MARPA DOCUMENT

MARPA 1100

Revision 1.1

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

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I. REVISION HISTORY

REVISION LETTER	DATE
Approved by the MARPA Board for Release	July 24, 2012
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Technical Revisions – Revision 1.1	October 17, 2012

II. INTRODUCTION

The Streamline Program “MARPA 1100” 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-Safety Significant (NSS) article, when that application is submitted by an experienced production approval holder with a documented record of safety accomplishment. “Non-Safety Significant” is defined in Section III of this standard.

This program DOES NOT eliminate or reduce the requirements of any FAA regulation and it does not provide any exemptions. The FAA's regulations and other directives continue to apply to each PMA application.

This program DOES NOT have any effect on PMA applicants who choose not rely on this program. Such PMA applications should be reviewed by the FAA according to the FAA's normal processes.

This program DOES NOT impose any obligation on the FAA or any other governmental agency. Although MARPA has asked the FAA to use this program as a means to better organize certain PMA applications, and to facilitate streamlined review of such applications, the FAA has no obligation to the industry to do so, except such obligation as the FAA may impose on itself.

The program has several key elements. MARPA recognizes that compliance with these elements may impose burdens on the applicant beyond the minimum requirements of the FAA regulatory requirements, and that some of these elements may not be required by the regulations for a particular PMA application:

1) The application utilizes a Part-Specific Certification Plan (PartSCP). This provides the applicant with a written plan that identifies the applicable FAA safety regulations and explains how the applicant will show compliance with each of those identified regulations;
2) The applicant has past experience with the PMA process. This helps assure that the applicant knows how to develop a PMA application package that will be acceptable to the FAA and that will facilitate the FAA's review (for purposes of a finding of compliance);
3) The application includes a Statement of Compliance that certifies that the applicant has complied with all applicable airworthiness requirements of the FAA regulations;
4) The applicant has an existing production quality system that meets the requirements of the FAA regulations;
5) Part conformity is confirmed through First Article Inspection. This helps assure that the quality system will successfully yield an article that conforms to the design.

In theory, if the requirements of this standard are all met, then the FAA should be able to easily approve a PMA application for a NSS article. Here is a summary of the application's elements and the way that they interface with this standard.

- The FAA agrees with the applicant's assessment of which rules apply to the part (list shown in the PartSCP);
- The FAA agrees with the applicant's process for demonstrating compliance with each rule that applies to the part (shown in the PartSCP);
- The applicant properly performed each of the tests and inspections necessary to show compliance (certified in the Statement of Compliance and based on past experience with the applicant);
- The applicant's data for each of the tests and inspections showed that the part subject to the application was in full compliance (certified in the Statement of Compliance - the applicant will also submit this data for FAA review to the extent required by the MOU (see section IV)); and
- The applicant has an appropriate infrastructure (approved quality system) for producing the parts (based on an existing PMA quality system as well as based on the quality history of the system).

One aim of the MARPA 1100 Standard is to encourage companies to perform robust initial planning for approval projects.

It is intended that applications submitted under the MARPA 1100 guidelines would mitigate the workload of FAA ACO personnel who are processing PMA applications. MARPA believes the standardization and completeness of an application that conforms to the MARPA 1100 Standard should permit FAA employees to perform a more rapid FAA data review, leading to a quicker response to the 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 intent 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.

PMA manufacturers that do not meet FAA benchmarks for experience are nonetheless encouraged to implement the Standard. Adherence to the Standard is an industry Best Practice and it may be viewed favorably by the FAA at such time in the future when the manufacturer may choose to apply for the Streamlined Program.

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

NOTE: **The MARPA 1100 Program is not meant to bypass the PMA application review process. Rather, it provides the FAA ACO with confidence that (1) certain elements of the application are already adequately addressed, having 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, and (2) the applicant's**

past history has shown it to be trustworthy, and therefore the FAA may choose to rely on the applicant's statement of compliance.

III. DEFINITIONS AND ABBREVIATIONS

Definitions Used in this Document:

Article means a material, part, component, process, or appliance. In the context of this standard, interpretation of this term should be limited only to items that are eligible for Parts Manufacturer Approval.

Non-Safety Significant Article ("**NSS Article**") means an article whose failure would have little or no effect on the continued safe flight and landing of the aircraft.

