

THE FAA AND INDUSTRY GUIDE TO PRODUCT CERTIFICATION



THIRD EDITION



MAY 2017

Safety
Teamwork
Communication
Planning for Success
Accountability at all Levels
Quality Products and Services
Continuous Improvement

Prepared by AIA, AEA, GAMA, and the FAA Aircraft Certification Service and Flight Standards Service



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THIRD EDITION

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PROLOGUE

This revision of The FAA and Industry Guide to Product Certification (hereinafter referred to as “the Guide”) incorporates changes based on lessons learned and the most recent policy and guidance published by FAA. It also encourages the broader and more consistent use of the principles and expected operating norms for efficient design approval processes consisting of TC, STC, TSOA, and Parts Manufacturer Approval (PMA). But this edition goes further in establishing the principles and guidance for how an Applicant and the FAA can begin a transition to a state where there is progressively less direct involvement of the FAA in the compliance activities of the Applicant. The PSP in Appendix A provides recommended processes to assist the Applicant and FAA in moving along this path. The TC/STC PSCP described in Appendix B and the TSOA PSCP described in Appendix C are significant parts of the project certification process and provide updated guidance for creating a certification plan for those types of projects.

There have been significant changes in the certification processes over the last 10-15 years to improve the efficiency and effectiveness of the certification and design approval processes to enhance product safety. This revision is intended to address the impact of those changes and assist the stakeholders in taking full advantage of the benefits they offer.

This revision introduces some significant changes to the Partnership for Safety Agreement. This change moves the PSP from providing specific details on how an Applicant and the FAA will work together on specific issues to providing just high level agreements on what the FAA and Applicant have reached agreement on for how they will conduct business. The PSP is intended to improve the working relationship between the FAA and the Applicant by documenting in one place those agreements that have been reached. The detail procedures for each of the agreements may be in other documents. The change in focus of the PSP is described in Section 3.

Section 4 will provide improved guidance specific to FAA managed projects for those Applicants who are not ODA Holders. Implementation of Organization Designation Authorization (ODA) is one of the most significant changes for Applicants introduced since the last version of the document was released in 2004 and section 5 has been included to discuss ODA managed projects.

Other changes include the introduction of the Applicant Statement of Compliance required by 14 Code of Federal Regulations (CFR) 21.20(b), 21.97(a)(3), 21.303(a)(5), and 21.603(a)(1) declaring that their product meets the minimum safety standard as set forth by the applicable airworthiness standards. Also, the Applicant Statement of Conformity required by 14 CFR § 21.53 must document that the Applicant has complied with 14 CFR § 21.33(a) (unless otherwise authorized under that paragraph). The processes for these changes are still in development and will not be discussed in detail in this revision but will be considered for a future revision.

While SMS is also in development within the FAA, it has not been discussed in this revision. As it matures more and we get more industry experience and lessons learned it will be considered for a future revision.

Collectively, the changes facilitate a shift to a systems approach to certification and clarify roles and responsibilities of Applicants and their respective FAA oversight offices. Consistent and structured adherence to the guidance provided in this revised version will result in more emphasis on a shift of the cultural mindset away from the traditional ways of show-find to a systems approach for product approval. A systems approach to product approval will rely more on standard procedures or processes for showing compliance in a more consistent manner with less reliance on an individual's knowledge that can vary significantly from individual to individual and organization to organization.

Additionally, it is intended to increase the compliance maturity level of Applicants from one which depends on the FAA for significant support in satisfying the requirements to an Applicant who has a compliance maturity level such that they are capable of performing the compliance with minimum input from the FAA. This requires a shift in recognizing that the expectations and operating norms for the Applicant is to competently show compliance to each applicable rule and thereby enable a commensurate shift within the FAA to a system oversight model.

The changes, in certain cases, introduce new stakeholders (e.g., ODA Holder and ODA Unit), shift responsibility from one stakeholder to another, and redefine the nature of oversight for FAA staff.

For those Applicants that hold an ODA authorization, there is a distinct set of responsibilities that should be included in their respective operating procedures for both ODA holder and ODA Unit, that maintain the integrity of the compliance system and enables efficient and timely product approvals.

For those Applicants that do not hold an ODA the changes introduce increased responsibilities that also should be included in their operating procedures. These changes are also intended to maintain the integrity of the compliance system while increasing the Applicants compliance competencies and enabling efficient and timely product approvals.

All of these changes necessitate a culture within the FAA of oversight of the processes that ensure compliance and acceptance of the FAA Accountability Framework. The necessary Applicant culture centers on:

- a. Embedding conformity and compliance requirements into the design and development process.
- b. Empowering employees to make decisions without fear of retribution or criticism, and
- c. Acceptance of the FAA Accountability Framework.

“Accountability Framework - To optimize a systems approach, it is critical that the Applicant/DAH, along with the ODA holder and FAA Aircraft Certification Office (ACO), understand and fully embrace the concept of the accountability framework. The underlying premise of the accountability framework is that Applicants and approval holders have full responsibility (legal and regulatory) for compliance with all applicable requirements (refer to 14 CFR). The FAA Administrator has the obligation to promote safe flight of civil aviation. The FAA Administrator meets this obligation by exercising their discretion in promulgating airworthiness regulations and standards in the interest of safety, and defining by regulations and

directives how the FAA will oversee compliance by those it regulates. Amendment 92 to §§ 21.20 and 21.97, effective April 16, 2011, provides the regulatory basis for the company statement of compliance, and AC 21-51, Applicant’s Showing of Compliance and Certifying Statement of Compliance, provides clear guidance on the intent of the accountability framework. The practical implementation of the accountability framework is for the FAA to exercise its discretion on the level of involvement necessary to make a finding that the Applicant has shown compliance with all the applicable requirements before issuing a design approval. In the current show/find process, the FAA is involved, either directly or through their designees, in nearly 100 percent of all discrete compliance activities but this is not required. The FAA may rely on an Applicant’s showing and not make a discrete finding based on demonstrated capability or accepted processes. Increased reliance and acceptance of Applicant showings and the ability for the FAA to focus its resources primarily in risk-based areas will require both additional training on the technical aspects of robust processes and a cultural shift in responsibilities”.

The Accountability Framework is from “A Report from the Part 21/Safety Management Systems (SMS) Aviation Rulemaking Committee to the FAA,” page 38.

https://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/Part21ARC-10052012.pdf

The goal of the Guide is to:

- a. Lay out the information in such a way that an Applicant can understand the basic expectations and best practices for achieving a successful product approval process.
- b. Provide experienced Applicants with guidance on how to move along the path toward a more systematic and mature process for product certification or approval.
- c. Provide all stakeholders, including FAA staff, with the knowledge of how to maximize the potential of the existing processes in conducting efficient certification processes while maintaining the systems’ health through risk based oversight through the use of the tools in this Guide.

This version of the Guide also recognizes that there are significant variations in the compliance maturity level of companies in terms of processes and capabilities. Likewise, FAA oversight offices may vary in how they conduct their oversight responsibilities. Therefore, the level of effort in achieving the objectives of the Guide expectations will be different from one Applicant or FAA office to another. It is in the best interest of the aviation community to leverage the expectations defined in this Guide to the maximum extent possible. It is only then that we can move to more advanced methods of product approval domestically and internationally as envisioned by Destination 2025, FAA’s vision for the future. The FAA and Industry will develop metrics that measure the appropriate performance objectives and report them in an FAA and Industry score card. This includes the ODA scorecard, and may include other metrics that could be applicable to either ODAs or non-ODAs, or to both ODAs and non-ODAs.

The FAA and Industry urges all stakeholders to make a diligent effort in setting a high standard in terms of adherence to the guidance provided in this document. Anything less, will only delay achieving our collective success.

It is anticipated that there will be more changes to the certification processes over the next few years and it is the intent to make improvements to the Guide on a regular basis to keep it aligned with the evolving objectives of the FAA and Industry.

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1. INTRODUCTION

1.1. THE PURPOSE OF THE GUIDE

By applying the principles of this Guide, the FAA and Industry can lay a foundation from which to build mutual trust, leadership, teamwork, efficient business practices, and maturing Applicant certification competencies. This Guide contains a description of the purpose and vision of an efficient and effective certification process.

The processes and deliverables described in this Guide are structured to help the FAA and Applicants to fulfill their respective roles and expedite certification of products utilizing risk based processes or criteria. The overview of the Phases of product certification describes the process flow including a detailed description of Key Player's roles. The mutual goal of the FAA and companies is to meet or exceed this vision of improved certification.

A credible and concise product certification process better ensures safe aircraft and consists of:

- a. Timely, efficient and predictable product type design and production approvals,
- b. Clearly defined and understood roles, responsibilities, and accountability of all stakeholders,
- c. Timely identification of the certification basis, means of compliance, potential safety issues, and business practice requirements,
- d. Effective issue resolution process that includes a pre-defined structured escalation to appropriate leadership within FAA and Applicant stakeholders. Emphasis should be placed on Applicants to have robust, internal issue resolution processes that maximizes internal Applicant vetting and minimizes need for FAA involvement,
- e. Optimal delegation using a risk based approach with appropriate controls and systemic oversight, and
- f. Maximum use of the Applicant's showing of compliance based on observed competencies.

With the creation of the ODA, the FAA and Industry began to make the necessary investments in moving toward a systems approach to certification and compliance to the rules through greater reliance on the Applicants' capabilities and processes.

1.2. RELATION TO FAA POLICY

This revision to the Guide does not change what we do; rather it changes how we do it. It is a compilation and enhancement of the best business and certification practices and is compatible with FAA Orders 8110.4, Type Certification, 8100.5, Aircraft Certification Service (AIR) - Mission, Responsibilities, Relationships, and Programs, and 8100.15, Organization Designation Authorization.

The Guide should be used as a supplement to existing FAA guidance. If you find that this document conflicts with or contradicts any other policy or guidance material, please contact the Design, Manufacturing, and Airworthiness Division, AIR-100 for further direction.

1.3. ACCOMPLISHING THE PURPOSE

This Guide describes how to plan, manage, and document an effective and efficient product certification process and working relationship between the FAA and the companies. The Guide should be used by the FAA and Applicants for 14 CFR part 21 activities including Type Certification (TC), Supplemental Type Certification (STC), amendments to TC or STC, in support of Production Approval, and other design and production approvals including PMA and TSOA. Though focused on large and/or complex programs, the principles of up-front planning, project management, and documentation of the certification process and working relationship are applicable to all Applicants and projects, regardless of size or complexity.

The Guide is intended to clarify Applicant and FAA responsibilities during the certification process and supporting continued airworthiness following certification. Applicants are expected to mature to a state where they have procedures that consistently produce compliant and conforming products through a systems approach to product approval with reduced reliance on FAA engineers, inspectors, and designees.

The Industry and FAA are committed to improving the effectiveness and efficiency of the product certification process by establishing up-front a clear understanding of the needs and expectations of both parties in the product certification process. Reducing the cycle time to certify products, while ensuring regulatory compliance, will require early involvement of FAA and companies in project planning, open and constructive communication, and compliance focused project management.

Early involvement helps to identify and resolve the certification basis more efficiently, e.g. means of compliance, special conditions, etc. This process will result in a more effective use of FAA and Applicant resources with a systems approach to oversight focused on risk based areas. Also, by reducing the time and cost of product certification, safety enhancements through new technology and design innovation can be more rapidly integrated into aviation products.

The building blocks to bring about the vision of the new certification process are the Partnership for Safety Plan (PSP), the Project Specific Certification Plan (PSCP), and Continuous Improvement.

1.3.1. Company/Applicant Responsibility

Upon making an application, a company becomes the Applicant. The Applicant is responsible for managing the project and creating and managing the schedule in coordination with the FAA. Where Applicant is used in this document it includes an ODA Holder who is the Applicant.

The Applicant's responsibility starts with top management and includes every individual involved in certification and project involvement. It includes:

- a. Defining the intended function of the product/article,
- b. Achieving and conforming the design/test articles,

- c. Making a statement of conformity as defined in 21.53, as applicable.
- d. Showing compliance to each applicable rule,
- e. Making a statement of compliance as defined in regulations 21.20(b), 21.97(a)(3), 21.303(a)(5), as applicable, or a statement of conformance as defined in 21.603(a)(1), as applicable.

Compliance to the rules and conformity of test articles and the product will be achieved through a clear framework of accountability that has responsibility on the Applicant to ensure they have processes defined and followed by which they can accomplish their responsibilities for meeting the requirements.

Accomplishing the purpose includes all of the processes developed and agreed to by the Applicant and the FAA to facilitate compliance to the rules applicable to the product(s) the Applicant is producing or will produce. This includes initial certification, any changes to the product, and continued operational safety (COS).

1.3.2. FAA Responsibility

As a stakeholder in the product approval processes, FAA staff are expected to work collaboratively with an Applicants' certification teams to achieve timely and successful completion of projects.

The FAA's responsibilities, starting with top management, include:

- a. Enabling Applicants to maximize delegation within their projects, processes, and procedures (ODAs & non-ODAs),
- b. Applying risk based oversight processes, behaviors and tools within Applicant projects, processes, and procedures. Efficient FAA level of project involvement (LOPI) will be determined by a risk based oversight model based on observed compliance capability of the Applicant (Ref. Risk Based Resource Targeting FAA Managed Projects (RBRTa)/Risk Based Resource Targeting ODA Managed Projects (RBRTo) communicated via Project Prioritization methodology) with a systems approach that incorporates an audit process by the FAA and Holder after the completion of the project
- c. Enable the Applicant's path towards the Applicant Showing Only (ASO), state. Consistent with the "Accountability Framework," in this role, the FAA accepts the Applicant's compliance data as compliant without FAA or designee review when the applicant's capability has been determined competent by the FAA.

1.3.3. Compliance Maturity

Compliance maturity is a measure of the ability of an Applicant to perform the required compliance activities with a minimum level of FAA involvement. It provides the FAA with the assurance that they can move from direct involvement on most project tasks to an oversight role.

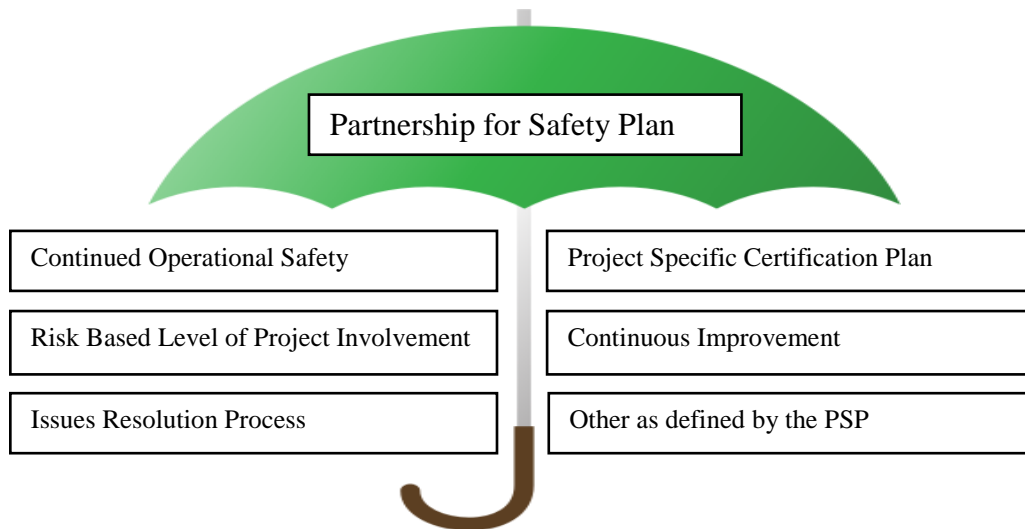
There is an expectation that Industry will embrace a compliance maturity culture of ever advancing compliance competencies.

