Standard Operating Procedure
Aircraft Certification Service Project Prioritization and Resource Management

Purpose

This standard operating procedure (SOP) describes the Federal Aviation Administration (FAA) Aircraft Certification Service (AIR) process for prioritizing certification projects and managing certification project resources when local resources are not available or are working on higher priority projects such as continued operational safety. The process for managing certification resources will henceforth be referred to as the AIR Project Prioritization Process.

Scope

This SOP applies to AIR personnel involved in aircraft certification in the Aircraft Certification Offices (ACO) and the AIR oversight offices, and to all activities AIR personnel perform in support of certification project prioritization and resource management. This SOP establishes the requirements and best practices for: 1) prioritizing aircraft certification projects, 2) determining individual project task response times, and 3) obtaining resources for certification projects when local resources are not available.

This document provides requirements and best practices for prioritization of certification projects including type certificates (TC), amended type certificates (ATC), supplemental type certificates (STC), amended supplemental type certificates (ASTC), and test and computation parts manufacturer approvals (PMA). This process does not include technical standard order authorization (TSOA) projects and changes to TSOA approvals.

Note: This SOP does not apply to validation projects or projects managed by the Military Certification Office (MCO). For projects managed by the MCO refer to FAA Order 8110.101, Type Certification Procedures for Military Commercial Derivative Aircraft.

The following documents are used in this process and are available on the AIR Quality Management System (QMS) website or Regulatory Guidance Library (RGL):

- FAA Order 8110.4, Type Certification
- FAA Order 8100.15, Organization Designation Authorization Procedures
- FAA Order 8110.42, Parts Manufacturer Approval Procedures
- QMS Procedure AIR-002-050, AIR Type Certification
- QMS Procedure AIR-001-080, AIR Parts Manufacturer Approval

DOCUMENT APPROVAL		
Function	**Name**	**Signature & Date**
AIR-1	Dorenda D. Baker	Dorenda D. Baker 9/6/14

REVISION HISTORY		
Rev	**Description of Change**	**Effective Date**
0	Original	TBD

