

Standard Operating Procedure Aircraft Certification Service Project Sequencing

REVISION HISTORY		
Rev	Description of Change	Effective Date
0	Original	09/03/2010
1	Modified format to improve quality and readability. Added information in Appendix 5 on NextGen Technologies. Corrected misspelled words in original document. Added Appendix 6 for example of a commencement letter.	10/15/2010
2	Modified Appendix 2 chart to remove PSCP from Company/FAA Formal Working Agreements section.	1/4/2011
3	Added considerations for import projects. Revised Figure 5 and related process to reflect changes. Revised appendices to include added and revised letter templates. Removed reference to Capacity Tool.	DRAFT

1. Purpose:

This Standard Operating Procedure (SOP) describes the Aircraft Certification Service (AIR) process for the sequencing of certification and validation projects.

2. Scope:

This work SOP applies to all AIR personnel.

3. Definitions:

- a. **Safety Index (SI)** – A safety rating of a certification or validation project to prioritize use of resources based on an overall impact on safety
- b. **Company Contribution Index (CCI)** – A qualitative assessment of company knowledge, skills, and ability, including ACO experience with performance on previous projects and for U.S. products, formal working agreements such as MOU, PSP, and the type of delegation: Organization Designation Authorization (ODA), company and/or consultant Designated Engineering Representative (DER) and for non-US products, the impact on U.S. customers fleet as well as the scope of the bilateral agreement between the FAA and the foreign civil aviation authority (e.g. bilateral scope limitations that require the FAA to retain certain applicable compliance determinations).
- c. **Composite Safety Index (CSI)** – A rating based on SI plus points added based on the length of time a project stays in the National Sequencing Database queue.

- d. National Sequencing Database**– A national database system for leveling the certification project work load based on project categories. The project categories are determined by FAA certification hours required to accomplish the project.
- e. National User’s Database** – A national database to report closed or new project activity and available capacity.
- f. AIR Organization** – The organization can be an ACO, ODA oversight organization, or standards staff.
- g. Receiving Organization** - The AIR organization that receives a certification or validation project request.
- h. Transfer Organization** –The AIR organization that works a certification project that was transferred to it through the sequencing process
- i. AIR-2** – Refers to AIR Deputy Director
- j. ASI and ASE** – Refers to Aviation Safety Inspector and Aerospace Engineer, respectively.

4. Related Documents:

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

- a. FAA Order 8110.4 Type Certification**
- b. FAA Order 8110.42 Parts Manufacturer Approval Procedures**
- c. FAA Order 8110. 52 Type Validation and Post-Type Validation Procedures**
- d. QMS Procedure AIR-002-050 AIR Type Certification**
- e. QMS Procedure AIR-001-080 AIR Parts Manufacturer Approval**
- f. QMS Procedure AIR-001-082 AIR Type Validation**

Document Approval:

Function	Name	Signature & Date
Document Manager	Kevin Hull	
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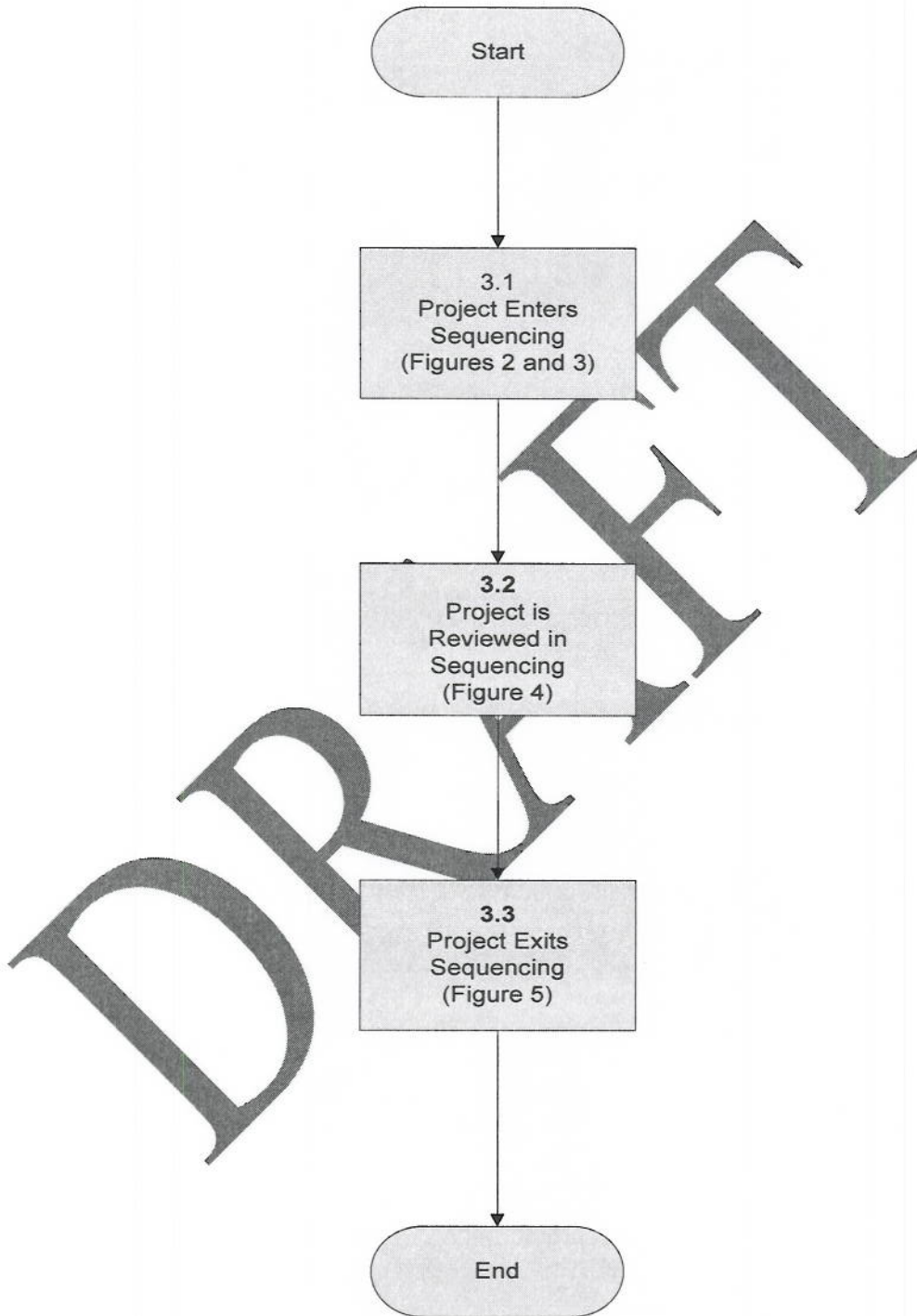