The relationship between the Applicant and FAA should focus on a continuing Applicant compliance maturity capability/competency, starting with the Applicant's recognition of compliance responsibility. The maturity model should encourage the evolution from showing compliance with a finding by a designee or the FAA to a capability of "Applicant Showing Only (ASO)" competency. For additional details on ASO refer to Appendix A, section A-8.

1.3.4. Partnership for Safety Plan

The Partnership for Safety (PSP) provides the foundation from which to build mutual confidence, leadership, teamwork, efficient business practices, and maturing Applicant certification competencies. The PSP is a written "umbrella" agreement between the FAA and the Applicant that focuses on high level objectives such as open and effective communication, key principles including effective certification programs utilizing the Project Specific Certification Plan (PSCP), designee utilization if applicable, issue resolution, continuous improvement, general expectations, and other agreements reached between the Applicant and the FAA that further Applicant maturity. These agreements are the building blocks to bring about the vision of this guide.

The PSP may also define the general discipline and methodology to be used in planning and administering certification projects using appropriate procedures. These procedures needed to satisfy the high-level objectives and are not required to be in the PSP itself but may be in separate documents referenced in the PSP. Examples of content include generic methodologies for effective use of delegations/designees, conformity inspections, communication, issue resolution, standardization, and generic metrics for measuring project progress. The purpose of the procedures is to provide a means to help the Holder/Applicant move toward a more systematic process for conducting projects that the FAA can rely on without having to do direct oversight of the projects.

Figure 1-1 Partnership for Safety Plan

1.3.5. Project Specific Certification Plan

For purposes of this document the term PSCP is a certification plan for each project. The content may vary based on the magnitude of the project. It must provide clarity for how the Applicant will comply with the regulations. The need for a PSCP should be based on the needs of the project and as defined in paragraph 2-3.d of FAA Order 8110.4.

The PSCP is a key tool in meeting the 14 CFR part 21 requirements for the certification and approval of a product. It provides the detail definition of the product and the compliance requirements for successfully completing a specific certification or approval project.

The PSCP is designed to be used as a project management tool, with gates (pre-defined critical program milestones), performance measures, and information unique to the certification project. The PSCP should allow the Applicant to manage a project in the manner most efficient within their company.

The guidance shown in Appendices B and C applies the agreed upon principles of the PSP to assist an Applicant in creating a PSCP appropriate for a specific certification project.

The PSCP formats can be adapted and enhanced within the FAA's regulatory and policy requirements to meet the needs and work processes of the FAA and Applicants. For instance, a TSO or PMA project may not need all of the requirements that a TC or STC project would require and the Applicant must clearly identify only those requirements that are applicable to

their process and project. This ensures that each certification or approval project is planned and managed in a way that most efficient for the Applicant and the FAA.

The TSO PSCP is specifically for products where a TSO exists and a TSOA is to be issued for design and manufacturing approval. The Installation PSCP should be used where the project will result in an ATC/STC and/or is the basis of an LRU PMA.

Depending on the maturity of the Applicant and the agreement reached between the Applicant and the FAA, the PSCP may, or may not, require agreement by the FAA prior to conducting a certification project.

Applicants who are in the business of performing certification work for either themselves or for others on a contract basis should consider having a written procedure for PSCPs to ensure consistency from one project to the next. This procedure might document agreement between the Applicant and the FAA for what the norms should be for different types of projects, when a PSCP is required, or not required, or other factors that may require an agreement with the FAA regarding the PSCP.

The PSCP must be revised when there are major changes in design, compliance plans, requirements, or methods of compliance.

1.3.6. Continuous Improvement

The minimum level of safety is achieved through compliance. Continuing to mature the compliance competencies and efficiencies must become an integral part of an organization's daily activities. Continuous improvement will frequently require a cultural shift in the way both FAA and the Applicant certification staff think about and do their work. Continuous Improvement should incorporate a process for identifying cause and corrective action on any process issues that arise during any activity that is part of the certification or continued airworthiness processes. A robust corrective action system is foundational for a compliance maturity model.

The process needs to provide a means to identify the cause and determine if it is a systemic issue that requires more in depth review and action to change behaviors or processes. This does not mean that every issue requires the same level of corrective action effort. The process should be designed to provide different levels of corrective action depending on the significance of the issue and whether it is a systemic issue or not. Some issues may be relatively minor and not be a systemic issue that needs major corrective action. These might be resolved by simply counseling the individual or implementing a simple fix to avoid future occurrence of the issue.

Continuous Improvement can consist of making improvements to processes as well as resolving issues.

The lessons learned from one project should be used to make improvements in the processes so that subsequent projects can take advantage of those lessons to save time and money and reduce the need for FAA involvement.

FAA and Applicant internal audits of the processes and the audit results also provide another valuable source of input for Continuous Improvement. Comprehensive and effective audits can be a major contributor to improved processes that increase the compliance maturity level of an Applicant.

It is not enough simply to note lessons that should be learned; these must be applied and embodied into written procedural changes by the Applicant, the FAA, or both. Any procedural changes should be appropriately resourced and tracked in the project schedule, followed by verification thru later confirmation of implementation or completion of the change.

Continuous Improvement is not limited to just performing corrective action on existing processes. It can include any process related to certification, including making improvements in how data is managed and shared with the FAA. This is discussed in more detail in section A-13.

2. PARTNERSHIP FOR SAFETY PLAN

2.1. PSP AGREEMENTS

The PSP is a written agreement to define a working relationship between an Applicant for a product certification or approval and the applicable organization(s) of the FAA.

The PSP agreements enable the FAA and the Applicant to improve the effectiveness and efficiency of certification and approval of projects by focusing on making compliance routine. The mutual goal of the FAA and Applicant is to meet or exceed the expectations of the PSP agreement. A cooperative working relationship is required so that Applicant and FAA team members will work in accordance with the commitments contained in this PSP. The Applicant and the FAA agree to work to the principles outlined in the PSP.

PSP agreements will vary depending on the Applicant's certification experience and/or level of interaction with the FAA. The PSP agreement should further evolve as the Applicant develops mature certification processes and capabilities. Where mature processes and capabilities exist, the agreement can expand to other activities with FAA such as international validations, COS oversight, airworthiness certificate and production certificate management, ASO, Applicant audits, performance measures (e.g., scorecard), and training, etc. Expanding the agreement beyond project/program management also enables focused efforts for Continuous Improvement, consistency, and standardization of processes.

A PSP may take different forms at different Applicants. For instance:

- a. For non-ODA Holders, the PSP may be a complete standalone document that identifies how the Applicant and the FAA work together,
- b. For ODA Holders, the ODA Manual may contain much of what is expected in a PSP with only those items not in the ODA Manual included in the PSP,
- c. For less experienced applicants, the PSP can initially be a simple roles and responsibilities document and be expanded as the Applicant matures its processes.

The PSP may include the text of agreements or it may be a collector of references to individual agreements.

2.2. WHO SHOULD HAVE A PSP

A PSP is proven to provide benefits and value for both the FAA and an Applicant and therefore is expected for an Applicant who is in the business of routinely certifying or approving products (TC, STC, TSO, PMA). Appendix A contains procedures or processes that may be applicable for a PSP of this nature. Since the PSP establishes the principles and procedures for early identification of critical issues and early planning so that subsequent to this PSP, future projects can be completed in a timely and efficient fashion, all Applicants who conduct certification projects on a routine basis should have a PSP. Further it provides the framework for Continuous Improvement that will assist an Applicant and the FAA in increasing the maturity of the Applicant's certification process.

A PSP may not be beneficial for an Applicant who is a one-time only Applicant and/or is not an organization that performs certification or approvals on a routine basis. In this case a PSCP alone is acceptable for a one-time or occasional Applicant.

2.3. RESPONSIBILITIES FOR DEVELOPING AND MAINTAINING THE PSP

It is the Applicants responsibility to develop and maintain a PSP with the FAA. The PSP must identify that the Applicant understands its responsibilities when applying for a product certification or approval and the FAA's commitment to support the Applicant's certification or approval objectives. It identifies how the FAA and Applicant will conduct product certification, establish the general timelines and expectations, and identify deliverables through established FAA Policy and Applicant Procedures.

The Applicant Procedures will define the generic discipline and methodology to be used in early exchange of information to plan for successful certification projects. It includes Applicant commitment to responsibilities, project schedule milestone development and standardized compliance to rules following FAA accepted procedures. The Applicant Procedures also includes processes for ensuring adequate communication between the parties involved.

The PSP can provide important benefits to a specific certification or approval project by defining how an Applicant will perform the certification or approval process that may not be included in the PSCP. The PSP will include, but not be limited to, consideration of the elements outlined in Appendix A.

Some Applicants may utilize more than one of the TC, Amended TC, or STC certifications or TSO or PMA approvals and their PSP should consider the different certifications or approvals they perform. For instance, the PSP for an Applicant who does both TC and STC projects should include requirements for both. Or an Applicant may be either a TSO Manufacturer or installer, or both, and utilize the STC certification and TSO approval processes. For example, an avionics approval may involve one or more of these type of FAA approvals depending on the type of avionics equipment and whether the Applicant is seeking an installation approval. Avionics approvals typically include a component level design and manufacturing approval (TSO or PMA), and an installation approval using an STC or field approval. Thus, the needs of the Applicant and the FAA may vary from organization to organization and from project to project.

If an Applicant already has a PSP with the FAA, the content of the Guide may be used to refine the existing PSP and to consider the alternate paths to approvals and certifications described herein.

2.4. PSP CONTENTS

A PSP is an overarching document that manages the relationship between the Applicant and the FAA. Though a PSP may address some of the same topics addressed in an ODA Manual, it may also contain elements not required in an ODA Manual. For instance:

- a. An ODA Manual does not require Operating Norms

- b. An ODA Manual does not normally identify expectations of the FAA but a PSP may identify expectations of the FAA as well as the Applicant because a PSP is expected to identify expectations for each side.

Table 2.4-1 identifies key principles all PSPs should have. Additional agreements and details can be found in Appendix A.

Table 2.4-1 - PSP Commitments

Responsible Party(s)	Commitment
Applicant's top management and the appropriate FAA management	Meet all the objectives of the PSP (see Appendix A-2).
Applicant and the FAA	Open and frequent communication (see Appendix A-4).
Applicant and the FAA	Have an issues resolution process that includes a predefined structured escalation if the issue is not resolved in a timely manner (see Appendix A-16).
Applicant and the FAA	Focus on Continuous Improvement activities that could lead to: <ul style="list-style-type: none"> a. Delegation, b. Increased utilization of delegation, and, c. Ultimately enabling ASO by use of the appropriate processes and procedures and the FAA (see Appendix A-8).
Respective executive managements within the Applicant and FAA	Regular governance reviews (see Appendix A-2).
Applicant	Provide continued airworthiness support for their products (see Appendix A-18).
Respective executive managements within the Applicant and FAA	Expand the agreement beyond project / program management as capabilities mature (see Appendix A-15).
ODA Holder	Identify how the ODA Holder will function under the PSP. Note that an ODA Unit will be constrained by a separate ODA Unit procedures manual(s).
ODA Holder and the FAA	Maximize ODA utilization.

2.5. EFFECTIVITY

The PSP becomes effective upon approval by the FAA Management and the Applicant Executive Management duly empowered to commit for the Applicant. For ODA Holders, the ODA administrator may be included as a signatory but does not replace an officer of the company unless specifically authorized in writing from the applicable company officer. It continues in effect until it is superseded, revised or terminated and may be amended by mutual consent of the parties. Any change in the services furnished or other provisions of this PSP is formalized by an appropriate written amendment signed by both parties, which outlines the nature of the change.

The PSP is a living document that should be developed jointly by the FAA and the Applicant to the greatest extent possible in advance of any specific certification project.

3. TYPE CERTIFICATION

3.1. BACKGROUND AND APPLICABILITY

This chapter applies to TC/STC Projects per 14 CFR part 21. Projects are conducted per FAA Order 8110.4() and other FAA guidance and policy.

The Applicant must apply for a project in the manner specified per FAA Order 8110.4(), Type Certification. This includes a PSCP or equivalent. Once a PSCP is accepted by the FAA, or if the Applicant is an ODA Holder, as agreed to in the ODA Manual, then the Applicant shows compliance following this accepted plan. Changes to the scope of design, certification basis or means of compliance will result in changes to the PSCP and may require re-acceptance of the PSCP. The airworthiness authority will review the Applicant's showings of compliance and then find compliance per this agreed plan. Upon finding compliance, the FAA, or authorized organization, issues the FAA approval for STCs, or Major Changes. For TC projects the FAA will issue the TC.

FAA Order 8110.4() lists the five phases of certification: conceptual design, requirements definition, compliance planning, implementation, and post-certification. The Applicant will (or may) also follow commercial project management phases to plan and conduct the work. As every project is different and scalable, these may include sales, product development, design, detailed engineering design, analysis, service documentation, equipment qualification, manufacture and vendor-supplier management, on-aircraft work, inspection, test, customer support, product upgrades, continued operation safety, and other phases, chosen, tailored, scheduled, and tracked by the Applicant as appropriate to a specific project and lifecycle of that product. Post STC/TC activities, including Production Approvals (PC/PMA), product upgrades, and Continued Operational Safety (COS) are beyond scope of this section but will be addressed in the PSP, or other Applicant/Holder procedures. See figures below.

3.2. KEY PLAYERS IN CERTIFICATION PROCESS AND THEIR ROLES

The Applicant and the FAA work to establish a PSCP to reach a clear common understanding of their respective responsibilities for the design and production definition and the certification requirements. Successful completion of a specific project depends on performance of joint team members and successful execution of the functions they perform. The following is a list of key players and their roles.

Table 3.2-1 - Key Players and Roles

Key Player(s)	Role
FAA and Applicant Management	a. Commitment to the Partnership for Safety Plan b. Provides Leadership and Resources
FAA and Applicant's Project Managers	Jointly orchestrate the project and apply the Partnership for Safety Plan agreements
FAA Standards Staff Project Officers	Provides timely standardized policy and guidance
Applicant's Engineers	Responsibility to apply regulations and policy to show compliance, including the determination of the adequacy of type design and substantiation data.
FAA and Applicant's Designees (DERs and UMs)	Apply regulations and policy to find compliance including the determination of the adequacy of type design and substantiation data
FAA and Applicant's Inspectors & Designees (DMIRs, DARs, and UMs)	Determines conformity and airworthiness
Applicant's Flight Test Pilots & Designees	Conducts flight tests to show compliance
FAA and Applicant's Flight Test Designee Pilots	Conduct or witness flight tests to find compliance
FAA Chief Scientific and Technical Advisors (CSTA)	Provide expert advice and technical assistance
FAA Aircraft Evaluation Group & Designees	Evaluates conformance to operations and maintenance requirements.

