



MARPA DOCUMENT

S4000C

DRAFT

STREAMLINE PROGRAM FOR PMA APPLICATIONS OF
NON-CRITICAL ARTICLES SUBMITTED BY EXPERIENCED
APPLICANTS WITH A QUALIFYING PERFORMANCE
RECORD

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I. REVISION HISTORY

REVISION LETTER	DATE
Initial Release	TBA

II. INTRODUCTION

The Streamline Program "S4000C" was developed by the Modification And Replacement Parts Association (MARPA). It is a recommended format for demonstrating that a PMA application is appropriate for streamlined treatment by the FAA.

This program applies to a PMA application for a non-critical article, when that application is submitted by an experienced production approval holder with a documented record of safety accomplishment.

The objective of this program is for the PMA applicant to make the applicant's effective performance visible to the FAA, so as to demonstrate through empirical evidence of past performance and review that certain requirements of the PMA application regulations have been met.

The program is targeted at applications for non-critical articles. "Non-critical" is defined in Section IV.

This program does not eliminate or reduce any ACO or MIDO requirements. The FAA's regulations and other directives continue to apply.

The program has four key elements. MARPA recognizes that these four elements go beyond the FAA regulatory requirements, and are not required by the regulations for any PMA application:

- 1) The application utilizes an Part-Specific Certification Plan. This provides the applicant with a written plan for how the approval project will be accomplished.
- 2) The applicant uses a DER to approve data in support of Category Two Articles, but not Category Three. This helps assure that the application reflects a design that meets applicable FAA airworthiness standards.
- 3) Conformity confirmed through First Article Inspection as required by the certifying ACO. This helps assure that the quality system will successfully yield an article that conforms to the design.
- 4) The applicant intends to obtain an 8130-3 tag for each article or each production lot. This provides the marketplace with written assurance that the article met applicable FAA airworthiness standards at the time it was released from the quality system, which helps to support the installer's airworthiness duties.

One aim of the S4000C is for companies to perform initial planning in cooperation with the FAA so that applications submitted under the S4000C program mitigate the workload of FAA ACO personnel who are processing PMA articles applications.

MARPA believes the benefits provided by an application that conforms to the S4000C standard should support a rapid FAA response to a PMA application. MARPA believes that asking for the FAA to provide an approval or a reason for denial within 30-days is not unreasonable.

It is MARPA's hope that PMA applicants who perform the additional steps recommended in the program would receive recognition by the FAA, and that the FAA would expedite such processing of such applications. Although we have discussed this intent with FAA Headquarters, this standard does not impose on the FAA any obligation to expedite any PMA application.

Under no circumstances should this program be interpreted as a mandate, nor as an industry standard practice. This program represents practices that exceed the regulations and industry standard practices. MARPA DOES NOT represent nor guarantee that the FAA will provide expedited processing of an application that meets the elements of this program.

III. DEFINITIONS AND ABBREVIATIONS

Definitions Used in this Document:

Article means a material, part, component, process, or appliance.

Non-Critical Article means an article that falls into Category Two (as defined in FAA Order 8120.2 Appendix D para. 2 and in FAA Advisory Circular 43-18 para. 6(b)(2)) or Category Three (as defined in FAA Advisory Circular 43-18 para. 6(b)(3)). This definition excludes any article that falls into Category One (as defined in FAA Order 8120.2 Appendix D para. 2 and in FAA Advisory Circular 43-18 para. 6(b)(1)). For further discussion, see section X of this Standard.

Part-Specific Certification Plan means a written plan for how the applicant intends to prepare and present the necessary data to support a PMA application to assist the applicant in completing the certification process.