Requirement means an element that is required for compliance to this standard. Compliance with this standard is not legally required, so Requirements are only required in the context of this standard. A company may not claim that a PMA application is in full compliance with this standard unless it is in full compliance with each of the applicable Requirements of this Standard.

Practice Guide means advice concerning methods for implementing a Requirement. Practice Guides are meant to provide useful advice and guidance, but compliance with them is not required under the Standard.

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

Abbreviations Used in this Document:

ACO	Aircraft Certification Office
ACSEP	Aircraft Certification Systems Evaluation Program
AMOC	Alternate Method of Compliance
ASB	Alert Service Bulletin
DAH	Design Approval Holder
DER	Designated Engineering Representative
FAA	Federal Aviation Administration
FMEA	Failure Modes and Effects Analysis
MARPA	Modification and Replacement Parts Association
MOU	Memorandum of Understanding
NSS	Non-Safety Significant
ODA	Organization Designation Authorization
PAH	Production Approval Holder
PartSCP	Part-Specific Certification Plan
PMA	Parts Manufacturer Approval

IV. BEGINNING THE PROCESS WITH A MOU

REQUIREMENT IV(1): The PMA applicant shall establish a MOU between the applicant and the FAA.

PRACTICE GUIDE IV(1)(a): 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.

PRACTICE GUIDE IV(1)(b): 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 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.

PRACTICE GUIDE IV(1)(c): MARPA recognizes that some PMA applicants have long-standing Memoranda of Understanding with the FAA that may not reflect the MARPA 1100 criteria. If a Memorandum of Understanding currently exists then the Memorandum can be either amended to include MARPA 1100 elements or a separate parallel MOU could be created to reflect the MARPA 1100 program. This program is not meant to invalidate existing Memoranda of Understanding.

REQUIREMENT IV(2): The MOU shall outline the applicant's qualifications for the Streamline Program.

PRACTICE GUIDE IV(2)(a) Applicants that do not meet the Program benchmarks but that have sufficient alternative qualification such that the FAA can have confidence that the applications meets FAA expectations may coordinate with their FAA ACO for approval of an alternate qualification in any manner acceptable to the FAA, such as a letter of deviation authority. Grants of deviation authority or other acceptance of alternate qualifications are subject to FAA discretion, and MARPA advice about such authority is not meant to guarantee any particular result.

PRACTICE GUIDE IV(2)(b) Examples of requirements for which an applicant might reasonably seek FAA acceptance of an alternative include the experience requirement (e.g. seeking to substitute staff experience for corporate experience), the production quality infrastructure requirement (e.g. seeking to minimize the time period associated with ACSEP findings where the ACSEP findings are not relevant to the Streamlined Project), and the quality record requirement (e.g. seeking FAA waiver of past AD experience as a "not disqualifying" factor where appropriate).

REQUIREMENT IV(3): The MOU shall outline how the FAA and the applicant will conduct the PMA application process for PMAs subject to the MOU.

PRACTICE GUIDE IV(3)(a): The MOU may refer to this specification. The MOU could be quite brief, as many of the essential elements of the program are defined by this Standard.

PRACTICE GUIDE IV(3)(b): The purpose of the MOU is to standardize the process for submitting PMA applications, establish procedures related to PMA approval, establish understandings concerning compliance showings, and 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.

PRACTICE GUIDE IV(3)(c): 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.

PRACTICE GUIDE IV(3)(d): 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 applicant and the FAA protect themselves from having to misuse resources on non-value-added review and analysis. This serves government interests as well as applicant interests: by permitting the government to better target its resource allocation to review and analysis that contributes to safety.

PRACTICE GUIDE IV(3)(e): The MOU should contain the expectations and principles by which the PMA application and issue process would be implemented. For example, the MOU might specify (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.

REQUIREMENT IV(4): The MOU shall state a scope clause, explaining which PMA applications are intended to be formatted according to the MARPA 1100 Standard.

PRACTICE GUIDE IV(4)(a): Once a MOU is in place, the applicant would need to determine 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.

PRACTICE GUIDE IV(4)(b): The scope clause should state the articles or types of articles that are covered under the MOU and expected to be processed with the MARPA 1100 Standard.

V. DEMONSTRATING YOUR BUSINESS'S QUALIFICATIONS

EXPERIENCE

REQUIREMENT V(A)(1): The applicant shall have sufficient past experience with PMA applications so that it is capable of producing an application that meets FAA expectations.