FAA Orders 8110.4(C) and 8100.5 (B) provides detailed description of roles and responsibilities of FAA staff. Section 4 and 5 highlight typical interactions and involvement of the key players in various phases of certification process.

Figure 3-1 shows the relative relationship between these phases. It is not to scale and is intended only to show the relationship between phases and what makes up the phases in most projects. Since certain activities may occur at different times during any particular project than what is described in FAA Order 8110.4, there is no attempt to force an alignment that requires things only occur at a specific time.

Figure 3.2-1 - Typical Project phases compared to 8110.4 Certification Process

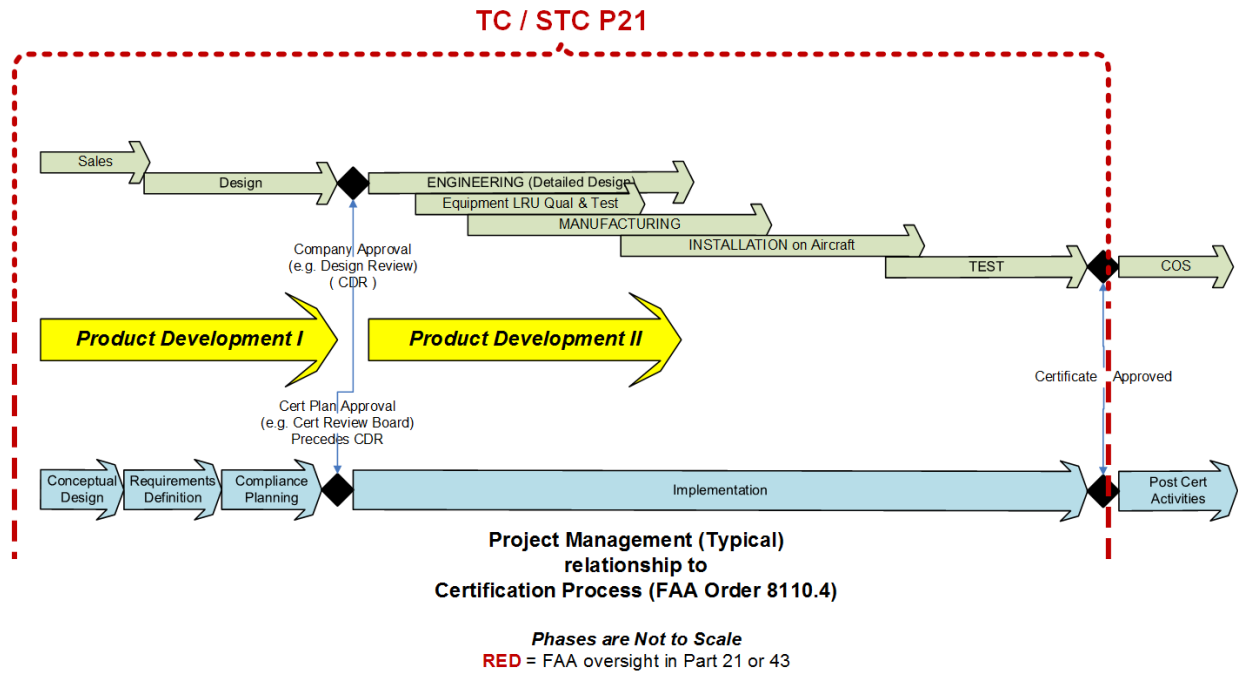
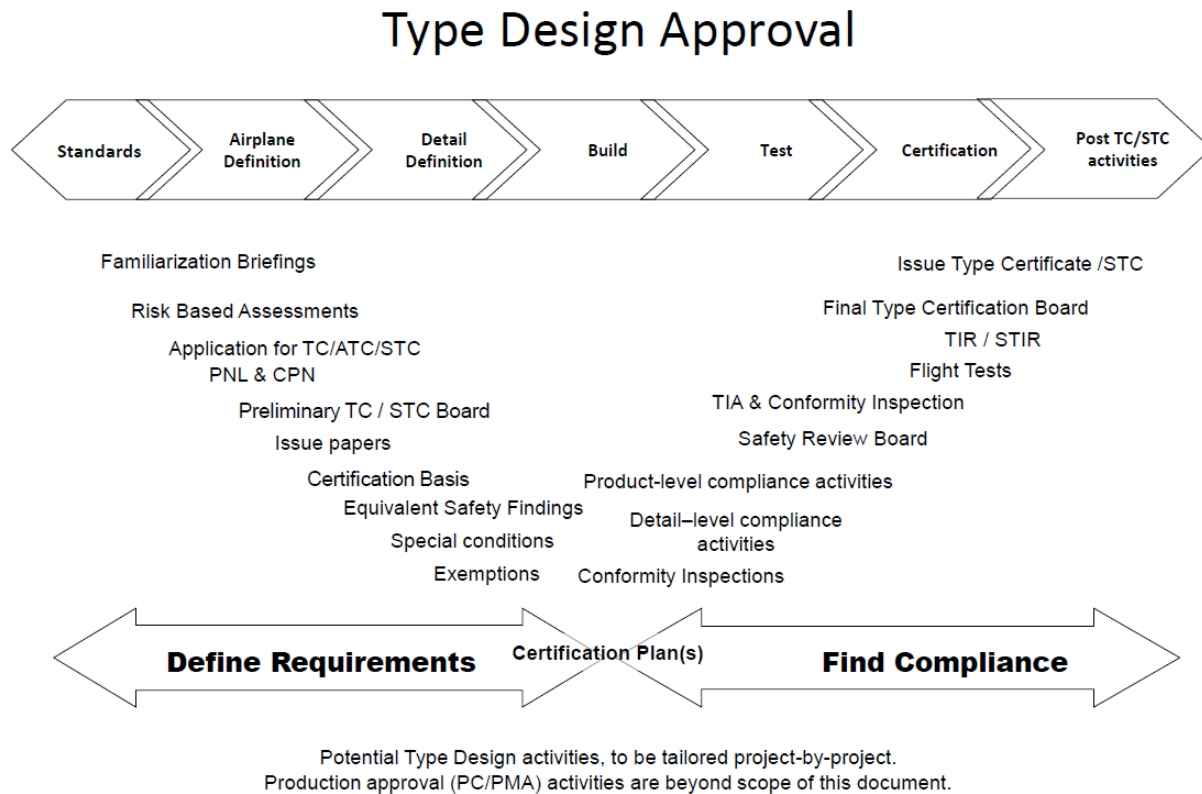


Figure 3-2 shows a different view of the same project. This is partly to show the many different perceptions of the many participants in a given certification project. Another complicating factor is that every project is different by its technical nature, and another is that every Applicant adopts different methods, processes and timing to meet each of the necessary gates to earn final Approval by the FAA or ODA.

Figure 3.2-2 - Typical Project phases compared to 8110.4 Certification Process



3.3. PROJECT PHASES

This section will examine the certification and (typical) project phases as a project proceeds, detailing typical expectations and deliverables by both the Applicant and the ODA Unit as they work together.

In all phases, the following is expected of both Applicant and the FAA, including ODA Unit if applicable:

- a. Establish mutual trust,
- b. Ensure confidentiality,
- c. Meet all commitments,
- d. Emphasize empowerment,
- e. Maintain open and timely communication,
- f. Provide proper levels of technical project and management leadership with frequent reviews to ensure all are aware of project status, significant issues, and commitments,
- g. Conduct early familiarization meeting(s) and document accordingly,
- h. Conduct meeting(s) using well-structured agendas / presentations, ensure Key Players attend, and document agreements, issues and actions accordingly,
- i. Agree to clear time frames, expectations, and action plans to accomplish all Phases,

- j. Produce timely, high quality documentation of decisions, agreements, schedules, milestones, action item assignments, compliance/conformance submittals, and approvals,
- k. Use proven compliance methods or Advisory Circulars (AC's) as appropriate and avoid re-inventing the wheel, and
- l. Continuous Improvement, mutually examining outcomes for feedback.

Table 3.3-1: Certification and Project Phases

Certification Phases from 8110.4	Certification Process Deliverables (Applicant with FAA or ODA Unit) (target and refine for each project)	Project Phases (typical, to be tailored by Applicant)	Project Deliverables (Applicant) (typical)(target and refine for each project) (not to timescale)
		Sales	Customer contact
		Sales, Design	<ul style="list-style-type: none"> • Statement of work • Starting and end states • High level design • Level of quality • Client requirements
Conceptual Design	<ul style="list-style-type: none"> • Familiarization meetings, Applicant and ODA Unit or FAA • Meeting minutes (and correspondence to document decisions, agreements, schedules, milestones, and action item assignments – valid for all phases but not repeated) • Preliminary certification basis • Definition and plan for resolution of critical issues • Identify core team to ensure continuity 	Design	<ul style="list-style-type: none"> • Define cert process deliverables (with ODA Unit for ODA projects, or with FAA per terms of PSP)
Requirements Definition (continued on next page)	<ul style="list-style-type: none"> • Submission of Application, FAA Form 8110-12 if applicable • Acknowledgment of Application • Certification Project Notification (CPN) and Establishment of Project • Naming the FAA team or ODA Unit, and Applicant Certification Team Meeting minutes • Preliminary PSCP including project milestones and related events such as program status reviews • Schedule, capturing all milestones, gates and deliverables • Agreement of proposed certification basis and definition of project issues such as means of compliance including special conditions, equivalent level of safety findings (ELOS), exemptions, etc. • Undue Burden Assessments 	Product Development I (continued on next page)	<ul style="list-style-type: none"> • Statement of work updated for certification activities • Iteratively define Engineering-based solutions to meet both Client and Certification requirements • Define Applicant tools and procedures • Define work for Engineering, Manufacturing, on-aircraft production, inspection and test

Certification Phases from 8110.4	Certification Process Deliverables (Applicant with FAA or ODA Unit) (target and refine for each project)	Project Phases (typical, to be tailored by Applicant)	Project Deliverables (Applicant) (typical) (target and refine for each project) (not to timescale)
Requirements Definition (continued from previous page)	<ul style="list-style-type: none"> • 		<ul style="list-style-type: none"> • Develop and maintain a single integrated master schedule with gates and milestones
Compliance Planning	<ul style="list-style-type: none"> • Meeting minutes • FAA Accepted PSCP • Project schedule with established FAA/Applicant milestones for completion of analyses, test plan submission, TIA, conformities, flight test, AEG evaluations, critical issues resolution plan, and other items affecting the completion of the project • Agreed TC Basis • Compliance Checklist • Completion of Stage 1 on all issue papers (IPs) • Identification of stakeholders, including suppliers, subs-vendors, installers, inspection etc. • Delegations defined with oversight criteria • Resource Requirements • Conformity Inspection Plans • Project evaluation measures 	Product Development I (continued from previous page)	<ul style="list-style-type: none"> • Control work processes (e.g. enterprise resource planning ERP system) • Provide for communication, document control and release and distribution • Provide for feedback and changes • Provide for reports to stakeholders • Conduct team and departmental training as required • Define key Applicant roles and responsibilities • Iterative product development to develop detailed planning solutions • Approve product development plans

Certification Phases from 8110.4	Certification Process Deliverables (Applicant with FAA or ODA Unit) (target and refine for each project)	Project Phases (typical, to be tailored by Applicant)	Project Deliverables (Applicant) (typical) (target and refine for each project) (not to timescale)
Implementation	<ul style="list-style-type: none"> • Meeting minutes • Issue Papers, Special Conditions, Exemptions, ELOS • Track and meet milestones for preparations for and accomplishment of work, procurement of materials, parts conformities, data, completion of analyses, manuals, test plan submission, equipment qual & test, ground test, installation conformities, TIA, flight test, AEG evaluations, critical issues resolution plan, and other items affecting the completion of the project • Completed test plans/reports, conformity requests, inspections, and compliance documentation • Compliance and conformance findings • Released and approved data • Certificate (TC/STC/PC/PMA) approval issuance 	Product Development II	<ul style="list-style-type: none"> • Execute the approved plan • Control and direct work • Manage Schedule • Produce detailed engineering data, controlling drafting sources • Produce showings of compliance via the agreed PSCP • Produce manufactured parts, controlling vendors • Conduct on-aircraft production • Conduct necessary inspections per the approved • conformity inspection plan (CIP) and Applicant plan • Conduct necessary tests per PSCP and Applicant plan • Provide for airworthiness activities • Communicate with the Applicant team, with Client/owner/operator, and with the ODA Holder
Post Certification	<ul style="list-style-type: none"> • Meeting minutes • Compliance Summary or Checklist Document • Type Inspection Report (TIR) • Approve Instructions for Continued Airworthiness (ICA) • COS • ODA Make reports per 183.83 	PC, PMA, Customer Service, Product Support and upgrades, COS	<ul style="list-style-type: none"> • Provide necessary information to owner/operator per 21.50 • Provide customer service • Provide product support and upgrades • Provide COS support • Make reports per 21.3 • If required, apply for PC/PMA

The left column remains invariant for TC project but STC projects may not utilize all of the items. Elements in right column are adaptable to the project or Applicant.

4. FAA MANAGED CERTIFICATION PROJECTS

4.1. BACKGROUND AND APPLICABILITY

This chapter applies to TC/STC Projects per 14 CFR part 21 that are managed by the FAA. Projects are conducted per FAA Order 8110.4() and other FAA guidance and policy.

The Applicant must open a project in the manner specified per FAA Orders 8110.4(). This includes a PSCP that must be accepted by the FAA. Once a PSCP is accepted, then the Applicant shows compliance following this accepted plan. Changes to the design, events, or observations, may result in a revision to the PSCP and FAA review and acceptance of the revision. The FAA or delegated Designees review the Applicant's showings of compliance and make findings of compliance in accordance with the accepted PSCP. Upon completion of the specific rule by rule compliance tasks, the FAA makes the finding of compliance by issuing the appropriate FAA approval.

4.2. ROLES AND RESPONSIBILITIES

4.2.1. FAA and Applicant's Management

The Applicant and the FAA work to establish a PSP to reach a clear common understanding of their respective responsibilities for the design and production definition and the certification requirements. For small Applicants, or one time only projects, the intent of the PSP can be captured in the PSCP.

The respective managements provide leadership and resources to product certification teams through the PMs in order to accomplish the project and resolve issues. Different organizations have different titles for the people responsible for managing a project. The titles used in this document may not be applicable for all Applicants. FAA and Applicant management share ultimate responsibility through the product certification team for the quality of compliance work, standard application of regulatory compliance policy and procedures, and the timely, efficient completion of the product certification projects.

4.2.1.1. Teamwork

The Applicant and FAA Management work together to:

- a. Establish PSP early for the involvement and commitment of both parties.
- b. Ensure the Product Certification Team's full participation, application of the PSP, and adherence to the PSCP.
- c. Ensure Product Certification Team engages all stakeholders including other FAA Engineers, Standards Staffs, Inspectors, and Applicants to resolve integration issues, e.g. engine/propeller/auxiliary power unit (APU) with airframe compatibility.
- d. Coach and mentor Product Certification Team members.
- e. Model behaviors that promote effective teamwork between the FAA and Applicant.

