



The NEPA Process

For Airport Projects

August 2024

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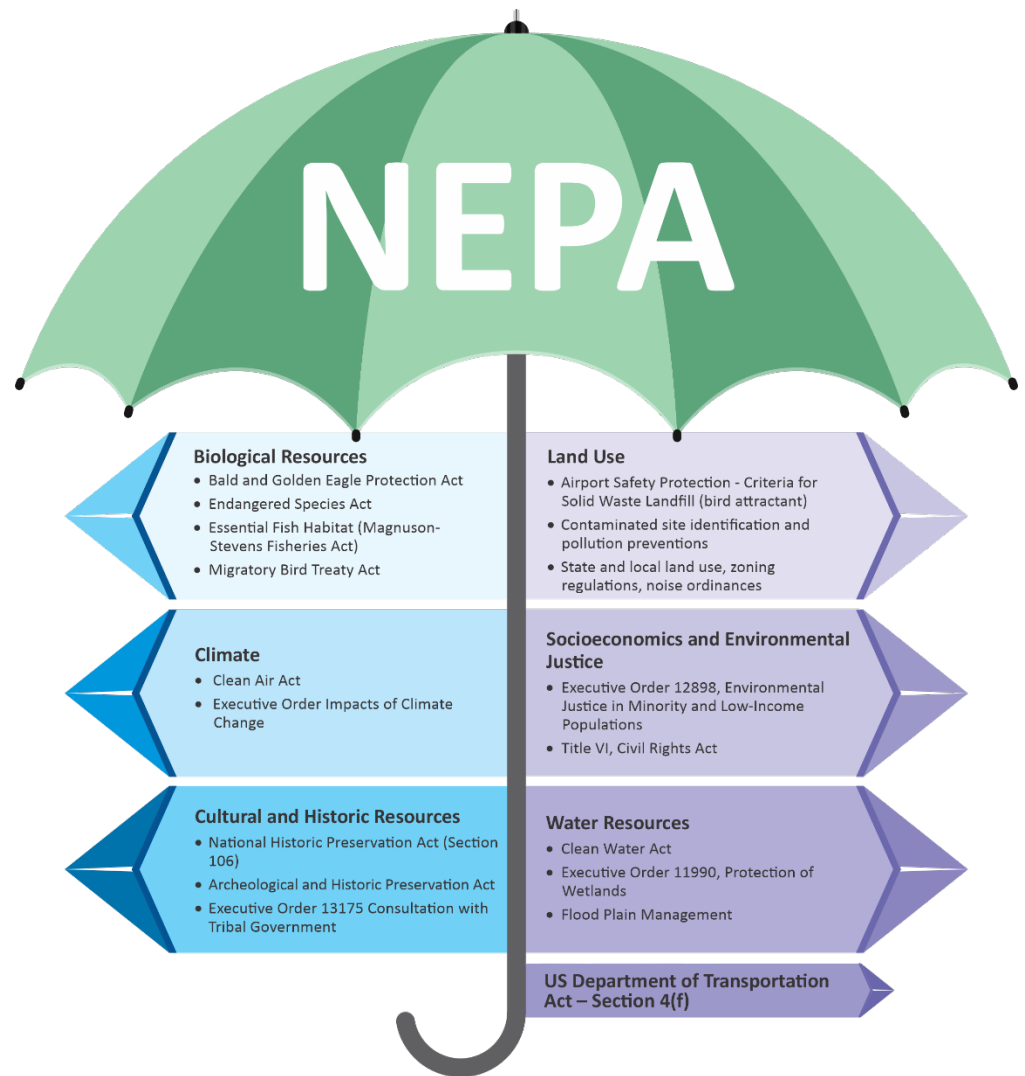


This white paper focuses on how the National Environmental Policy Act (NEPA) required process influence the project development process from project nomination through design and integration of NEPA into the overall project framework, as well as how NEPA can inform and guide airport project decision-making.

What is NEPA?

NEPA requires environmental considerations are integrated into the federal government’s decision-making processes and environmental impacts from projects are publicly disclosed. NEPA is a procedural law, which means it mandates that federal agencies follow specific processes when making decisions that could significantly affect the environment. NEPA establishes a structured framework in which agencies must evaluate environmental impacts on the human environment, consider project alternatives, establish mitigation measures, conduct agency coordination and public participation, and produce consistent documentation.

