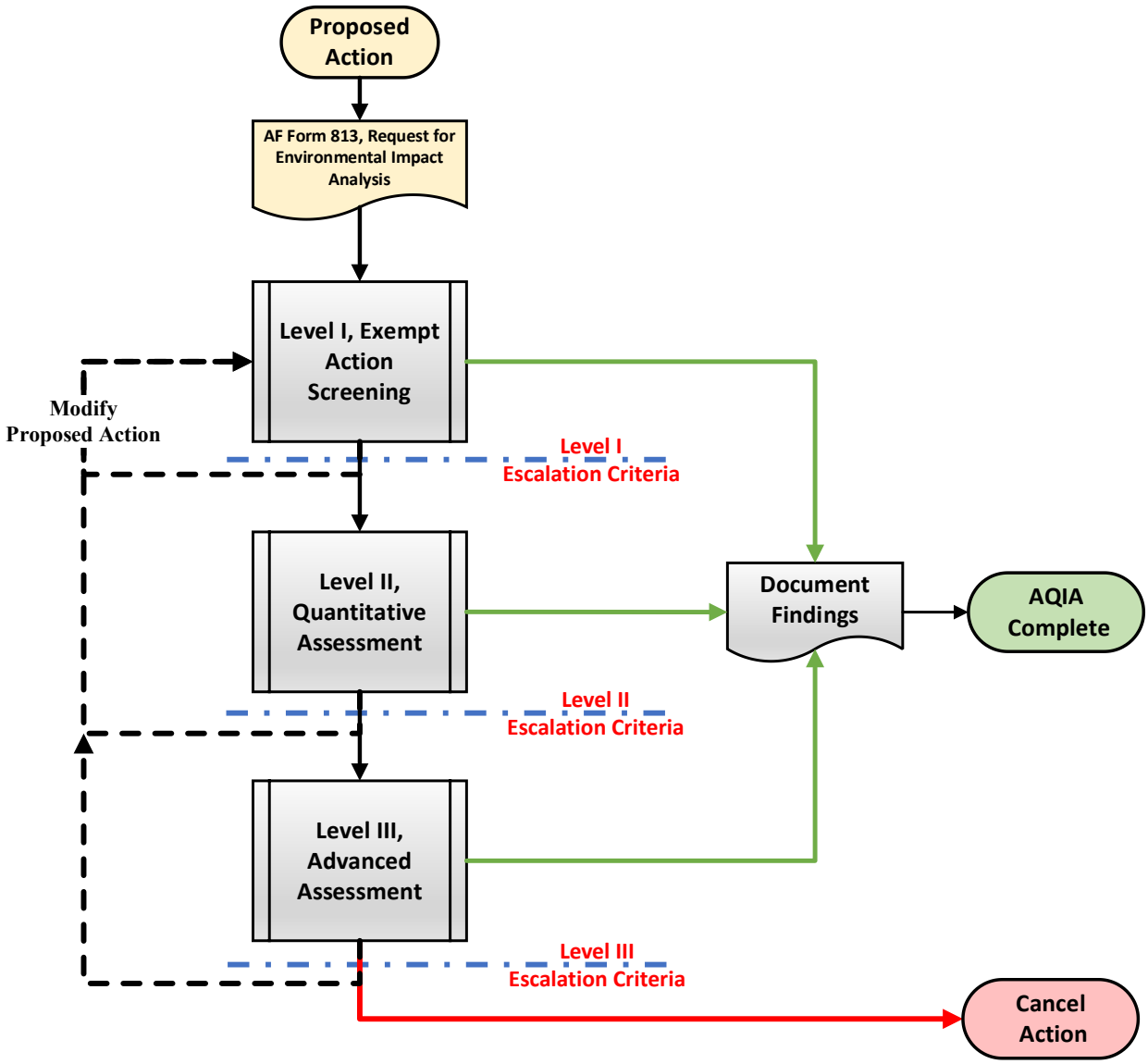
Under this level, the proposed action is assessed to determine if a formal emissions quantification assessment (*Level II, Quantification Assessment*) is required. If no "reasonably foreseeable" air emissions will occur or the proposed action is exempt (i.e., a Categorical Exclusion from NEPA and an 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 to be performed. A quantitative estimate of the annual net change in total direct and indirect emissions of pollutants of concern (or their precursors) must be calculated. Currently, the Air Conformity Applicability Model (ACAM) or the Simulated Air Impact Review (sAIR) models must be used throughout the DAF to perform this estimate. ACAM and sAIR provide simplified emission modeling that is adequate for a GCR Applicability Analysis and an initial NEPA Assessment for air quality. If the findings of the assessment indicate no significant impact on air quality, the findings are documented through the ACAM or sAIR automated reports for inclusion in the overall NEPA document. If the

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

Figure 1-1, AQIA Process



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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 into an overall formal Environmental Assessment (EA) or Environmental Impact Statement (EIS). Level III assessments will be addressed in the near future within Volume 2 of this *DAF AQIA Guide*.

1.3 How to Use This Guide

This Guide is written with two general intentions:

1) To provide background and an overview of the AQIA process, and

2) To provide specific steps for performing AQIAs.

The intent of this guide is to allow the user to jump to the specific chapter or section that they may need (e.g., jumping to the how-to sections); therefore, some information may be somewhat repetitive to ensure the user receives and is aware of important and relevant information when bypassing the rest of the guidance.

The first three chapters comprise the background and overview section, providing an introduction and overview of the DOW NEPA process and expansion into AQIA process. 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 AQIA Assessments.

Background Section:

Chapter 1, Introduction
Provides a quick cursory overview of the AQIA objectives, goals, and process; as well as an overview on how to navigate the *DAF AQIA Guide – Fundamentals*.

Chapter 2, Regulatory Context
Outlines environment-related regulations and directives associated with the AQIA process.

Chapter 3, Environmental Impact Analysis Process
Provides an overview of AQIA and the *DOD [DOW] NEPA Implementing Procedures*, as the DAF's implementation tool for NEPA and the framework for the DAF to comply with NEPA and the CEQ guidance.

How-to Section:

Chapter 4, AQIA Overview
Provides an overview of how the AQIA process expands on the *DOD [DOW] NEPA Implementing Procedures* to address specific air quality concerns with the objective to make a defensible and credible AQIA process, in accordance with the *DOD [DOW] NEPA Implementing Procedures*, NEPA, and 40 CFR 93, with the least impact on scarce DAF resources (i.e., work effort and cost).

Chapter 5, AQIA Level I, Exempt Action Screening
Provides an overview of the AQIA 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, AQIA Level II, Quantitative Assessment

Provides an overview of the AQIA 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, Heat Absorbing Gases (HAGs) & Impacts
Provides an overview and specific procedures on addressing Heat Absorbing Gases (HAGs) and their potential global impacts.

Chapter 8, AQIA Level III, Advanced Assessment
Briefly discusses the AQIA Level III, Advanced Air Quality Assessment, and refers users to the *DAF AQIA Guide – Advanced Assessments* (Volume 2 of this Guide) for step-by-step procedures.

Chapter 9, Special Issues
Addresses unique issues specific to the AQIA process. 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 *DOD and DAF NEPA Implementing Procedures*, 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 DOW/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 DOW/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 policies 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 the 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.

On June 3, 2023, President Biden signed into law the Fiscal Responsibility Act of 2023 (FRA), which made amendments to the NEPA. NEPA, as amended by the FRA, Public Law 118-5, furthers this national policy by requiring Federal agencies to prepare a "detailed statement" for proposed "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. 4332(2)(C). This statement must address: (1) The reasonably foreseeable environmental effects of the proposed agency action; (2) the reasonably foreseeable adverse environmental effects that cannot be avoided; (3) a reasonable range of alternatives to the proposed agency action, including an analysis of any negative environmental impacts of not implementing the proposed agency action in the case of a no action alternative, that are technically and economically feasible, and meet the purpose and need of the proposal; (4) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity; and (5) any irreversible and irretrievable commitments of resources that would be involved in the proposed action. 42 U.S.C. 4332(2)(C).

NEPA further mandates that Federal agencies ensure the professional and scientific integrity of environmental documents; use reliable data and resources when carrying out NEPA; and study, develop, and describe technically and economically feasible alternatives. 42 U.S.C. 4332(2)(D)-(F). NEPA provides procedures for making threshold determinations about whether an environmental document must be prepared and the appropriate level of environmental review. 42 U.S.C. 4336(a)-(b).

NEPA does not mandate particular results or substantive outcomes. Rather, NEPA requires Federal agencies to consider the environmental effects of proposed actions as part of agencies' decision-making processes. As amended by the FRA, NEPA provides additional requirements to facilitate timely and unified Federal reviews, including provisions clarifying lead, joint lead, and cooperating agency designations, generally requiring the development of a single environmental document, directing agencies to develop procedures for project sponsors to prepare environmental assessments and environmental impact statements, and prescribing page limits and deadlines. 42 U.S.C. 4336a. NEPA also sets forth the circumstances under which agencies

may rely on programmatic environmental documents, 42 U.S.C. 4663b, and adopt and use another agency's categorical exclusions. 42 U.S.C. 4336c.

2.1.2 Council on Environmental Quality (CEQ)

The Council on Environmental Quality (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 and the *Environmental Quality Improvement Act of 1970*, as amended (42 U.S.C. 4371-4374), *Reorganization Plan No. 1 of 1977* (July 15, 1977).

NEPA established CEQ as an advisory agency within the Executive Office of the President to assist and advise the President on certain environmental matters and the implementation of NEPA's national policy. 42 U.S.C. 4342. Specifically, NEPA charges CEQ with the duty and function to: (1) to assist and advise the President in the preparation of the Environmental Quality Report; [1] (2) to gather, analyze, and interpret information concerning the conditions and trends in the current and prospective quality of the environment for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of NEPA's national policy, and to compile and submit to the President studies on such conditions and trends; (3) to review and appraise Federal programs and activities for the purpose of determining the extent to which such programs and activities contribute to the achievement of NEPA's national policy, and to make relevant recommendations to the President; (4) to develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet the conservation, social, economic, health, and other requirements and goals; (5) to conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality; (6) to document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes; and (7) to make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the President may request. 42 U.S.C. 4344.

In addition, NEPA provides that all Federal agencies must consult with CEQ while identifying and developing methods and procedures to ensure that unquantified environmental amenities and values may be given appropriate consideration in the decision-making process, 42 U.S.C. 4332(2)(B), and to otherwise provide assistance to CEQ, 42 U.S.C. 4332(2)(B). CEQ may also designate a lead agency for environmental review of a proposed action when agencies are unable to reach agreement. 42 U.S.C. 4336a(a)(4)-(5).

2.1.3 CEQ NEPA Implementing Regulations (40 CFR 1500 to 1508) - REVOKED

In 1970, President Nixon issued EO 11514, *Protection and Enhancement of Environmental Quality*, which directed CEQ to "issue guidelines to Federal agencies for the preparation of detailed statements on proposals for legislation and other Federal actions affecting the environment, as required by [42 U.S.C. 4332(2)(C)]." CEQ issued interim guidelines in April of 1970 and revised them in 1971 and 1973. Then in 1977, President Carter originally directed CEQ to implement NEPA regulations via EO 11991, *Environmental Impact Statements*. CEQ promulgated its *NEPA Implementing Regulations* (40 CFR Parts 1500, 1501, 1502, 1503, 1504,

1505, 1506, 1507, and 1508) in 1978. Based on EO 11991, all three branches of government operated under the assumption that CEQ had the authority to issue the regulations.

In 2024 and early 2025 two Federal court cases challenged CEQ's authority to issue NEPA implementing regulations. In November 2024 the U.S. Court of Appeals for the D.C. Circuit found that CEQ lacked authority to issue binding regulations. (Marin Audubon Society v. Federal Aviation Administration, No. 23-1067 (D.C. Cir. Nov. 12, 2024). Then, on February 3, 2025, a Federal district court in North Dakota issued a decision expressly stating CEQ lacked authority to issue binding regulations. (Iowa v. CEQ, No. 1:24-cv-00089 (D.N.D. Feb. 3, 2025)). The court reasoned that because CEQ was established by NEPA, CEQ was authorized by statute only to "make recommendations to the President." Based on constitutional separation-of-powers principles, President Carter's EO 11991 could not legally confer regulatory authority on CEQ in the absence of congressional authorization.

Because CEQ had no regulatory authority, the court vacated the 2024 regulations that were challenged in the case before it, leaving "the version of NEPA in place on June 30, 2024, the day before the rule took effect." The court noted, however, that "it is very likely that if the CEQ has no authority to promulgate the 2024 Rule, it had no authority for the 2020 Rule or the 1978 Rule and the last valid guidelines from CEQ were those set out under President Nixon." The court concluded: "that for the past forty years all three branches of government operated under the erroneous assumption that CEQ had authority . . . If Congress wants CEQ to issue regulations, it needs to go through the formal process and grant CEQ the authority to do so."

On January 20, 2025, President Trump issued EO 14154, *Unleashing American Energy*, which rescinded EO 11991. Consequently, President Trump removed CEQ's prior asserted basis for issuing and maintaining its NEPA Implementing Regulations and directed CEQ to simultaneously issue guidance on implementing NEPA and to remove CEQ's NEPA Implementing Regulations. EO 14154 also instructs CEQ to coordinate the revision of agencies' implementing regulations. Therefore, as of April 11, 2025, *NEPA Implementing Regulations* (40 CFR 1500-1508) have been removed from the Code of Federal Regulations.

2.1.4 Post- NEPA Implementing Regulations NEPA Guidance

EO 14154 revoked the *NEPA Implementing Regulations* (40 CFR 1500-1508) and directed CEQ to provide guidance on implementing NEPA to expedite and simplify the permitting process. Given CEQ's *NEPA Implementing Regulations* were to be revoked, Federal agencies were instructed to follow their own NEPA implementing procedures. To ensure consistency with NEPA as amended by FRA, Federal agencies must revise or establish their NEPA implementing procedures (or establish such procedures if they do not yet have any) to expedite permitting approvals. On February 19, 2025, CEQ issued a Memorandum for Heads of Federal Departments and Agencies titled *Implementation of the National Environmental Policy Act*, which provided guidance to Federal agencies on how to implement NEPA and how to revise or establish their NEPA implementing Procedures to be consistent with NEPA and EO 14154. Important guidance for air quality impact assessments was provided in the February 2025 Memorandum:

- While agencies revise their NEPA implementing procedures, agencies should continue to follow their existing practices and procedures for implementing NEPA consistent with the text of NEPA, EO 14154, and CEQ guidance.

- Agencies should not delay pending or ongoing NEPA analyses while undertaking the revision of their NEPA implementing procedures.