4.2.1.2. Communication

The Applicant's Management:

- a. Communicates early and often about design, schedules, plans for demonstrating compliance and conformity, and anticipated problems.
- b. Facilitates access to necessary information appropriate for the project.
- c. Ensures consistency and clarity of positions on issues is communicated to each other.
- d. Promotes and ensures efficient resolution of issues at the operational level prior to elevating to the higher management levels.

4.2.1.3. Accountability

The Applicant's Management:

- a. Participates in resolving critical issues identified in the PSCP.
- b. Moderates appeal process through respective PMs consistent with the PSP.
- c. Works in partnership to reach early agreement on certification basis.
- d. Sets realistic schedules and monitors project status.
- e. Provides leadership and management of resources to support the project.
- f. Ensure the certification project team's full participation and adherence to the accepted PSCP.
- g. Ensures the delivery of a quality product.

4.2.1.4. Applicant and FAA Management

Jointly the Applicant and FAA Management ensure:

- a. Resources are available to support project: team, travel funds, training, policy, and administrative procedures.
- b. Integration of project requirements with total workload for the respective organizations including: resources, priorities, schedules, staff, and policy considerations.
- c. Facilitation of issues resolution by providing management oversight and leadership.
- d. Identification of PM focal points and lines of communication for certification project team.
- e. Participation in Familiarization Meeting(s) to discuss certification aspects of proposed project concepts. These meetings should be a partnership between Applicant, their proposed Designees, and the FAA (including representatives from cognizant offices), in order to reach early agreement on certification basis and PSCP.

4.2.1.5. Applicant's Management

The Applicant's Management will:

- a. Establish the organization's environment to ensure support to the project team to include, but is not limited to: compliance expertise across all project disciplines, including training and mentoring.
- b. Ensure administrative and quality procedures, tools and resources to support overall integration of project requirements with the total organization, vendors and suppliers.

- c. Ensure that the PM plans, tracks and documents the project such that the Applicant's certifying statement of compliance per 14 CFR § 21.20(b) can be signed at the end of the project.
- d. Ensure appropriate designees are retained as needed.

4.2.1.6. FAA Management

The FAA Management will:

- a. Ensure adherence to administrative and quality procedures, tools and provide resources to produce timely, effective, and responsive oversight of and coordination of project requirements, including, as warranted by the PSCP, participation by representatives from:
 - i. FAA ACO,
 - ii. FAA Manufacturing Inspection District Office (MIDO),
 - iii. FAA Flight Standards District Office (FSDO),
 - iv. FAA Directorate Project Officer and supporting standards staff,
 - v. FAA AEG,
 - vi. FAA Chief Scientific and Technical Advisors (CSTA), and/or
 - vii. Other FAA organizations.

4.2.2. FAA and Applicant's Project Manager

The FAA and Applicant's PMs are the principal focal points for the project who plan, review, evaluates, and coordinate all aspects of a certification project according to the PSCP. They coordinate and direct the certification team's effort and ensure tasks are kept on track to achieve the Product Certification objectives. The FAA PM is the assigned focal point in the ACO. When the project is small, generally involving a single ACO engineer, the duties of PM may be filled by that Project Engineer with the same roles and responsibilities as a PM.

4.2.2.1. Teamwork

The FAA and Applicant's PMs will:

- a. Ensure the right people from the FAA and Applicant are involved.
- b. Ensure the PSCP is maintained, including mutually agreeable schedule revisions.
- c. Ensure the Product Certification Project Team awareness of design features, proposed means of compliance, new materials, new production processes, co-production or foreign supplier issues, and other critical issues for timely resolution.

4.2.2.2. Communication

The Applicant and FAA PM's will:

- a. Ensure effective communication flow and quality documentation among specialists, FAA offices, and Applicant.
- b. Focus all communication and interface on the project with the respective PM focal points.

4.2.2.3. Accountability

The Applicant and FAA PM will:

- a. Ensure mutually agreed upon commitments and PSCP schedules are met.
- b. Develop the overarching project plan, to include but not limited to the certification basis, PSCP, delegation plan and CIP.
- c. Manage timely delivery completion of inspections, analysis, test data, exemptions, special conditions, ELOS, etc. for determining compliance and completing certification of the product.
- d. Maintain effective oversight and control of the project.

4.2.2.4. Applicant and FAA PMs

Jointly the Applicant and FAA PMs ensure:

- a. Notification and involvement of FAA and Applicant in early project Phases.
- b. Preparation of all required documentation.
- c. Completion of accurate data submittals.
- d. Completion of planning and scheduling.
- e. Development of the compliance checklist.
- f. Adherence to agreed project sequence and schedule for test plans, completion of inspections and tests, and data and report submittals to show conformity and compliance.
- g. Planning for and coordination of all interactions, familiarization meetings, and board meetings during all Phases.
- h. Coordinate activities, track actions, and deliverables consistent with the agreed upon PSCP.
- i. Being cognizant of PSCP milestones, logistical challenges, and production issues, support issues resolution and facilitating successful closure.
- j. Determination of project resource requirements to meet FAA and Applicant commitments.
- k. Monitor and notify management of resource constraints.
- l. Establishment of project team including necessary specialists.
- m. Preparation and acceptance of the PSCP in coordination with all team members (Ref. Orders 8110.4 and 8100.15 and Appendix B and C).
- n. Identification of new materials, new production processes, and co-production or foreign supplier arrangements requiring an undue burden assessment.
- o. Development of the product certification basis.
- p. Accountability as project focal points with their respective FAA, Designees, and Applicant team members to ensure team is always aware of project status.
- q. Participation in the development of new project-specific policy safety issues.
- r. Coordination of technical decisions and regulatory issues with their respective team members.
- s. Integration of work of project team to promote timely decisions (Ref. Orders 8110.4 and 8100.15).
- t. Identification of unique/novel product features or applications, and potential need for coordination on IPs, special conditions, exemptions, ELOS, (Ref. Orders 8110.4 and 8100.15).

- u. Management of the issues resolution process, maintains an issue tracking system, and apply the issues resolution process, as needed.
- v. Lead the TC boards and presents certification material on project.
- w. Proper evaluation of type design and substantiation data to determine their adequacy.
- x. Preparation of TC Data Sheet (TCDS).
- y. Preparation of Certification Compliance Summary or Checklist Document (Ref. Order 8110.4 and 8100.15 and Appendix C).

4.2.2.5. FAA PM

The FAA PM ensures:

- a. Assessment of the Applicant's knowledge of certification process and when necessary provide a process orientation.
- b. Preparation of the CPN and acknowledgment letter of Applicant's application (Ref. Orders 8110.4 and 8100.15).
- c. Coordination with FAA Team members and Designees cooperatively keeping the project team aware of applicable policy and guidance material for the project and timely resolution of critical issues.
- d. Work with the FAA team to identify critical technical and regulatory issues early and identify them to the Applicant PM and document agreements and actions to resolve them.
- e. Scheduling and chairing of preliminary, interim, flight test and final TC Board meetings as appropriate.
- f. Proper preparation of Type Inspection Authorizations (TIA) and/or FAA Form 8120-10 requests for conformity.
- g. Completion of project file compliance documentation including Applicant's, Designee's, and project team member's required input.
- h. Proposed certification basis for project and means of compliance are consistent with FAA 14 CFR regulations and policy.
- i. Findings of compliance are made by appropriate accountable team members.
- j. Notification of Applicant early of schedule revisions and/or major issues after commencement of certification which would influence prior agreed objectives.
- k. Coordinate project activities with foreign civil aviation authorities (CAA) as needed.
- l. Communication directly with Applicant and FAA Project Officers, policy staff, and other FAA team members to facilitate meeting project objectives.

4.2.2.6. Applicant's PM

The Applicant's PM ensures:

- a. Application for Type and Production Certification includes available relevant data/information (Ref. Order 8110.4).
- b. Development of proposed certification basis and means of compliance to be defined in the PSCP.
- c. Submittal of type design data, analyses, plans, and reports, and shows compliance per the agreed PSCP (demonstration of compliance to the FAA 14 CFR).
- d. Notification to FAA early of schedule revision and/or major design changes after commencement of certification which would influence prior agreed outcomes.

- e. Submittal of Statement of Conformity (FAA Form 8130-9) on product and components or parts.
- f. Notification to Inspector when ground test articles are ready for conformity inspection when required, and for pre-flight test conformity and airworthiness certification.
- g. Acceptance of Certificates and Approvals from FAA.
- h. Assignment of additional Applicant project team members as needed by specific project and organizational processes, e.g. Engineers, Inspectors, Planning, Purchasing, Logistics, Manufacturing, Vendors, On-aircraft Production, Testing, etc. Applicant team members may include Designees who are not precluded from working on the Applicant's team in showing compliance, but clear and distinct separation of functions must be mutually understood by Applicant and Designees.
- i. Account for the showing of compliance and submittal of data, analyses, plans, and reports per the agreed PSCP. Elements of showing compliance include:
 - i. A revision controlled released document/data/etc. that can be traced to the agreed PSCP,
 - ii. A Statement of Compliance to regulation-sub-para-amendment that matches the PSCP,
 - iii. A means of compliance that matches the PSCP, and
 - iv. Clear, repeatable, legible information in the document/data that appropriately demonstrates compliance.
- j. Signature of the Applicant's certifying statement of compliance per 14 CFR § 21.20(b) by an authorized individual.
- k. Accomplishment of all delegated tasks defined in the PSCP.

4.2.3. FAA Project Officer

The accountable directorate assigns a Project Officer to coordinate determination of directorate standards staff involvement and to provide the certification team with clear and timely regulatory and policy guidance specific to the project.

4.2.3.1. Teamwork

The FAA Project Officer:

- a. Works with Directorate policy staff and Product Certification team to provide applicable policy to the team.
- b. Ensures that the certification basis, including means of compliance, is agreed upon early in project.
- c. Ensures timely support of the project regulatory and policy aspects.

4.2.3.2. Communication

The FAA Project Officer:

- a. Serves as advisor to the FAA PM on timely and responsive interpretation and application of policy and rules.

- b. Raises critical policy issues early to the FAA PM, e.g., in meetings, telecons, IPs; and documents agreements and actions to resolve them.

4.2.3.3. Accountability

The FAA Project Officer:

- a. Reviews and concurs with the certification basis early.
- b. Provides guidance on standardized application of rules and policy.
- c. Ensures that last minute changes in policy are applied to the Applicant's projects only when warranted by a design evolution, identification of a potential unsafe design feature, identification of an incorrect, incomplete, or missing compliance showing, or the applicant voluntarily requests adoption of later policy.

4.2.3.4. FAA Directorate Focal Point

The FAA Project Officer:

- a. Serves as applicable Directorate focal point and provides FAA PM with early policy guidance.
- b. Coordinates special conditions, exemptions, issue papers, and ELOS findings within Directorate and with other Directorates, as appropriate, including timely processing of all IPs.
- c. Provides pertinent FAA 14 CFR regulations and policy guidance.
- d. Coordinates with the FAA Project Manager to ensure the team has all necessary policies and to identify issues that require additional or future regulations or policies to be undertaken.
- e. Attends all relevant meetings and discussions related to the establishing the certification basis and resolving non-standard means of compliance or other critical issues list items.
- f. Coordinates with the team to facilitate timely determination of the certification basis.

4.2.4. FAA Engineers and/or Designees

The Engineers, as assigned for appropriate disciplines, are the principal contacts for the Applicant. Their activity is always in coordination with the FAA PM and follows the agreed PSCP for guiding the certification process, LOPI, communication guidelines and how rules and policy will be applied. The Engineers and Designees understand the technical details of the project, application of applicable rules and policy, and are responsible for the compliance findings associated with the project. The FAA Engineers also oversee the sufficiency of the type design and substantiation data with the discretion to review any of the data therein, such as critical material process specifications.

4.2.4.1. Teamwork

The FAA engineers and/or designees:

- a. Work with the Applicant to develop the Project Plan, to include the Certification and CIP's and review of the PSCP as it changes.
- b. Work closely with team members to meet deadlines, e.g., coordinates early on with Aviation Safety Inspectors, Designees, and the Applicant to request conformity inspections, new material/process specification evaluations, and compliance findings, where needed.
- c. Participate in all team meetings and discussions appropriate to their areas of responsibility and disciplines.
- d. Provide technical support to AEG inspectors in MRB and FOEB meetings, when requested.

4.2.4.2. Communication

The FAA engineers and/or designees:

- a. Use timely and effective communication methods to identify and resolve problems early.
- b. Communicate directly with Applicant and FAA counterparts on policy staff and other FAA Engineers and Inspectors to facilitate meeting project objectives.
- c. Transmit policy and guidance material, with the Standards Staff Project Officer, to Applicant for timely resolution of critical issues.
- d. Raise critical engineering issues early to the FAA PM, e.g., in meetings, telecons, IPs; and documents agreements and actions to resolve them.
- e. Communicate the need for specialized expertise and resources to the team and management.

4.2.4.3. Accountability

The FAA engineers and/or designees:

- a. Ensure compliance with regulations and policy.
- b. Are responsible for technical details and documentation of findings and issues resolution
- c. Maintain appropriate oversight of the Designees.
- d. Use all available resources, e.g., peers, Designees, Technical Specialists, CSTAs, policy staff, management, to make quality technical decisions and accomplish project deadlines.

4.2.4.4. Coordination

The FAA engineers and/or designees:

- a. Attend all appropriate familiarization, technical, and board meetings.
- b. Notify the FAA PM early of the need for CSTAs or technical specialist assistance.
- c. Assist in developing certification basis. (Designees Only)
- d. Review and approves certification means of compliance consistent with the agreed certification PSCP, certification basis and related policy (FAA only).
- e. Oversee the use of engineering delegations and Designees in accordance with the Delegation section of the PSCP (FAA only).
- f. Communicate with Applicant and project team on technical issues; keeps PM informed.
- g. Make compliance findings for design approval.
- h. Draft IPs. (FAA Only)

- i. Ensure the quality and timeliness of approvals and documentation.
- j. Prepare TIAs, requests conformity inspection, of appropriate test articles, and coordinates with FAA Inspectors and their Designees.
- k. Coordinate with FAA Inspectors and their Designees on the approval of critical parts and new materials or new process specifications.
- l. Adhere to all applicable policy and guidance material.
- m. Ensure that all data submitted for design and production is complete and accurate to serve as the foundation for issuance of the certificate and subsequent continued airworthiness management activities throughout the life cycle of the aircraft.

4.2.5. FAA Inspectors and/or Designees

The FAA Aviation Safety Inspectors provide consultation and advise on production processes proposed in the design. They conduct and oversee a variety of conformity inspections, evaluations of aircraft airworthiness, and issues airworthiness certificates or other approvals. They conduct progressive evaluation of the manufacturer's quality and production systems for eventual production approval. The Inspector is alert to conformance issues on critical parts that cannot be determined solely from type design data. This would then require focused process control, inspection, or evaluation within the production quality system. They delegate to Designees as appropriate to accomplish these activities.

4.2.5.1. Teamwork

The FAA inspectors and/or designees:

- a. Work closely with team members to meet deadlines, e.g., coordinates early on with FAA Engineers, other Aviation Safety Inspectors, Designees, and the Applicant to conduct conformity inspections, new material/process specification evaluations, and compliance findings, where needed.
- b. Participate in all team meetings and discussions appropriate to their areas of responsibility and disciplines.