NEPA is concerned with the “human environment”—the natural environment and the relationship between people and their surroundings. The law requires a highly interdisciplinary approach that analyzes both the ecological and social impacts of proposed projects. Other environmental statutes and regulations are incorporated into the NEPA analysis, streamlining the NEPA review. NEPA analysis incorporates a broad range of federal laws and regulations and is often referred to as the NEPA “umbrella” shown in Figure 1. Agency coordination, which NEPA requires, allows agencies that regulate specific resources to provide comments during the early stages of



Listed are federal statutes and executive orders often applicable to airport projects in Alaska. Others may also be applicable. The full list of regulations, executive orders, and guidance to be considered for applicability can be found in the FAA Office of Environmental and Energy, 1050.1F Desk Reference. Some reference names above have been shortened for ease of presentation.

Figure 1. The NEPA Umbrella.

project development. Although integrated into NEPA, permitting and consultations required to satisfy additional federal, state, or local laws must still occur, independent of NEPA.

Regulatory Context

The Council on Environmental Quality (CEQ), an agency within the Executive Office of the President of the United States, was established to implement NEPA and provide guidance and oversight. Every federal agency must comply with CEQ overarching NEPA regulations and guidance; and each agency must also establish procedures and guidelines specific to their agency's activities.

NEPA requirements apply to a federal action, defined as any project, program, or activity proposed, funded, or undertaken by a federal agency. Most airports in Alaska are owned and managed by the Alaska Department of Transportation and Public Facilities (DOT&PF), which is a state agency. However, because most DOT&PF airport construction projects require Federal Aviation Administration (FAA) approval of the airport layout plan and FAA-administered funding through the Airport Improvement Program (AIP), they are subject to NEPA. The FAA is generally the lead federal agency for the airport NEPA process and is responsible for reviewing and approving the NEPA documentation. The DOT&PF has an active role in the NEPA process, often preparing the environmental studies and analysis for FAA review and approval. NEPA implementation procedures vary for other project types funded by different federal agencies. For example, the Federal Highway Administration (FHWA) developed NEPA guidance specific to highway projects. The DOT&PF has an agreement with the FHWA to assume NEPA responsibility; therefore, the NEPA process is handled internally.

FAA NEPA procedures are outlined in two orders.

1. [*FAA Order 1050.1F: Environmental Impacts: Policies and Procedures*](#). This document provides policies and procedures for addressing environmental impacts associated with FAA actions and decisions across all aspects of aviation. The order sets the general framework and principles for the FAA's approach to environmental considerations, including procedures for conducting environmental impact assessments, preparing environmental documents, and engaging with stakeholders. This document also provides guidance for determining the threshold of significance for each of the impact categories evaluated under NEPA.
2. [*FAA Order 5050.4B: National Environmental Policy Act \(NEPA\) Implementing Instructions for Airport Actions*](#). This document supplements the agency-wide NEPA guidance provided in Order 1050.1 by specifically focusing on airport-related actions. The order also outlines instructions and procedures related to NEPA compliance and more relevant guidance in the context of airport construction projects.

To further support NEPA implementation, the FAA generated the [*FAA Order 1050.1 Desk Reference*](#) and [*FAA Order 5050.4B Environmental Desk Reference for Airport Actions*](#). In addition to NEPA guidance, the reference manual summarizes applicable special purpose laws, defined as federal laws, regulations, executive orders, or departmental orders outside of NEPA. Presenting all this information in a single document improves the integration of NEPA with other federal environmental regulatory requirements.



Levels of Analysis

The type of analysis and documentation requirements to satisfy NEPA vary depending on the scope of the proposed project and the potential for that project to impact the environment. Three environmental classes of action are possible and are discussed in detail in the following sections: a Categorical Exclusion (CATEX), an Environmental Assessment (EA), or an Environmental Impact Statement (EIS). Figure 2 shows the process for determining which class of action is necessary and how decisions are reached.