Figure 1 AIR Certification/Validation Project Sequencing Process Overview

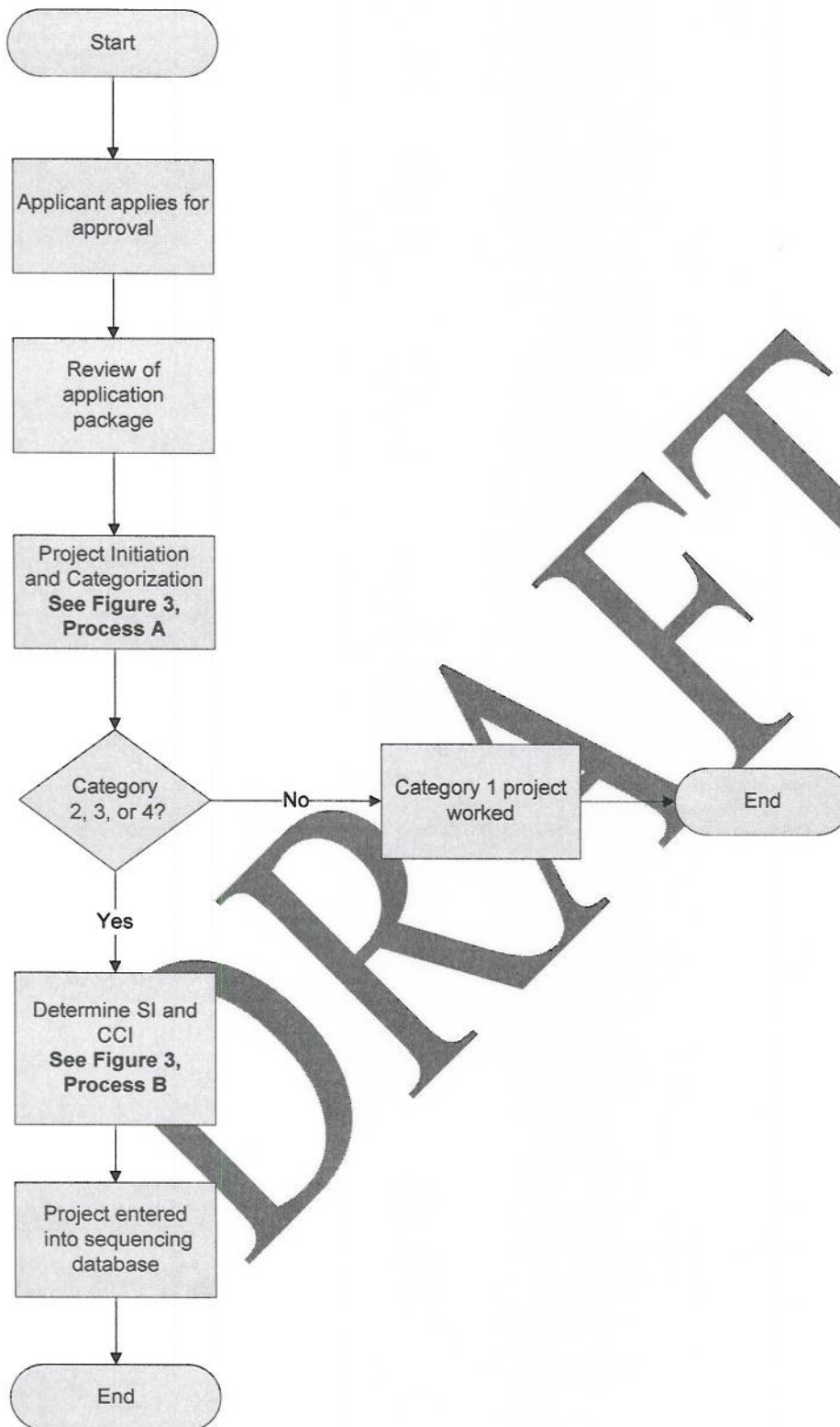


Figure 2 Certification/Validation Project Enters Sequencing

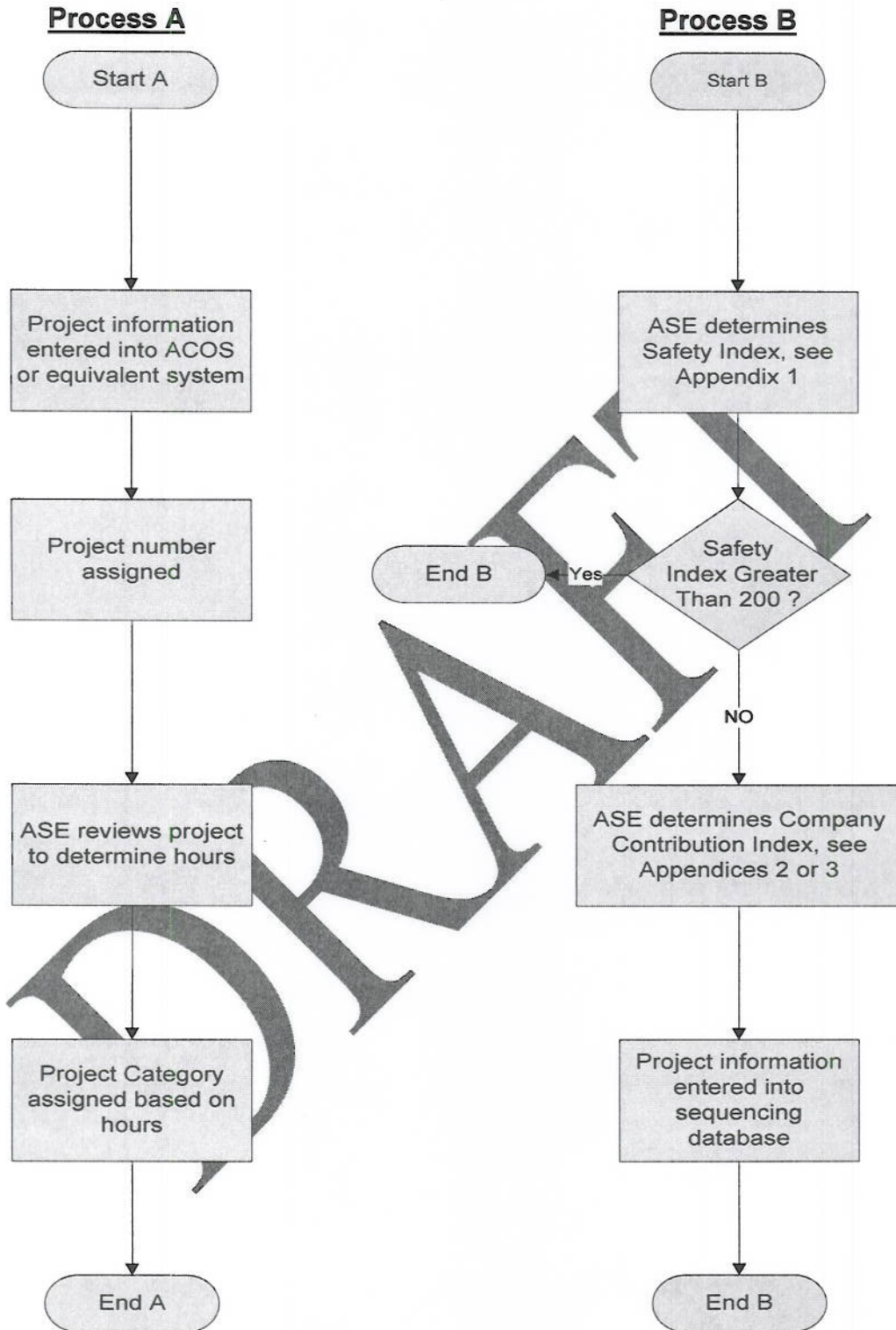


Figure 3 Certification/Validation Project Determination

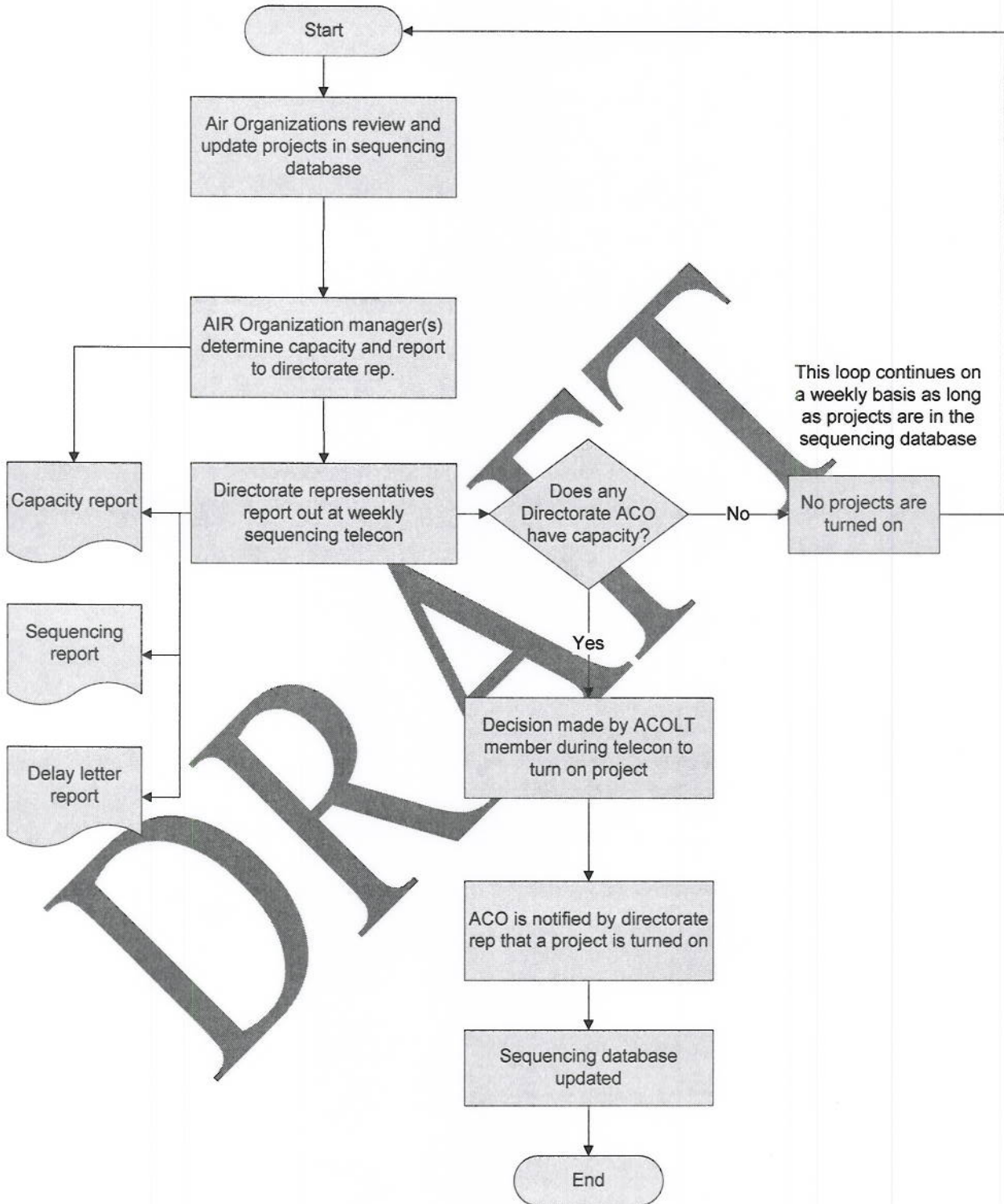


Figure 4 Project Reviewed in Sequencing

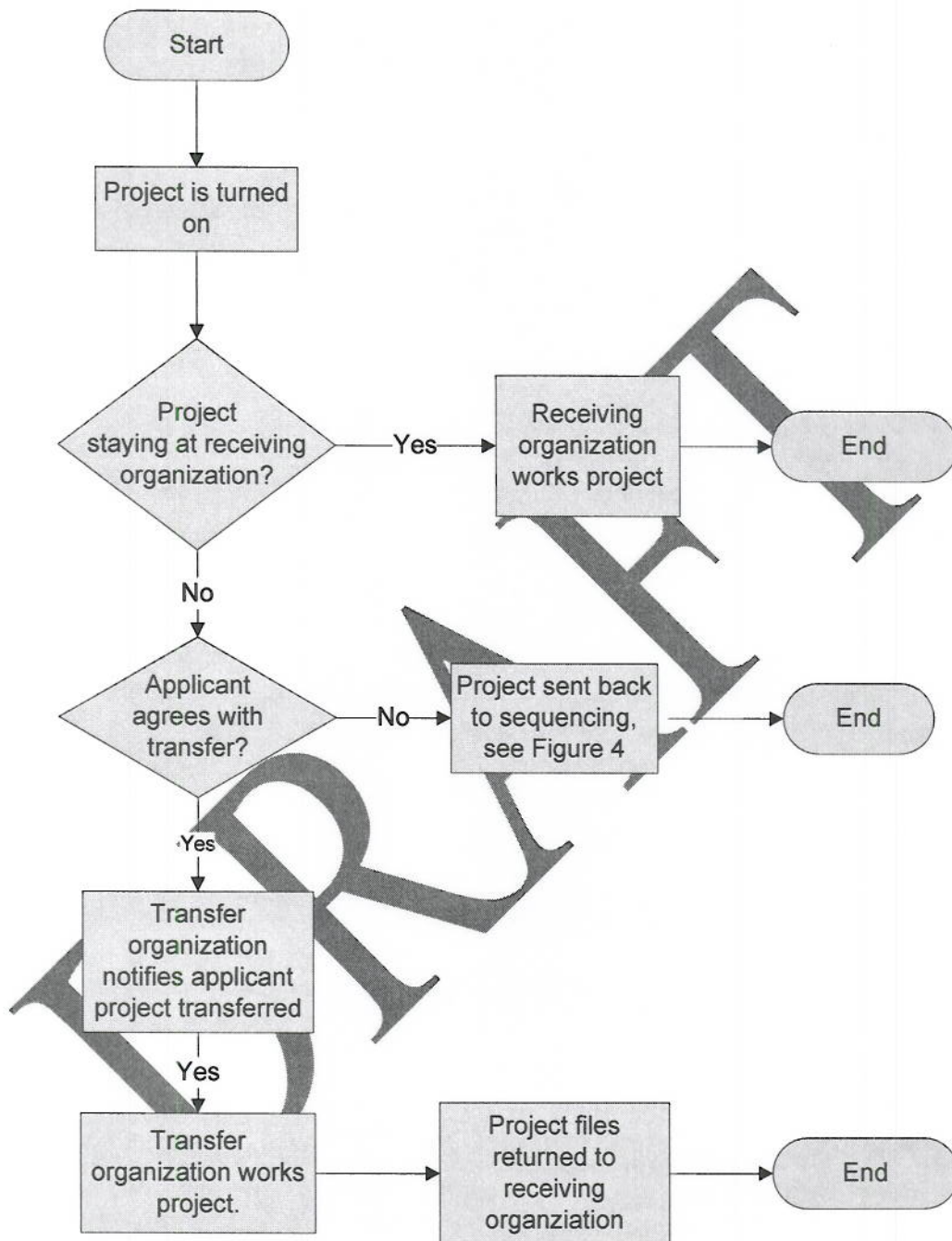


Figure 5 Project Exits Sequencing

5 Overview

This document describes sequencing of certification projects which are anticipated to take more than 40 hours of certification time including ACO, MIDO, and Directorate Standards Staff. This includes Category 2, 3 and 4 projects, as defined herein, for Type Certificate (TC), Amended Type Certificate (ATC), Supplemental Type Certificate (STC), Amended Supplemental Type Certificate (ASTC), Type Design Changes, Type Validation, when the FAA is the Validating Authority (VA), and Parts Manufacturer Approval (PMA). The process is continually updated for improvement.

6 Project Sequencing Process

a. Project Enters Sequencing

- (1) A certification/validation project is received by an FAA organization and is initially reviewed, see Figure 2.
- (2) The receiving organization determines the category of the project based on the anticipated amount of FAA certification time required to complete the project, see Figure 3, process A.
- (3) Projects that are Category 2 and above (more than 40 hours) are subject to the sequencing process. Category 1 projects are worked by the receiving organization without going through the sequencing process.
- (4) The receiving organization determines the Safety Index and Company Contribution Index, see Figure 3, process B.
 - (a) A project that has a Safety Index of 200 or higher is entered into the sequencing database but is not sequenced; they are immediately worked by the receiving organization.
- (5) The receiving organization enters the project information into the National Sequencing Database within two weeks of receipt. If the two week time line can not be met. Then an explanation for the delay needs to be included in the "ADDITIONAL FACTOR" field in the database.
- (6) The project information listed below is entered into the National Sequencing Database,
 - (a) The applicant name;
 - (b) Project description;
 - (c) Application date;
 - (d) Application received date;
 - (e) Category;

Category 1:	1-40 hours
Category 2:	41-120 hours
Category 3:	121-600 hours
Category 4:	600+ hours

- (f) Safety Index;
- (g) Company Contribution Index and;
- (h) Skills Needed: The skills needed must use the following acronyms and must be in the order from highest entity involvement to lowest;

<u>Entity</u>	<u>Acronym</u>
Program Manager	PM
Flight Test Pilot	FTP
ASE Flight Test Analyst	FTE
ASE Airframe / Structures	AF/ST
ASE Mechanical Systems	MS
ASE Electrical / Avionics / Software	EL/AV/SF
ASE Propulsion Installation	PI
ASE Propulsion Part 33	P33
ASE Cabin Safety	CS
ASI Manufacturing Inspector	MIDO