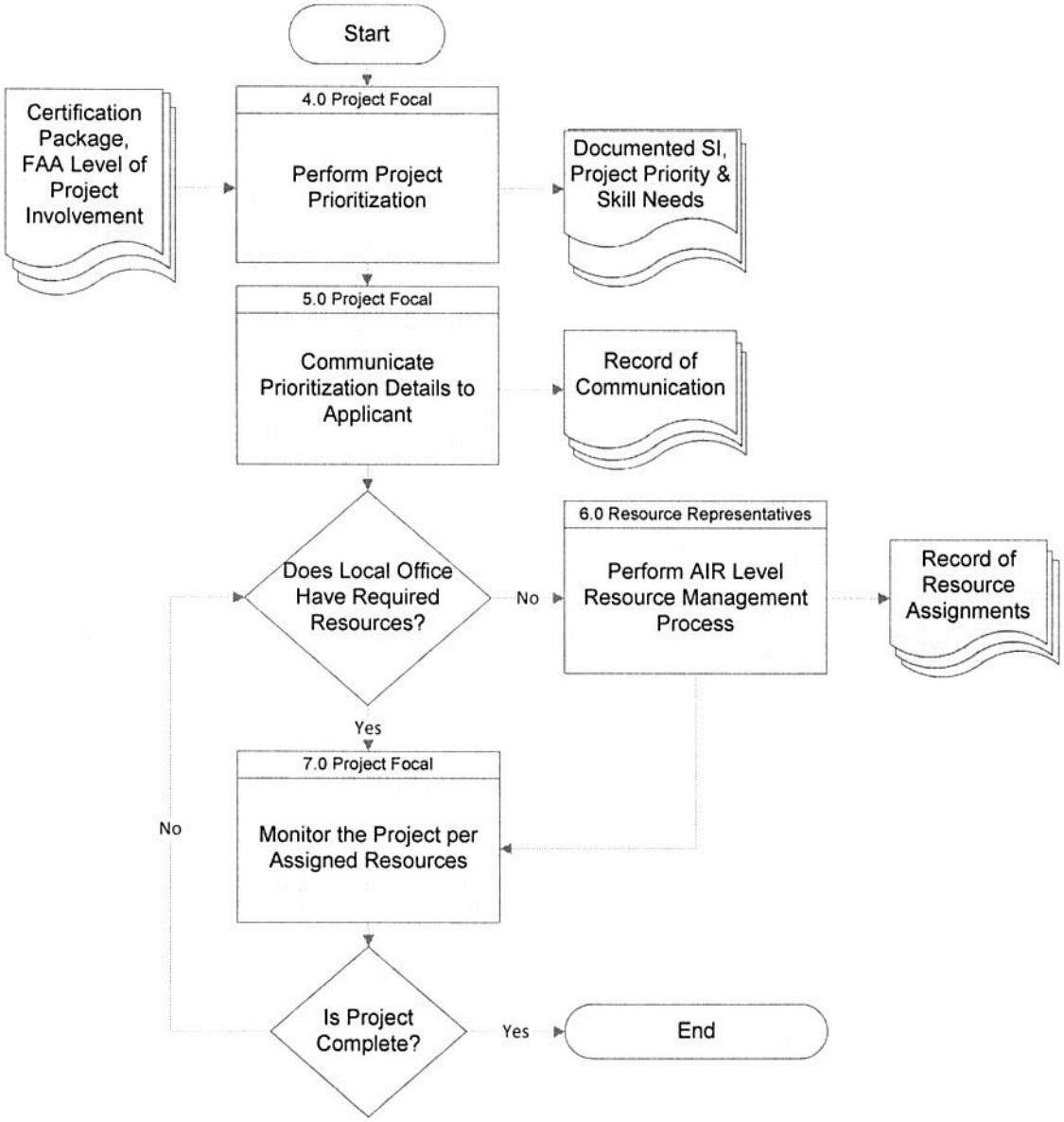

Figure 1. AIR Project Prioritization and Resource Management Process Overview

1. Overview and Background.

1.1. Overview. This document provides requirements and best practices for prioritization of certification projects including TCs, ATCs, STCs, ASTCs, and test and computation PMAs. This process begins after an applicant submits a complete application package per FAA Order 8110.4 or FAA Order 8110.42, or per FAA Order 8100.15 for an organization designation authorization (ODA). This application package must include a certification plan or Project Specific Certification Plan (PSCP) as well as a compliance checklist. The ACO must assess the FAA level of project involvement before beginning this process. The process ends when project priority and task response times are known, documented, and communicated to the applicant, and when resources have been allocated to project tasks. The ACO will then complete this project in accordance with FAA Order 8110.4, FAA Order 8110.42, or FAA Order 8100.15, with a goal of not exceeding the maximum response times set forth within this SOP.

1.2. Background. This SOP contains a process for certification project prioritization and resource management in AIR. This SOP supersedes the legacy SOP for the AIR Project Sequencing Process.

AIR began project sequencing in 2005 in an effort to focus its limited resources on safety enhancements. With project sequencing, AIR managed workload by delaying entire projects until AIR resources were available. Applicants were sometimes subject to long delays and could not anticipate when AIR personnel would start work on a project. Based on comments received on the legacy Project Sequencing SOP, AIR has designed this new certification project prioritization process. This process has the same goal of the legacy SOP of focusing FAA resources on safety but with an approach that allows work to begin without delay following acceptance of an application package or program notification letter (PNL) in accordance with FAA Order 8110.4, FAA Order 8110.42, or FAA Order 8100.15.

When a certification project is initiated, the ACO determines the project's priority and related task response times. A new TC project or priority 1 project will be managed by task office flow times (OFT), while a priority 4 project will be managed by task response times extended out to a maximum of the OFT plus 90 days. It is important to note that although prioritization takes place at the project level, AIR will extend response times only for individual, resource-limited tasks. Under this process, there is no project-level delay,

and tasks on projects can be worked immediately if no resource limitations exist. If the local project office is unable to support a task within the predetermined response time goal, the FAA will use resources across AIR to complete the task. If AIR is unable to support a project task within its maximum response times, it will notify the geographic directorate management of the resource needs and impacts. Additionally, if a task response is expected to exceed the maximum response time goal, an expected response date must be communicated to the applicant.