- For such analyses, until revisions are completed via the appropriate rulemaking process, agencies should apply their current NEPA implementing procedures with any adjustments needed to be consistent with the NEPA statute as revised by the FRA.

- Although CEQ is rescinding their *NEPA Implementing Regulations* (40 CFR 1500-1508), agencies should consider voluntarily relying on those regulations in completing ongoing NEPA reviews or defending against challenges to reviews completed while those regulations were in effect.

Additionally, two specific CEQ guidance topics of interest to air quality impact assessments for the February 2025 Memorandum include:

- **Reasonably Foreseeable Effects:** Federal agencies should analyze the reasonably foreseeable effects of the proposed action consistent with section 102 of NEPA, which does not employ the term "cumulative effects;" NEPA instead requires consideration of "reasonably foreseeable" effects, regardless of whether those effects might be characterized as "cumulative."

- **Environmental Justice Considerations:** Due to a series of EOs revoking environmental justice requirements, NEPA documents should not include an environmental justice analysis, to the extent that this approach is consistent with other applicable law(s).
    - EO 14148*, Initial Rescissions of Harmful Executive Orders and Actions*, revoked EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*.
    - EO 14173*, Ending Illegal Discrimination and Restoring Merit-Based Opportunity*, revoked *EO 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All*.

2.1.5 Executive Orders

There are several EOs relating to NEPA that are general in nature but should be consulted as they may affect an action's impact analysis. These EOs, 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):** Directed Federal agencies to initiate measures needed to direct their policies, plans and programs to meet national environmental goals. The EO also directed the CEQ to issue guidelines to Federal agencies for the implementation of NEPA.

- **Executive Order 11991, *Environmental Impact Statements* (EO 11991):** Directed CEQ to issue regulations for the implementation of NEPA. CEQ promulgated its *NEPA Implementing Regulations* (40 CFR Parts 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, and 1508) in 1978. Based on EO 11991, all three branches of government erroneously operated under the assumption that CEQ had authority to issue the regulations. However, on January 20, 2025, President Trump issued EO 14154, *Unleashing American Energy*, which rescinded EO 11991.

- **Executive Order 12114, *Environmental Effects Abroad of Major Federal Actions* (EO 12114):** The purpose of this EO 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 CEQ, for implementing the Order's requirements.

2.1.6 Clean Air Act (CAA)

In 1967, the first CAA provided the 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, particulate matter, 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 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.

- **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 VOCs 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.

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)	Maximum arithmetic mean of 3 consecutive monthly means in a 3-year period
Nitrogen Oxides (NOx, monitored as NO_2)		primary	1-hour	100 ppb	Annual 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
Particulate Matter (PM)	**$PM_{2.5}$**	primary	Annual	9 $\mu g/m^3$	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)	Annual 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	Annual	10 ppb	Annual mean, averaged over 3 years

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 $\mu g/m^3$ 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. Additionally, some areas may have certain continuing implementation obligations under the prior revoked 1-hour (1979) and 8-hour (1997) O_3 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/m^3 = micrograms per cubic meter of air

Source: EPA (Accessed on November 11, 2025) 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.

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 amended 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)

2.1.7 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 highways and transit, only the General Conformity Rule applies. Therefore, **General Conformity applies to all DAF actions in designated nonattainment or maintenance areas**.

2.1.8 Environmental Effects Abroad of Major DOD [DOW]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 [DOW]Actions*, which effectively implements NEPA overseas. Department of the Air Force Instruction (DAFI) 32-7091, *Environmental Management Outside the United States*, identifies requirements for environmental compliance, remediation, and NEPA at Air Force installations and other enduring locations in overseas areas. Therefore, AQIA process applies to DAF actions impacting the environment both within the EPA's jurisdiction and outside the U.S.

2.2 Federal Requirements and Documents - DOW/DAF Specific

2.2.1 DOD [DOW]National Environmental Policy Act Implementing Procedures

DOW's broader procedural and interpretive guidance for the implementation of NEPA in accord with NEPA 102(2)(B), 42 USC4332(B). Under the *DOD NEPA Implementing Procedures,* DOW and its components have revised their NEPA implementing procedures to conform to the CAA 2023 statutory amendments, to respond to President Trump's direction in EO 14154, and to address the pathologies of the NEPA process and NEPA litigation as identified by the Supreme Court. (DOD 2025)

2.2.2 Air Force Policy Directive (AFPD) 32-70 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. 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)

2.2.3 Department of the Air Force Manual (DAFMAN) 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 DAFMAN 32-7002 mandates the use of the most accurate calculation methodologies or estimating techniques and tools validated by the AFCEC/CZ Air Quality Subject Matter Expert (SME). Currently the AFCEC/CZ Air Quality SME has only validated

the Air Conformity Applicability Model (ACAM) and the Simulated Air Impact Review (sAIR) as the only approved automated air quality impact assessment tools for performing all air quality impact assessments under both NEPA and General Conformity. (DAFMAN 32-7002)

2.2.4 Department of the Air Force Instruction (DAFI) 32-7091: *Environmental Management Outside the U.S.*

Identifies requirements for environmental compliance, remediation, and NEPA (DAFI 32-7091 still refers to EIAP) at Air Force installations and other enduring locations in overseas areas. Chapter 5 implements and supplements 32 CFR 187, *Environmental Effects Abroad of Major DOD [DOW]Actions*.

2.2.5 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 NEPA 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.

2.2.6 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, state and local NEPA-related regulations do not apply to Federal actions 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 to 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 AQIA 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

As a guidance, this document has no authority to assign or dictate roles and responsibilities for AQIA execution. All roles and responsibilities for AQIA execution (including NEPA and Conformity) are prescribed in the *DOD [DOW] NEPA Implementing Procedures* (general roles and responsibilities), *DAF NEPA Implementing Procedures* (general DAF roles and responsibilities), and DAFMAN 32-7002 (air quality related roles and responsibilities).

3 AIR QUALITY IMPACT ANALYSIS (AQIA) PROCESS

The *DOD [DOW] NEPA Implementing Procedures* are the DAF's implementation tool for NEPA which provides the DAF with a framework on how to comply with NEPA and CEQ guidance. Additionally, for air quality (according to the *DOD and DAF NEPA Implementing Procedures*), all NEPA documents must address the CAA *Conformity Rules* requirements.

Note: On January 20, 2025, President Trump issued EO 14154, *Unleashing American Energy*, which rescinded EO 11991. Consequently, the President Trump removed CEQ's prior asserted basis for issuing and maintaining its *NEPA Implementing Regulations* (40 CFR 1500-1508) and directed CEQ to simultaneously issue guidance on implementing NEPA and to remove CEQ's NEPA Implementing Regulations. EO 14154 also instructs CEQ to coordinate the revision of agencies' implementing regulations. Consequently, the DAF has rescinded its NEPA regulations (formally 32 CFR 989, *Environmental Impact Analysis Process (EIAP)*).

Therefore, **as of April 11, 2025, the *NEPA Implementing Regulations* (40 CFR 1500-1508) and EIAP (32 CFR 989) have both been removed from the Code of Federal Regulations**.

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 the 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 is influenced 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.

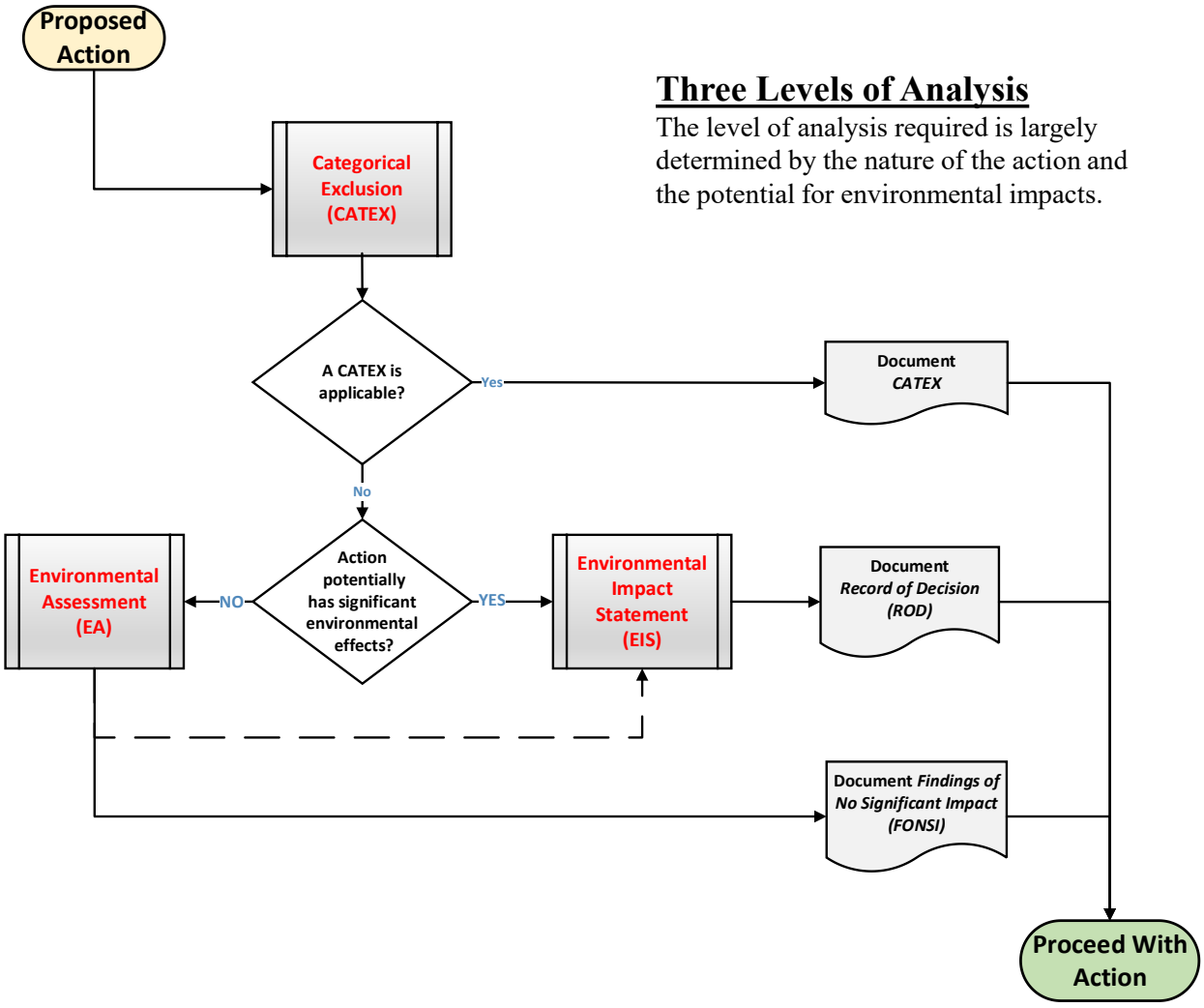
There are a few exemptions and exclusions present within the NEPA's guidelines, including specific Federal projects detailed in legislation and EPA exemptions. Exemptions also apply when compliance with other environmental laws require an analysis similar to the impact

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 an agency has developed a proposed action, the agency will enter the initial analytical approach to help determine if a Categorical Exclusion (CATEX) is applicable or whether the agency will need to pursue the path of an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). While the NEPA

Process is generally progressive in nature, the DAF often skips over an EA and goes directly to an EIS based on the likely potential for significant environmental impacts.

3.1.2.1 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 of which have been found to have no such effect on 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, extraordinary circumstances may preclude the use of a CATEX. Extraordinary circumstances potentially include, but are not limited to, the action is proposed to occur in a NAAQS nonattainment or maintenance areas and/or 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 on a particular situation.

3.1.2.2 Environmental Assessment (EA) or Environmental Impact Statement (EIS)

If it is determined that the proposed action does not meet the requirements of a CATEX, an EA or an EIS is required. The level of NEPA review required (EA or EIS) depends on the potential environmental impact of the proposed actions. An EA is a concise assessment and resulting public document to support DAF's determination of whether to prepare an EIS or a Finding Of No Significant Impact (FONSI). An EIS is required when the proposed action will have significant environmental impacts that must be further analyzed. If it seems unlikely that a proposed action will have a significant effect on the environment, the DAF will perform an EA. However, if it is likely that a proposed action will have a significant effect on the environment, DAF often skips over an EA and goes directly to an EIS.

3.1.2.3 Environmental Assessment (EA)

The second level of assessment in 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 FONSI, a determination that an 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 the proposed action, 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.

3.1.2.4 Environmental Impact Statement (EIS)

The highest level of assessment in 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 its 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 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, the 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, which 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 SME (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 protection 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 NEPA documents but are separate and distinct requirements and should be either addressed separately in independent documents or discussed independently in a single document. To increase the utility of a *Determination*, the *Determination* should be completed prior to the completion of the NEPA assessment to allow incorporation of the information from the conformity evaluation(s) into the NEPA 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: *GCR Applicability Analysis* and *GCR Determination*. A *Conformity Evaluation* is the entire process from the *GCR Applicability Analysis* through the *GCR Determination* that is used to demonstrate that an action conforms to the requirements of this subpart (see *Figure 3-2, GCR Evaluation Process*). The Conformity Evaluation Process is generally 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.

GCR Conformity Evaluation = GCR Applicability Analysis + GCR Determination (if required)

3.3.1 GCR Applicability Analysis

Step 1, *GCR 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 AQIA Process as progressive phases:

- **Exempt Screening (AQIA Level I):** The proposed action is assessed to conclude if a formal quantitative Applicability Analysis is required. If the proposed action is exempt from or already Presumed to Conform (PTC) for General Conformity, no further action is required for the GCR. However, you must still perform a NEPA assessment for air quality (i.e., an AQIA Assessment).