- (7) The receiving organization sends the standard delay letter; see Appendix 4, to the applicant once the project is put into sequencing. All standard delay letters & subsequent delay letters are signed by the receiving organization manager.
 - (8) The receiving organization may also determine that it is beneficial to the FAA for a project to stay with the receiving organization, such as an ODA project. If this determination is made the database will be updated to reflect the change. For validation projects, the receiving organization will retain project management responsibility (i.e., it will not be transferred to another FAA office), due to unique office knowledge and experience working under the applicable bilateral agreement. The receiving organization shall notify the applicant of such decision promptly.
- b. Project Reviewed in Sequencing**
- (1) A weekly telecon is held to discuss capacity, new projects submitted, closed/canceled projects, projects ready to be turned on and the delay letter report, see Figure 4.
 - (a) The participants on the weekly telecon consist of the directorate representatives and one member of the Aircraft Certification Office leadership Team (ACOLT) at a minimum.
 - (b) Each directorate representative prior to the weekly telecon collects the required information from the ACOs, MIDOs and standards staff within that directorate.
 - (2) The project is delayed in sequencing until resources are available and open projects nationwide are evaluated.

- (3) Subsequent standard delay letters, see Appendix 5, are sent to the applicant/bilateral partner every 90 days until the project is turned on. If a non-standard delay letter is to be sent to the applicant, it must be approved by AIR-2.
 - (4) During the weekly sequencing telecon the directorate representatives report their ACOs' capacity to work new projects based on the capacity report in the National User Database.
 - (5) Projects in sequencing are sorted by Category, CSI, date received and CCI.
 - (a) Each week, while in sequencing, points are added to the CSI until the project reaches 100. The weekly counter adds 5 points if the Company Contribution Index is less than 80 and 10 points if it is 80 or more.
 - (b) For those projects that have been in the National Sequencing Database for more than 6 months, an additional 5 points per week are added to the CSI to a maximum of 150 points. Projects at 150 points remain delayed until resources are available, but do not continue to accrue points.
 - (6) When resources are available to work a project, the project with the highest CSI is turned on, provided that the skill set required for the project matches the skill set for which an AIR organization shows capacity. The organization that received the project and, if applicable, the transfer organization working the project are notified by the Directorate representative.
 - (7) If the receiving office has determined that some necessary resources are unavailable for a given project, the Directorate representative will report to the receiving office if other offices have available the needed resources. In such cases, the receiving office will contact the office with available resources to determine suitability of virtual teaming arrangements.
- c. Project Exits Sequencing**
- (1) See Figure 5 for the steps that occur after a project is turned on.
 - (2) If the project is not being transferred, the receiving organization is notified by the Directorate representative that the project has been turned on. The receiving organization notifies the applicant by sending a commencement letter, see Appendix 7, and works the project.
 - (3) If the project is to be transferred to another organization, the receiving organization notifies the applicant to inform them of the project transfer.
 - (4) If the applicant, due to undo burden, intends to stay with the receiving organization, the applicant shall notify the receiving organization in writing and provide justification of undo burden.
 - (5) The receiving organization notifies the transfer organization of applicant's intent to stay. The project then goes back into the sequencing process.
 - (a) The receiving organization updates the sequencing database to show the project is staying at the receiving organization.
 - (b) Project remains in sequencing until the receiving organization has capacity to work the project.

- (6) If the applicant agrees to the transfer of project, the transfer organization generates a new project number and sends a commencement letter, See Appendix 7. The transfer organization then works the project.
- (7) If the project was transferred from another organization, the transfer organization working the project will return the package to the receiving organization upon completion for all Continued Operational Safety (COS) responsibilities and oversight.

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Appendix 1

Example of Safety Index Determination For both Certification and Validation Projects

Safety Index		
Safety Impact	Index	
Prevent/mitigate accident/Near-term safety impact (AD or safety related to that aircraft. Prevent an accident on that aircraft)	8	
Program of defined strategic safety importance / regulatory compliance (NextGen, congressionally-mandated programs, Administration imperatvies) see note (1)	6	
Product w/updated certification basis/Longer-term safety impact (compliance with new amendments and regulations)	4	
Negligible safety impact (passenger entertainment systems, cabin mods)	2	
Input Safety Impact Index:		4
Passenger Impact	Index	
Public Use (DoD, DHS, Head of State, etc.)	0	
0-10 passengers	4	
Project with defined public safety (Fire-fighting tankers, law enforcement/border patrol aircraft)	5	
11-19 passengers	6	
greater than 20 passengers	7	
Input Passenger Impact:		6
Effectted fleet	Index	
less than 5	1	
5 and above	3	
Incorporation into Production Line	5	
Input Effectted fleet Index:		5
Safety Index:		120

Safety Index = (Safety Impact Index) X (Passenger Impact) X (Effectted fleet Index)

Note (1): For current list of NextGen related projects provided by AIR-130 see Appendix 6. Congressionally-mandated programs, Administration imperatives and other projects that meet this level will be identified by AIR-1.