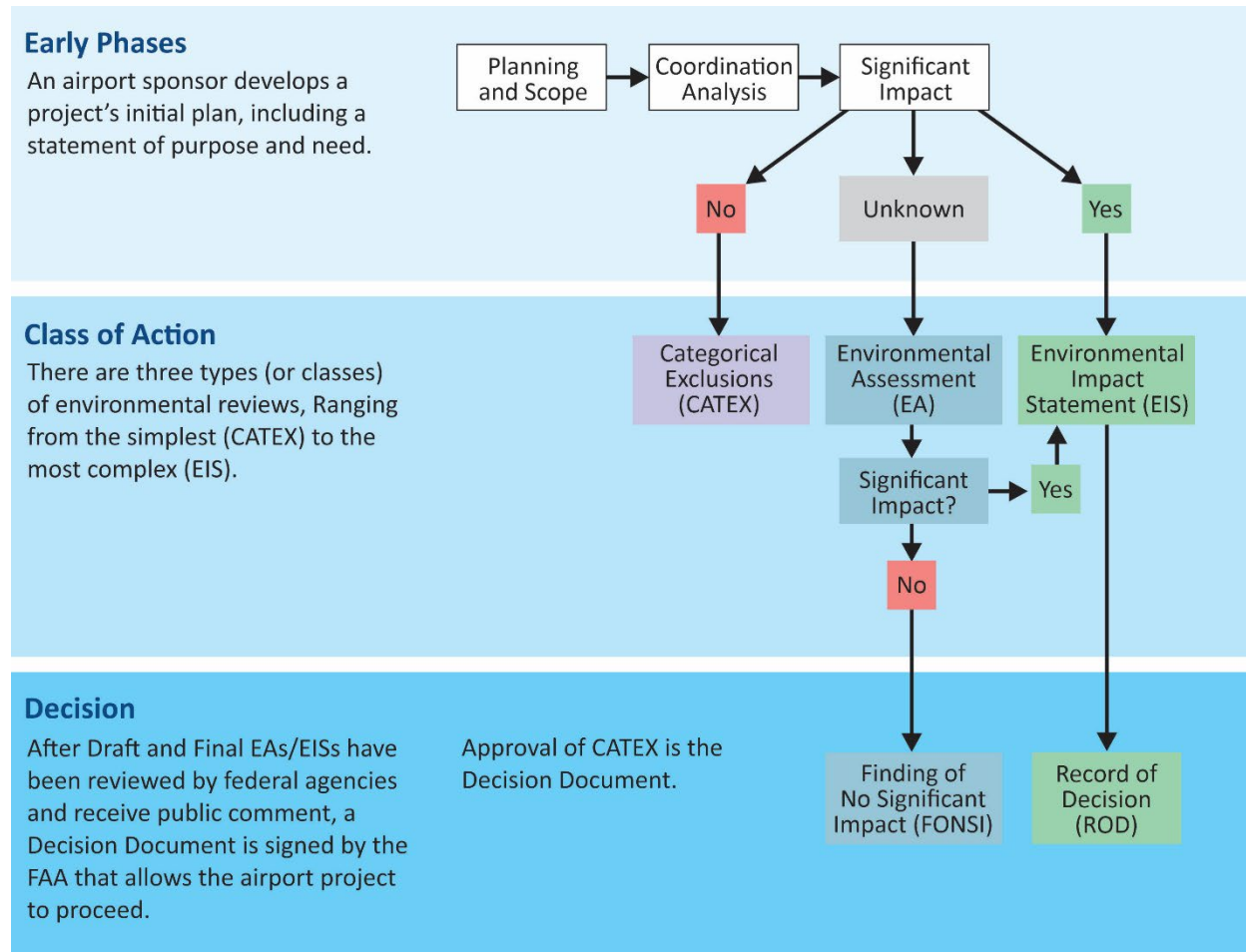


Figure 2. Determination of Required Level of Analysis. Adapted from: [U.S. Department of Transportation Federal Railroad Administration & NEPA Documentation](#)

Categorical Exclusion (CATEX)

A CATEX applies to a category of actions that do not individually or cumulatively have a significant effect on the human environment. A CATEX is not an exemption from NEPA review but is a less intensive level of NEPA review. FAA [Order 5050.4B Chapter 6](#) details the types of airport projects that qualify for a CATEX and required documentation to receive CATEX approval. Actions that generally qualify for a CATEX are listed in the Order and include administrative and planning actions, maintenance activities, and minor construction projects, such as runway resurfacing. Special circumstances, such as the

presence of sensitive or regulated environmental resources within a project area, are listed. A project will not qualify for a CATEX if a special circumstance exists.