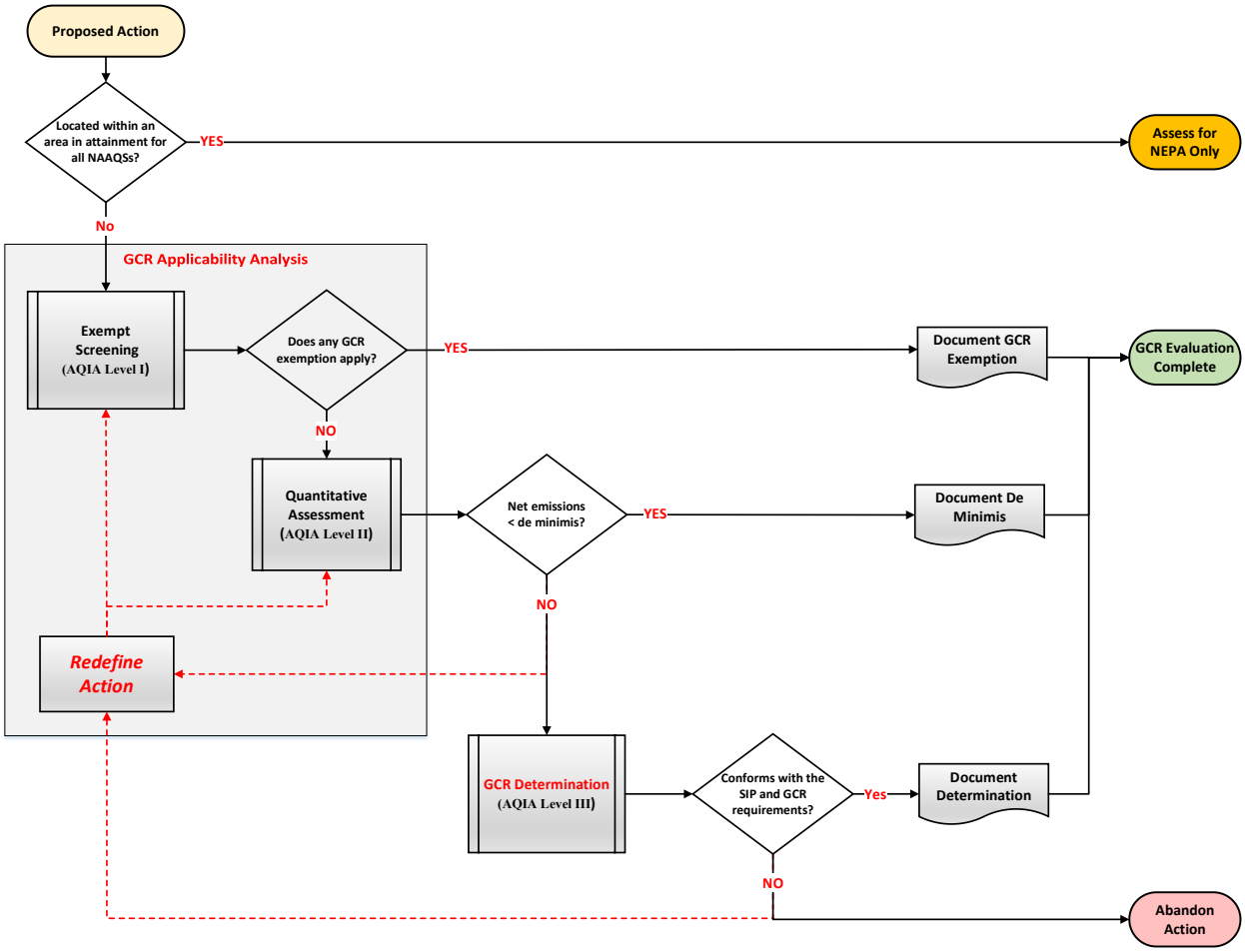
- **Quantitative Assessment (AQIA Level II):** A formal quantitative Applicability Analysis is performed using the DAF's automated Air Conformity Applicability Model

(ACAM) or other AFCEC approved automated tool. ACAM or Simulated Air Impact Review (sAIR) (currently the only AFCEC approved automated air quality impact assessment tools) will perform a quantitative analysis of projected emission against regulatory thresholds (de minimis values) which trigger a GCR Determination.

If the analysis indicates the proposed action has a specific exemption or the net-change in emissions are below the GCR 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 and the net-change in emissions are above the GCR de minimis thresholds, the process proceeds either to:

- Step 2, a *GCR Determination*
- Return to Step 1, *GCR Applicability Analysis,* **after redefining the action to reduce the net emissions.**

Figure 3-2, GCR Evaluation Process



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 the 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 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.

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 in 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 an AQIA, NEPA, and GCR Begin?

The AQIA Process is the DAF's implementing tool for NEPA air quality and GCR requirements. NEPA analysis is required to assess impacts of all DAF actions, while a GCR evaluation is only required for an action projected to occur within a NAAQS nonattainment or maintenance area. Generally, actions that trigger NEPA will also require a Conformity Evaluation if the action is located in a nonattainment or maintenance area. Therefore, Conformity evaluation(s) should be merged into one assessment with NEPA evaluations and be incorporated into the AQIA process/document. The AQIA begins early in the planning process for a proposed action. DAF's AQIA 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 a NEPA assessment 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 effects 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. The *DOD [DOW] NEPA Implementing Procedures* lists 38 activities that DAF has categorically excluded absent unique circumstances (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). According to NEPA Sec. 106 (2), CATEX actions do not require further environmental analysis in an EA or an EIS. However, the *DOD [DOW] NEPA Implementing Procedures* states that extraordinary circumstances may preclude the use of a CATEX and specifically lists General Conformity applicability as an extraordinary circumstance.

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 (*DOD [DOW] NEPA Implementing Procedures*, Part 1.6) summarizes the findings, describes the Conformity Evaluation, and explains 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 NEPA 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, aircraft 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.
- 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 makers with 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.
- Statements 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 AQIA 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 guidance and ensuring Federal agency compliance with NEPA. The *DOD [DOW] NEPA Implementing Procedures* 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 [DOW]Actions*, effectively implements NEPA overseas and DAFI 32-7091, *Environmental Management Outside the United States*, identifies requirements for environmental impacts assessments at Air Force installations in overseas areas. Therefore, AQIAs apply to DAF actions impacting the environment both within the EPA's jurisdiction and outside the U.S.

The DOD [DOW] NEPA Implementing Procedures and the *DAF NEPA Implementing Procedures* provides the DAF with a methodical interdisciplinary approach to environmental planning and the evaluation of proposed actions that may affect the environment. The *DOD and DAF NEPA Implementing Procedures* 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 *DOD [DOW] NEPA Implementing Procedures* to address specific air quality concerns through DAFMAN 32-7002, *Environmental Compliance and Pollution Prevention* and the and the *DAF NEPA Implementing Procedures*. This Guide implements the air quality requirements of DAFMAN 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 guidance as they relate to air quality.

4.1 AQIA Process - Air Quality Background

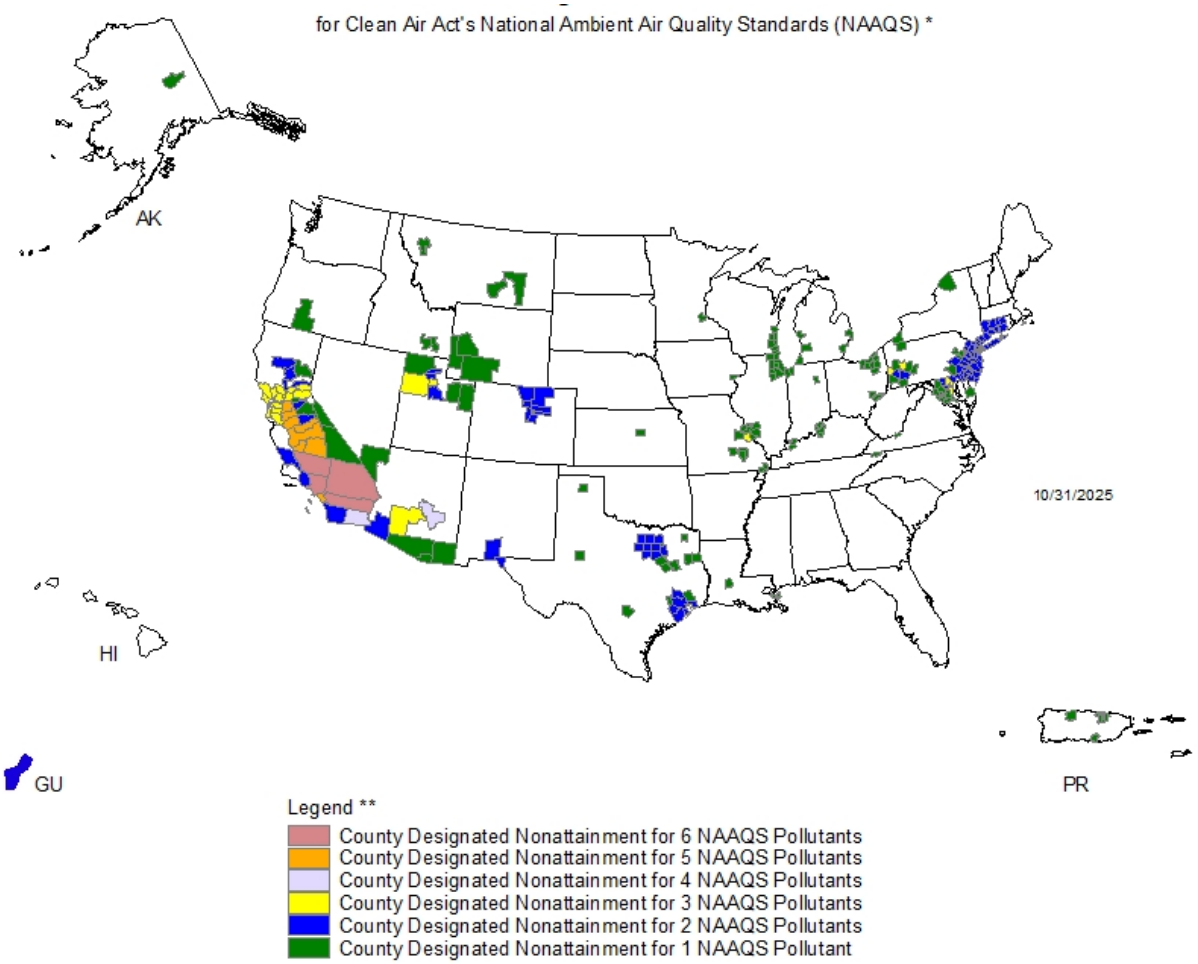
4.1.1 Clean Air Act and Amendments (CAAA)

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 (PM10 & PM2.5), nitrogen oxides (NO_X), carbon monoxide (CO), ozone (O_3), and lead (Pb). Sulfur dioxides (SO_2) and nitrogen dioxides (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 pollutants are designated as nonattainment areas by the EPA. The air quality agency responsible 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.

Source: EPA (Accessed on November 13, 2025)
https://www3.epa.gov/airquality/greenbook/mapnpoll.html

4.1.2 National Environmental Policy 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 air pollutant emissions as reasonably foreseeable consequence of the proposed action. Reasonably foreseeable air pollutant emissions refer to pollutant emissions a person of ordinary prudence would consider in making an informed decision; therefore, they generally include all criteria pollutants (and their precursors) and Heat Absorbing Gases (as carbon dioxide equivalence or CO_2e). Additionally, air quality assessments must include an analysis and conclusion which addresses the attainment status of the relevant 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 the 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(s) (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 and are generally routine and recurring in nature. GCR exemptions fall under either a regulatory exemption or a PTC exemption. 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 then the AQIA 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 AQIA and DAF 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.

In accordance with NEPA and the *DOD [DOW] NEPA Implementing Procedures*, DAF must make a good-faith effort to fulfill NEPA's requirements within the Congressional timeline; that such effort is substantially complete; that, in the DOW's expert opinion, it has thoroughly considered the factors mandated by NEPA; and that, in the DOW's judgment, the analysis contained therein is adequate to inform and reasonably explain DOW's final decision regarding the proposed federal action.

Additionally, DAFMAN 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 manual provides further and more specific NEPA requirements for addressing potential air quality impacts associated with DAF proposed actions.

4.2.1 AQIAs

All actions must be evaluated for potential air quality impacts following the AQIA process as outlined in DAFMAN 32-7002 (or its successor document) and the most recent version of the *DAF AQIA Guide*. The AQIA process is an all-in-one air impact assessment that covers both NEPA and *General Conformity Rule* air quality requirements. The AQIA 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 levels are independent of the required level of NEPA analysis (e.g., CATEX, EA, or EIS).

4.2.2 Pollutants of Concern (POCs)

NEPA requires the evaluation of reasonably foreseeable environmental effects of the proposed agency action (NEPA Sec. 102 (C) (i)). Reasonably foreseeable environmental effects include any effects a person of ordinary prudence would take into consideration in making a decision. For an AQIA, the effects are attributed to air pollutants of concern (POCs) that may endanger public health and welfare. As previously discussed, the CAA established six criteria pollutants (SOx, PM, NOx, CO, O3, and Pb) as primary POCs because they may reasonably be anticipated to endanger public health and welfare. Additionally, CO_2e has become a secondary POC due to the publicity of recent scientific studies.

Therefore, the following is the list of POCs to be addressed in every AQIA:

- **Primary POCs**
    - Sulfur oxides (SO_X)
        - Sulfur dioxides (SO_2) is used as the indicator to measure SOx in the ambient air
    - Particulate matter (PM)
        - PM_{10} (particulate matter less than or equal to 10 microns)
        - $PM_{2.5}$ (particulate matter less than or equal to 2.5 microns)
    - Nitrogen oxides (NO_X)
        - Nitrogen dioxides (NO_2) are used as the indicator to measure NOx in the ambient air
    - Carbon monoxide (CO)
    - Ozone (O_3)
        - Volatile Organic Compounds (VOCs) and NOx precursors
    - Lead (Pb)
- **Secondary POCs**

- Carbon Dioxide Equivalent (CO_2e)
  - As the sum of carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) after adjusting CH_4 and N_2O with their Global Warming Potential.
  - Reporting CH_4 and N_2O is optional

4.2.3 Methods and Procedures

In accordance with NEPA [42 USC § 4332(2)(B)], the DAF (as an agency of the Federal Government) identified and developed DAF-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., AFCEC/CZ Air Quality SME approved, and listed on an approved product list if installed on government computer systems) 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 DAF Air Quality SME (AFCEC Compliance and Technical Support Branch; AFCEC/CZTQ).

(1) Current approved methods and procedures are published in the most recent version of the *DAF AQIA Guide*. It is important to note that DAFMAN 32-7002 mandates the use of the ACAM or sAIR as the only approved automated air quality impact assessment tools for performing all air quality impact assessments under both NEPA and General Conformity. (DAFMAN 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 used 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 SME to ensure professional and scientific integrity as required by NEPA.