Priority is determined primarily based on the project's safety benefit. The applicant's demonstrated certification capability also plays a role in the prioritization calculation, with safety remaining the primary driver. Prioritizing work based on safety benefit is consistent with the mission of both AIR and the FAA overall.

2. Definitions.

2.1. Must or Will. This SOP is directive in nature. The use of words such as "must" or "will" herein indicate the actions are mandatory.

2.2. May or Should. The use of words such as "may" or "should" herein indicate a process step is not mandatory, but is an optional best practice to allow flexibility. You are encouraged to follow the best practices contained in this SOP.

2.3. Safety Index (SI). The SI is a rating of a certification project to prioritize use of resources based on the project's overall impact on safety. Refer to appendix A, step 1 for a detailed description of how the SI is calculated.

2.4. Applicant Showing or Designee Finding (ASDF). ASDF is a rating based on the discrete number of direct findings the FAA is anticipated to make, as compared with the percentage of discrete findings to be made by a designee or where an applicant showing will be accepted without a discrete finding. Refer to appendix A, step 2 for a detailed description of how an ASDF rating is calculated.

2.5. Project Priority. The project priority is the prioritization level assigned to a project. Projects can be priority 1, priority 2, priority 3, or priority 4. Prioritization details can affect the maximum FAA response time to any applicant submittal.

2.6. Office Flow Time (OFT). The OFT is the baseline amount of time allocated for an FAA office to complete a task or respond to a specific type of applicant submittal (i.e. test plan, flight test report, etc.). Each office determines its own OFT based on staffing level and workload.

2.7. Task. For the purpose of this SOP, a Task is defined as the FAA review of type certification compliance data (i.e. test plans, test reports, and or analysis reports) for the purpose of finding compliance with the regulations.

2.8. Response Time Extension. A response time extension is the maximum amount of time that a task can be extended based on project priority. These extensions are 0 days for priority 1, 30 days for priority 2, 60 days for priority 3, and 90 days for priority 4. Extensions are measured in calendar days.

2.9. Maximum Response Time. Maximum response time is the maximum amount of time to respond to a task on a project, and equals the OFT plus the response time extension (if applicable). Tasks should be accomplished within the OFT if resources are available.

2.10. Functional Skill Categories. The functional skill categories needed for resource management are as follows:

Entity	Abbreviation
Flight Test Pilot	FTP
Aviation Safety Engineer (ASE) Flight Test Analyst	FTE
ASE Airframe/Structures	AF/ST
ASE Mechanical/Environmental Systems	MS/ES
ASE Electrical/Avionics/Software	EL/AV/SW
ASE Powerplant/Noise	PI
ASE Propulsion Part 33/34/35	P33
ASE Cabin Safety	CS

2.11. AIR Resource Management Process. The Resource Management Process is the process by which certification offices identify resources needed and allocate resources available between certification offices. This process will include regular meetings.

2.12. Project Office. The project office (referred to as "PACO" in some other documents) is the FAA organization that will manage the project. The project is managed by the geographic ACO unless the project is transferred to another office (refer to FAA Order 8110.4 for further definition of project office).

2.13. Project Focal. The project focal is the FAA person from the applicant's geographic certification office identified as the project manager for the particular project.

2.14. AIR Resource Management Facilitator. The resource management facilitator is the person assigned to facilitate the allocation of resources based on availability and need across AIR. This person will also record the allocation of available resources to resource needs.

2.15. AIR Resource Management Meetings. Resource management meetings are meetings held to match resources available with resources needed across AIR.

2.16. Certification Project. For the purposes of this SOP, a certification project is any TC, ATC, STC, ASTC, or test and computation PMA for critical or life-limited parts. TSOA projects and changes to TSOA approvals are not included as part of this process.