Environmental Assessment (EA)

The next level of NEPA review is an EA, which requires an environmental impact analysis and report. An EA may be the appropriate level of environmental review for moderate to major airport projects, such as expanding or relocating an airport, and minor construction projects where an extraordinary circumstance is present or when it is initially unknown whether impacts may be significant. Extraordinary circumstances may include impacts on resources that need more detailed analysis to determine if the threshold of significance has been exceeded. [FAA Order 5050.4B Chapter 7](#) provides direction on the required EA content and processes, such as public and agency engagement.

An EA requires the analysis of at least two alternatives; generally, this is satisfied by the proposed construction project and the no-build alternative. An EA results in one of three possible outcomes:

1. The FAA issues a Finding of No Significant Impact (FONSI), in which case NEPA requirements are met.
2. The FAA identifies significant impacts but mitigates them below the significance threshold, resulting in a mitigated EA or FONSI/Record of Decision (ROD).
3. The FAA requires the preparation of an EIS because the proposed action is likely to have a significant impact.

Environmental Impact Statement (EIS)

An EIS is required when one or more environmental impacts of a proposed action could be significant. An EIS entails the most rigorous study and reporting requirements. Multiple alternatives must be evaluated, and their environmental impacts identified. Major projects require an EIS (e.g., airport relocation projects in sensitive areas where environmental impacts are unavoidable). Upon finalization of an EIS, the FAA publishes a ROD, which presents the FAA's decision on the proposed action and provides a rationale for how the decision was made. In some circumstances, because of the potential for significant impacts, the environmental process may be initiated as an EIS, but later the impacts might be determined to be below the threshold of significance; in such a case, the final approval may be a FONSI or a FONSI/ROD.

DOT&PF can conduct or contract out the preparation of a CATEX or EA; however, only the FAA is allowed to conduct or contract an EIS.

[FAA Order 5050.4B Chapter 9](#) presents guidance for how the FAA conducts agency scoping for an EIS, and [FAA Order 5050.4B Chapter 10](#) provides the content requirement for an EIS.

Navigating NEPA Throughout Airport Projects

This section provides a high-level overview of key steps within the NEPA process and how they align with the overall project context. Specific NEPA procedures are contingent upon the scope of the proposed project and the required level of analysis. Refer to FAA orders and associated guidance documents for comprehensive instructions on executing the NEPA process.



Development of Purpose and Need. The NEPA analysis relies on a robust and specific purpose and need statement to justify an airport project. The statement should be developed during the early stages of project development through planning studies, airport inspections, and both public and stakeholder input. The FAA provides various [resources and guidance](#) to assist in the development of the purpose and need statement.

Identification of Sensitive Resources and Environmental Concerns. Early identification of environmental concerns is essential for effective and efficient navigation of environmental regulations. Performing pre-NEPA studies is common for large airport projects and can include desktop research, field studies, and even agency engagement to identify baseline conditions and environmental concerns. The FAA encourages the integration of environmental considerations into both airport master planning and airport system planning.

Environmental concerns can also be identified and refined through stakeholder and community involvement. Community involvement can sometimes begin in the early project planning stages before the NEPA process begins. After the NEPA process officially starts, opportunities for public participation exist throughout the process.

The NEPA process also requires agency scoping and agency coordination for evaluating regulatory requirements and constraints and environmental impacts of a proposed project.

Environmental Impact Analysis and Preparation of Documentation. The NEPA document includes an evaluated alternatives discussion, environmental impact analysis results, and mitigation measures. NEPA documents are typically prepared concurrently with preliminary design to provide relatively accurate data for the environmental impact analysis. For example, the project footprint needs to be established to quantify wetland impacts. Understanding that, although some design is needed to inform NEPA impact analyses, the outcome of NEPA (e.g., required mitigation measures or the selection of a different alternative) can greatly impact the final design of a project.