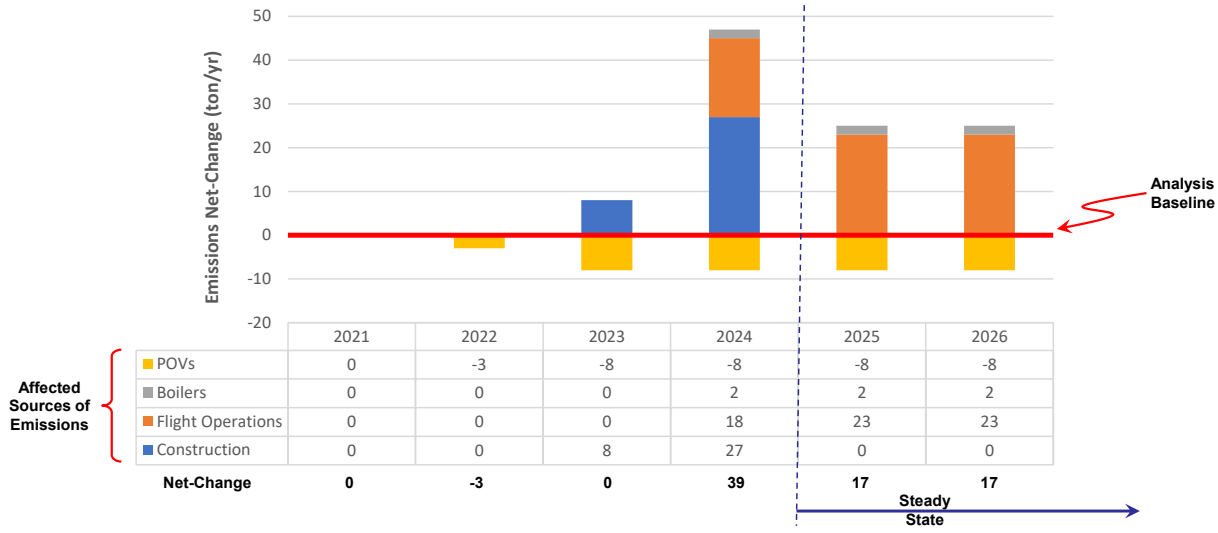
4.3 Net Change in Emissions Analysis

A Net Change in Emissions Analysis (or Net Emissions Analysis) is an estimation of the annual total (increases and decreases) criteria pollutant (or precursors) emissions (direct and indirect) caused by the Federal action. Simply the totaling of all direct and indirect emissions increases and decreases caused by the Federal action for each criteria pollutant (or precursors).

The primary scientifically quantifiable NEPA and/or General Conformity air analyses (i.e., *AQIA Level II, Quantitative Assessment*) are net-change in emissions analyses, not baseline inventory analyses. According to DAF guidance and the General Conformity Rule (40 CFR 93 Subpart B), a net-change in emissions analysis is an inventory of "effects or impacts" associated with the action under analysis which only includes the emission sources/activities that will add to or reduce direct or indirect emission (i.e., net change) that are caused by the action. The starting point (baseline) for a net change in emissions analysis is zero or the current situation (no action, 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 *DOD [DOW] NEPA Implementing Procedures*, 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." 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) that are caused by the action.

Figure 4-2, Net Change Inventory



Affected Sources of Emissions	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 installation-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 (maybe 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 often change over time. Therefore, not only is using a baseline other than zero (e.g., installation-wide AEI) technically inappropriate in NEPA/General Conformity air analyses, doing so would likely be considered technically deficient and wasting resources.

4.4 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 insignificant indicators (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. See *Table 4-1, Air Quality Insignificance Indicators*, for specific insignificance indicators.

Insignificance indicators are based on major source thresholds in the Clean Air Act. This is consistent with thresholds used for New Source Review applicability and with de minimis emission levels used for the GCR. Using these thresholds/levels as an indicator ensures that only Federal actions potentially significant for air quality impacts are subject to a comprehensive analysis.

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

4.4.1 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 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).

Table 4-1, Air Quality Insignificance Indicators

Regulated Pollutant	Pollutant of Concern	Area Classification (attainment Status)		Indicator * (ton/yr)
O_3	O_3 precursors (VOC or NOx)	Nonattainment	Extreme	10
			Severe-17 or Severe-15	25
			Serious	50
			Moderate or Marginal Outside ozone transport zone	100
			Moderate or Marginal Inside ozone transport zone	50 for VOC & 100 for NOx
		Maintenance	Outside ozone transport zone	100
			Inside ozone transport zone	50 for VOC & 100 for NOx
		Attainment		250
CO, SO_2, or NOx	CO, SO_2, or NO_2	Nonattainment		100
		Maintenance		100
		Attainment		250
PM10	PM10	Nonattainment	Serious	70
			Moderate	100
		Maintenance		100
		Attainment		250
PM2.5	PM2.5 and potentially its precursors (SO_2, NOx, VOC, NH_3)	Nonattainment	Serious	70
			Moderate	100
		Maintenance		100
		Attainment		250
Pb	Pb	Nonattainment		25
		Maintenance		25
		Attainment		25
GHG	CO_2e	All Locations		75,000

NOTE: O3 = ozone, VOC = volatile organic compounds, CO = carbon monoxide, SO_2 = sulfur dioxide, NOx = nitrogen oxides, NO_2 = nitrogen dioxide, PM10 = particulate matter ≤ 10 micrometers, PM2.5 = particulate matter ≤ 2.5 micrometers, NH_3 = ammonia, Pb = lead, GHG = greenhouse gas, and CO_2e = CO_2 equivalent.

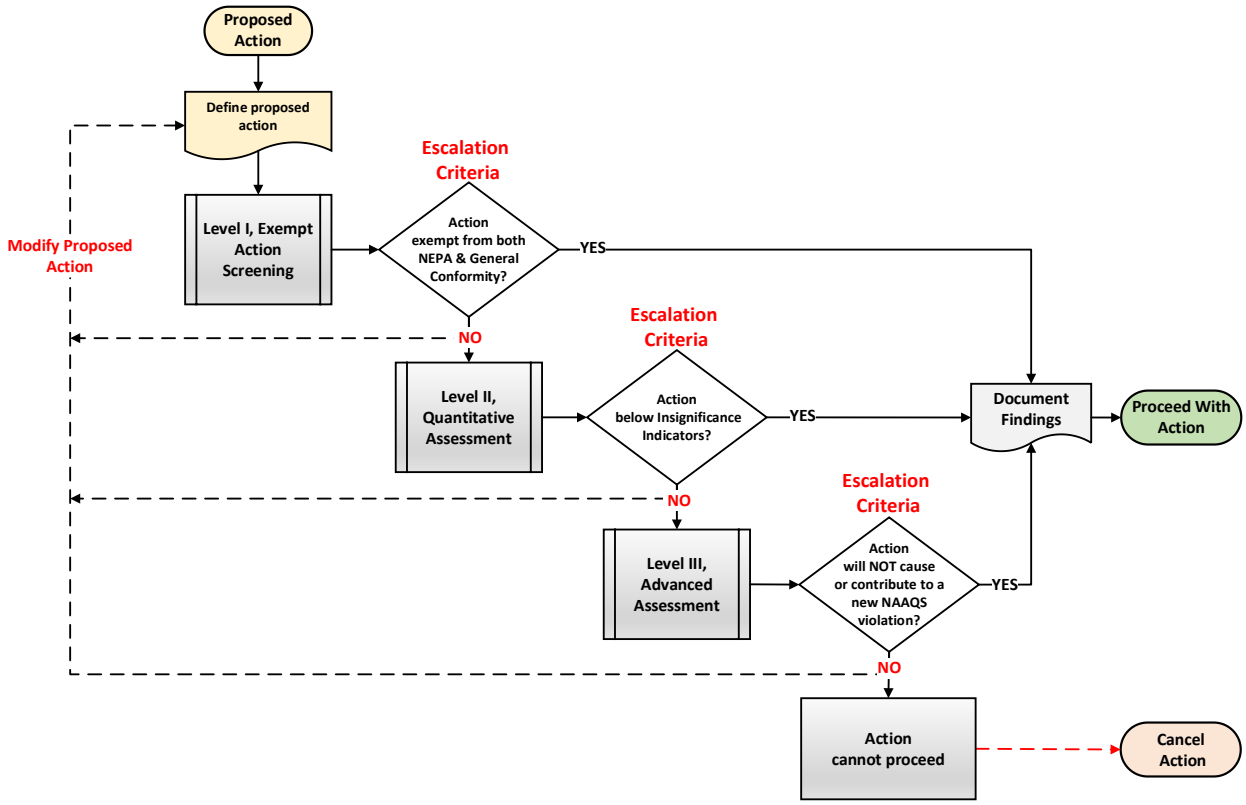
* Indicator for nonattainment and maintenance areas are actual General Conformity threshold value.

Reference: *Level II, Air Quality Quantitative Assessment Insignificance Indicators (AFCEC/CZTQ April 2023)*

4.4.2 AQIA Escalation Criteria

General Conformity has clearly defined escalation thresholds for all three AQIA levels (phases) of assessment; however, NEPA air quality assessments only have one threshold, Categorically Excluded (CATEX), applied at the AQIA Level I. Therefore, DAF has established insignificance indicators for NEPA assessment (i.e., actions that will occur within an area that is in attainment with all NAAQSs) for AQIA Levels II and III (see *Level II, Air Quality Quantitative Assessment Insignificance Indicators (AFCEC/CZTQ April 2023)*, for details).

Figure 4-3, AQIA Escalation Criteria



The figure above (*Figure 4-3, AQIA Escalation Criteria)* demonstrates the progression or escalation of the AQIA process. 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.

4.4.2.1 Level I: Escalation Criteria = Not Exempt

In *Level I, Exempt Action Screening*, the proposed action is screened against exemptions (i.e., CATEX and/or GCR 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).

4.4.2.2 Level II: Escalation Criterion = Exceeds Insignificance Indicator

The Insignificance Indicators (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 Insignificance Indicators are used as both insignificance thresholds and escalation criterion. In Level II assessments, the Insignificance Indicators 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 is screened against the applicable Insignificance Indicator values (de minimis values for General Conformity). If the worst year's annual net change in emissions is equal to or exceeds the Insignificance Indicator levels, the proposed action is considered potentially significant and the assessment must proceed to a *Level III, Advanced Assessment*.

4.4.2.3 Level III, Escalation Criterion = Exceedance of Any NAAQS

Level III assessments are detailed and advanced. For General Conformity, a Level III assessment consists of performing a General Conformity Determination. The threshold for a General Conformity Determination is any NAAQS. 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 one or more NAAQSs 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 existing violation.

Given there is no defined NEPA threshold for a Level III assessment, the NAAQSs are 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 on air quality.

4.5 AQIA Data Quality Objective

DAF's strategy for approaching the AQIA 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.

AQIA (NEPA and General Conformity) analysis is an impact assessment based on a hypothetical reasonably foreseeable 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 AQIAs, in accordance with 40 CFR 93 Subpart B, with the least impact on DAF resources (i.e., work effort and cost).

4.6 Overview of AQIA (Air Quality NEPA) Levels

AQIA is both a subset and an expansion of the *DOD [DOW] NEPA implementing Procedures*. As a subset to the *DOD [DOW] NEPA implementing Procedures*, it addresses air quality impacts as required under NEPA. As an expansion to the *DOD [DOW] NEPA implementing Procedures*, it addresses air quality impacts as required under the CAA General Conformity Rule.

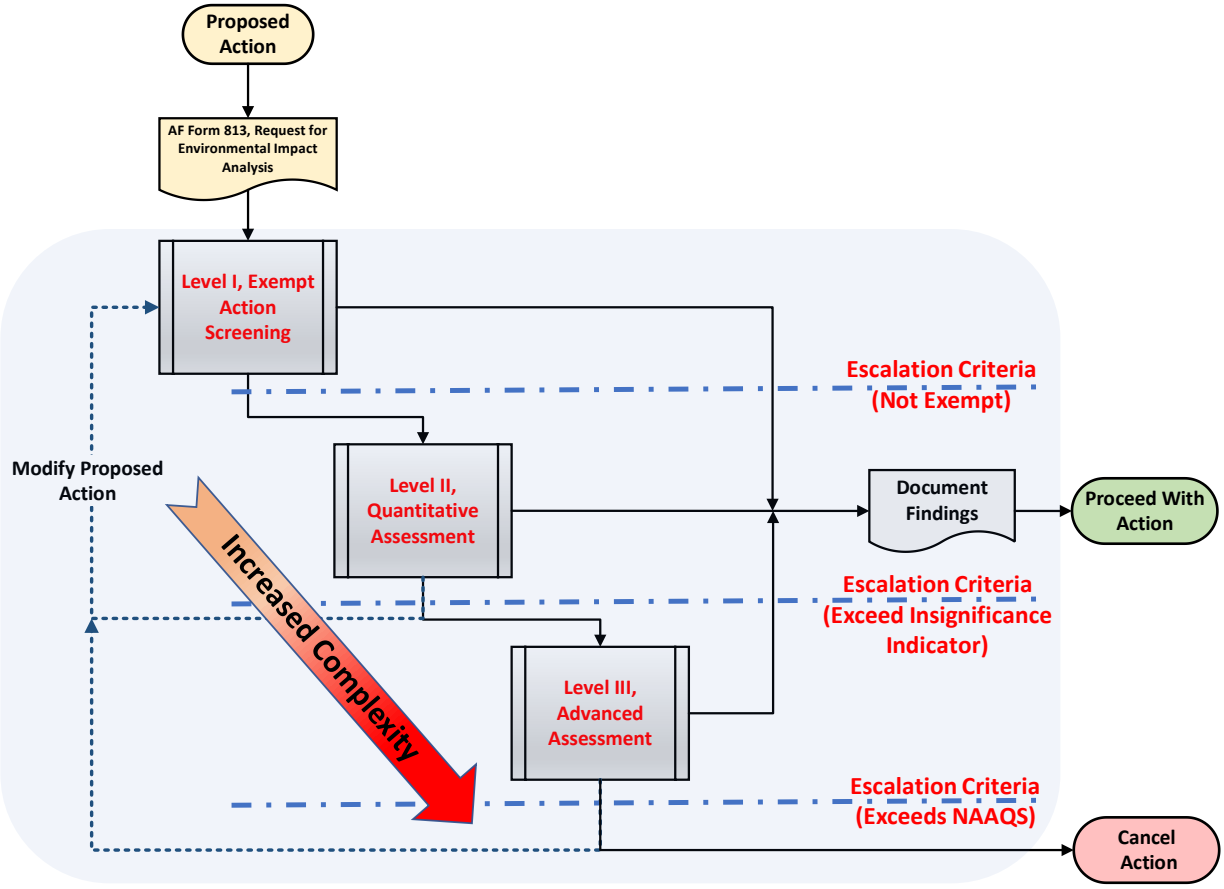
AQIA = Air Quality NEPA + General Conformity (when applicable)

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 AQIA process. The AQIA 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 DAF Form 813, *Request for Environmental Impact Analysis*. The AQIA process then proceeds through up to three progressive levels of assessment (see *Figure 4-4, AQIA Process)* based on escalation criterion.

4.7 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 "reasonably foreseeable" 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. Note that "reasonably foreseeable" means sufficiently likely to occur such that a person of ordinary prudence would take it into account in reaching a decision.

Figure 4-4, AQIA Process



Note: While there are three progressive levels of AQIAs, they do not correlate to the three levels of NEPA assessment (i.e., CATEX, EA, and EIS).