Abbreviations Used in this Document:

ACO	Aircraft Certification Office
ACSEP	Aircraft Certification Systems Evaluation Program
ASB	Alert Service Bulletin
DAH	Design Approval Holder
FAA	Federal Aviation Administration
MARPA	Modification and Replacement Parts Association
MOU	Memorandum of Understanding
PAH	Production Approval Holder
PartSCP	Part-Specific Certification Plan
PMA	Parts Manufacturer Approval

IV. BEGINNING THE PROCESS WITH A MOU

MARPA recommends that a PMA applicant who intends to make use of this program establish a MOU between the applicant and its overseeing ACO, if no prior MOU between them exists. The purpose of the MOU would be to standardize the process for submitting

PMA applications, and to ensure that both the applicant and the FAA understand their obligations and responsibilities. A clear understanding of obligations and responsibilities (as well as expected timetables) will help to ensure that the process moves forward smoothly.

The details in the MOU should reflect the existing relationship between the applicant and the ACO, based on past practice, if past practice has been working well for both parties. This is also an opportunity for the applicant and the FAA ACO to identify past practices that have not worked smoothly, and to develop new procedures to make those elements work smoothly.

One objective of the MOU should be to identify a process that will allow the applicant and the FAA ACO to work together to identify the processes, tests, computations, and reports that will be necessary to assure compliance with the regulations, and also to allow them to implicitly identify those elements that are superfluous to the process (through their absence in the agreed-upon process). By identifying limits on the processes that will lead to approval, the FAA ACO protects itself from having to misuse resources on non-value-added review and analysis, which allows the FAA ACO to target its resource allocation to review and analysis that contributes to safety.

The MOU may refer to this specification and should contain the expectations and principles by which the PMA application and issue process would be implemented. For example, the MOU might specify that (these are only examples):

- The manner in which PMA projects may be initiated (e.g. verbal, email, or fax notification);
- The manner and timing in which the FAA shall respond to PMA project initiation notification with a project number;
- The normal points of contact between the company and the FAA ACO;
- etc.

MARPA expects that the MOU could be quite brief, as many of the essential elements of the program are defined by this document.

Once an MOU is in place, the applicant would need to decide whether a particular PMA application falls within the scope of the MOU. The applicant would be free to choose whether it would proceed outside the scope of the MOU for any given application, but an application that is offered outside the scope of the MOU would not gain any of the benefits of the MOU.

Unless the MOU prevents termination, a MOU with the FAA may generally be terminated at any time by either the applicant or the FAA. Termination of the MOU may affect the manner in which the FAA processes a PMA application, to the extent that allowances or considerations accorded under the MOU may be withdrawn; however, absent other circumstances, termination of a MOU (alone) should not prevent the FAA from processing a PMA application under normal processing standards; and it should not require the FAA to repeat analysis of the PMA application that has already been completed. Termination of a MOU (alone) should not imply that the PMA applications from the applicant are withdrawn or denied. A company may continue to rely on the S4000C program as a baseline for its own operations and as a method for doing business despite the termination of a MOU. The FAA

may, in its own discretion, provide credit to an applicant for meeting the elements of S4000C despite the termination or non-existence of a MOU.

MARPA recognizes that some PMA applicants have long-standing MOUs with the FAA that may not reflect the S4000C criteria. This program is not meant to invalidate existing MOUs.

V. THE S4000C PROGRAM

The following represent the elements of the S4000C program:

S4000C: Streamlined

In order to streamline the application process, an applicant who is using test-and-computation as the basis for some or all of its showing of compliance should have a Part-Specific Certification Plan (PartSCP). This plan may address only one article, or a single plan may address the certification plan for many articles (particularly if the articles bear certain data or compliance similarities which make parallel development of the applications an economical approach).

Where an applicant does not use test-and-computation as the basis for some or all of its showing of compliance (e.g. compliance demonstrated through licensing agreement with design approval holder, or through identity), the applicant would not be expected to develop a PartSCP.

A PartSCP may be thought of as analogous to the Project Specific Certification Plan that is described in FAA Order 8110.42. But there are certain key differences:

- The PartSCP is an abbreviated outline of the project
- The PartSCP is signed by the applicant, but it is not approved by (nor signed by) the FAA
- The PartSCP should describe the process for completing the first article inspection
- Because articles eligible for this program are non-critical, there may be few, if any, additional tests other than the first article inspection

The PartSCP is used by the applicant as a guide.