2.17. Project Support Personnel. Project support personnel are the support personnel assisting with the project's execution. These personnel will generally be from the project office but can include other support personnel from outside the project office as required.

3. Responsibilities.

3.1. The Design, Manufacturing, and Airworthiness Division (AIR-100) manager is responsible for implementing, maintaining, and continually improving this process.

3.2. AIR employees involved with certification project prioritization and resource management are responsible for understanding, providing feedback to, and complying with this SOP.

4. Determining Certification Project Priority.

4.1. Project Focal. With assistance from project support personnel as required, you must calculate and document: 1) the SI, 2) the ASDF rating, 3) the project priority, and 4) the skills required for the project using the established criteria in the Certification Project Prioritization Criteria and Determination steps located in appendix A.

4.1.1. *Information.* The prioritization process begins with a certification project package that is complete per the requirements in FAA Order 8110.4, FAA Order 8110.42, or FAA Order 8100.15, as evaluated by the project support personnel. A certification plan or PSCP, compliance checklist, and ACO-assessed FAA level of project involvement are necessary to complete the prioritization process.

4.1.2. *Best Practice.* You should use the certification prioritization checklist to determine and document the SI, ASDF rating, project priority, and skills required as defined above.

4.1.3. *Best Practice.* If you know at the beginning of a project that your office will not have a functional skill set needed to support the project, you should notify your manager immediately so resources may be requested in the next AIR resource management meeting. Additionally, notifying other branch managers may be appropriate based on the skills needed.

4.2. Project Focal. You must determine the project's maximum task response time using table 1 below.

4.2.1. *Information.* If the project is a TC or model addition ATC, or if all applicable regulations will be met through the FAA's acceptance of the applicant's showing or all specific findings have been delegated to a designated engineering representative (DER), an ODA, or any combination thereof, the maximum task response time is the OFT only. These types of projects do not go through the normal prioritization process because of their long duration and lack of detailed plans at the start of the project. For all other project types, the maximum task response time is a function of the project priority determined in paragraph 4.1 and appendix A, steps 1-3. Also, offices can still use national resources to identify the skills necessary to complete tasks.

Note: Response time extensions are not applied to initial review of a certification project package. The project focal and project support personnel should review the initial package within the normal OFT.

Project Priority or Project Type	FAA Maximum Task Response Time Goal
Priority 1 or TC or Model Addition ATC Project	OFT
Priority 2	OFT plus 30 days
Priority 3	OFT plus 60 days
Priority 4	OFT plus 90 days

Table 1. Maximum Task Response Time Goals

4.3. Project Focal. You must record the project prioritization results (SI, ASDF rating, project priority, and skills required) in the project folder.

5. Communication with Applicant Regarding Certification Project Prioritization.

5.1. Project Focal. You must communicate to the applicant the project prioritization details including priority, rationale, OFT, any response time extensions, and any known FAA resource issues for the project. Additionally, you must maintain a record of this communication in the project file.

5.1.1. *Best Practice.* If you are communicating project prioritization details to the applicant via a standard letter or email, you should use the template located in appendix B.

5.1.2. *Best Practice*. If a face-to-face meeting is conducted to communicate prioritization details, the official meeting minutes should be recorded.

Note: There is no project-level delay in this prioritization process. The response time extensions are maximums (not targets) and are to be used only on tasks that have limited resources. For tasks where resources are available, responses should be given within the OFT.

5.2. Project Support Personnel.

5.2.1. *Best Practice*. You should attend the face-to-face meeting described in section 5.1.2 when requested to do so by the project focal.

6. AIR Resource Management Process.

The intent of the Resource Management Process is that only tasks for which resources are not identified and are at risk of going beyond their maximum response time need to be tracked. The process does not require the creation or use of an office-level tracking system for all tasks on all projects. Further, the determination that approximately three-fourths of the maximum task response time has elapsed does not necessarily constitute a discrete quantitative threshold. This evaluation can be made qualitatively if an office does not have a task tracking system in place.