4.7.1 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. Note, while you are technically allowed to apply more than one CATEX to an action, if there are no extraordinary circumstances, applying two or more CATEXs involving air emissions is a potential extraordinary circumstance for air quality that must be evaluated.

4.7.2 Pollutant of Concern

Under the AQIA process, the air pollutants of concern include: all criteria pollutant (or their precursors) and CO_2e. However, General Conformity requires analysis only of emissions of those criteria pollutants (or their precursors) for which the area is designated nonattainment or maintenance.

4.7.3 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.

4.7.4 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).

4.8 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) or the Simulated Air Impact Review (sAIR) 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 NEPA document. The following points are important in performing a quantitative estimate of the annual net emissions:

4.8.1 Worst Case Annual Net Change in 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 with no (or negligible) net increase or decrease in emissions attributed to the action from the previous year.

4.8.2 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.

4.8.3 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 NEPA 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.

4.9 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 into an overall formal EA or EIS. If General Conformity is applicable, a "determination" that the action conforms to the applicable SIP is required.

4.9.1 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 in the frequency or severity of any violation of any NAAQS. This often requires advance modeling such as dispersion modeling.

4.9.2 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.

4.10 DAF Form 813 Air Quality Review Process

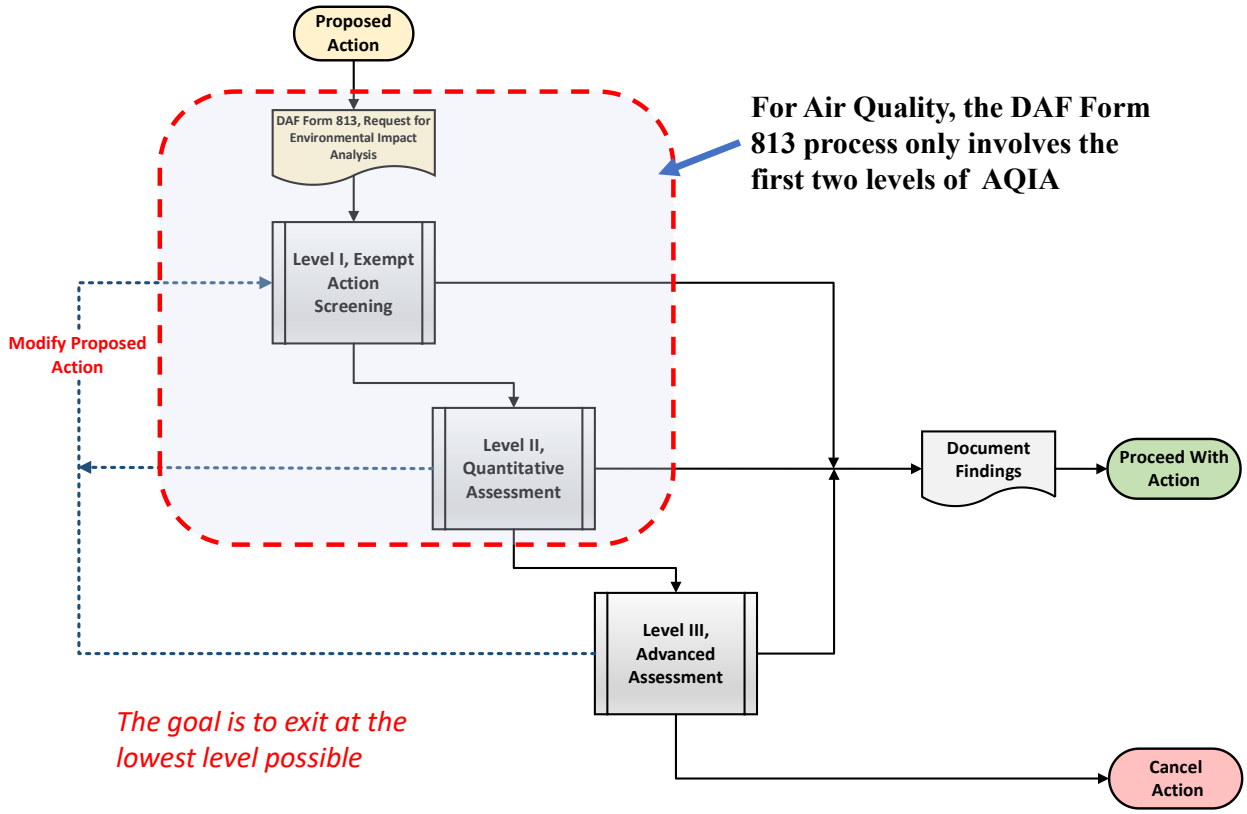
Given the AQIA is a progressive process which can be applied into any level of NEPA documentation (including documenting air impacts with an DAF Form 813), the DAF Form 813 air quality review process follows the AQIA in a corresponding progressive manner up to a Level II assessment (see *Figure 4-5, DAF Form 813 Review Process*).

4.10.1 DAF Form 813

Generally, the AQIA process begins with a Proponent organization submitting an DAF Form 813, *Request for Environmental Impact Analysis*, for a proposed action.

The DAF uses DAF 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 DAF Form 813. As part of Section I of the DAF 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 DAF Form 813 and the process is completed.

Figure 4-5, DAF Form 813 Review Process



4.10.2 DAF Form 813 – Within AQIA 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 AQIA 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 DAF Form 813 and the process is completed.

4.10.3 DAF Form 813 – Within AQIA Level II

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

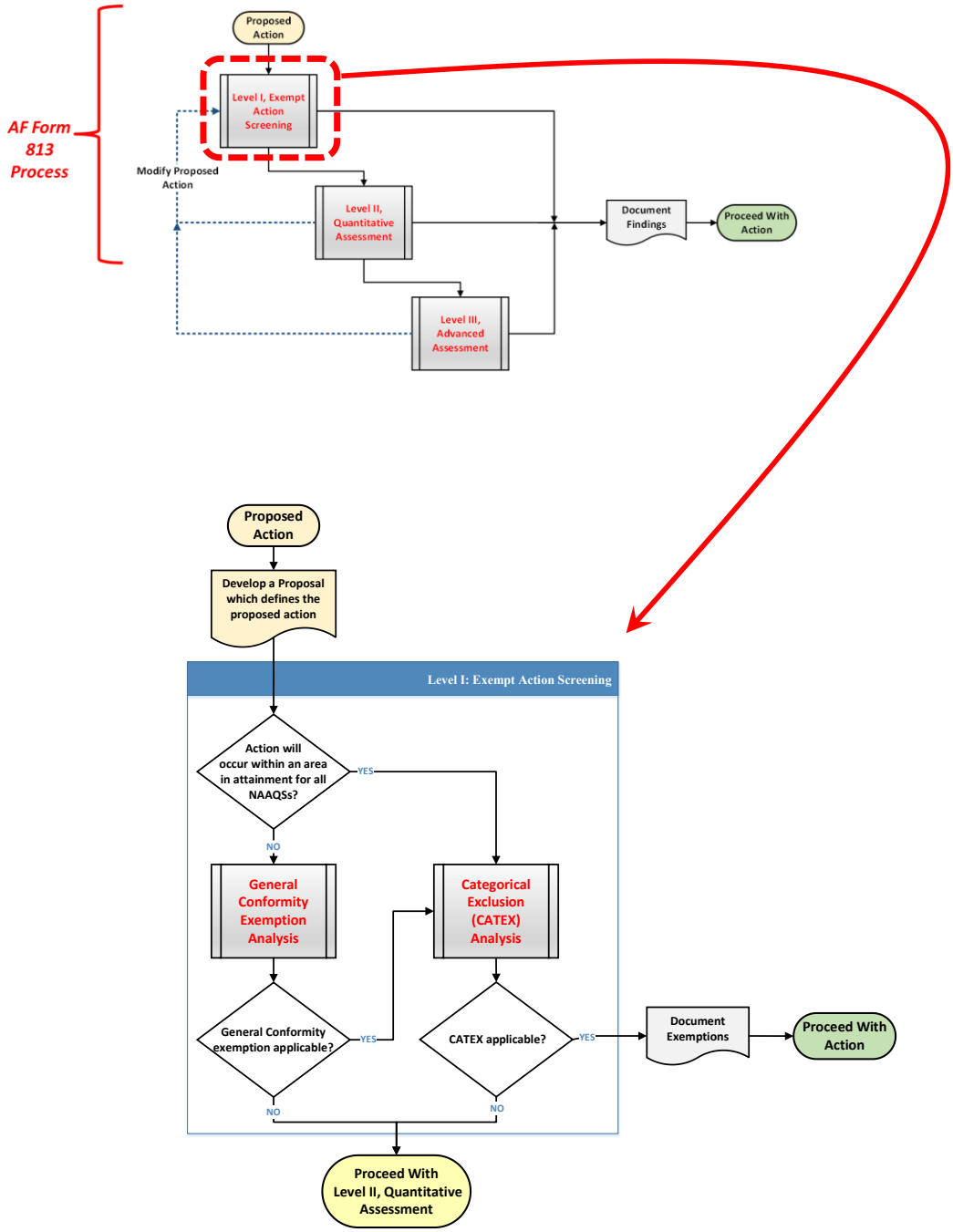
4.11 AQIA Summary

The *DOD [DOW] NEPA Implementing Procedures* 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 AQIA provides a methodical interdisciplinary approach to environmental planning and the evaluation of proposed actions that may affect the environment. Additionally, the *DOD [DOW] NEPA Implementing Procedures* 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 NEPA process to address specific air quality concerns. The AQIA 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 AQIA 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 DAFMAN 32-7002 and the *DOD [DOW] NEPA Implementing Procedures*. 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 for more information.

Figure 5-1, Level I - Exempt Action Screening



5.1 Step #1, Action Identification

The AQIA process starts with the office formally initiating a proposed action (the "Proponent") submitting an DAF Form 813, *Request for Environmental Impact Analysi*s. The AQIA process begins with the air quality analyst/environmental specialist reviewing the DAF Form 813 as part of the AQIA process.

The AQIA process then proceeds through up to three progressive levels of assessment (see *Figure 4-4, AQIA 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 AQIA process begins with a Proponent organization submitting an DAF 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 DAF Form 813. As part of Section I of the DAF 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 AQIA. The initial (usually cursory) DOPAA is documented within the DAF Form 813 and is the basis for all follow-on environmental analyses.

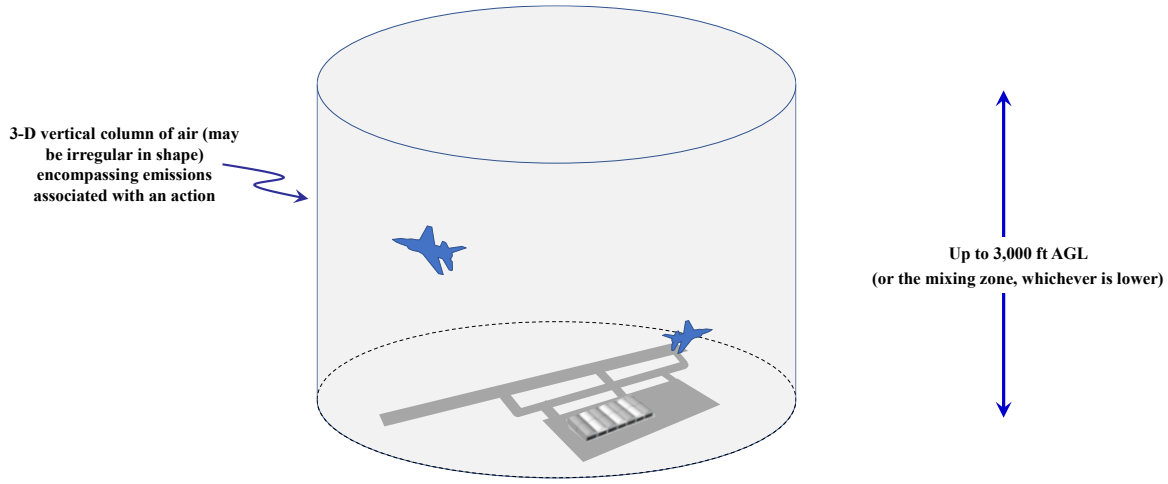
5.1.2 Define the Action in Terms of Air Quality

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:

a. 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, the CO_2e ROI is global (relating to the whole world) because the impact of CO_2e is on a global scale. However, the ROI for CO_2e, for estimating purposes for an AQIA, is treated the same as criteria pollutants. Treating the CO2e ROI as the same as the ROI for criteria pollutants simplifies the analysis and allows for a reasoned choice among alternative.

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 CO_2e emissions modeling is considered inadequate. Therefore, logically, if flight-specific fuel consumption data can be reasonably foreseeably predicted, CO_2e emissions associated with aircraft flight operations should be used for the "relative comparison analysis" and 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 with 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 an installation, 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 installation 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.

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).

b. What is the duration of the Proposed Action? For air quality, the potential impact is assessed on an annual net change in emissions basis through the duration (i.e., lifespan) of the emissions associated with an action. Most sources' emissions lifespan have a definitive duration (the start and ending of the source's activity is known); however, there are a few long-term sources that, while the start is known, the ending of the source's activity is not known. For long-term emission sources, the DAF adopted a default of ten years beyond the Steady State Year (the year where annual net change in emissions for all sources remains the same as the prior year). Steady state is the state or condition at which the net emissions do not change (or only negligibly) in time and, for air quality. For air impacts assessments, steady state is reached when the action is fully implemented (i.e., completed), and there is no net increase or decrease in emissions attributed to the action from the previous year. See section 6.4 for additional details on duration and lifespan.

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 installation). "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 reasonably foreseeable direct or indirect emissions, the action is exempt from AQIA. Reasonably foreseeable means sufficiently likely to occur such that a person of ordinary prudence would take it into account in reaching a decision. The exemption must be documented in the NEPA document (i.e., DAF Form 813, EA, EIS, etc.) and the AQIA 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. ***As much as possible, schedules should clearly indicate the month and year 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 NEPA and conformity purposes, the scope, schedule, timing, and location of all portions of the action must be clearly laid out. Additionally, the air quality impact assessments generally do 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 (subdivided or fragmented into multiple actions) 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 air quality 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 entire action is proposed to take place within an attainment area, the General Conformity Rule does not apply.

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

a. ACAM and sAIR: The ACAM and sAIR 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 and sAIR will provide a list of Air Quality Regulatory Areas and the NAAQS attainment status.

b. Authoritative DAF Installation 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 General 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 AQIA, the air pollutants of potential concern include all Criteria Pollutants and CO_2e. 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 CO_2e.

- **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 (NAAQSs for six principal pollutants (known as criteria pollutants): CO, NOx (as NO_2), O_3, PM (PM2.5 and PM10), SOx (as SO_2), and Pb. Criteria pollutant (or precursor) net-change inventory assessments are always required as part of AQIAs for screening significance of actions' impact and for disclosure, reporting, and comparative purposes.