4.2.5.2. Communication

The FAA inspectors and/or designees:

- a. Use timely and effective communication methods to identify and resolve problems early.
- b. Communicate directly with the Applicant and FAA project team members, and other Aviation Safety Inspectors to facilitate meeting project objectives.
- c. Raise critical production issues early to the PM, e.g., in meetings, telecons, IPs, and documents agreements and actions to resolve them.
- d. Communicate the need for specialized expertise and resources to the team and management.

4.2.5.3. Accountability

The FAA inspectors and/or designees:

- a. Brief Applicant on conformity inspection, airworthiness approval, and production approval requirements.
- b. Evaluate conformity, when requested, prior to official FAA tests.
- c. Determine airworthiness of aircraft prior to flight test.
- d. Maintain appropriate oversight of their Designees.
- e. Ensures compliance with regulations and policy governing production approvals.
- f. Assume responsibility for production related technical issues resolution and documentation of findings.
- g. Use all available resources, e.g., peers, Designees, CSTAs, policy staff, management, to make quality technical decisions and accomplish project deadlines.

4.2.5.4. Coordination

The FAA inspectors and/or designees, as appropriate:

- a. Attend all appropriate familiarization, technical, and board Meetings.
- b. Notifies the FAA PM early of the need for CSTA or technical specialist assistance.
- c. Review and approves production means of compliance consistent with the agreed certification PSCP, certification basis and related policy (FAA only).
- d. Oversee the use of production delegations and Designees and Applicant in accordance with the delegation section of the PSCP (FAA only).
- e. Coordinate with Applicant and project team on issues related to production and conformity aspects; keeps PM informed.
- f. Make compliance findings for production approval.
- g. Coordinates with FAA Engineering or their Designees, as assigned, on requests for conformity inspection and determines conformity of test articles.
- h. Coordinate with FAA Engineering or their Designees, as assigned, on approval of design data affecting critical parts, new material, new process specifications, new technology, and co-production or foreign supplier arrangements that require an undue burden assessment.
- i. Adhere to all applicable policy and guidance material.
- j. Coordinate appropriate items for TIA in discipline.
- k. Ensure that all production and inspection data submitted for design and production approval are complete and accurate to serve as the foundation for issuance of the Production Certificate and subsequent continued airworthiness management activities throughout the life cycle of the aircraft.
- l. Determine conformity and Airworthiness Certification for release of aircraft for FAA flight testing in coordination with FAA flight test pilots and Engineers.

4.2.6. FAA AEG

The FAA AEG provides a link to applicable AFS technical services. This lends an aircraft operational and maintenance perspective to the type design assessment thereby allowing FAA Engineering and their Designees to determine appropriate compliance requirements in those areas. The AEG carries knowledge of the product and how it was TC'd to the aircraft

Maintenance Review Board, Flight Operations Evaluation Board, and Flight Standardization Board activities.

4.2.6.1. Teamwork

The AEG:

- a. Works closely with team members to meet deadlines, e.g. coordinates early with Engineers, Aviation Safety Inspectors, and the Applicant on maintenance and operational issues.
- b. Participates in all team meetings and discussions appropriate to maintenance and operational disciplines.

4.2.6.2. Communication

The AEG:

- a. Uses informal and formal communication channels to identify and resolve problems early.
- b. Communicates directly with the Applicant and FAA counterparts in the Directorate Standards Staff, AFS policy staff, and FAA Engineers.
- c. Provides Aircraft AFS policy and guidance material to the team.
- d. Raises critical maintenance or operational issues early to the PM, e.g., in meetings, telecons, IPs; and documents agreements and actions to resolve them.
- e. Communicates the need for specialized expertise e.g., AFS, CSTA.

4.2.6.3. Accountability

The AEG:

- a. Serves as the focal point for all AFS interests in the certification process.
- b. Evaluates the product and its systems for operational suitability and maintainability.
- c. Uses all available resources (e.g., other AFS organizations, FAA Engineers, Aviation Safety Inspectors) to make quality, technical decisions and accomplish project deadlines.

4.2.6.4. Coordination

The AEG:

- a. Attends all appropriate familiarization, technical, and board Meetings.
- b. Communicates with Applicant and project team on day-to-day technical issues related to operations and maintenance, and keeps the PM informed.
- c. Coordinates on TIAs regarding AEG issues and coordinates with FAA Engineers and Aviation Safety Inspectors or their Designees.
- d. Participates in appropriate flight testing related to AFS operational issues.
- e. Adheres to all applicable policy and guidance material.
- f. Assists the certification team in understanding operations and maintenance issues for timely transition into service, and coordinates appropriate issues with key AFS policy divisions.

- g. Transmits pertinent AFS policy and guidance to project team.
- h. Assists Engineers in determining that means of compliance meet operations and maintenance requirements.
- i. Provides maintenance and operational insight of the type design into Flight Standardization Board, Flight Operations Evaluation Board, Maintenance Review Board processes.
- j. Reviews and coordinates maintenance and operational aspects of proposed documents for acceptance, i.e., Aircraft Flight Manual (AFM), Instructions for Continued Airworthiness (ICA), Operating Instructions.

5. ODA MANAGED CERTIFICATION PROJECTS

5.1. BACKGROUND AND APPLICABILITY

This chapter applies to TC/STC Projects per 14 CFR part 21 that are managed by ODA Holders/Units. Projects are conducted per FAA Order 8110.4() and other FAA guidance and policy, while ODA Units are delegated per FAA Order 8100.15() with specific oversight authorizations and limitations for projects, issue STCs, and major design change approvals on behalf of the FAA. The ODA Holder is also the applicant, or the agent of the applicant in the case of third party STCs.

The Applicant must open a project in the manner specified per FAA Orders 8110.4() and 8100.15() with the ODA Unit. This includes a PSCP that must be accepted by the ODA Unit, and when applicable the FAA OMT. Once a PSCP is accepted, then the Applicant shows compliance following this accepted plan. Changes to the design or events or observations, may result in changes to the PSCP and require re-acceptance. The ODA Unit will review the Applicant's showings of compliance and then find compliance per this accepted plan. Upon finding compliance, the ODA Unit issues the statement of completion, FAA Form 8100-11, for TCs, STCs, or Major Changes. If authorized by their ODA Manual, the ODA Unit will issue the STC certificate to the Applicant who then becomes the certificate Holder. For TC projects the FAA will issue the TC. Major Changes will be approved in accordance with the ODA Manual.

ODA projects will follow the procedures in section 3. Note that roles for certain FAA organizations are also listed in sections 4.2.4, 4.2.5, and 4.2.6, and apply to ODA projects also but not repeated for brevity.

5.2. ROLES AND RESPONSIBILITIES

5.2.1. Applicant

Each Applicant will organize their processes and projects to satisfy the agreements in the PSP, and their certification project and individual requirements.

5.2.1.1. Applicant Management

The Applicant's management will:

- a. Establish the organization's environment to include, but not limited to:
 - i. a PSP agreement, a Memorandum of Understanding (MOU) along with an ODA Procedures Manual (OPM) (or hiring an ODA Unit to provide services), and organizational structure for ODAs,
 - ii. project management methodologies,
 - iii. personnel,
 - iv. roles and responsibilities,

- v. training,
 - vi. mentoring,
 - vii. processes and procedures,
 - viii. tools,
 - ix. funds,
 - x. communications,
 - xi. personnel,
 - xii. vendors,
 - xiii. suppliers.
- b. Ensure identification of a PM as focal point(s) and establish lines of communication for the certification/project team.
 - c. Ensure resources and support to establish and sustain the project team, e.g. personnel, travel funds, training, policy, procedures and administrative support, overall integration of project requirements with total organizational workload.
 - d. Ensure monitoring of the issue resolution process through the PM. Promote efficient resolution of issues at the operational level prior to elevating to the higher management levels.
 - e. Ensure appropriate participation in Familiarization Meeting(s) to discuss certification aspects of proposed project concepts. These meetings should be a partnership between Applicant and the ODA Unit, in order to reach early agreement on certification basis and PSCP.
 - f. Ensure the certification project team's full participation and adherence to the accepted PSCP.
 - g. Ensure monitoring of progress to a schedule that honors the lead-times defined (c.f., per Applicant's PSP or FAA Policy/ODA Policy); be alert to schedule risks, technical risks and issues; and facilitate issue resolutions.
 - h. Promote effective communication and teamwork with external clients, with internal team members, and with the ODA Unit. Ensure consistency and clarity of positions on issues is communicated.
 - i. Ensure that the PM plans, tracks and documents the project such that the Applicant's certifying statement of compliance per 14 CFR § 21.20(b) can be signed at the end of the project.
 - j. Ensure the fulfillment of TC/STC holder responsibilities per 14 CFR §§ 21.3 and 21.50.

5.2.1.2. Applicant's Project Manager

The Applicant's PM (variously titled) will:

- a. Ensure all Applicant communication and interface on the project is with the ODA Project administrator (PA) (variously titled).
- b. Ensure the establishment of the Applicant project team. Other team members are assigned as needed by specific project, e.g. Engineers, Inspectors, etc., and these are responsible to the Applicant PM for assigned responsibilities. Applicant team members

may include ODA UMs, acting in an Applicant role rather than their ODA UM role, but clear and distinct separation of functions must be mutually understood by Applicant and ODA UMs.

- c. Confirm project resource requirements in order to meet FAA requirements and Applicant commitments.
- d. Monitor and notify Management of resource constraints.
- e. Ensure Communication early and often about design, schedules, and plans for demonstrating compliance and conformity and anticipated problems. This is internally with the Applicant team as well as externally to client and aircraft operator, as well as ODA Unit.
- f. Ensure application for project certification is made per Order 8110.4() to the ODA Unit.
- g. Ensure development of the overarching project plan, to include but not limited to the certification basis, PSCP, CIP, schedule, budget, deliverables.
- h. Maintain up to date the Project Plan, PSCP, and CIP, and the resulting project schedule as they evolve.
- i. Assess project risks and communicate corresponding scope and schedule impacts to management and the ODA Unit.
- j. Ensure tracking all deliverables to project completion.
- k. Ensure integration of all activities into a master schedule and coordinate all project team work, to promote accurate and timely decisions.
- l. Ensure the Applicant and ODA Unit teams are aware of design features, proposed means of compliance, changes, new materials, new production processes, co-production or foreign supplier issues, airworthiness issues, and other critical issues for timely resolution.
- m. Ensure participation in the development of new project-specific policy safety issues, IPs, exemptions, special conditions (SC), Alternative Means of Compliance (AMOC), Equivalent Level of Safety (ELOS), technical decisions, etc.
- n. Ensure participation in preparation of Certificates and FAA documentation (e.g. TIAs, Application for Certificates of Airworthiness, etc.).
- o. Ensure participation in Applicant and ODA Unit interactions, familiarizations, and boards meetings.
- p. Show compliance by developing, releasing, controlling, and submittal of accurate type design data, analyses, plans, and reports per the agreed PSCP. Elements of showing compliance include:
 - i. A revision controlled released document/data/etc. that can be traced to the agreed PSCP,
 - ii. A Statement of Compliance to regulation-sub-para-amendment that matches the PSCP,
 - iii. A means of compliance that matches the PSCP, and
 - iv. Clear, repeatable, legible information in the document/data that appropriately demonstrates compliance.
- q. Ensure identification and tracking of appropriate deliverables to show compliance, for FAA-retained findings, delegated-to-the-ODA findings, and ASO.
- r. Ensure timely delivery/completion of inspections, analysis, test data, exemptions, special conditions, ELOS, etc. for determining compliance and completing certification of the product.

- s. Meet commitments and schedule.
- t. Ensure tracking and communication of deliverables, key dates, changes, risks and issues early to Applicant team and to ODA PA, that might influence prior agreed outcomes. Realistic scheduling is expected.
- u. Ensure the submission of Applicant Statement of Conformity (FAA Form 8130-9) on product and components or parts. Ensure notification to the Inspection UM when test articles are ready for conformity inspection when required, and for pre-flight test conformity and airworthiness certification.
- v. Coordinate aircraft airworthiness issues with the aircraft owner/ operator and the maintenance facility for STCs, if required.
- w. Manage the issue resolution process with the ODA.
- x. Plan, track and document the project such that the Applicant's certifying statement of compliance per 14 CFR § 21.20(b) can be signed at the end of the project. Refer to AC 21-51.
- y. Ensure signature of the Applicant's certifying statement of compliance per 14 CFR § 21.20(b) by an authorized individual.
- z. Accept the Certificates and Approvals from FAA, and provide appropriate notifications of owner/operator for STCs.
- aa. Verify the plan to ensure fulfillment of TC/STC holder responsibilities per 14 CFR §§ 21.3 and 21.50.

5.2.2. ODA Holder

The ODA Holder will ensure the ODA administrator and the ODA Unit are prepared to support their authorized functions and Applicant project(s). Note that the ODA Holder may also be the Applicant.

5.2.2.1. ODA Holder Management

Except for limited cases, the ODA Holder management is the same as the Applicant's management and will:

- a. Establish the organization environment to include the FAA-approved OPM(s) with specific authorizations and limitations that support Applicant projects and ensure the certification phases of projects are followed.
- b. Ensure the ODA unit is prepared to support Applicant Projects, to include adequate staffing, UMs, training, and standing with the Organization Management Team (OMT).
- c. Ensure resources and support to the ODA unit.
- d. Identify ODA PA's as representatives of the FAA PM and focal points.
- e. Manage issue resolution process through the ODA PA.
- f. Prepare and maintain records per the OPM.

5.2.2.2. ODA administrator

The ODA Lead administrator is the representative of the FAA PM, and may also be an ODA PA. This person will:

- a. Manage other ODA PA's, the ODA Unit and administrative staff per the approved OPM(s),
- b. Encourage partnership with the Applicant to reach early agreement on certification basis and PSCP,
- c. Ensure the ODA Unit's full participation and adherence to the PSCP,
- d. Monitor overall project progress to a realistic schedule; be alert to schedule, risks and issues; and facilitate resolutions. Promote efficient resolution of issues at the operational level prior to elevating to the higher management levels,
- e. Notify management of ODA Unit resource constraint,
- f. Promote effective communication between the ODA Unit and the FAA, and between the ODA Unit and the Applicant. Ensure consistency and clarity of positions on issues is communicated. Communicate early and often about design, schedules, plans for demonstrating compliance and conformity, and anticipated problems. Normal communication protocols should be defined in the OPM. Note: In matters related to the conduct of the certification project, neither Applicant nor UMs have a direct relationship with the FAA and hence must default to direct communication with the ODA rather than the OMT.

5.2.2.3. ODA Project administrator (Variously Titled)

ODA Project administrator is position sometime used in large ODAs. If this position is not used, these roles will be accomplished by the ODA administrator.