Appendix 2

Example of Company Contribution Index Determination For Certification Projects

Company Contribution Index		
Experience/Relationship with Company		Index
Positive	40	
Neutral	20	
Negative	0	
Input Company Experience/Relationship with Company Index:		40
Company/FAA Formal Working Agreements		Index
PSP/ODA and data retention agreements	40	
Actively working toward ODA (draft submitted)	30	
Some current working agreements (MOU)	20	
Actively working toward PSP (draft submitted)	10	
No agreements or non-maintained agreements	0	
Input Company/FAA Formal Working Agreements Index:		20
Delegation		Index
Delegated Organization	50	
Company designees	35	
Company and consultant designees	25	
Consultant designees	15	
No delegation	0	
Input Delegation Index:		25
Company Contribution Index:		85

Company Contribution Index = (Company Experience/Relationship with Company Index) + (Company/FAA Formal Working Agreements Index) + (Delegation Index)

Appendix 3

Example of Company Contribution Index Determination For Validation Projects

Company Contribution Index		
Experience/Relationship with Company		Index
Positive		40
Neutral		20
Negative		0
Input Company Experience/Relationship with Company Index:		40
U.S. Customers/Commitments		Index
Multiple U.S. customers		40
Single U.S. customers; large fleet		20
Single U.S. customers; small or limited fleet		10
No known U.S. customers		0
Input Company/FAA Formal Working Agreements Index:		20
Delegation		Index
Full bilateral applicable to product; FAA may delegate all findings to CAA		50
Bilateral with limitations; requires direct FAA findings in some areas (e.g. Israel)		25
Input Delegation Index:		25
Company Contribution Index - Imports:		85

Company Contribution Index = (Company Experience/Relationship with Company Index) + (Company/FAA Formal Working Agreements Index) + (Delegation Index)

APPENDIX 4

Template for First Standard Delay Letter for Certification Projects



U.S. Department
of Transportation
**Federal Aviation
Administration**

Type name of Directorate here

Type office name here
[Type address here]
[Continue address here]
Continue address here

[Type date here, example December 3, 2008]

[Type name of addressee here]
[Type address here]
[Continue address here]

Dear [Type addressee name here]:

Subject: Receipt of Application for [Type in a brief description of project]

We acknowledge receipt of your application dated [Type in date of application] regarding the above referenced project.

As we have done for the past several years, we sequence the flow of projects to stay within our available resources. It would be unfair to accept your project without informing you that, due to the sequence process, we may not be able to support the timelines you desire.

We will provide a status on our ability to commence working on your project within the next three months. Meanwhile, if you haven't already done so, we encourage you to focus on the development of a certification plan that includes a Systems Safety Assessment, a detailed project schedule, proposed means of compliance and a delegation plan. Ideally, we would like to see a fairly complete draft of a Project Specific Certification Plan (PSCP) constructed in accordance with an existing Partnership for Safety Plan (PSP) or a Program Notification Letter (PNL) constructed in accordance with an approved Organization Designation Authorization (ODA) manual. You can obtain a list of active designees and the necessary details for developing a PSP and/or PSCP by accessing the following web address www.faa.gov/aircraft/air_cert/design_approvals. Your investment in these areas will help us to be much more responsive to your certification needs once the project is resumed. In the meantime, you have an assigned project number [Type in project number] to your application. Please use this number for reference when corresponding with this office about your application.

If you have any questions, please contact me at [Type in telephone number].

Sincerely,

[Type name of person letter is from here]
[Type title of person letter is from here]

[Type Enclosure(s) here if included]

Appendix 4

Template for First Standard Delay Letter for Validation Projects



U.S. Department
of Transportation
**Federal Aviation
Administration**

Type name of Directorate here

Type office name here
[Type address here]
[Continue address here]
Continue address here

[Type date here, example September 5, 2011]

[Foreign Civil Aviation Authorities]
[Type address here]
[Continue address here]

Dear [Type addressee name here]:

Subject: Receipt of Application for [Type in a brief description of project]

We acknowledge receipt of your application on behalf of [name of company] dated [date] regarding the above referenced project.

Please be advised that our current limited resources compel us to evaluate the resources required to support this program in light of other FAA Aircraft Certification Service priorities. This evaluation will affect the timelines for this program. It would be unfair to accept this project without informing you that we may not be able to support the timelines that the company desires. As we have done in the past, we plan to sequence the flow of projects to stay within our available resources.

We will provide you a status on our ability to commence working on their project within the next three months that you can pass on to the company. In the meantime, we have assigned project number [project number] to their application. Please use this number for reference when corresponding with this office about this application.

If you have any questions, please contact the undersigned at [phone number].

Sincerely,

[Type name of person letter is from here]
[Type title of person letter is from here]

[Type Enclosure(s) here if included]

Appendix 5

Template for Subsequent Standard Delay Letter for Certification Projects



U.S. Department
of Transportation
**Federal Aviation
Administration**

Type name of Directorate here

Type office name here

[Type address here]

[Continue address here]

Continue address here

[Type date here, example September 5, 2011]

[Type name of addressee here]

[Type address here]

[Continue address here]

Dear [Type addressee name here]:

Subject: [Brief project description]

Project Number [project number], Continuation of Delay

In our original letter dated [date of first delay letter], we acknowledged receipt of your application for [project description & type], dated [date]. We also advised you that as we have done for the past several years, we sequence the flow of projects to stay within our available resources. Ninety days has passed since we sent you our initial delay letter and, as promised, we have reevaluated our resources required to support your program and other projects in light of other FAA Aircraft Certification Service priorities. Unfortunately, we have found that we continue to be unable to commence work on your project.