The S4000C Program is not meant to bypass of the PMA application review process. Rather, it provides the FAA ACO with confidence that certain elements of application are already addressed, and have been reviewed and found in compliance in past applications, and that therefore the FAA can focus its review resources on the aspects of the application most likely to need FAA attention.

The FAA, in its discretion, may choose to take the S4000C elements into account when reviewing a PMA application and to expedite the processing of an application from a PMA applicant that participates in the S4000C program. In the absence of FAA national policy concerning the treatment of S4000C program participants, the best way to ensure that the applicant and the FAA have come to an agreement about what credit, if any, is to be given for

S4000C participation is for the applicant and FAA to enter into a MOU describing the relationship.

S4000C: 4 Years Experience

PMA applicants participating in the S4000C program are expected to develop sufficient experience with PMA applications to be able to assemble an application package that meets the expectations of the FAA. PMA applicants seeking allowances from the FAA for their participating in the S4000C program should have already obtained sufficient experience with PMA applications.

Four years is used as a benchmark for the amount of experience considered to be sufficient experience, but this amount of time may be reduced based on factors like the prior experience of the personnel working for the PMA applicant, significant number of applications in less than four years, or applicants with special experience that demonstrates a thorough understanding of the FAA's PMA application process.

An applicant with less than the suggested experience is free to structure their PMA applications according to the S4000C program. The decision to permit an applicant with less than the suggested experience to enjoy allowances like expedited treatment would be entirely at the discretion of the FAA, and would likely be addressed in the MOU between the applicant and the FAA.

S4000C: 0 ACSEP Audit Findings During the Past Four Years

There is an expectation that a PMA applicant who expects to enjoy allowances from the FAA for its participation would have an impeccable quality record.

As part of this impeccable quality record, the FAA should have zero ACSEP Findings of safety non-compliance against the PMA holder's FAA-approved manufacturing quality assurance system during a reasonable prior time period.

Four years is used as a guide for the reasonable prior time period, but this amount may be reduced based on factors like special remedial activity, or unique characteristics of the Finding that suggest it was remedied and that it is a unique circumstance that is unlikely to be capable of repetition.

An applicant with one or more ACSEP Finding of safety non-compliance in the past four years is free to structure their PMA applications according to the S4000C program. Any special circumstance may be used to reduce the time period associated with this element, or to waive a prior ACSEP Finding of safety non-compliance at the discretion of the FAA. The decision to permit an applicant with ACSEP Findings of safety non-compliance in the past four years to enjoy allowances like expedited treatment would be entirely at the discretion of the FAA, and would likely be addressed in the MOU between the applicant and the FAA.

S4000C: 0 ASBs During the Past Four Years

There is an expectation that a PMA applicant who expects to enjoy allowances from the FAA for its participation would have an impeccable safety record.

As part of this impeccable safety record, the FAA should have issued zero Alert Service Bulletins against PMA products manufactured under the applicant's PMA approvals during a reasonable prior time period.

Four years is used as a guide for the reasonable prior time period, but this amount may be reduced based on factors like special remedial activity, or unique characteristics of the ASB that suggest it was a unique circumstance that is unlikely to be capable of repetition.

An applicant with one or more ASBs in the past four years is free to structure their PMA applications according to the S4000C program. Any special circumstance may be used to reduce the time period associated with this element, or to waive a prior ASB at the discretion of the FAA. The decision to permit an applicant with ASBs in the past four years to enjoy allowances like expedited treatment would be entirely at the discretion of the FAA, and would likely be addressed in the MOU between the applicant and the FAA.

S4000C: 0 ADs During the Past Four Years

There is an expectation that a PMA applicant who expects to enjoy allowances from the FAA for its participation would have an impeccable safety record.

As part of this impeccable safety record, the FAA should have issued zero Airworthiness Directives against PMA products manufactured under the applicant's PMA approvals during a reasonable prior time period.

Four years is used as a guide for the reasonable prior time period, but this amount may be reduced based on factors like special remedial activity, or unique characteristics of the Airworthiness Directives that suggest it was a unique circumstance that is unlikely to be capable of repetition.