> **PRACTICE GUIDE V(A)(1)(a)**: PMA applicants participating in the MARPA 1100 program are expected to have sufficient experience with PMA applications to be able to assemble an application package that meets the expectations of the FAA. PMA applicants seeking consideration from the FAA for their participation in the MARPA 1100 program should have already obtained sufficient experience with PMA applications.
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> **PRACTICE GUIDE V(A)(1)(b)**: Four years is used as a benchmark for the amount of experience considered to be sufficient experience.
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> **PRACTICE GUIDE V(A)(1)(c)**: An applicant with less than the suggested experience is free to structure their PMA applications according to the MARPA 1100 program.

REQUIREMENT V(A)(2): The applicant shall have sufficient past experience with the local FAA office to have a working relationship with that office.

> **PRACTICE GUIDE V(A)(2)(a)**: The MOU or a Partnership for Safety Plan (and the successful history of using such tools as the basis for moving PMA applications) may be used as evidence of sufficient past experience with the local FAA office.

PRODUCTION QUALITY INFRASTRUCTURE

REQUIREMENT V(B)(1): The applicant shall have a production quality system that (1) ensures that each product and article conforms to its approved design and is in a condition for safe operation, and (2) meets the other FAA regulatory requirements for a quality system.

> **PRACTICE GUIDE V(B)(1)(a)**: The FAA requirement for a PMA quality system is currently found in 14 C.F.R. § 21.307. The elements of such a system are found in 14 C.F.R. § 21.137.

REQUIREMENT V(B)(2): The applicant shall 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

> **PRACTICE GUIDE V(B)(2)(a)**: There is an expectation that a PMA applicant who expects to enjoy consideration from the FAA for its use of the MARPA 1100 Standard would have a superior quality record.
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> **PRACTICE GUIDE V(B)(2)(b)**: Four years is used as a benchmark for the reasonable prior time period.

PRACTICE GUIDE V(B)(2)(c): 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 MARPA 1100 program.

QUALITY RECORD

REQUIREMENT V(C)(1): The FAA shall have issued zero Airworthiness Directives against PMA parts manufactured under the applicant's PMA approvals during a reasonable prior time period.

PRACTICE GUIDE V(C)(1)(a): 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.

PRACTICE GUIDE V(C)(1)(b): Four years is used as a benchmark for the reasonable prior time period.

PRACTICE GUIDE V(C)(1)(c): An applicant with one or more Airworthiness Directives in the past four years is free to structure their PMA applications according to the MARPA 1100 program.

VI. PROPER PLANNING

REQUIREMENT (VI)(1): The applicant shall have a process for reviewing each article intended to be the subject of the MARPA 1100 application to ensure that the article is a NSS article.

PRACTICE GUIDE (VI)(1)(a): The MARPA 1100 program is intended only for articles whose failure would have little or no effect on the continued safe flight and landing of the aircraft.

PRACTICE GUIDE (VI)(1)(b): Parts that are not eligible to be processed through the MARPA 1100 program may still be the subject of a FAA PMA application using any other FAA-permissible process.

PRACTICE GUIDE (VI)(1)(c): The FAA has published guidance on how to assess the impact of a part's failure in AC 23.1309-1, AC 25.1309-1, or AC 33.75-1.

PRACTICE GUIDE (VI)(1)(d): An applicant may demonstrate that an article is NSS by conducting a failure modes and effects analysis (FMEA). The FMEA should examine the effect on the product as a whole.

REQUIREMENT (VI)(2): An applicant who is using test-and-computation as the basis for some or all of its showing of compliance shall have a Part-Specific Certification Plan (PartSCP) for each such part.

PRACTICE GUIDE (VI)(2)(a): The PartSCP may address only one article, or a single PartSCP 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).

PRACTICE GUIDE (VI)(2)(b): 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 need not be approved by (nor signed by) the FAA;
- The PartSCP should describe the process for completing the first article inspection;
- So long as the PartSCP has not been approved by the FAA, it may be amended at the discretion of the applicant;
- Because articles eligible for this program are non-safety significant, there may be few, if any, additional tests required other than the first article inspection.

PRACTICE GUIDE (VI)(2)(c): The FAA should be able to look at a PartSCP and identify the FAA safety regulations that apply to the part and the applicant's plan for showing compliance to each such regulation.