We will continue to evaluate our workload on a weekly basis and again provide you with an update regarding the status of your application within the next 3 months. Meanwhile, we encourage you to continue to focus on further development of your Project Specific Certification Plan (PSCP) and formation of a complete team of designees to support you and the ACO in timely accomplishment of the certification tasks. We remain committed to assisting you in the further development of organizational delegation programs, if applicable. Your investment in these two areas, formal agreements and delegation, will help us to better support your certification needs once FAA Aircraft Certification Service work on the project commences. If you have any questions, please contact me at [Type telephone number].

Sincerely,

[Type name of person letter is from here]

[Type title of person letter is from here]

[Type Enclosure(s) here if included]

Appendix 5

Template for Subsequent Standard Delay Letter for Validation Projects



U.S. Department
of Transportation
**Federal Aviation
Administration**

Type name of Directorate here

Type office name here
[Type address here]
[Continue address here]
Continue address here

[Type date here, example September 5, 2011]

[Foreign Civil Aviation Authorities]
[Type address here]
[Continue address here]

Dear [Type addressee name here]:

Subject: [Brief project description]
Project Number [project number], Continuation of Delay

In our original letter dated [date of first delay letter], we acknowledged receipt of their application for [project description & type], dated [date]. We also advised you that as we have done for the past several years, we sequence the flow of projects to stay within our available resources. Ninety days has passed since we sent you our initial delay letter and, as promised, we have reevaluated our resources require to support [Applicant's Name] program and other projects in light of other FAA Aircraft Certification Service priority. Unfortunately, we have found that we continue to be unable to commence work on their project.

We will continue to evaluate our workload on a weekly basis and again provide you with an update regarding the status of their application within the next 3 months. Meanwhile, we request that you encourage [Applicant's Name] to gather the needed information and data for the general and technical familiarization meeting including the status of the program, the validation schedule, and general compliance methodology. This will help us to better support their validation needs once FAA Aircraft Certification Service work on the project commences.

If you have any questions, please contact me at [Type telephone number].

Sincerely,

[Type name of person letter is from here]
[Type title of person letter is from here]

[Type Enclosure(s) here if included]

Appendix 6

NextGen Technologies Refer to the following website

NextGen Implementation Plan (NGIP) -
Appendix A defines NextGen Enablers
- Plan is available at

<http://www.faa.gov/nextgen/>

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Appendix 7

Template for Commencement Letter for Certification Projects



U.S. Department
of Transportation
**Federal Aviation
Administration**

Type name of Directorate here

Type office name here
[Type address here]
[Continue address here]
Continue address here

[Type date here, example September 5, 2011]

[Type name of addressee here]
[Type address here]
[Continue address here]

References: [Type References]

Subject: Commencement of Work on Application for [Type in a brief description of project], [Type in project number]

Dear [Type addressee name here]:

We previously acknowledged receipt of your application in referenced letter for the subject defined project; this letter is to advise you that we have been authorized to commence work on your project [type in project number] to your application. All correspondence related to this program should refer to this project number and be mailed to the address shown above, to the attention of the [Type in Project Manager/Engineer's name, routing, phone number, email].

[Type in Project Team list optional paragraph]
Other members of the project team are:

<u>Team Member</u>	<u>Branch and Routing Code</u>	<u>Telephone No.</u>
--------------------	--------------------------------	----------------------

[Type in member name, branch/routing code and telephone number].		
[Type in member name, branch/routing code and telephone number]		
[Type in member name, branch/routing code and telephone number]		
[Type in member name, branch/routing code and telephone number]		

Sincerely,

[Type name of person letter is from here]
[Type title of person letter is from here]

[Type Enclosure(s) here if included]

Appendix 7

Template for Commencement Letter for Validation Projects



U.S. Department
of Transportation
**Federal Aviation
Administration**

Type name of Directorate here

Type office name here

[Type address here]

[Continue address here]

Continue address here

[Type date here, example September 5, 2011]

[Foreign Civil Aviation Authorities]

[Type address here]

[Continue address here]

References: [Type References]

Subject: Commencement of Work for Application for [Type in a brief description of project]. [Type in project number]

Dear [Type addressee name here]:

In reference to our letter, dated [letter date], notifying you of a delay in [applicant's name]'s [certification project description & type] application, this letter is to advise you that Mr./Ms. [focal poin/PM's name], the FAA [OEM Name such as Airbus, Falcon etc.] [focal point/PM's job title] has been assigned to work this program. He/She can be reached at telephone [Phone number] or email to [Email address].

The other assigned FAA specialist team members will be defined and their names forwarded to you at a later date.

All correspondence related to this program should refer to the above project number and be mailed to the address above, to the attention of the FAA [OEM Name] [focal point/PM's job title].

Sincerely,

[Type name of person letter is from here]

[Type title of person letter is from here]

[Type Enclosure(s) here if included]