An applicant with one or more Airworthiness Directives in the past four years is free to structure their PMA applications according to the S4000C program. Any special circumstance may be used to reduce the time period associated with this element, or to waive a prior Airworthiness Directive at the discretion of the FAA. The decision to permit an applicant with Airworthiness Directives in the past four years to enjoy allowances like expedited treatment would be entirely at the discretion of the FAA, and would likely be addressed in the MOU between the applicant and the FAA.

S4000C: Compliance and Conformity

The S4000C program is not meant for Category One articles. If the applicant is applying for a PMA on a Category Two article, then the applicant should supplement the application with DER-approved data. If the applicant is applying for a PMA on a Category Three article, then the applicant does not need to seek DER approval of the application data.

As part of the applicant's written process, the applicant should perform a conformity inspection on an initial sample or samples of production items (known as a "first article inspection") to ensure that the production process produces articles that are in complete conformity with the design.

The conformity inspection should include such tests as may be necessary to ensure complete conformity to the design, and may require a laboratory *destructive* test where necessary to confirm conformity.

First article conformity inspection is one way but not the only way to meet the requirements of the FAA safety regulations. For parts eligible for S4000C treatment, first article inspection is considered to be beyond the regulatory requirements because the FAA generally would not issue a Request for Conformity (RFC) for articles of the sort addressed under S4000C, due to the non-critical nature of the articles involved and the recognized history of the applicant's certification and production processes.

To demonstrate that the articles conform to airworthiness standards, the applicant should make a commitment to obtain an 8130-3 airworthiness approval for each article or each lot of articles produced under the PMA.

VI. DEMONSTRATING COMPLIANCE WITH THE S4000C PROGRAM

1. At the time that the PMA application project is started, the applicant should prepare a PartSCP. The applicant may amend the PartSCP as necessary before the end of the PMA application project.
2. The applicant should follow the program described in the PartSCP for developing the supporting data to support the PMA application.
3. If the PMA application is for a Category Two article then the Applicant should use a DER to approve the compliance data.
4. At the time of application, the applicant should submit to the FAA the PartsSCP, the completed "Record Sheet," and the testing results and other data necessary to support the application. The "Record Sheet," reflects a written verification of compliance with the elements of S4000C.

VII. THE "RECORD SHEET" **(next page)**

DATE: _____

THE RECORD SHEET

FAA PAH S4000C STREAMLINE APPROVAL PROGRAM FOR NON-CRITICAL PMA ARTICLES APPLICATIONS

NAME _____ PQ NUMBER _____

Accountable Executive Name: _____ Title: _____

Principal Engineer Name: _____ Title: _____

QA Manager Name: _____ Title: _____

Date of 1st PMA Supplement: _____, Date of 1st Production Lot Delivery: _____

S - PartSCP Completed and followed. ☐ Yes ☐ No ☐ See Attachment

4 - PMA articles approvals for at least 4 years ☐ Yes ☐ No ☐ See Attachment

0 - Zero Alert Service Bulletins for last 4 years ☐ Yes ☐ No ☐ See Attachment

0 - Zero FAA Airworthiness Directives for last 4 years ☐ Yes ☐ No ☐ See Attachment

0 - Zero FAA ACSEP safety findings for last 4 years ☐ Yes ☐ No ☐ See Attachment

C - "Conformity" process is PAH's First Article Inspection ☐ Yes ☐ No ☐ See Attachment

Article Category

☐ Category One

☐ Category Two

☐ Category Three

DER Data Included?

☐ Not Applicable

☐ Required

☐ Not Required

Applicant commits to 8130-3s with each article or production lot ☐ Yes ☐ No ☐ See Attachment

All requirements of PartSCP and MOU have been met ☐ Yes ☐ No ☐ See Attachment

Notes: 1) Those participating in the Voluntary S4000C program shall submit this "Record Sheet" with each application for a PMA supplement.

2) If any item above is checked "No" and the applicant believes its record nonetheless satisfactorily meets the requirement of S4000C (e.g. through FAA acceptance of other standards in the MOU) then attach a brief substantiating statement.