- **CO_2e** is a secondary POC relating to DAF actions. CO_2e is 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. CO_2e produced by fossil-fuel combustion are primarily CO_2, CH_4, and N_2O. While there are many other heat absorbing gases, for NEPA CO2e and climate system change assessments the only potential speciated CO_2e accounted for are CO_2, CH_4, and N_2O. These three speciated CO2e gases account for greater than 97% of U.S. total GHG emissions; therefore, using only these three gases allows for making a

reasoned choice among alternatives. CO_2e is generally non-hazardous to health at normal ambient concentrations; however, CO_2e gases absorb infrared radiation in the atmosphere, and an increase in emissions of these gases is the primary cause of warming of the climatic system. CO_2e gases are generally non-hazardous to health at normal ambient concentrations and only potentially cause warming of the climatic system at a cumulative global scale. Therefore, the action-related CO2e has no significant impact to local air quality and is only a global concern.

5.4 Step #4, Determine if the Action is Exempt

Under AQIA process there are NEPA exemptions and General 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 exempt under the conformity regulations or listed as PTC.

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

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

From an air quality point of view, actions without any reasonably foreseeable emissions associated with the action are exempt from 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.

5.4.1 NEPA Categorically Excluded (CATEX)

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, the *DOD [DOW] NEPA Implementing Procedures* go 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 or maintenance area.

For some CATEXs, air quality can potentially pose "extraordinary circumstances" which can potentially result in significant short- or long-term impacts. 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 *DAF CATEX Revalidation for Air Quality* (AFCEC 2025d).

(1) CATEX Vaguely Defined: There are CATEXs that are written so ambiguously 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 DAF's Air Quality SME to ensure professional and scientific integrity as required by NEPA.

The list of CATEX actions is officially maintained in the *DoD [DOW] NEPA Imprinting Procedures Appendix A*, *DOD [DOW]Categorical Exclusions.*

5.4.1.1 CATEX Usage Warning

A CATEX cannot be blindly taken 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. Unfortunately, there are a few CATEX Actions that must be evaluated for "extraordinary circumstances" for air quality impacts. "Extraordinary circumstances" means factors or circumstances that indicate a normally categorically excluded action may have a significant effect. Given the lack of standardized emissions estimating guidance and the limited emission estimating methods at the time the DAF CATEXs were first derived, the CATEX evaluations for air quality relied heavily on expertise, experience, and judgement of DAF professional staff. Therefore, the original DAF-specific CATEXs may not have fully addressed potential extraordinary circumstances associated with air quality impacts. The *DAF CATEX Revalidation for Air Quality* was created to reevaluate potential extraordinary circumstances to air quality from each of the 38 DAF CATEXs and provides the required justification for the validity (from an air quality perspective) of each CATEX or provides specific instructions on how and when a specific CATEX may be used. See the *DAF CATEX Revalidation for Air Quality* for more information regarding DAF CATEXs.

Additionally, the 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. See the *DAF CATEX Revalidation for Air Quality* for more information regarding General Conformity exemptions.

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 <u>AND</u> is either on the GCR regulatory exempt list or the PTC list, document the CATEX and the GCR exemption; then 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:

- <u>Agency-Specific PTC List</u>: If finalized in the Federal Register, actions on the DAF's agency-specific PTC list [40 CFR 93.153(f)].
- <u>Facility-Wide Emissions Budget</u>: Actions with SIP-approved, facility-wide emissions budgets [40 CFR 93.153(i)(1)].
- <u>Prescribed fires</u>: Prescribed fires conducted in accordance with EPA-specific requirements [40 CFR 93.153(i)(2)].
- <u>Actions Specifically in SIPs</u>: Actions specifically identified in the SIP as PTC [40 CFR 93.153(i)(3)].

a. <u>Agency-Specific PTC List</u>:
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 2025 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. <u>Facility-Wide Emissions Budget</u>:
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 AQIA; 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.

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 emissions 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).

c. Prescribed Fires:
Prescribed fires conducted in accordance with a smoke management program (SMP) which meets the requirements of EPA's Interim Air Quality Policy on Wildland and Prescribed Fires, or an equivalent replacement EPA policy are PTC; and therefore, are exempt from any further General Conformity Rule requirements. [40 CFR 93.153(i)(2)]

d. Including Actions Specifically in SIPs:
Specific actions may be exempt from General Conformity at installations where the state or tribe has specifically included the installation's proposed action in an EPA-approved SIP as PTC [40 CFR 93.153(i)(3)]. This requires cooperation with the local and/or state air quality agencies to specifically include the action(s) emissions into the state-wide SIP emission budget and call out the action(s) in the approved SIP as PTC. The emissions from the specific DAF action(s) projected and identified in an EPA approved SIP have already been included in the state's SIP emission budget; and therefore, are 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).

5.4.2.2 Regulatory Exempt from Conformity

Regulatory exemptions are specifically listed in 40 CFR 93.153 and are either administrative or routine and recurring in nature. Actions that are administrative in nature do not emit emissions and include: judicial and legislative proceedings; rulemaking and policy development; administrative actions; planning, studies, and provision of technical assistance; transfers of ownership; etc. Actions that are routine and recurring in nature include: transportation of materials; operations; permit renewals; activities similar in scope to current activities; maintenance and repair activities; CERCLA corrective actions; etc.

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."**

NOTE: 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 in the NEPA document; the Air Quality assessment process is complete (no further air quality review is required). See *DAF CATEX Revalidation for Air Quality* for guidance on documentation requirements and the lists of General Conformity exemptions.

5.5 Step 4, Document Exemption or Proceed to Level II

If the action does not meet exemptions for both NEPA and Conformity, this indicates a potentially higher level of significance that requires a quantitative assessment. Proceed to perform a *Level II, Quantitative Assessment.*

If the action meets exemptions for both NEPA 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, DAFMAN 32-7002 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 DAF Form 813, AF Form 332, or DOD Form 1391 or by using the Record of Non-Applicability (RONA) or ***Record of Conformity Applicability (ROCA)***. A DAF Form 813 is required for NEPA.

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

To adequately document the finding(s), 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. Note that the required ROCA or ROAA is automatically generated when using the ACAM or sAIR models.

6 AQIA 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 *DOD [DOW] NEPA Implementing Procedures* and 40 CFR 93, with the least impact on 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 (EFs) from the current DAF Transitory Source Guide (AFCEC 2025a), Mobile Source Guide (AFCEC 2025b), and Stationary Source Guide (AFCEC 2025c) 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 ACAM or sAIR models must be used for Level II assessments throughout the DAF. ACAM and sAIR provide 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 or sAIR automated reports for inclusion in the overall NEPA document.

6.2 Data Requirements

The DAF's AQIA approach is based on important principles inherent to NEPA and General Conformity, which include "reasonably foreseeable," the "rule of reason" and the "concept of proportionality." The principles 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.

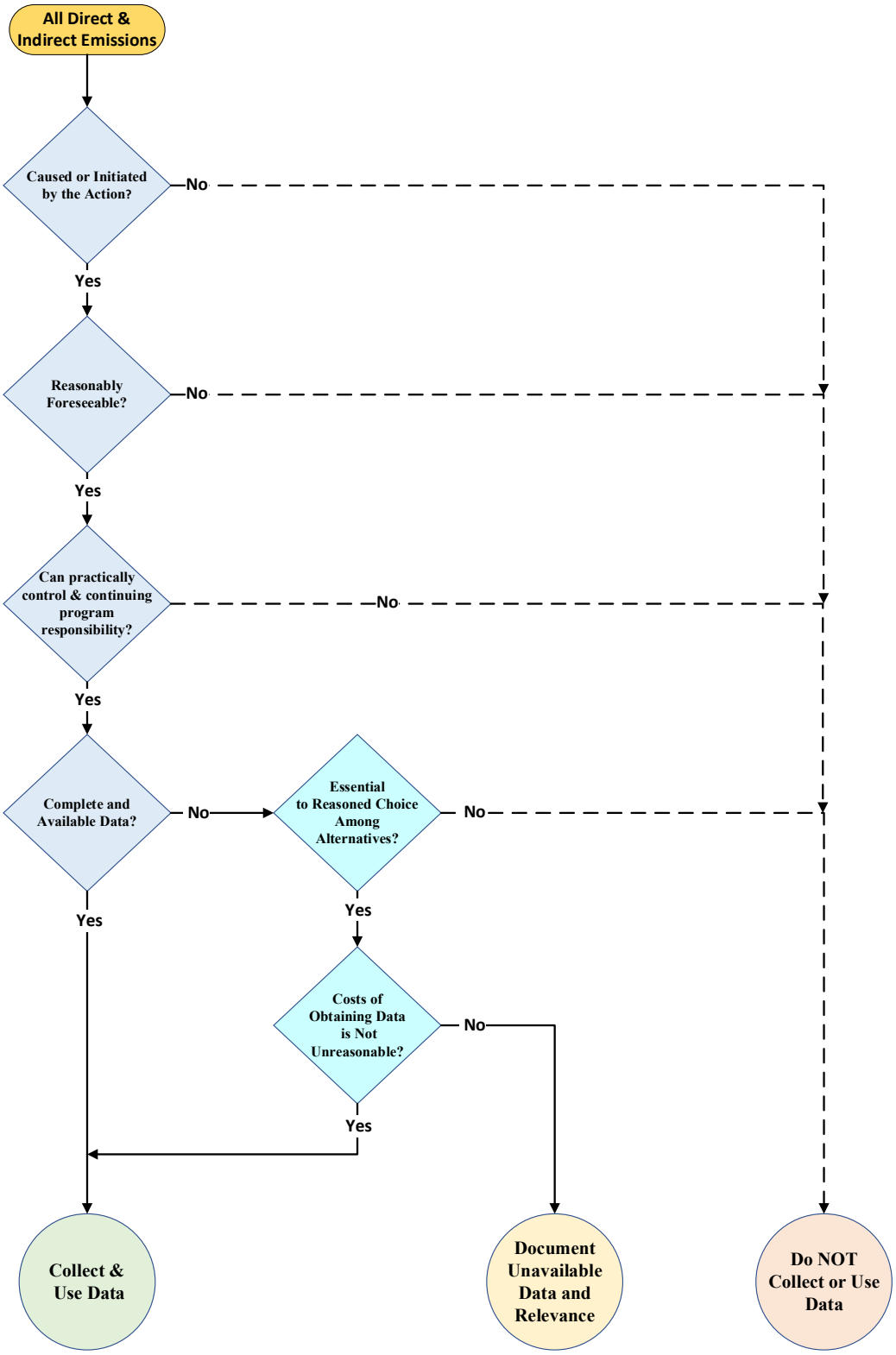
Reasonably Foreseeable + Rule of Reason + Concept of Proportionality = Keep it Simple

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, AQIA 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 of the objectives. Both the NEPA 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, AQIA 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 the 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 begin if not indirectly facilitated (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.

According to 40 CFR 93.152, **direct emissions** mean 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.

> According to 40 CFR 93.152, **indirect emissions** mean 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 not take them into account in reaching a decision).

> Generally, **reasonably foreseeable** means sufficiently likely to occur such that a person of ordinary prudence would take it into account in reaching a decision.
>
> According to 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 an oversight role over the activities generating the emissions or the ability to limit the emissions.

> According to 40 CFR 93.152, **indirect emissions** mean 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.

Reference: EPA NEPA Training Module (https://www.epa.gov/general-conformity/general-conformity-training-module-22-emissions-and-review)

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 eliminating 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 are not cost prohibitive must be collected and used. Agencies are not required to undertake new scientific and technical research to obtain unavailable data; however, they must provide a written statement of relevance for the incomplete or unavailable information.

6.3 Net Change Emissions Inventory

The primary and first tier NEPA/Conformity air analyses are net-change inventory analyses, not a baseline inventory analysis. According to DAF guidance, NEPA guidance, 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 the *DOD [DOW] NEPA Implementing Procedures*, 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." 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 installation-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 (maybe 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 often change over time. Therefore, not only is using an installation-wide AEI in NEPA/Conformity air analyses technically inappropriate, doing so would likely be considered technically deficient and wasting resources.

6.3.1 Required Net Change in Emissions Scenarios

The General Conformity Rule requires (40 CFR 93.159(d)) a net change in emission analysis in emissions that are expected to occur under each of the following scenarios:

(1) The attainment year specified in the SIP, or if the SIP does not specify an attainment year, the latest attainment year possible under the Act; or
(2) The last year for which emissions are projected in the maintenance plan;
(3) The year during which the total of direct and indirect emissions from the action is expected to be the greatest on an annual basis; and
(4) Any year for which the applicable SIP specifies an emissions budget.

Both ACAM and sAIR accomplish this through performing a net change in emission analysis that covers all years through the completion (full execution) of the action for criteria pollutants and all years through the duration of the effects of action-related CO_2e emissions. Additionally, in evaluating the potential significance of air quality impacts, ACAM uses two indicator scenarios: the Annual Worst Case Net Emissions, the Annual Steady State Net Emissions.

6.3.1.1 Annual Worst Case Net Emissions By POC

The net change in emissions from an action may vary from year to year. A Level 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 PM10 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.

6.3.1.2 Annual Steady State Net Emissions

Steady state is the time and 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 is no (or only negligibly) net increase or decrease in emissions attributed to the action from the previous year**.

To ensure the capture of the worst-case year, net change in emissions must be calculated from the start of the action annually until the completion of the action. An action is considered to have reached completion for air quality when direct and indirect emissions have been shown to have reached steady state.

6.4 Emission Source Lifespan

For air quality, the potential impact is assessed on an annual net change in emissions basis through the Steady State Year (the year where annual net change in emissions for all sources remains the same as the prior year) of the emissions associated with an action, not the duration of the action (i.e., lifespan). Knowing the lifespan (start and end) of all action-related emission sources is not needed to provide a scientific and technically accurate impact assessment for reasoned choice amongst alternatives. Most source's emissions lifespan has a definitive duration (the start and ending of the source's activity is known); however, there are a few long-term sources that, while the start is known, the ending of the source's activity is not known. Examples of long-term emission sources include new aircraft flight operations, permanently installed boilers, automotives from new personnel, permanently installed generators, etc. For long-term emission sources, the DAF evaluates net emissions up to the Steady State Year (the year where annual net change in emissions for all sources remains the same as the prior year).

6.5 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 POC is 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, they 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 the difference between thresholds and indicators. While thresholds provide a definitive impact determination, indicators only provide a clue to the potential impacts to air quality.

6.5.1 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 4-1, Air Quality Insignificance Indicators)* are compared directly to the estimated net total direct and indirect emissions from the proposed action (or alternatives) in a nonattainment or maintenance area.