6.1. Delegates from each Certification Office. You must do all of the following:

6.1.1. Attend the applicable AIR resource management meetings.

6.1.2. At the resource management meetings, identify and report resource needs within your office for the assigned disciplines.

6.1.3. Identify and report resource availability within your office to the members of the AIR resource management team.

6.1.4. Determine whether a task in the AIR Resource Management Process takes priority over active projects in your office and should be taken on by your office. If an office needs to shift resources from a task and the task may exceed its response time goal, local management should use this process as soon as possible.

6.1.5. If any resource needs have not been assigned through the AIR resource management meeting at approximately three-fourths of the maximum task response time, notify your office manager and the geographic directorate manager.

6.1.6. If you offer a resource to fill a task need from another office, the baseline expectation is that the resource will be available to accomplish the task within the maximum response time.

Note: On agreement between the applicant and the geographic certification office managing a project, the applicant may volunteer in writing to use the geographic certification office exclusively for all aspects of a certification project, regardless of the additional delay. In these cases, the maximum task response time may be greater than that determined by this prioritization process, and expected response times should be noted in the agreement between the applicant and geographic certification office.

6.2. AIR Resource Management Facilitator (or Their Delegate). You must do all of the following:

6.2.1. Set up resource management meetings and require attendance from representatives from each certification office.

6.2.2. Attend the meetings and document the allocated resources to tasks identified as needing support. If you are unable to attend a resource management meeting, a delegate must be assigned.

6.2.3. Take meeting minutes.

6.2.3.1. *Best Practice*. You should use a standardized report available to all meeting participants to document and focus meeting discussions on resource needs, resource availability, project priority, resource allocations, and whether approximately three-fourths of the maximum task response time has elapsed with no support.

7. Monitoring the Project per Assigned Resources.

7.1. Project Focal. You should remain aware of task response times and notify your manager or their delegate if you expect a task response may exceed the maximum response time.

7.1.1. *Best Practice*. If you expect a task response to exceed the maximum response time, you should communicate an expected response date to the applicant.

7.1.2. *Best Practice.* The AIR Resource Management Process should be used at any time before project completion when the resources on a project become limited.

7.1.3. *Best Practice.* When a project is completed (or canceled), you should notify the branch manager or delegate so reference to the project (and associated tasks) can be removed from the AIR Resource Management Process.

7.2. Branch Managers or Delegates from each Certification Office. You must use the AIR Resource Management Process any time a response time has been exceeded or is expected to exceed the maximum response time, or any other time that you do not have appropriate resources available.

Appendix A. Certification Project Prioritization Criteria and Determination

Step 1. Determine the Safety Index (SI). The project SI is composed of three primary elements: safety impact, passenger impact, and affected fleet. The SI is calculated by multiplying the prioritization value obtained from each of the three elements. Use the highest applicable value for each section relevant to the product being evaluated.

(Safety Impact) x (Passenger Impact) x (Affected Fleet) = Safety Index

Safety Impact		
Criteria	**Description**	**Prioritization Value**
Very High/ Immediate Safety Benefit	Prevent/Mitigate accident/ Near-term safety impact (AD or safety related to that aircraft. Prevent an accident on that aircraft.	90
High/ Strategic Safety Benefit	Program of defined strategic safety importance/regulatory compliance such as NextGen (http://av-info.avs.faa.gov/CPN/Uploads/Support/ NextgenTechnologies.pdf), congressionally-mandated programs, and FAA imperatives.	10
Moderate/ Long-Term Safety Benefit	Product with updated certification basis where the change to the product has some safety enhancement/longer-term safety impact (compliance with new amendments and regulations).	4
Negligible Safety Benefit	Negligible safety impact (passenger entertainment systems, cabin modifications). Also includes projects where the applicant refuses to submit a certification plan.	0