For Applicant By: _____

Name

Title

VIII. INSTRUCTIONS FOR COMPLETING THE “RECORD SHEET”

DATE:

The date of the PMA application to which the record sheet is attached. This line need not be completed until the application is ready to be transmitted.

PAH NAME, PQ NUMBER, AND KEY STAFF MEMBERS:

Enter current status of PAH identity and key personnel of organization.

DATE 1st PMA SUPPLEMENT AND DELIVERY:

Enter first PMA approval and first PMA articles delivery dates under the PAH named above.

S4000C

- S - Check off “YES” if the PartSCP was completed and if the certification validation followed the guidance of the PartSCP. If it did not, then (1) check “NO,” (2) check “SEE ATTACHMENT,” (3) and attach an explanatory statement indicating why this requirement should be waived, or why it has been met through alternative means. One such justification would be an alternative provision or standard recognized by the FAA in the MOU.
- 4 - Check off “YES” if the applicant has had PMA approvals for at least the past four years. If the applicant does not meet this standard, then (1) check “NO,” (2) check “SEE ATTACHMENT,” and (3) attach an explanatory statement indicating why this requirement should be waived, or why it has been met through alternative means. One such justification would be an alternative provision or standard recognized by the FAA in the MOU.
- 0 - Check off “YES” if, during the past four years, the FAA has issued zero Alert Service Bulletins against PMA articles manufactured under the applicant’s PMAs. If the applicant does not meet this standard, then (1) check “NO,” (2) check “SEE ATTACHMENT,” and (3) attach an explanatory statement indicating why this requirement should be waived, or why it has been met through alternative means. One such justification would be an alternative provision or standard recognized by the FAA in the MOU.
- 0 - Check off “YES” if, during the past four years, the FAA has issued zero Airworthiness Directives against PMA articles manufactured under the applicant’s PMAs. If the applicant does not meet this standard, then (1) check “NO,” (2) check “SEE ATTACHMENT,” and (3) attach an explanatory statement indicating why this requirement should be waived, or why it has been met through alternative means. One such justification would be an alternative provision or standard recognized by the FAA in the MOU.
- 0 - Check off “YES” if, during the past four years, the FAA has not made any safety findings against the PMA holder in response to ACSEP audits. If the applicant does not meet this standard, then (1) check “NO,” (2) check “SEE ATTACHMENT,” and (3) attach an explanatory statement indicating why this requirement should be waived, or why it has been met through alternative means. One such justification would be an alternative provision or standard recognized by the FAA in the MOU.
- C - Check off “YES” if, the applicant used a first article inspection to validate conformity of the article to the design. If the applicant did not use a first article inspection to validate conformity, then (1) check “NO,” (2) check “SEE ATTACHMENT,” and (3) attach an explanatory statement indicating why this requirement should be waived, or why it has been met through alternative means. One such justification would be an alternative provision or standard recognized by the FAA in the MOU.

In response to the line “Applicant commits to 8130-3s with each article or production lot,” the applicant should check off “YES” if the applicant has implemented an infrastructure that will permit the applicant to

obtain 8130-3 airworthiness authorization forms for each article produced under the PMA or for each production lot produced under the PMA. If the applicant does not intend to obtain 8130-3 forms, or has not implemented an infrastructure that will permit the applicant to obtain 8130-3 forms, then (1) check "NO," (2) check "SEE ATTACHMENT," and (3) attach an explanatory statement indicating why this requirement should be waived, or why it will be met through alternative means. One such justification would be an alternative provision or standard recognized by the FAA in the MOU.

In response to the line "All requirements of PartSCP and MOU have been met," the applicant should check off "YES" if the applicant has conformed to all requirements found in the MOU, and followed the certification details found in the PartSCP. If the applicant has not conformed to all requirements found in the MOU, and followed the certification details found in the PartSCP, then (1) check "NO," (2) check "SEE ATTACHMENT," and (3) attach an explanatory statement indicating why this requirement should be waived, or why it will be met through alternative means. One such justification would be an alternative provision or standard recognized by the FAA in the MOU.