- **General Conformity Applicability Analysis Threshold:** In an Applicability Analysis (for nonattainment and maintenance areas only), General Conformity thresholds are de minimis values (see *Table 4-1, Air Quality Insignificance Indicators*) used to compare against the action's 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 occur 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). *Table 4-1, Air Quality Insignificance Indicators*

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.***

6.5.2 NEPA Insignificance Indicators

DAF established insignificance indicators for NEPA assessment (i.e., actions that will occur within an area that is in attainment with all NAAQSs) for AQIA Levels II and III (see *Level II, Air Quality Quantitative Assessment Insignificance Indicators (AFCEC/CZTQ April 2023)*, for details). ***If the worst-case annual emissions estimate for each POC is below the corresponding insignificance indicator, this indicates that further assessment is unwarranted. Evaluation is complete upon completing a Record of Air Analysis (ROAA) to document the conclusion.***

6.6 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 NEPA 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 General Conformity Determination.

6.6.1 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. Note while you are allowed to apply more than one CATEX to an action, if there are no extraordinary circumstances, applying two or more CATEXs involving air emissions is an extraordinary circumstance that must be evaluated.

6.7 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 6-1, 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

6.8 Identification of Sources

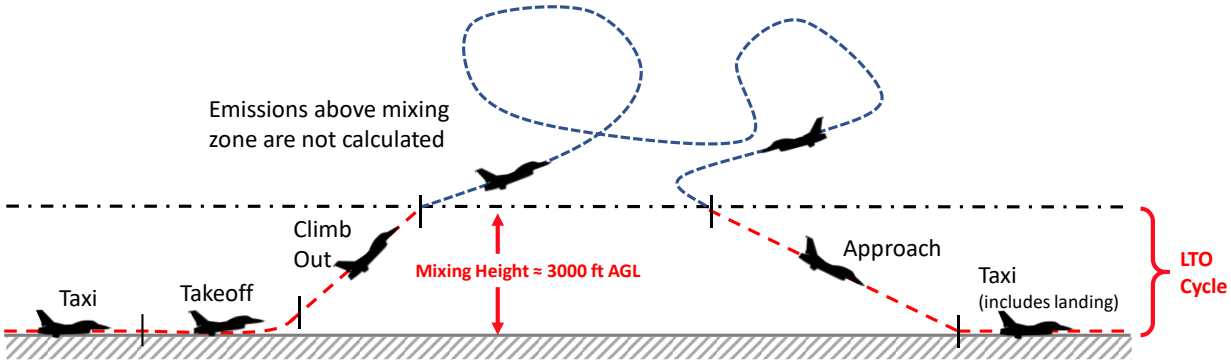
Typical potential sources of emissions at air installations include aircraft, ground support equipment, ground access vehicles, stationary sources, and construction activities. *Table 6-1, Typical Air Force Activities and Sources with Air Emissions,* provides a list of typical non-exempt DAF activities that emit direct and/or indirect emissions.

6.8.1 Aircraft Operations

As the single largest contributor to DAF installation 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 a 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:

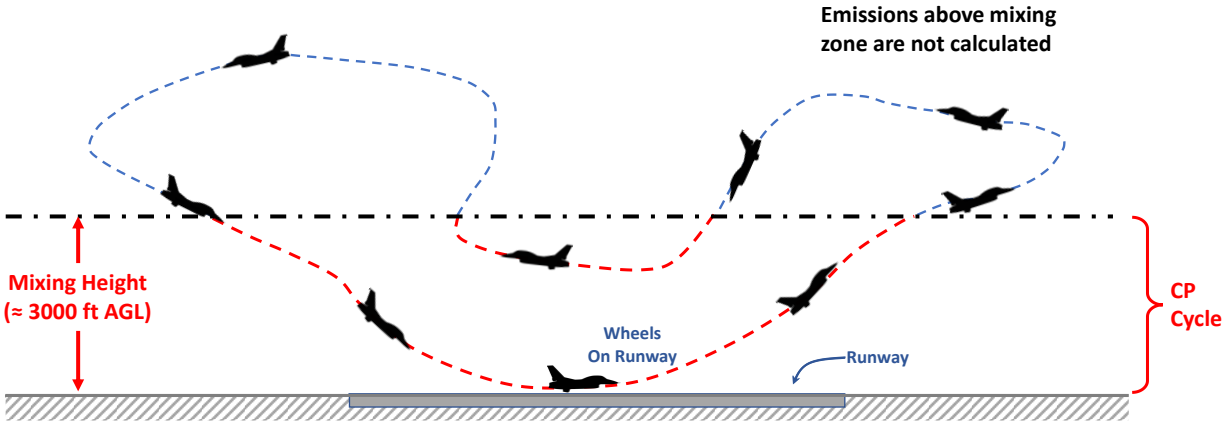
- Taxi/Idle Out: The period of time from engine startup to takeoff mode,
- Takeoff: Characterized by full engine thrust, starts from the end of the runway through the aircraft reaching 500 feet Above Ground Level (AGL),
- Climb Out: Starts with the initial aircraft ascent from 500 ft AGL through the aircraft exiting the mixing zone (default is 3,000 ft),
- Approach: Commences with the aircraft return and descent, starting when the aircraft enters the mixing zone to 0 ft AGL (touchdown, 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 (EPA default) are excluded from emissions calculations unless a different mixing height is stipulated within an applicable SIP.

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

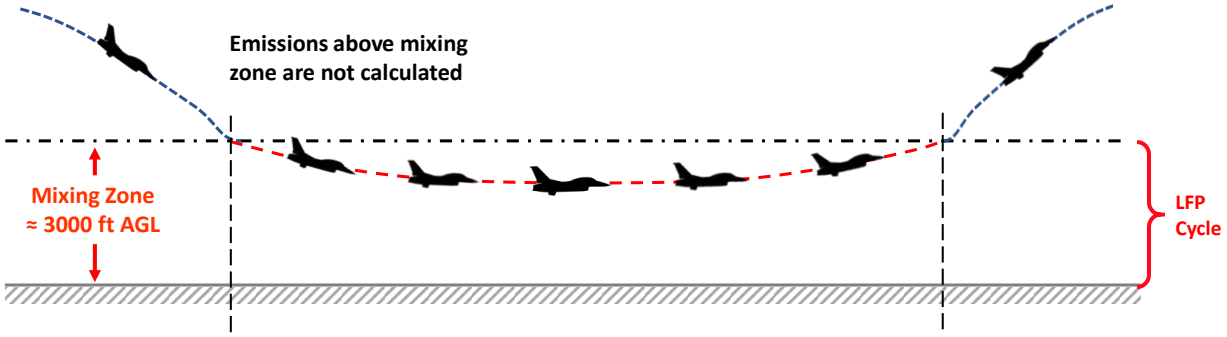
A fixed-wing CP cycle, also known as a Touch and Go (TGO), is a flight maneuver that involves a practice landing on a runway by briefly touching the landing gear to the runway (or coming very close), transitioning immediately into takeoff/climb out, and associated flying to maneuver into another practice 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 tests 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 is essentially a small turbine engine. An APU generates electricity and compressed air to operate the aircraft's instruments, lights, ventilation, and other equipment while the main aircraft engines are shut down. It also is used to provide power for starting the main aircraft engines. APUs burn jet fuel and create exhaust emissions like larger aircraft engines. APUs are common on both commercial and military aircraft; they are not common on smaller civil aircraft.

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

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 varies slightly based on the types of aircraft and operations occurring at an airport versus an air base. GSE that operate at civilian airports, 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.

6.8.2 On-road Vehicles

Personnel activity emissions are primarily from on-road vehicles which encompass all on-road or highway vehicle trips generated by the installation 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.

There are both on-installation and off- installation 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 installation location (e.g., an airport parking lot or the main terminal), departs the installation 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.

6.8.3 Stationary Sources

Stationary sources are emitters of air pollution (emissions units) at a fixed location. 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, PM10, 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.

DAF installations 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 installations.

Emergency generators at installations 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 the type of equipment in use.

Aircraft engine testing is also performed at some installations 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 installations 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 are also performed at installations. 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.

6.8.4 Construction/Demolition

6.8.4.1 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.

6.8.4.2 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 6-2, Summary of Construction Phases and Their Emission Classes****Error! Reference source not found.***, 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 6-2, 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

6.9 Quick Steps for Level II, Quantitative Assessment

All Level II assessments throughout the DAF must be evaluated with ACAM or sAIR. Both ACAM and sAIR provide 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 or sAIR assessment indicate no significant impact to air quality, the findings are documented through the ACAM or sAIR automated reports for inclusion in the overall NEPA document. Both ACAM and sAIR are user-friendly and provide step-by-step progressive instructions and feedback for ease of use.

6.9.1 ACAM & sAIR Evolution

Original ACAM: The original ACAM (versions 1.0 to 4.6) was created in 1995 as a rough screening computer application for initiating General Conformity Applicability Analyses for Base Realignment and Closure (BRAC) activities. This original ACAM covered very simplistic calculations for aircraft flight emissions (about 30 aircraft only and only default LTO cycles), fire training, paint booths, degreasers, and overly simplistic construction activities. Additionally, it required manual inputting results from the MOBILE 6 model for on-road vehicles and TANKS model for emissions from storage tanks. Over time ACAM was no longer used due to being overly simplistic, outdated algorithms and emission factors, and security risks (e.g., written in Visual Basic and MS Access, accessing external data). Finally, in 2011 the application was totally abandoned because it could no longer be installed as it was not compatible with MS Windows 7.

Modernization of ACAM 4.6: In 2012 Solutio Environmental Inc (Solutio) started a modernization effort to make ACAM 4.6 compatible with MS Windows 7. The modernization effort was quickly dropped by Solutio due to numerous coding errors in the application and nearly all methodologies, algorithms and emission factors were outdated.

New ACAM (Solutio's version): Following the discarding of their ACAM 4.6 modernization effort, in 2012 Solutio internally built an entirely new stand-alone (no outside inputs required) application to fully automate both General Conformity and NEPA air quality assessments. The new application, designed as a model (not a screening tool), was written with C#.NET as a stand-alone application to eliminate security risks and only incorporates EPA approved models and

methodologies. While the new application had nothing in common with ACAM 4.6, Solutio retained the name "ACAM" for user continuity. The new ACAM (version 5.0 and newer) is fully in compliance with modeling requirements of General Conformity (40 CFR 93 Subpart B) and the "Guideline on Air Quality Models" (40 CFR 51 Appendix W). Since 2012, Solutio has been updating and modernizing the new ACAM to ensure it continues to meet or exceed the modeling requirements of 40 CFR 93 Subpart B and 40 CFR 51 Appendix W. Since 2019, ACAM updates and modernizations have all been cannibalized from new developments associated with the building of sAIR. Therefore, ACAM (Solutio version) will likely sunset (discontinue) sometime between late 2025 and 2026.

sAIR (Next-Gen): The next-generation to Solutio's version of ACAM is sAIR. The sAIR model has been under development since 2019 to expand on the new ACAM's capabilities and eliminate evolving IT security concerns. Security issues are eliminated by eliminating the need to install the application on a computer, instead the application only temporarily runs within volatile memory. Volatile memory requires power to maintain the stored information, so when the power is interrupted the stored data is lost. sAIR is a robust air quality impact model which only incorporates EPA approved models and methodologies which include:

- MOtor Vehicle Emission Simulator (MOVES, for on-road and off-road vehicles)
- EMission FACtors (EMFAC, for on-road and off-road vehicles in California)
- TANKS (for storage tank emissions, updated with AP-42)
- California Emissions Estimator Model (CalEEMod, for construction activities)
- Fixed-wing and Rotatory Aircraft Operations methodologies (including default and site-specific TIMs) are directly from EPA (EPA 420-R-92-009 and EPA 450/3-78-117)
    - The only model currently available that addresses all Aircraft Operations activities (i.e., flight LTOs, touch-and-goes, trim tests, low flight patterns, aircraft engine test cell, and aerospace ground equipment)
- EPA methods from "Compilation of Air Pollutant Emission Factors" (AP-42) to estimate emissions associated with fire training, painting in booths, emergency generators, internal combustion engines, personnel activities, and boilers
- Fully editable input variables (i.e., defaults can be changed to any appropriate value) to allow for site-specific conditions if warranted for advanced assessment.

6.9.2 Level II Quick Steps

All Level II AQIA are performed throughout the DAF using the ACAM or sAIR models. Both ACAM and sAIR automate the Level II process, both are user-friendly and provide step-by-step progressive instructions and feedback for ease of use.

6.9.2.1 Step 1, Obtaining ACAM or sAIR

The first step in the assessment process is to obtain the most recent version of ACAM and/or sAIR. **ACAM or sAIR must be used for all Level II assessments throughout the DAF**. Both ACAM and sAIR are written to be user-friendly and provide step-by-step progressive instructions and feedback for ease of use.

ACAM or sAIR may be requested through completing an abbreviated DD Form 2875, *System Authorization Access Request (SAAR)*, and submitting the completed form to Air Quality SME (HQ AFCEC/CZTQ) for approval. An abbreviated 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 either the "Simulated Air Impact Review (sAIR)" or the "Air Conformity Applicability Model (ACAM)" text. At this point, either the sAIR or the ACAM System Authorization Access Request (SAAR) and the SAAR Help File can be downloaded.

ACAM: Completed ACAM request SAARs must be submitted to ACAM@solutioenv.com for review and approval. If the ACAM SAAR is approved, a download link for the ACAM install file and instructions will be emailed (usually within a day or two). ACAM is a stand-alone application that must be installed on the user's computer; therefore, the person installing ACAM can follow the simple instructions in the ACAM Quick Start Guide which can be download at http://www.aqhelp.com/ as well.

sAIR: Completed sAIR request SAARs must be submitted to sAIR@solutioenv.com for review and approval. If the sAIR SAAR is approved, login instructions will be provided via email (usually within a day or two). Unlike ACAM, sAIR is a web-based application the user will need to log into with each use.

6.9.2.2 Step 2, Enter Proposed Action Information

Step 2 involves entering general information about the proposed action into ACAM or sAIR. All data entered will be regurgitated in the finalized reports generated by ACAM or sAIR; therefore, the entries should be concise and accurate. Specific inputs include:

- **Title:** This is the official title of the proposed action as it appears in the DAF 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 versions of the purpose and need descriptions of the proposed action as they appear in the DAF 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 DAF Form 813. The description should be short; however, it needs to also be concise in detail and accurate.

6.9.2.3 Step 3: Document Information

Step 3 simply involves entering general information about the ACAM or sAIR user and which regulatory standards the user wishes to evaluate. Again, all data entered will be regurgitated in

the finalized reports generated by ACAM or sAIR; therefore, the entries should be concise and accurate. Specific inputs include:

- **User Info:** This entry is to identify the user. Generally, the user is the person running the model and performing the AQIA. However, if the model is being run on behalf of a government representative, the 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 the type of Regulatory Areas he or she wishes to include in the 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.