Approval of NEPA Document. Draft versions of the EA and EIS must be made available for a public review period and distributed to interested parties before finalizing the document. NEPA approval must be issued before the federal funds can be issued for mitigation measures to initiate property acquisition or begin construction.

NEPA Requirements for Airport Projects

NEPA drives specific and sometimes robust documentation requirements on airport projects and also facilitates a collaborative and multidisciplinary approach. Building adequate time into project schedules is important to allow for the NEPA process and completion of other applicable regulatory requirements. The timeline of NEPA varies from several months to multiple years, depending on the complexity of the project and the type of NEPA analysis needed.

Environmental Considerations

Regulatory constraints can impact project designs and construction practices. The following environmental considerations are commonly incorporated into airport projects. This is not a



comprehensive list but an overview of commonly encountered concerns to inform how the environmental process impacts Alaska airport projects. Environmental impact categories such as [Air Quality](#), [Climate Change](#), Coastal Resources, others outlined in the [regulations](#) are non-issues for most Alaska airport projects however they do need to be considered on a project by project basis.

Additionally, when evaluating impacts, material sources should also be considered. Airports often require large volumes of material, and mining of this material can encompass several acres of land.

Wetlands. Most major Alaska airport projects involve wetland impacts. Cited sources state ranges from more than 40 percent to 65 percent of Alaska's surface area comprises wetland. As such, airport projects often have large footprints and occur in relatively flat and low areas. Wetland impacts must be weighed in the NEPA analysis, and in cases where wetland impacts are unavoidable, feasible mitigation measures must be identified, and a U.S. Army Corps of Engineers permit must be acquired. The extent of wetlands impacts will determine the type of permit and extent of coordination required.

Water Quality. Airport project construction can potentially impact the water quality of adjacent wetlands and waters. Coverage under the Construction General Permit (administered by the Alaska Department of Environmental Conservation [DEC]), development of stormwater pollution prevention plans, and implementation of best management practices to reduce erosion and prevent sediment from entering adjacent waterbodies are required for airport construction projects. Post-construction water quality impacts, however, should also be considered. For example, post-construction water quality impacts may occur from operational activities such as aircraft deicing or maintenance equipment fuels. At most rural Alaska airports, construction-related water quality impacts can be most detrimental.

Biological Resources. Regulated biological resources include fish habitat, migratory bird habitat, and federally listed threatened and endangered species. For example, the State of Alaska regulates fish-bearing waters, with special consideration given to waters that support anadromous fish species. If projects require work below ordinary high water in a fish-bearing stream, coverage under the Alaska Department of Fish and Game Title 16 permit is required. Some common permit conditions include culvert designs that ensure unobstructed fish passage and timing stipulations to avoid performing in-water work during sensitive timing windows, such as spawning. Although Essential Fish Habitat permit is the most common, other important coordination efforts are often required for Endangered Species Act, Bald and Golden Eagle Protection Act, Marine Mammal Protection Act and Essential Fish Habitat mandate (under the Magnuson-Stevens Fishery Conservation and Management Act).

Historic and Cultural Resources. The principal statute concerning cultural resources is Section 106 under the National Historic Preservation Act and Alaska Historic Preservation Act. Identification of potential impacts to cultural resource for the NEPA analysis starts with Section 106 consultation. Section 106 has specific consultation procedures that must be followed. Potentially affected parties such as the State Historic Preservation Officer, the Tribal Historic Preservation Officer, and tribal entities must be engaged early in the NEPA process. In some cases, field exploration may be required to confirm the existence or absence of resources protected by cultural resources or historic preservation laws. The Section 106 process typically occurs concurrently with NEPA and is required for NEPA approval.

Section 4(f). Airport projects that are being considered for construction on or near significant publicly owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historic sites



must undergo rigorous evaluation. Section 4(f) lands can only be approved if there is no feasible and prudent alternative to using that land and the program or project includes all possible planning to minimize harm resulting from the use. Section 4(f) applies only to agencies within the U.S. Department of Transportation.