The ODA PA will:

- a. Be the primary focal point with the Applicant and the FAA OMT,
- b. Manage ODA projects per the approved OPM(s) to include but not limited to the items listed below,
- c. Ensure assignment of qualified UMs to accept the Applicant's Project Plan and find compliance to the applicable regulations. ODA UMs are not precluded from working on the Applicant's team, in showing compliance, but clear and distinct separation of functions must be mutually understood by Applicant and ODA UMs,
- d. Monitor ODA unit resources and notify Lead ODA administrator of resource constraints,
- e. Review and accept the application from the Applicant,
- f. Review Applicant's schedule for completeness and proper task sequencing, and coordinate updates with the Applicant's PM,
- g. Verify UM acceptance of design features, proposed means of compliance, new materials, new production processes, co-production or foreign supplier issues, airworthiness issues, and other critical issues for timely resolution,

- h. Participate in the development of new project-specific policy safety issues, IPs, exemptions, special conditions, AMOC, ELOS, technical decisions, etc.,
- i. Submit the Project Notification Letter (PNL) and other documents per the OPM,
- j. Submit to FAA OMT and other FAA representatives after concurrence, Applicant deliverables per the agreed PSCP that require FAA action. Track these with the OMT and status to the Applicant PM,
- k. Draft Certificates and FAA documentation (e.g. TIAs, etc.),
- l. Chair ODA Unit/FAA interactions, familiarizations, and type boards meetings,
- m. Ensure ODA Unit approval of accurate type design data, analyses, plans, and reports that show compliance per the agreed PSCP,
- n. Ensure UMs coordinate with Applicant for timely completion of inspections, analysis, test data, exemptions, special conditions, ELOS findings, etc. for determining compliance and completing certification of the product,
- o. Meet commitments and schedule for their responsibilities. Track and communicate changes, risks and issues early to Applicant PM, and to the FAA OMT, that might influence prior agreed outcomes,
- p. Ensure Inspection UM acceptance of Statement of Conformity (FAA Form 8130-9) on product and components or parts. Ensure Inspection UM accomplishes FAA conformity inspections and pre-flight airworthiness activities in close coordination with the Applicant, and
- q. Delivers STC Certificates and Approvals to the Applicant, as appropriate.

5.2.2.4. ODA Unit

To include Inspection, Engineering and Flight Test UMs, the ODA Unit will:

- a. Conduct authorized functions per the OPM,
- b. Work with the Applicant to develop the Project Plan, to include the Certification and CIP's. Work with the Applicant to assess risks and challenges of the project and the proposed plan to accomplish the project. Review and accept the PSCP and the Plan, as it changes,
- c. Find compliance as delegated in the PSCP to the applicable regulations, by conducting conformities, witnessing tests, approving data, and finding compliance. ODA UMs are not precluded from working on the Applicant's team in showing compliance, but clear and distinct separation of functions must be mutually understood by Applicant and ODA UMs,

5.2.3. FAA

The FAA has assigned specific roles and responsibilities to the ODA Holder per 14 CFR part 21, FAA Order 8110.4(), FAA Order 8100.15() and subordinate FAA policies and guidance that may be documented in the PSP and/or ODA MOU, or the Operating Procedures Manual, as applicable.

5.2.3.1. FAA Management

FAA Management will ensure that the FAA's OMT provides timely, effective and responsive oversight of and coordination with ODA managed projects. This may include, as warranted by the PSCP, OMT coordinated participation by representatives from:

- a. FAA ACO,
- b. FAA MIDO,
- c. FAA FSDO,
- d. FAA Directorate - Project Officer and supporting standards staff,
- e. FAA AEG),
- f. FAA CSTA, and/or
- g. Other FAA organizations.

Their roles and responsibilities are briefly described in Chapter 4, in paragraphs 4.2.4, 4.2.5, and 4.2.6 but not repeated here for brevity.

5.2.3.2. FAA OMT Lead

As organized by the ACO, the OMT Lead will oversee and work with the Lead ODA administrator and ODA PA(s) to do these project related activities:

- a. Coordinate FAA activities, track actions, and status these to the ODA administrator. Participation may include review and acceptance, or approval, of deliverables from the agreed PSCP,
- b. Coordinate project activities with foreign CAA's,
- c. Communicate directly with, ODA project administrator, and FAA counterparts on policy staff and other FAA team to facilitate meeting project objectives,
- d. Transmit new or novel policy and guidance material with the Directorate Project Officer, to ODA project administrator for timely resolution of critical issues,
- e. Raises critical engineering issues early to the ODA PA, e.g., in meetings, teleconferences, IPs; and documents agreements and actions to resolve them,
- f. Ensure response to the ODA PNL in a timely fashion, by internal process or by delegation via OPM,
- g. Coordinate participation as appropriate of other FAA resources in the project, this may include: ACO, MIDO, FSDO, Directorate supporting standards staff, AEG, CSTA, or other FAA organizations,
- h. Communicate the need for specialized expertise and resources to ACO management.

APPENDIX A PARTNERSHIP FOR SAFETY PLAN

A-1. CONTENT

The material contained herein is an aid for constructing a PSP. This aid is intentionally not a “boiler plate”, but allows the freedom to innovate and meet the needs of the Applicant and the FAA. However, it is essential that the PSP address the principles of this aid ensuring that as written it captures the meaning and intent of this Guide. The commitments listed in Section 2.4 should be included in most PSPs.

Although current PSP’s may have the detail requirements of an item in the PSP it may be more appropriate for the PSP to only contain a high-level summary of the item with the details in a different document. For an ODA, some of the items identified in this PSP appendix may already be included in the ODA Manual so for that item the PSP would simply reference the ODA Manual for the detail requirements.

The items listed in the PSP Table of Contents example in this appendix will be discussed in detail within this appendix. The sequence of what is in the PSP may vary by Applicant, depending on when they complete various components and what is applicable to their situation.

A-2. TEMPLATE

A-2.1. COVER PAGE

The cover page should identify the Applicant’s legal name and the appropriate Senior Management representative authorized to sign on behalf of the Applicant. It should also identify the FAA Senior Management who will sign on behalf of the FAA. The signatures may be on the cover page or on a separate page specifically for the signatures.

PARTNERSHIP FOR SAFETY PLAN
between the
FEDERAL AVIATION ADMINISTRATION
and
APPLICANT

Applicant Senior Management

Name _____

Signature _____ **Date** _____

FAA Senior Management

Name _____

Signature _____ **Date** _____

A-2.2. RECORD OF REVISIONS

A record of revisions should be maintained to identify changes as they occur.

A-2.3. TABLE OF CONTENTS

A table of contents should be included to identify the agreements included in the PSP. The Table of Contents in the example shows a potential outline for the PSP. However, this is not intended to imply that all PSP’s must have all of these items nor that they must all be complete at the same time. The Applicant can prioritize the items to be included in their PSP based on their needs.

PSP TABLE OF CONTENTS (EXAMPLE) (For more information on the items listed in the example table of contents, see sections A-3 through A-21 of this appendix.)

EFFECTIVITY

PARTNERSHIP FOR SAFETY

1. PURPOSE
2. STAKEHOLDERS, ROLES AND RESPONSIBILITIES
3. CORPORATE PLANNING
4. COMMUNICATION AND COORDINATION
5. PROJECT SPECIFIC CERTIFICATION PLAN
6. CERTIFICATION SCHEDULE AND PLANNING
7. FAA LEVEL OF PROJECT INVOLVEMENT
8. MINOR CHANGE AGREEMENT
9. CONFORMITY
10. ELECTRONIC TECHNOLOGY
11. PRODUCTION QUALITY SYSTEM
12. STREAMLINED PROCESS FOR (PMA) ARTICLES IF APPLICABLE
13. STAFF RESPONSIBILITIES AND OVERSIGHT
14. CERTIFICATION DATA RETENTION
15. CONTINUOUS IMPROVEMENT
16. ISSUES RESOLUTION PROCESS
17. APPLICANT AUDIT PROCEDURES
18. CONTINUED OPERATIONAL SAFETY
19. PERFORMANCE MEASURES

A-3. PURPOSE

The Purpose should state the objective of the PSP for the specific Applicant and their FAA counterpart. The PSP is a living document developed by the Applicant with the concurrence of the FAA to provide a framework for how the Applicant and FAA will partner to conduct their certification and post certification responsibilities. The PSP should address, but not be limited to the elements identified in this appendix. Because it is a living document it allows the Applicant to use a building block approach to add processes to improve their capability and maturity on a schedule that meets their needs and abilities.

The Applicant and the FAA agree to work to the principles and operational norms outlined in this PSP and to future PSCPs that may be developed in conjunction with this agreement.

The PSP will be managed and maintained by the FAA's and the Applicant's management focal points in accordance with the "Communications" section listed herein.

Project related items in the PSP should be developed to the greatest extent possible in advance of any specific project as they provide important prerequisites to a specific product certification or approval project. Those items establish the principles and procedures for early identification of critical issues and early planning so that, subsequent to this PSP, future projects can be completed in a timely and efficient fashion.

The PSP should also define the process for determining when a PSCP is not required for a specific project. For, example, minor changes as defined in 14 CFR part 21, § 21.93, paragraph (a), and § 21.611, paragraph (a), would not require the development of a PSCP. The PSP should also address the process used for the incorporation and approval of minor changes. The PSCP for TCs, Amended TCs, and STCs is discussed in Appendix B and for TSOs in Appendix C of The FAA and Industry Guide to Product Certification.

The principles of CPI are such that an Applicant needs only one PSP with the FAA. Since the PSP is used to define communication, coordination, and delegation between the Applicant and the FAA, it must be accepted by the relevant organizations that will use it. If the Applicant is likely to have approval projects with more than one FAA ACO or MIDO, the PSP should be developed with the secondary FAA offices involved as well.

If an Applicant's organizational structure is such that lines of business work independently with their respective FAA offices, then separate PSPs may be appropriate. Alternately, a PSP agreement with the primary FAA office may be used as the basis for a PSP with other offices. When an Applicant requires involvement with additional FAA offices, the Applicant should share with those offices any existing agreements with the FAA, such as PSPs or PSCPs. This is especially important when an Applicant and an ACO agree to a process for an avionics installation and then the Applicant seeks approval for a similar process with another ACO. Or, the PSP should be expanded to include these offices when appropriate.

A-4. STAKEHOLDERS ROLES AND RESPONSIBILITIES

Roles and responsibilities for governance of this relationship shall be defined by the parties of this agreement in the subparagraphs of this appendix, including commitment of the Applicant's top management and the appropriate FAA management to meet all of the objectives of the PSP and for regular governance reviews of the PSP.

A-5. CORPORATE PLANNING

The Applicant and the FAA jointly conduct periodic management program reviews using an agreed process to provide early insight into future potential projects. These reviews also provide a forum to begin early planning for those potential projects as outlined in chapter 3 of the Guide, (see Table 3-2). The reviews would, to the extent possible, touch broadly on areas that should require special attention, e.g., special conditions, exemptions, ELOS findings, unique designs,

new materials or processes, production or operational aspects, foreign validation, co-production or use of foreign suppliers, continued airworthiness.

The FAA and Applicant will participate in early identification of product concepts, applicable standards, and in the product definition and risk management Phases. This will be accomplished as potential certification or approval projects arise to ensure agreement and commitment on dealing with critical issues in a value-added way. This is an iterative process requiring ongoing mutual evaluation and Continuous Improvement of the related processes. The process gives the FAA a means to keep the Applicant informed of new proposed regulations or policy that could affect future product certification projects.

A-6. COMMUNICATION AND COORDINATION

The communication and coordination paths for items related to the PSP must be clearly defined between the FAA and Applicant. For an Applicant with an ODA, the ODA Holder, not the ODA Unit, is responsible for the PSP and coordinating changes to it with the FAA. Focal points within each organization must be identified to avoid conflict and to keep both parties informed of all critical communications that affect the needs and responsibilities of their respective roles. The focal points will be responsible for the maintenance of the PSP.

The procedures must identify each organization that is responsible for elements in the certification or approval process and the responsibilities those organizations share in the certification or approval of the product. The roles and responsibilities of each organization must be clearly stated in the Procedures.

There must be a clearly defined process for coordinating with FAA offices other than the Applicants' primary office that may be involved in a project.

There must be a clearly defined process for coordinating with CAA offices that may be involved in a project.

A-7. PROJECT SPECIFIC CERTIFICATION PLAN

The PSCP is a primary document for an Applicant for a certificate or approval. It establishes the commitment by the Applicant and the FAA to certify or approve a product or article according to an agreed to plan. This commitment to the use of a PSCP and any other procedures necessary to support the PSCP requirements should be agreed to by both the Applicant and the FAA.

It should identify the Applicant's commitment to providing adequate resources to complete projects in accordance with the PSCP schedule, the FAA's commitment to supporting projects in a timely manner, and other critical Applicant and FAA responsibilities for managing projects.

A-8. CERTIFICATION SCHEDULE AND PLANNING

The Applicant is responsible for developing and managing a schedule for the certification or approval of their product. Early communication between the Applicant and FAA in the

conceptual/prototype stages of product development is critical to ensure availability of resources, adequate planning, and flexibility for both the FAA and the Applicant.

Success of a certification project is achieved when a fully compliant and conforming product is approved in accordance with a mutually accepted schedule.

The PSP principles are intended to maximize collaboration, communication, and accountability within the stakeholders. In addition, the PSCP defines a roadmap for achieving timely completion of the project. Issue resolution, when executed effectively, allows proactive and collaborative resolution of specific policy and regulatory challenges at the lowest level. Such an approach is highly encouraged and should be the operating norm.

However, there are some key milestones that if not met in accordance with the agreed upon timelines, could have a significant impact to the overall program. For example, if configuration definition is not completed on time, the certification basis can't be established which could prevent an Applicant from moving forward with showing of compliance. Likewise, if all necessary work for the start of a flight test program is not done, flight testing will not commence which could have a major delay in on time project completion. These key milestones are referred to as "gates". The gates are not meant to stop the program but to ensure that if there some critical item has not been achieved by the scheduled date a decision is reached and a plan established that allows the program to move forward with a plan for resolving the issue in a timely manner. Joint FAA and Applicant identification and monitoring of these key milestones (gates) are critical to the overall success of the program. Often, there are multiple and diverse challenges, including lack of resources and the need for managing shifting priorities, that could jeopardize the team's success. Those types of challenges should be elevated to appropriate management levels within the FAA and Applicant organizations. In fact, it is recommended that a structured approach be used to inform FAA and Applicant management 30 to 60 days prior to a pending gate. For large and complex certification programs, FAA and Applicant's management should jointly agree on project gates and agree on a process for their engagement when necessary. Managing these gates will increase ownership of program success within the team and help strengthen teamwork and cooperation at all levels.

A-8.1. SCHEDULE

The schedule should provide sufficient detail commensurate with the project so that both the Applicant and the FAA have a clear picture of all of the actions and deliverables necessary for the project to succeed. The schedule should utilize the appropriate Operating Norms identified in Section A-4.2 for actions or deliverables. Schedule changes should be communicated to the FAA in a timely manner.