Table A-1. Determining Safety Impact

Passenger Impact		
Criteria	**Description**	**Prioritization Value**
20 or More Passengers	Aircraft that can carry 20 or more passengers (per the Type Certificate Data Sheet (TCDS)).	7
11 to 19 Passengers	Aircraft that can carry between 11 and 19 passengers (per the TCDS).	6
Defined Public Safety Impact	A project that will have a defined public safety impact (for example, firefighting tankers, law enforcement/border patrol aircraft).	5
10 or Fewer Passengers	Aircraft that can carry between 0 and 10 passengers (per the TCDS).	4
Public Use	Aircraft that is for public use only (DOD, DHS, Head of State, Etc.)	1

Table A-2. Determining Passenger Impact

Affected Fleet		
Criteria	**Description**	**Prioritization Value**
100 or More Aircraft or Incorporation Into Production Line	The change in type design can affect 100 or more aircraft or is a change in type design that will be incorporated into the entire production line which is likely to contain 100 or more aircraft.	5
Between 5 and 100 Aircraft	The change in type design can affect more than 5 but less than 100 aircraft (not expected to be used throughout the entire fleet of active aircraft, or the fleet currently and likely will continue to contain less than 100 aircraft).	3
5 or Fewer Aircraft	The change in type design will affect 5 or fewer aircraft.	1

Table A-3. Determining Affected Fleet

Example: SI calculation for a project with the following criteria:

- Safety Impact: High/Strategic Safety Impact = 10
- Passenger Impact: 20 or More Passengers = 7
- Affected Fleet: Incorporation Into Production Line (>100) = 5

Safety Index = (10) x (7) x (5) = 350

Step 2: Determine the Applicant Showing or Designee Finding (ASDF) Rating.
The ASDF rating for a project is composed of two primary elements: 1) the total percentage of airworthiness regulations with applicant showing only and designee finding of compliance, and 2) the number of findings retained by FAA personnel. The intent is that these numbers will be established by counting individual regulations by sections, not paragraphs or subparagraphs.

Both the percentage and number of findings play a role in the ASDF rating. This ensures both large and small projects are evaluated fairly when determining the FAA level of project involvement. A small project may have only a few applicable regulations, so each regulation retained by the FAA counts for a relatively large percentage of the total applicable regulations. Conversely, in a large project the FAA may retain several regulations, but those retained findings may constitute only a small portion of the total number of applicable regulations.

% Applicant Showing Only or Designee Findings	
Criteria	**Description**
100%	Use this selection if no findings of compliance will be retained by the FAA for the applicable regulations to this project.
90-99%	Use this selection if responsibility for findings of compliance will be retained by the FAA on between 1% and 10% of the airworthiness regulations for this project.
75-89%	Use this selection if responsibility for findings of compliance will be retained by the FAA on between 11% and 25% of the airworthiness regulations for this project.
50-74%	Use this selection if responsibility for findings of compliance will be retained by the FAA on between 26% and 50% of the airworthiness regulations for this project.
< 50%	Use this selection if responsibility for findings of compliance will be retained by the FAA on greater than 50% of the airworthiness regulations for this project.

Table A-4. Determining Percentage of ASDF

Number of Findings Retained by the FAA	
Criteria	**Description**
0	Use this selection if no findings of compliance will be retained by the FAA for the applicable regulations to this project.
1 to 5	Use this selection if responsibility for findings of compliance will be retained by the FAA on 1 to 5 of the airworthiness regulations for this project.
6 to 15	Use this selection if responsibility for findings of compliance will be retained by the FAA on 6 to 15 of the airworthiness regulations for this project.
> 16	Use this selection if responsibility for findings of compliance will be retained by the FAA on greater than 16 of the airworthiness regulations for this project.

Table A-5. Determining the Number of Findings Retained by the FAA

Use the composite of the percentage of regulations and number of regulations to determine the ASDF rating that goes into the prioritization calculation.