Contamination. NEPA will evaluate any likely sources of hazardous substances that could be encountered during construction. Larger airports are more likely to have contamination concerns than small rural airports, particularly for projects that require extensive excavation and dewatering. If nearby sources of contamination could be encountered, the development of work plans for soil handling and possibly dewatering, as well as additional permit coverage, may be required. The Alaska DEC contaminated sites database is an important resource. The DEC regulates spills and contaminants such as petroleum, which is common at Snow Removal Equipment Buildings (SREB) and on aircraft parking aprons.

Per- and polyfluorinated substances (PFAS) contamination is a common concern associated with airport projects that have historically used firefighting foams. PFAS is a relatively newly identified class of contaminants. In many cases, the extent of PFAS contamination has not yet been fully characterized, requiring additional screening efforts. Additional PFAS information can be found at the [DOT&PF Alaska PFAS Information Website](#).

Floodplains. Per [Executive Order 11988](#), federal projects are required to avoid floodplains; however, building in floodplains is sometimes unavoidable, which can create engineering challenges and require that protection measures be incorporated into the design. Depending on the location of airport projects, local floodplain ordinances and permit requirements may be applicable.

Land Acquisition. The NEPA process evaluates the need for land acquisition and how changes in land ownership would impact broader land use patterns, require the displacement of residents, or cause other impacts. Land acquisition impacts are often addressed in various impact categories, such as under land use, socioeconomics, and environmental justice, and should be cross referenced in the document. Further, existing airport lands may be leased to private parties and managed by the DOT&PF airport leasing department. At times, a project may require changes to the lease agreements. For AIP-funded projects, land acquisition cannot occur until the NEPA environmental document has been approved. The land acquisition process can be very time-consuming and commonly causes project delays.

Airport Decision-Making Process

An EIS, which compares multiple alternatives, is required for large projects that may result in significant impacts to the environment. Results from this in-depth analysis guide airport project decision making. The Angoon Airport is an example that illustrates how a NEPA analysis led to a different airport location than initially proposed. The construction of an airport was identified as a need for the community of Angoon; however, an alternative that did not pose a significant impact on the environment was not feasible. The preferred alternative proposed to the FAA by the DOT&PF required the use of land with a



federal Wilderness designation under the Alaska National Interest Lands Conservation Act. Using Wilderness lands would impact protected public recreation areas or Section 4(f) resources. The Angoon EIS also determined that airport and access road alternatives that required construction in the designated Wilderness lands would significantly impact visual resources and wilderness character and

would cause incompatible land uses. Therefore, the FAA selected a different alternative that did not require the use of Wilderness lands.

DECISION-MAKING REGULATIONS

NEPA stipulates specific procedural requirements, but it does not require that agencies select the choice with the fewest environmental impacts. However, under the statutory provision 49 USC 47106(c)(1)(B), the FAA cannot approve funding of a proposed airport development project that has significant adverse effects if a determination can be made that there is a possible and prudent alternative to the project, and that every reasonable step has been taken to minimize the adverse effect.

The process of deciding where to site an airport and which locations can be excluded from consideration can also occur before the start of NEPA. For new airport construction or relocation projects, multiple alternatives can be analyzed but determined to be infeasible from an environmental, engineering, or economic standpoint and ruled out before the NEPA analysis. One example of this is the Tununak Airport Relocation Project. The existing airport overlapped a cultural resource site, making it impossible to provide needed airport improvements without impacting cultural resources. Other potential airport locations faced numerous challenges associated with difficult terrain, a nearby landfill, land acquisition obstacles caused by native allotments, and extensive high-value wetland impacts. The consideration of multiple alternatives was ongoing for many years before initiating the official NEPA process, highlighting the importance of pre-NEPA planning within the process.

Ultimately, the NEPA document only analyzed one build alternative relative to the no-build alternative, an EA was completed, and a FONSI received. The elimination of pre-NEPA alternatives were briefly documented in a location study report and referenced in the EA.

In summary, [NEPA was established by Congress](#) “to use all practicable means and measures...to 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.”

FAA guidance documents have established procedural requirements for applying NEPA to airport projects. Alaska is unique in many ways yet the goals of NEPA could not be truer for the people and land of Alaska. An overarching takeaway is to start early, communicate often, and apply practical measures to avoid detrimental environmental impacts throughout the project development process.