REQUIREMENT (VI)(3): For each part, the PartSCP shall briefly state the safety analysis that substantiates the NSS classification.

PRACTICE GUIDE (VI)(3)(a): This is a statement of the analysis performed pursuant to the process referenced in **REQUIREMENT (VI)(1)** of this standard.

REQUIREMENT (VI)(4): For each part, the PartSCP shall identify the FAA safety regulations that apply to that part.

PRACTICE GUIDE (VI)(4)(a): This may be a simple list of the airworthiness standards that apply. It should be used by the applicant as a checklist to ensure that the applicant has shown compliance to each applicable airworthiness standard.

REQUIREMENT (VI)(5): For each FAA safety regulation that applies to the part, the PartSCP shall identify the method of showing compliance to that regulation.

PRACTICE GUIDE (VI)(5)(a): One way to list the methods of compliance would be to list them in a table next to the list required by **REQUIREMENT (VI)(4)**.

PRACTICE GUIDE (VI)(5)(b): A single method of showing compliance may address more than one regulatory requirement, if appropriate.

REQUIREMENT (VI)(6): For each part, the PartSCP shall identify the service history of any part that would be replaced by the PMA part, to the extent known to the applicant. If the part that is intended to be replaced has been the subject of an airworthiness directive, then the

FAA has found that the part has a safety effect and therefore it should not be processed through the streamlined process.

VII. FOLLOWING THE MARPA 1100 PROGRAM

REQUIREMENT (VII)(1): The Applicant shall use the PartSCP as a guide in preparing the application.

> **PRACTICE GUIDE (VII)(1)(a):** If the applicant is applying for a PMA on an article whose failure would have little or no effect on continued safe flight BUT whose failure, in combination with other related failures, might reasonably affect continued safe flight, then the applicant should apply for PMA using normal application procedures.

REQUIREMENT (VII)(2): The Applicant shall follow the program described in the PartSCP for developing the supporting data to support the PMA application.

> **PRACTICE GUIDE (VII)(2)(a):** If the applicant is applying for a PMA on a NSS article, then the applicant should not need to seek DER approval of the application data.
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> **PRACTICE GUIDE (VII)(2)(b):** At the time of application, the applicant should submit to the FAA the PartSCP as part of the PMA application process. This document will help demonstrate to the FAA the planning phase of the compliance process.

REQUIREMENT (VII)(3): The Applicant shall perform an inspection on a First Article to confirm that the system produces parts that meet design expectations.

> **PRACTICE GUIDE (VII)(3)(a):** As part of the applicant's written process, the applicant should perform an 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 compliance with the design. For this first article inspection, it is not adequate to merely rely on the supplier's certification of conformance.
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> **PRACTICE GUIDE (VII)(3)(b):** The inspection should include such tests as may be necessary to ensure compliance to the design, and may require a laboratory *destructive* test where necessary to confirm compliance.
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> **PRACTICE GUIDE (VII)(3)(c):** The inspection should verify that the part meets the regulatory requirements without rework. Of course the *quality system* may need to be reworked if the inspection suggests a failure or a need to modify the system to ensure compliance.

Appendix: PART SPECIFIC CERTIFICATION PLAN OUTLINE

This appendix provides a suggested outline for a PartSCP. An applicant is free to develop its own outline that meets the requirements of the standard.

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-safety-significant classification
- 1.5 Instruction for Continued Airworthiness

2.0 APPLICABLE DOCUMENTS

ITEM	DOCUMENT	REVISION	DESCRIPTION

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 (a list of applicable airworthiness standards).

5.0 COMPLIANCE ASSURANCE

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. For convenience, this section may be combined in a table with the list of airworthiness standards from section 4.0.

6.0 FIRST ARTICLE INSPECTION FOR COMPLIANCE

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.

In some cases, it may be most effective to perform in-process inspections on the first article in order to inspect features that may be more difficult or costly to adequately inspect in the final product.

Where appropriate, this section may be combined with the list of tests and inspections from section 5.0.

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

This should be any responsible person who has the power to bind the company with his or her signature.

The MARPA 1100 Program is AVAILABLE ON MARPA'S WEBSITE

at

http://www.pmaparts.org

for more information,
contact the Association at:

(202) 628-6777