6.9.2.4 Step 4: Select Installation

Step 4 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 and county.

Note: The proposed action may be located outside the fence-line of the DAF installation. As a reminder, a *Federal action* means any activity engaged 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.

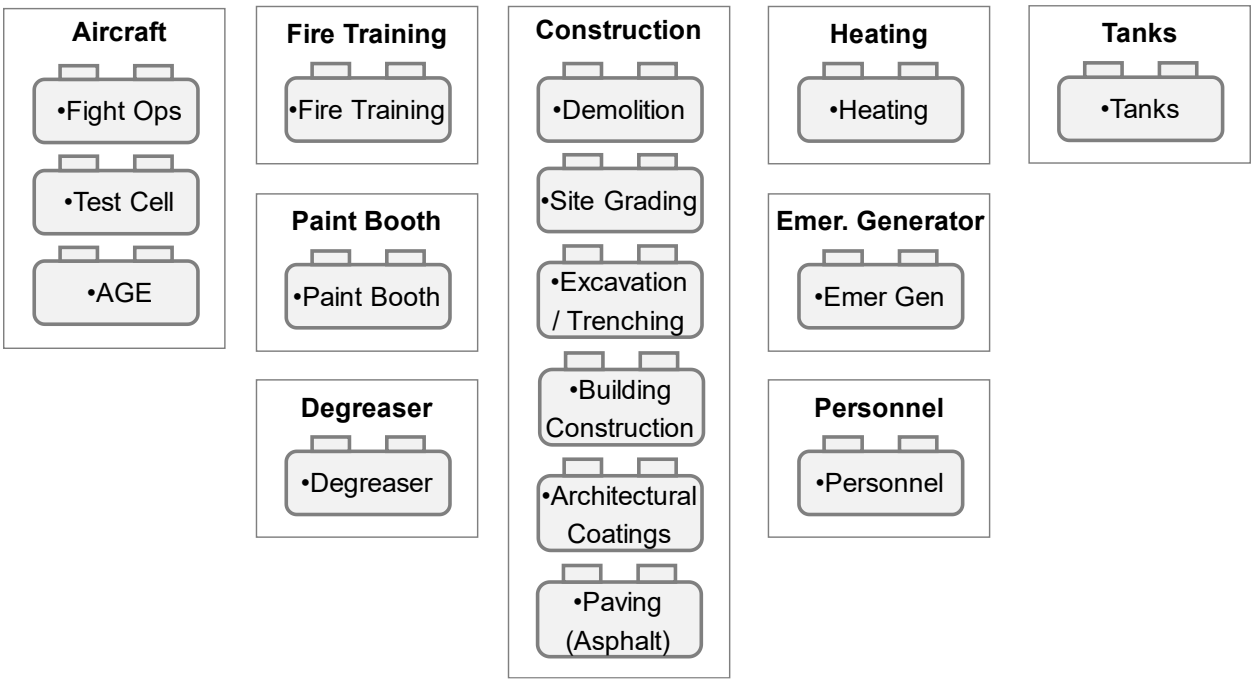
6.9.2.5 Step 5: Insert Activities

Step 5 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 increases or decreases in emissions resulting from the project or action under review are included.

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.

ACAM and sAIR sources/activities can be thought of as a set of blocks that can be used to create air emission estimates. Each block in this set represents an individual activity that increases or decreases air emissions. Typical potential sources/activities (emission estimate building blocks) of direct and/or indirect emissions at DAF installations that may be added or removed within ACAM or sAIR to reflect the composition of the proposed action.

Figure 6-2 , Typical DAF Sources/Activities



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. Both ACAM and sAIR allows for selecting the exact location an activity/source will take place down to the county and regulatory area(s) level.

6.9.2.6 Step 6: View & Validate Results

Assessment results are reviewed and validated in Step 6. 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, both ACAM and sAIR provide two methods for graphical and illustrative 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.

    - 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 indicator/threshold [see *Table 4-1, Air Quality Insignificance Indicators*] are displayed at the bottom two lines of each activity's timeline. Green numbers and a green "▲" symbol indicate the remaining tons/year before reaching a threshold. Red numbers and a red "▼" symbol indicate the tons/year that will exceed the threshold.

    - 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.

6.9.2.7 Step 7: Mitigation

Step 7, mitigation, is an important mechanism for agencies to use to avoid, minimize, rectify, reduce, or compensate the adverse environmental impacts associated with their actions. 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 measure 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 insignificance indicators/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 insignificance indicators/thresholds when using mitigation measures, the total direct and indirect emissions from the proposed action must be fully offset within the affected area so that there is no net increase in emissions of the pollutants of interest above the insignificance indicators/thresholds.

Mitigation/offset efforts should be incorporated into ACAM or sAIR prior to establishing a final report. Mitigation efforts can be incorporated into ACAM or sAIR through editing/modifying actions already inputted (see procedures for Step 6 above) or by selecting another activity by clicking on "Insert" in the Ribbon Section of ACAM or sAIR. Note that when adding a new activity, there is an option for either the activity being added (as a new activity) or being removed (as an existing activity that will be discontinued).

6.9.2.8 Step 8: Steady State Calculation

Step 8, steady state, is the state or condition at which the net emissions do not change (or only negligibly) in time and, for air quality, the action is considered complete. For air impacts assessments, steady state is reached when the action is fully implemented (i.e., completed), and there is no net increase or decrease in emissions attributed to the action from the previous year.

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

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

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

6.9.2.9 Step 9: Reports

Step 9 is the creation of the analysis reports. The ACAM or sAIR model calculates air criteria pollutants, criteria pollutant precursors, and CO_2e, for an action and its alternatives for all typical DAF activities that potentially are part of a proposed action. The resultant calculated emissions are presented in a visual timeline, the analysis report, and the in-depth calculation report.

There are two ACAM and sAIR analysis reports, Record of Conformity Analysis (ROCA) and Record of Air Analysis (ROAA). ACAM and sAIR will automatically select the appropriate analysis reports based on the NAAQS attainment status of the location that the proposed action will occur. ACAM and sAIR 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.

Upon calculating steady state conditions for the proposed action, ACAM and sAIR reports can be generated by clicking on "REPORTS" in the ribbon section of the model window. The Reports screen opens, which allows the selection of which type of report to be generated, an ACAM or sAIR analysis report (i.e., ROCA or ROAA) or a Detailed Report. Then simply select which alternative to generate the report on and then click "Create report". ACAM or sAIR 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) provides the regulatory documentation needed for air quality compliance with NEPA and General Conformity Applicability requirements, and the Detailed Report (the in-depth calculation report) provides the documentation for regulatory verification.

The finalized analysis report (i.e., ROCA or ROAA) will automatically create tables of annual emissions by POC (e.g., criteria pollutants) and compare these pollutants against the applicable indicators/thresholds and will also identify if the proposed action has a insignificant impact on air quality.

ACAM and sAIR reports, like any other material prepared in connection with a specific environmental impact assessment, must be included in the appendix.

While people often get confused by CEQ's NEPA guidance, where it states, agencies shall incorporate material, such as planning studies, analyses, or other relevant information, into environmental documents by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. This is referring to materials that were not specifically prepared in connection the environmental impact assessment, as clarified in CEQ's NEPA guidance which state material prepared in connection with an environmental impact statement (as distinct from material that is not so prepared and is incorporated by reference). Additionally, CEQ's NEPA guidance also states the appendix shall consist of material: prepared in connection with an environmental impact assessment, substantiating any analysis fundamental to the impact statement, or relevant to the decision to be made. The ACAM or sAIR reports are prepared for the environmental impact assessment, they are substantiating the air quality analysis fundamental to the impact statement, or they are relevant to the decision to be made. Therefore, only including ACAM or sAIR reports "by reference" where the reports were produced in connection the environmental impact assessment would render the environmental impact assessment technically inadequate and violate NEPA requirements which override DAF guidance/policy.

6.9.2.10 Step 10, Document No Significant Impact or Proceed to Level III

In Step 10, either document that the proposed action has no significant impact on air quality or proceed to a Level III assessment. Should the ACAM or sAIR 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 are documented and are usually integrated into 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, DAFMAN 32-7002 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 CATEX document (if one is prepared) on DAF 813, Air Force Form 332, or U.S. Department of Defense Form 1391, or by using the ROCA as described in the following. An DAF 813 is required for AQIA/NEPA.

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 Carbon Dioxide Equivalent (CO_2e) & IMPACT ASSESSMENT

NEPA assessments must only include projected CO2e emissions as a reasonably foreseeable POC. Action-related CO2e is utilized as a proxy for assessing potential long-term climate system effects; however, only the CO2e emissions associated with a proposed action, are within the DAF authority of control, and are within the action's ROI are to be considered.

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 (CO_2), methane (CH_4), and nitrous oxide (N_2O). 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 (i.e., changes in climate).

Changes in climate are the variation in the Earth's climate (including temperature, precipitation, humidity, wind, and other meteorological variables) over time. Changes in climate are 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 Changes in Climate Evaluation are provided in the *DAF Carbon Dioxide Equivalent (CO2e) & Impact Assessment Guide for Air Quality* (AFCEC 2025). Note that the GHG Emissions Evaluation are automated within sAIR or ACAM (version 5.0.21a or newer).

8 AQIA 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 into 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 working 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 NEPA/AQIA 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 NEPA/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 to demonstrate conformity. If the technique does not occur at the same facility or could not have occurred in conjunction with the action, the credit cannot be used to reduce total emissions during applicability analysis but can be used as an offset or mitigating measure. Once credits are used, they cannot be used for another conformity evaluation. Unused credits can be used in other evaluations. For example, assuming they have a lifetime greater than one year, EERCs may be used to offset construction emissions in one year and to mitigate operational emissions increases in subsequent years.

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 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 GCR evaluation. However, during the GCR 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 GCR 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 GCR 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.

9.6 ACAM Reports Included "By Reference"

ACAM reports, like any other material prepared in connection with a specific environmental impact assessment, must be included in the appendix. The only time you could "by reference" an ACAM report, like any other material prepared in connection with a specific environmental impact assessment, is if the ACAM report was from another impact assessment and you were using it in the air impact discussion (e.g., when comparing to a similar action already addressed in an EA or EIS). Only including ACAM reports "by reference" in an environmental impact assessment where the ACAM reports were produced in connection with that specific environmental impact assessment would result in the environmental impact assessment being technically inadequate and would violate NEPA requirements. Therefore, if there is actually a guidance/policy stating to only include ACAM reports "by reference", the guidance/policy cannot be followed because the NEPA requirements override.

While people often get confused by the verbiage in *DOD [DOW] NEPA Implementing Procedures*, where it states, "DOD [DOW]may incorporate material, such as planning studies, analyses, or other relevant information, into environmental documents by reference." This is referring to materials that were not specifically prepared in connection with the environmental impact assessment. Additionally, *DOD [DOW] NEPA Implementing Procedures* also states "Appendices are to be used for voluminous materials, such as scientific tables, collections of data, statistical calculations, and the like, which substantiate the analysis provided in the environmental assessment." The ACAM reports are prepared for the environmental impact assessment, they are substantiating the air quality analysis fundamental to the impact statement, or they are relevant to the decision to be made. Therefore, only including ACAM reports "by reference" where the ACAM reports were produced in connection the environmental impact assessment would render the environmental impact assessment technically inadequate and violate NEPA requirements which override DAF guidance/policy.

10 REFERENCES

This section provides a list of documents, models, and other sources referenced in the Guide. The reference list also identifies how to obtain or contact the source (e.g., a publication number). An annotation, which includes a summary for the source cited, follows each reference.

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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 of 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 Base
A specific military installation subset and type of installation for aircraft operations. A place of operations for military aircraft where military aircraft take off and land

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 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 the human environment based on agency experience 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 takeoff/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.

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, regionally, and cumulatively.

Description of the Proposed Action and Alternatives (DOPAA)
The first DAF document required by the Proponent of an action to initiate the NEPA. The DOPAA is documented with DAF 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) 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, currently changed to Department of War (DOW)

DOW
Department of War, formerly called Department of Defense (DOD).

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 former process for complying with NEPA and CEQ regulations. Superseded by the DOD [DOW] NEPA Implementing Procedure.

Environmental Impact Statement (EIS)
A detailed, concise public document required for major Federal actions is 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 NEPA process 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.

Facility
A specific installation subset and type of installation located within the State which is owned or operated by the federal government, and which is used for the purposes of providing logistical, technical, material, training, and any other support to any branch of the United States military.

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.

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, which 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.

Insignificance 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, insignificance indicators only provide a clue and evidence to the potential significance of emissions impacts to air quality.

Installation
Any property (installation, base, facility, camp, post, station, yard, center, or other activity) under the jurisdiction of the Secretary of a military department or, in the case of an activity in a foreign country, under the operational control of the Secretary of a military department or the Secretary of Defense, without regard to the duration of operational control.

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 an 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
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 under the Clean Air Act 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 of the health of 'sensitive' populations such as asthmatics, children, and the elderly. These standards set the maximum allowable concentration of a specific criteria pollutant in the outdoor ambient air. NAAQS are specified for different averaging times (e.g., 1-hour, 8-hour, annual) and are measured in units of concentration, such as parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$)

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.

Net Change in Emissions (or Net Emissions)
The annual total of all direct and indirect criteria pollutant (or precursors) increases and decreases in emissions caused by the Federal action. The portion of emissions which are exempt or presumed to conform under § 93.153 (c), (d), (e), or (f) are not included in the "total of direct and indirect emissions."

Net Change in Emissions Analysis (or Net Emissions Analysis)
An estimation of the annual total (increases and decreases) criteria pollutant (or precursors) emissions (direct and indirect) caused by the Federal action. Simply the totaling of all direct and indirect emissions increases and decreases caused by the Federal action for each criteria pollutant (or precursors). The portion of emissions which are exempt or presumed to conform under § 93.153 (c), (d), (e), or (f) are not included in the "total of direct and indirect emissions."

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 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.

Pollutant(s) of Concern (POC)
Under an AQIA, the air pollutant(s) of concern include all criteria pollutants, greenhouse gases, and total hazardous air pollutants (HAPs). Under General Conformity the air pollutant(s) of concern includes only 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 type of NAAQS that is set to protect public health, including the health of sensitive or at-risk populations such as asthmatics, children, and the elderly, with an adequate margin of safety

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 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 alternatives 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, regionally, and cumulatively.

Rule of Reason
A guiding principle under NEPA and General Conformity. 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. 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.

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 is 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, which 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 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
For this guidance document, "stationary sources" are emitters of air pollution at a fixed location. Such sources include power plants, individual heaters, 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 is no (or only negligibly) 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.

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.