Priority must be placed on early identification and resolution of items critical to the success of the project. Some of those items are as follows:

- a. Establishment of certification basis and means of compliance.
- b. Project planning and management of type design and production issues.
- c. Identification and tracking of significant issues, issues papers, exemptions, special conditions, ELOS finding proposals, Airworthiness Limitations, and applicable in-service maintenance/operational history. For example, a best practice could be certification readiness reviews as the certification date approaches.
- d. Definition of clear, up-front, pass/fail criteria, wherever possible.
- e. Any Gates that must be accomplished prior to moving on to the next phase of a project or a decision reached and a plan agreed to for how to proceed.
- f. Validation and documentation of critical assumptions, installation interface issues, and data for Airworthiness Limitations.
- g. Conformity requirements involving e.g., major critical production processes, new materials, new technologies, Delegation (what, why, oversight criteria).
- h. Co-production issues, foreign supplier arrangements requiring undue burden assessment, other authorities' involvement, validation needs, etc.
- i. Resource needs/constraints of all stakeholders accommodated to the greatest extent possible.

The above guidelines should focus on producing quality deliverables that show an efficient and credible certification process. These and other project deliverables can be associated with the Phases in the certification process as delineated in the Guide. Good planning will define the significant tasks, associated required information, and expectations necessary to meet the project completion objectives.

A-8.2. OPERATING NORMS

Each FAA Directorate will establish with the Applicant agreed and documented, operating norms identifying the estimated time allowed for a typical response to an issue or deliverable. These norms will guide the timeliness of deliverables and services provided by both the FAA and Applicant during the project. The Operating Norms should be defined to meet the needs of the Applicant and FAA consistent with agreed to PSCPs. They will establish the basis for operating under this PSP and subsequent PSCPs and provide a means of measuring progress

Following is a list of actions or deliverables that might require operating norms depending on the project. Some items may only be applicable to TC projects whereas others may only be applicable to Amended TC or STC projects. Some may also not be applicable to ODAs. The Applicant and the FAA will identify the applicability in their Operating Norms agreement.

- a. Acknowledgment of application issued.
- b. ACO PM determines project significance per Order 8110.4.
- c. ACO issues CPN.
- d. ACO sends CPN to appropriate directorate. ACO receives concurrence or non-concurrence regarding project significance from appropriate directorate (per Order 8110.4).
- e. Appropriate directorate assigns Project Officer.

- f. Project team identified (FAA and Applicant).
- g. PSCP drafted.
- h. Project familiarization and up-front planning meeting at ACO.
- i. Preliminary TC Board Meeting (PTCBM) scheduled.
- j. Certification basis identified, if applicable.
- k. Proposed Certification Basis G-1 IP prepared and processing begins.
- l. Technical and certification issues are defined.
- m. PSCP revised as appropriate to include comments and issues generated from the up-front planning meeting.
- n. Certification basis established, if applicable.
- o. Final Certification Basis G-1 IP closed.
- p. Resolution of technical and certification issues. (Where resolution is not possible at this early date in the project, the issues will be carried forward in the program on the critical issues list.).
- q. IPs written, as appropriate.
- r. Update the project schedule, if needed.
- s. PSCP agreed and signed, including the mutually agreed project schedule.
- t. Resolution of all remaining technical and certification issues.
- u. All IPs closed.
- v. Update to the project schedule, if needed.
- w. All required certification inspections and tests have been completed.
- x. Compliance data and documentation is submitted. (If the data is not FAA designee approved or recommended for approval, more time may be required. The use of designees should be taken into account early in the project planning and documented in the PSCP. Different norms may be required for different types of documents.).
- y. Request for a meeting.
- z. Meeting minutes.
- aa. Request for a document review.
- bb. Schedule slips and significant design changes.
- cc. Deviation requests (For deviation requests, any request for TSO deviation should identify the specific section in the TSO performance standard from which the manufacturer is requesting a deviation. The request should also include the compensating equivalent means of performance proposed by the manufacturer.).
- dd. FAA letters of Validation for non-US certifications.

A-8.3. TRACKING

Project tracking provides for early identification and resolution of potential conflicts. Tracking should provide a picture of project status against the schedule and in particular against any gate items. It should also track project issues that can affect the schedule and provide a timeline for resolution of the issues.

A-9. FAA LEVEL OF PROJECT INVOLVEMENT

A-9.1. RISK BASED RESOURCE TARGETING

Beginning January 3, 2016, all new TC, STC, and applicable PMA projects will be evaluated using Risk Based Resource Management (RBRM) for the purpose of determining the LOPI for each regulation listed in the certification basis and to implement the appropriate LOPI on each project for FAA Managed Projects. For ODA Managed Projects the process is different because ODA policy assumes full delegation to an ODA holder except where aspects of the project meet one of the few administrative, regulatory, or performance related criteria that trigger the need for FAA involvement. These processes are described in FAA Policy Memos AIR100-15-140-PM17, dated September 30, 2015 and AIR100-15-150-PM16 dated September 30, 2015 and are applicable to projects for which a CPN is issued.

A-9.2. APPLICANT SHOWING

A fundamental requirement of 14 CFR § 21.20 is that the Applicant performs all of the compliance showings to all of the applicable rules and makes a certifying statement that compliance to all of the identified rules has been shown. This must be done regardless of whether ASO is used for compliance or a Finding of compliance is used through the use of designees or the FAA.

To support this statement, the Applicant should commit in the PSP to develop a process to identify early, track along with other deliverables in a master schedule, and show compliance to each of the identified rules identified in the PSCP.

A-9.3. COMPLIANCE BY APPLICANT SHOWING ONLY

ASO is a FAA determination whereby the competency of the Applicant's showings is sufficient and a finding by the FAA or its designees is not required. The FAA has identified how ASO must be accomplished in the following Policy Memos:

- a. For Applicants using the FAA managed project process, the FAA has issued Policy Memorandum, Guidance for Recognition and Use of Applicant Showings on Standard Certification Projects, AIR100-15-150-PM16 on September 30, 2015.
- b. For ODAs, the FAA has issued Policy Memo, Guidance on Recognition and Use of Applicant Showing in ODA Project, AIR100-15-140-PM17.

The Applicant should clearly identify all applicable rules in the PSCP where it intends to utilize ASO.

A-9.4. DELEGATION

The PSP should promote the maximum use of delegation and the project delegation will be documented and defined in each PSCP.

Both the FAA and Applicant should agree to foster an environment where open communication between the Designees and Applicant's management, and between the Designees and their FAA counterparts is standard practice. That environment encourages the Designees, within the scope of their delegation, to openly communicate certification items with FAA that is necessary to maintain confidence in the Designee system.

For ODA units, the FAA, ODA administrator, and ODA Holder should foster an environment where open communication between the UMs and the ODA Holder, and between UMs and the ODA administrator is standard practice. For functions that have been delegated, issues should be resolved within the ODA unit, if at all possible. Issues should go to the FAA only when the ODA administrator(s) or ODA UM(s) cannot resolve them internally. That environment encourages the UMs to openly communicate and resolve certification items with the ODA administrator(s) before contacting the FAA. This is necessary to maintain the appropriate relationship between the ODA unit and the FAA and to move the ODA unit from being simply a conduit to the FAA, to performing the FAA functions the ODA unit is intended to perform.

Table A-9-1 - Responsible Party Commitments

Responsible Party(s)	Commitment
Applicant's top management and the appropriate FAA management	Meet all the objectives of the PSP.
Applicant and FAA executive management	Regular governance reviews
Applicant and FAA executive management	Expand the agreement beyond project/program management as capabilities mature.
Applicant and FAA	Open and frequent communication.
Applicant and FAA	Have an issues resolution process that includes a predefined structured escalation if the issue is not resolved in a timely manner.
Applicant and FAA	Focus on Continuous Improvement activities that could lead to: <ul style="list-style-type: none"> a. Delegation b. Increased utilization of delegation, and c. Ultimately enabling ASO by use of the appropriate processes and procedures and the FAA.
Applicant	Provide continued airworthiness support for their products
ODA Holder and FAA	Maximize ODA utilization.
ODA Holder	Identify how the ODA Holder will function under the PSP. Note that an ODA Unit will be constrained by a separate ODA Unit Procedures Manual(s).

The Applicant and ODA holder agree to create a working environment where Designees can make compliance and conformity findings free from undue pressure and with the support and knowledge of the FAA. It must be clearly understood by FAA personnel and Designees that their objective is to find compliance with the regulations and not to dictate design.

A-10. MINOR CHANGE AGREEMENT

All changes in type design must be approved. For major changes this is accomplished either by the FAA ACO or by an ODA when they issue an STC or amend a TC or STC. In accordance with §21.95 minor changes to type design are approved by the FAA ACO directly or under a

method acceptable to the FAA ACO that allows the type design holder to incorporate a change as approved. It is desirable for the type design holder to have an agreement with the FAA ACO defining how the holder will identify and control minor changes in order to recognize them as approved. The agreement should define how the holder will:

- a. Apply the definition of minor in 14 CFR §21.93 by defining what an “appreciable” change in their type design is and therefore what type of changes will be a candidate for a minor classification.
- b. Develop and control all descriptive design data (e.g., drawings, 3-D models,).
- c. Develop and control all substantiating data (report, analyses & tests).
- d. Control the availability of use of item b) until item c) is complete.
- e. Submit the changes including all descriptive and substantiating data to the FAA ACO at the agreed to intervals.

Without an agreement, all minor changes must be submitted to the FAA for approval before incorporation of the change.

A-11. CONFORMITY

The PSP should document the commitment by the Applicant to providing a system that ensures conforming products the FAA can rely on to the greatest extent possible in support of certification. This process may be included as a part of a production quality system process.

The Applicant’s Procedures must also describe the respective FAA and Applicant roles in the conformity inspection process or refer to an FAA approved Applicant Conformity Inspection Plan that satisfies the requirements of 14 CFR §§ 21.33 and 21.53. It may use Designees with appropriate oversight to expedite the work or it may use an Applicant developed FAA approved conformity process that ensures that the conformity of the article is maintained in a manner that clearly identifies and controls the configuration of the article for every test.

The conformity process should include, in coordination with the Delegation Procedures, criteria for:

- a. Determining which inspections will be conducted to establish conformity,
- b. Which conformities are delegated to both Engineering and Aviation Safety Inspectors’ Designees, and
- c. How deviations to the approved configuration will be dispositioned and approved.

The system should include, but is not limited to:

- a. Maintaining the custody chain of conformed articles destined for an official FAA test.
- b. Notifying FAA Manufacturing Aviation Safety Inspector of any changes to ground/flight test articles after conformity inspection has been completed.

- c. Ensuring requests are not duplicated and the timely and efficient conduct of conformities and dispositioning of deviations occurs.
- d. Identifying who issues the requests, conducts the inspections, and dispositions the deviations. Providing for the completion of inspection, documentation, and dispositioning of deviations or changes before tests are conducted.

A-12. ELECTRONIC TECHNOLOGY

Process efficiency improvements may consist of increased use of electronic technology to improve data management, use of electronic approvals, and other tools to reduce the need for paper forms and other documents that require significant manual labor for creating, distributing, and maintenance, or clearer assignment of responsibilities and tracking. FAA Order 8000.79, Use of Electronic Technology and Storage of Data, along with other guidance provides direction on the use of electronic technology.

An Applicant, ODA Holder, or ODA Unit may develop and request approval for a procedure for the use of electronic signatures or approvals of documents required for satisfying regulatory requirements in accordance with the guidance set forth in FAA Order 8000.79, Use of Electronic Technology and Storage of Data and FAA Order 1370.104, Digital Signature Policy. They may also request the use of electronic technology for drawings and other certification related documents. In requesting the use of electronic technology, the Applicant and his ACO and Directorate will identify the process by which they will maintain the documents and provide copies to the FAA when requested in accordance with the guidance in FAA Order 8000.79. These procedures will be documented in agreements included in the PSP.

A-13. PRODUCTION QUALITY SYSTEM

The PSP may include a section on the Applicant's commitment to a Production Quality System that supports both certification testing and production.

The Applicant Production Quality Procedures should describe the FAA and Applicant's roles in the production approval process. In many cases, the Applicant Production Quality Procedures are used to support the conformity of test articles used in the certification process and documented in the Applicant's FAA approved Quality Manual (QM). The primary goal of FAA production approval is to verify that the Applicant has established a system which ensures that only products and parts conforming to the FAA approved design are released to service. A secondary goal however may be that the system ensures that only approved articles are used for production. The FAA Aviation Safety Inspectors' Designees, with appropriate oversight, may be used to facilitate the work.

A-14. STREAMLINED PMA APPROVAL PROCESS

For Applicants who perform PMA approvals, the Applicant follows the FAA guidelines described in the content and format of the Modification and Replacement Parts Association (MARPA) document and FAA Order 8110.119 for each PMA article that has little or no effect on safe flight and landing. The PMA Applicant must be a properly qualified and experienced PMA Applicant by Test and Computation methodologies detailed in FAA Order 8110.42 in order to streamline the FAA compliance approval process to approximately 30 days from the receipt of an acceptable final data package.

The PMA Applicant must propose a MoU agreement with the FAA, describing how to meet the requirements of the FAA Order 8110-119 for each PMA article to be submitted for approval under this streamlined process, such as the safety assessment, relevant Applicant's qualification and experience for the PMA article, required content and format of the data packages.

A-15. STAFF RESPONSIBILITIES AND OVERSIGHT

The PSP must identify Staff Responsibilities and Oversight Procedures and may identify the Applicant's staff who are authorized to show compliance to the Rules or to perform any other functions that are part of the certification, continued airworthiness, or production quality systems processes applicable to certification, whether direct employees, or contract employees. It should also identify the person(s) approved by the Applicant to sign the Statement of Compliance required by 14 CFR § 21.20 and the Statement of Conformity required by 14 CFR § 21.53.

A-16. CERTIFICATION DATA RETENTION

The Applicant must submit type design, test reports, and computations data to show that the design, product, or article meets the applicable requirements including all special conditions as required in 14 CFR part 21. These data are retained by the FAA as part of FAA project management unless the Applicant has a document retention agreement with the FAA that provides for the Applicant to maintain the data.

The Applicant as a Design approval or ODA holder, at the FAA's discretion, may be authorized to maintain these data on behalf of the FAA. The project records are permanent and must not be destroyed. Data maintained by the Applicant on behalf of the FAA must be made available to the FAA for such routine activities as production inspection, surveillance, design change reviews, or any other reasons, deemed necessary by the FAA. The Applicant should refer to the following FAA guidance on the use of electronic technology for storing permanent data:

- a. FAA-IR-01-01A 23/04, Aircraft Certification Guide for the Use of Electronic Technology and Alternative Methods of Storing Information.

- b. FAA Order 8000-79, USE OF ELECTRONIC TECHNOLOGY AND STORAGE OF DATA.

An appropriate and coordinated data retention agreement between the FAA and the Applicant must be established and should be included or referenced in the PSP. (Refer to FAA Order 8110-4, Type Certification, FAA Order 1350.14B, Records Management, and AC 20-179 Data Retention Agreements and Government Records.

A-17. CONTINUOUS IMPROVEMENT

Organizations with strong commitment to Continuous Improvement are an important indicator of a healthy system. Continuous Improvement should utilize the Issues Resolution and Audit Processes to help identify areas where improvements may be needed in showing compliance or in a certification related process. For an Applicant that holds an ODA Issues Resolution and Audits are included in the OPM.