Applicant Showing or Designee Finding (ASDF)				
% Applicant Showing or Designee Finding of Compliance	100%	For 0 retained findings, see note		
	90-99%	High	High	Med
	75-89%	High	Med	Med
	50-74%	Med	Med	Low
	< 50%	Med	Low	Low
		1 to 5	6 to 15	16+
*Round the % Findings to Nearest Integer		# of Applicable Regulations Retained by the FAA		

Table A-6. Determining the ASDF Rating

Note: If all applicable regulations will be met through FAA acceptance of the applicant's showing or all specific findings have been delegated to a DER, ODA, or any combination thereof, setting a response time is not necessary. These projects are considered to have a project priority of 1.

Example: Calculating the FAA Certification Involvement for a project with the following criteria:

- Percentage (%) of Findings Applicant Showing Only or Designee Finding: 80%
- Number (#) of Findings Retained by FAA: 10

ASDF = (75% to 89%) and (6 to 15) = Medium

Step 3: Determine project priority from SI and ASDF. Project priority is determined by a composite of SI and ASDF. The grid below illustrates the general concept behind priority determination. SI makes up the majority of the priority calculation, with ASDF fine-tuning the calculation slightly after SI has been determined.

		Priority		
Safety Index (SI)	> 350	1	1	1
	120 to 350	3	2	2
	50 to 119	4	3	3
	0 to 49	4	4	3
		Low	Med	High
		Applicant Showing or Designee Finding (ASDF)		

Table A-7. Determining Project Priority

Note: As a best practice, when an office is looking to prioritize multiple projects with the same project priority, the project with the higher SI should take precedence. If both the project priority and SI are the same, priority may be set based on the highest ASDF rating. If all of these are identical, the submittal sent to the office first should take precedence.

Example: Prioritization and response time extension using the data from the examples in steps 1 and 2 above:

- SI = 350 (from step 1)
- ASDF = Medium (from step 2)
- OFT = 30 days (assumption)

Calculate Project Priority = Priority 2 (from step 3)
Calculate Response Time Extension for Priority 2 = 30 days (from table 1)
Calculate Maximum Response Time = OFT + 30 days = 60 days

Appendix B. Certification Project Prioritization Letter Template

U.S. Department
of Transportation
Federal Aviation Administration

(Regional Name) Directorate
Aircraft Certification Service

Directorate Address

[date signed]

In Reply
Refer To: [*letter number*]

[*Mr./Mrs. + name*]
[*Title*]

[*Company*]

[*Address*]

[*City, State Zip*]

Subject: [*subject line is optional*]

Reference: [*reference line is optional*]

Dear [*Mr./Mrs. + name*]:

We have initiated and prioritized your certification project for your [*insert brief description of certification project*]. We have determined that your project's priority is [*insert Priority 1, Priority 2, Priority 3, or Priority 4*] by evaluating its safety impact and determining its applicant showing or designee finding rating. Based on the determined priority, we will make a reasonable attempt to respond to project submittals within maximum response times equal to [*insert one of the following: office flow times (OFT), office flow times (OFT) plus 30, office flow times (OFT) plus 60, or office flow times (OFT) plus 90*] days.

This office's flow times are: [*Insert OFTs*].

Our rationale for your project's priority rating is determined following the Aircraft Certification Service Project Prioritization and Resource Management Process. Your project had an Applicant

Showing or Designee Finding (ASDF) of [*insert low, medium, or high*] and a safety index [*insert safety index*].

Note that an extension beyond office flow times is not a project level delay. The extended response times are maximum goals, not targets, and are to be used only on tasks that have limited resources. [*Insert the following sentence if there are known resource issues: We do not currently have resources available to work your project in [Insert functional skill categorie(s) from section 2.1.3 as applicable] function skill area(s)]*

We look forward to working with you and completing your project as expeditiously as possible.

Sincerely,

[*Office Manager*]Manager,
[*Office Name*]

[*routing symbol*]:[*engineer*]:[*phone extension*]:[*oa*]:[*phone extension*]:[*date*]
[*network shared drive*]\[*year*]\[*letter number*].doc
File Code: [*file code*]
Project No.: [*project number, if applicable*]
Project Prioritization Letter Template