SIGNATURE

The Record Sheet should be signed by a representative of the applicant, and should also include the representative's title.

IX. PART SPECIFIC CERTIFICATION PLAN OUTLINE

PartSCP OUTLINE (PART SPECIFIC CERTIFICATION PLAN)

1.0 INTRODUCTION

- 1.1 Scope
- 1.2 Article(s) Description
- 1.3 Background (Include Service History)
- 1.4 Safety Analysis to substantiate non-critical classification
- 1.5 Instruction for Continued Airworthiness

2.0 APPLICABLE DOCUMENTS

<u>ITEM</u>	<u>DOCUMENT</u>	<u>REVISION</u>	<u>DESCRIPTION</u>
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This section should identify all reference documents that are used to support the application, including test reports and analysis reports.

3.0 SCHEDULE OF SUBSEQUENT DATA SUBMITTAL

This section should present the expected schedule for further submissions as necessary to complete the application. This section is not applicable if the initial application includes all data and/or commitments required. It is expected that most applications will not require subsequent data submittals after the initial application.

4.0 CERTIFICATION BASIS

This section should identify the certification basis for the application.

5.0 TESTS

This section should identify the procedures to be used for testing to verify conformance to the airworthiness standards. For some non-complex articles, first article inspection, alone, may be sufficient to verify the airworthiness of the article. If separate testing to the airworthiness standards is not required, then this section should state that fact.

6.0 FIRST ARTICLE INSPECTION FOR "CONFORMITY"

This section should identify the procedures to be used for first article inspection, including the expected rework procedures and re-inspection procedures in the event that a first article inspection yields unsatisfactory results.

7.0 COMMUNICATION AND COORDINATION

This section should identify the applicant's primary contact on the project. This should be the person who is prepared to communicate with the FAA about the application.

8.0 DELEGATIONS – FAA DESIGNEES AND RESPONSIBILITIES

This section should identify the FAA designees (if any) that will work on the project. They should be identified by name and contact information, and the project responsibilities for each designee should be identified.

9.0 APPLICANT SIGNATURE AND TITLE OF PERSON RESPONSIBLE FOR SIGNING THE PartSCP.

X. NON-CRITICAL ARTICLE CLASSIFICATION CRITERIA

FAA Order 8110.42C defines "Critical parts" as "those whose failure results in a direct hazardous effect." The full text of the paragraph from which this sentence was extracted is:

3. Critical parts are those whose failure results in a direct hazardous effect. A hazardous effect prevents continued safe flight and landing. Each product has these parts. Their designs have key attributes that require controls to protect their integrity. Life-limited parts are also critical when their failure especially from exceeding their operational limits or fixed replacement intervals cause direct hazardous effects. However, not all critical parts are life-limited nor are all life-limited parts critical.

FAA Order 8120.2 separates articles into categories. These same categories are used in FAA Advisory Circular 43-18.

Under FAA guidance, **category one** is made up of assemblies and articles whose failure could prevent continued safe flight and landing, could reduce safety margins, could degrade performance, or could cause loss of capability to conduct certain flight operations. Category one articles are not considered non-critical for purposes of the S4000C program.

Category two is made up of assemblies and articles whose failure would not prevent continued safe flight and landing, but whose resulting consequences may reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions or subsequent failures. Category two articles are considered to be non-critical for purposes of the S4000C program.

A third category of assemblies and articles is implied in Order 8120.2, and is explicitly described in FAA Advisory Circular 43-18. **Category three** is made up of assemblies and articles, the failure of which would have no effect on the continued safe flight and landing of the aircraft. Category three articles are considered to be non-critical for purposes of the S4000C program.

Please note that the term "non-critical" is used in the context of certification and approval, and should not be confused with the separate use of the term "critical components" in 14 CFR § 45.14 (which creates a relationship between airworthiness limitations and article marking requirements).



The S4000C Program is
AVAILABLE ON MARPA'S WEBSITE

at

<http://www.pmamarpa.com>
<http://www.pmaparts.org>

for more information,
contact the Association at:

(202) 628-6777