The Applicant and the FAA shall identify in the PSP the process by which they will incorporate Continuous Improvement in all of the certification, post certification, production quality processes, or any other certification related processes. It should include the following actions:

- a. Self-Audit of both projects and processes to ensure that they are being followed or if changes should be made.
- b. Identification of an issue when it arises.
- c. Classification of an issue to identify its importance or urgency of resolution or other appropriate information.
- d. Tracking of the issues to ensure they are properly managed and resolved.
- e. Reporting certification and related issues to the FAA as applicable.
- f. Establishing the timeline for resolving an issue and providing to the FAA as applicable.
- g. Identifying the root cause of each issue.
- h. Identifying the resulting corrective action.

A follow up procedure to ensure the issue has been resolved and reoccurrence is minimized.

Promoting and maintaining an organization where employees are encouraged to report risks or issues without fear of retribution is more likely to meet requirements, process, and system goals.

Having a robust corrective action management system enables Applicants to mature their processes and procedures to consistently produce compliant, conforming products and high quality deliverables, with a reduced reliance on FAA engineers, inspectors and designees.

Creating this Continuous Improvement environment will enable the compliance capability / competency model to mature in a manner necessary to maximizing “ASO” opportunities.

Continuous Improvement applies to all elements of the PSP and the Applicant’s Procedures.

A-18. ISSUE RESOLUTION PROCESS

The Applicant should provide in the PSP an agreement to establish an appropriate Issues Tracking and Resolution process to resolve any issues related to a specific project or to the processes the Applicant uses for supporting certification, post certification activities, and production quality processes related to certification. For an ODA, an Issues Resolution Process is normally included in the ODA Manual.

A-19. APPLICANT AUDIT PROCEDURES

The Applicant should have an audit process to periodically check their procedures and projects to ensure that they are being followed or determine if changes should be made. The procedure should include a process for reporting the results to the FAA as applicable, along with a process for determining the root cause of an issue and a resolution process. The audit should include the roles, responsibilities, and procedures in chapters 4 and 5.

A-20. CONTINUED OPERATIONAL SAFETY

The FAA initiative Monitor Safety Analyze Data (MSAD) Order 8110.107 enables the FAA and the Applicant to quickly determine the appropriate risk assessment needed for each in service investigation issue. The directorate-specific Risk Assessment Methodology (RAM) developed to comply with the MSAD order is the enabler. The PSP should be written with the expectation that DAH COS methods or consistent with the FAA methodology, as a means to leverage DAH resources and enhance reliance on DAH COS risk analyses. This approach will permit the leveraging of FAA resources through risk management and will focus on safety oversight of systems and processes. This process applies to the product’s design/production and its operation, maintenance, modification, and repair. This process should identify potential safety-related issues and relay the information to the appropriate organization in the FAA for further analysis and corrective actions, when appropriate. This process:

- a. Produces timely, data-driven, risk-based corrective actions for safety issues in the in-service aircraft fleets.
- b. Produces a structured risk analysis of potential safety issues.
- c. Performs a root cause analysis, when appropriate.

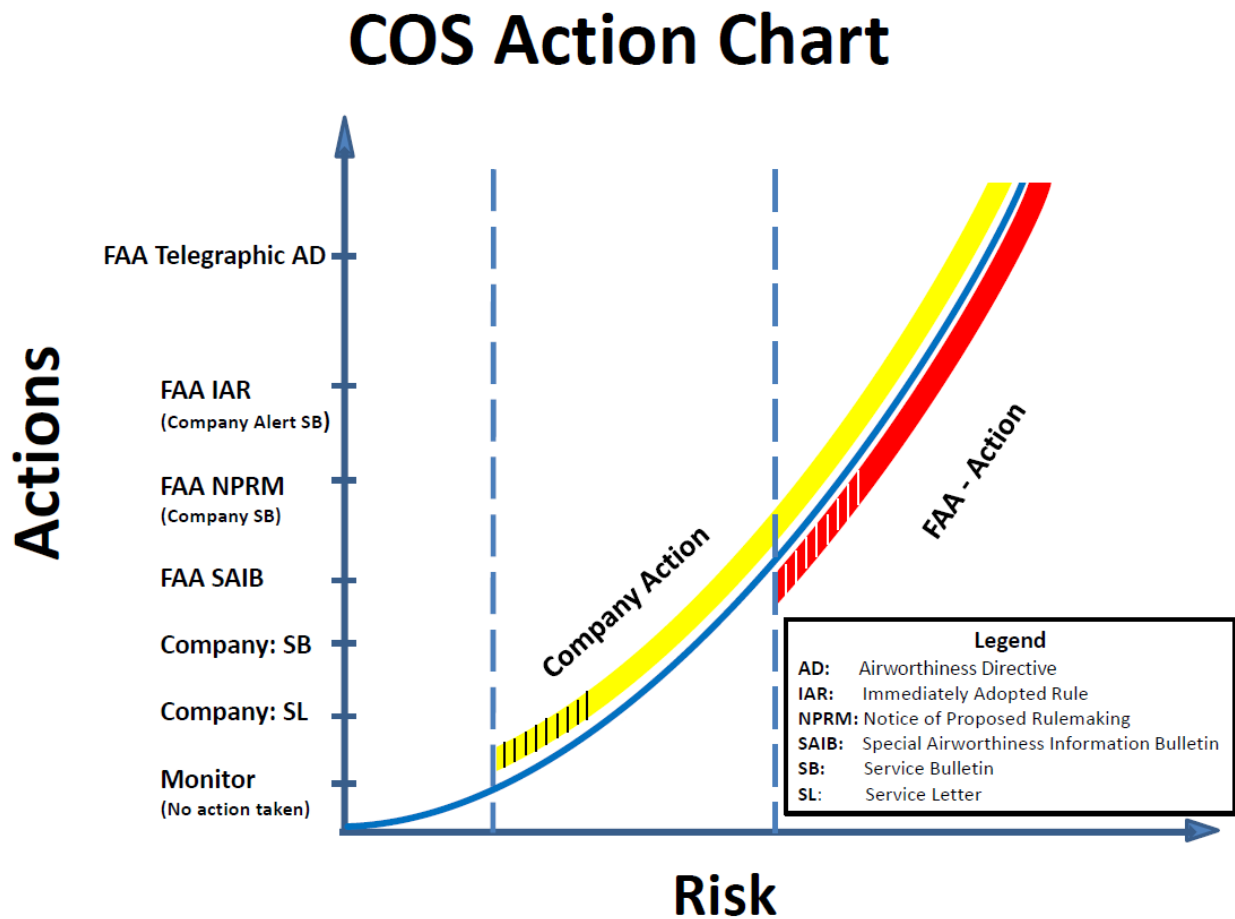
- d. Initiates the appropriate corrective actions.

The Applicant agrees to maintain and periodically report all available necessary fleet statistical usage rates to enable the FAA to calculate appropriate risk assessment data for COS investigation.

The FAA’s focus on COS is primary and so also must be the Industries. The continued safety of the fielded fleet is managed by the joint proactive efforts of the Industry and the FAA. The chart below shows the preferred engagement and actions of each party. Safety is a continuum and each party must proactively monitor their fleet and act appropriately to mitigate unacceptable risk.

This section of the PSP should document the Applicant’s commitment to monitor and to take timely action to mitigate unacceptable risk.

Figure A-20-1: COS Action Chart



A-21. PERFORMANCE MEASURES

The Applicant should include in the PSP an Applicant and FAA agreed to process for measuring the performance and partnership of the Applicant and the FAA in completing a project. This could include metrics such as;

- a. The Applicant's completion of scheduled activities, particularly significant milestones.
- b. Level of Project Involvement (LOPI) by the FAA.
- c. Timeliness of completing project deliverables.
- d. The FAA's execution to the agreed to norms.

The Applicant and FAA may develop other performance measures that are directly applicable to them.

APPENDIX B TC/STC PSCP

B-1. CONTENT

The PSCP defines the product to be certified or approved and what is needed to meet the certification requirements of 14 CFR part 21. It establishes the requirements for successfully completing a project. These requirements include the compliance requirements, the schedule for meeting those requirements, the persons involved in the various aspects of the project, and the project deliverables.

The material contained herein is an aid for preparing the PSCP for TC, amended TC, STC, and amended STC certificates and test and computation PMA approvals only. Some projects may not require everything identified in this aid or may require additional information. It is the Applicant's responsibility to determine what is appropriate for each project to provide a clear path to certification or approval.

This guidance will apply to both ODA and non-ODA Applicants. For an ODA, the procedures for developing a PSCP may be included in the ODA Manual. For a non-ODA, the procedures for developing a PSCP may be in another Applicant document. To simplify this aid, use of FAA will be taken to mean either an FAA PM or OMT Lead as appropriate unless there is a need to specifically identify one or the other.

This appendix will focus on "WHAT" is expected in a PSCP. The details within the Applicant's PSCP may vary depending on whether the Applicant is working through an ODA versus working through standard procedures or performing TC versus STC certification projects. It may be appropriate for test and computation PMA's to follow most of the requirements for a TC or STC PSCP.

By agreement with the local ACO or OMT, the PSCP can be called by various names. The PSCP can be either a single document or multiple documents (e.g., basic PSCP with multiple Subject Specific Certification Plans (SSCPs)). Use of a basic PSCP with multiple SSCPs may be appropriate for new TC projects where combining everything into a single document would create a large document that becomes difficult to manage.

Each individual PSCP should include any project elements that are not addressed in detail in the Applicant's manuals, procedures, and FAA agreements. As part of the Applicant's Continuous Improvement process, the Applicant's PSCP procedures should be reviewed as appropriate to determine if the added elements for a project need to be added to their procedures for developing the PSCP.

Applicants should clearly define as a part of their plan how they intend to accomplish the requirements needed to fulfill their obligations for a certification or approval and present that information as a separate part of the overall project.

The PSCP will be developed to the greatest extent possible as soon as the applicable parties agree that the certification project is viable with resources that can be planned and committed for

its completion. As the project progresses, the PSCP will be managed and maintained jointly between the Applicant and the FAA.

The PSCP is a revisable plan with the authority tantamount to a contract. Revisions require agreement with all parties. In some cases, the ODA is authorized to accept revisions of the PSCP without further approval by the OMT for those PSCPs that require initial approval by the OMT.

Any major issues, design changes, or compliance requirements should result in agreed revisions to the PSCP with appropriate milestones for closure.

As the project progresses, other major issues may be identified. Where appropriate, IPs and a revised PSCP must be prepared after identification of the issue along with a plan to achieve its resolution. In such cases, the FAA will work within boundaries of their policies and public rulemaking procedures. The PSCP compels the partners to work together to understand the product architecture early enough to preclude last-minute guidance (verbal or written) new interpretations or rule escalation that would adversely affect the mutually agreed upon program goals.

B-2. PSCP TEMPLATE

The following provides a template of what should generally be considered for inclusion in a PSCP and the recommended order in which it should be included. As noted previously, each Applicant may have variations based on the product or project. Also, some Applicants may already have this in their OPM and all that is needed here is a reference to that document. PSCP approval or concurrence may be either in the PSCP or a separate document.

B-2.1. COVER PAGE (EXAMPLE)

PROJECT SPECIFIC CERTIFICATION PLAN

FOR THE CERTIFICATION OF

(INSERT NAME OF COMPONENT HERE)

B-2.2. RECORD OF REVISIONS

A record of revisions must be included in the PSCP to provide a means of identifying changes that occurred during the project.

B-2.3. TABLE OF CONTENTS (EXAMPLE)

TABLE OF CONTENTS

RECORD OF REVISIONS

EFFECTIVITY

PRODUCT CERTIFICATION/APPROVAL

1. PURPOSE
2. SCOPE
3. REFERENCES AND ACRONYMS
4. PROJECT DESCRIPTION
5. OTHER CERTIFICATION RELATED ITEMS
6. PROJECT SCHEDULE
7. CERTIFICATION
8. COMPLIANCE PLAN
9. COMMUNICATION AND COORDINATION
10. TESTING PLAN
11. COMPLIANCE DOCUMENTATION
12. PRODUCTION CERTIFICATION
13. POST CERTIFICATION REQUIREMENTS
14. PROJECT ISSUE PLANNING

The sections shown in this appendix are generally required for most PSCPs. However, some Applicants for certain products or projects may not need some of the sections. The TSOA Applicant PSCP process will be described in Appendix C.

B-3. EFFECTIVITY

This section should provide the details for when the PSCP is considered to be effective. Normally the PSCP becomes effective upon approval by the FAA ACO Manager and the Applicant's Certification or Airworthiness Manager for FAA Managed Projects or by the ODA administrator or OMT Lead, as appropriate, and the Applicant's Certification or Airworthiness Manager. It will continue in effect throughout all phases of the product certification unless it is superseded, revised, or terminated. The PSCP may be amended by mutual agreement or terminated by either party. Any change in the services furnished or other provisions of the PSCP will be formalized by an appropriate written amendment signed by both parties, which will outline the nature of the change.

B-4. PURPOSE

The purpose of this PSCP should identify which of the following types of projects it is being created for:

- a. New TC,
- b. Major Change to a TC,
- c. New STC,
- d. Major Change to a STC.

B-5. SCOPE

The scope should identify things such as:

- a. Product,
- b. TC or STC Make, Model, and Serial Applicability,
- c. Prototype Aircraft,
- d. Test Articles,
- e. Work Locations,
- f. Foreign CAA notification when work is to be done on a foreign registered aircraft,
- g. Foreign Validations (both concurrent and sequential) when foreign validation is required by Bi-Laterals,
- h. Other things appropriate for the specific project such as the following.

When a TSOA project is being worked in parallel with a project for the installation of that TSOA article in a TC, Amended TC, or STC project, the scope of the PSCP for each project should refer to the other project and include any relevant information for the other project such as the project number, the organization conducting the other project, and the associated FAA office(s) the project is being worked under.

TC, Amended TC, and STC projects are normally conducted under the following FAA directorates:

- a. Small airplanes – Small Airplane Directorate
- b. Transport airplanes – Transport Airplane Directorate
- c. Rotorcraft – Rotorcraft Directorate
- d. Engines or propellers – Engine and Propeller Directorate

B-6. REFERENCES AND ACRONYMS

This section should identify unique information applicable to the project such as:

- a. FAA Orders,
- b. ACs,
- c. Any unique or specific FAA guidance,
- d. Abbreviations,
- e. Unique Acronyms.

B-7. PROJECT DESCRIPTION

The project description should provide an introduction to the project and the relevant background. For new TCs, this should include the systems and structure for the entire aircraft.

However, it may be appropriate for a new TC to provide a summary description of the structure and systems in the PSCP and provide more details in separate documents. For amended TCs or STCs, this would normally include only those systems or structure that is affected. This may include providing details on the items such as the following as applicable:

- a. Systems Descriptions
- b. Relevant System/Certification Background
- c. Modification Description
- d. Electrical/Avionics Modifications
- e. Installed/Modified LRUs/Equipment
- f. Airborne Electronic Hardware (AEH)
- g. Software (SW)
- h. Major structure description
- i. Required Kits/Parts
- j. Installation Limitations
- k. Maintenance Requirements
- l. ICA Documentation
- m. AFM Documentation
- n. Intended Operation

This section should contain a brief description of the product and intended purpose or function of the product. The description should be sufficient for the reader to obtain enough information to determine the amount of FAA involvement that may be necessary and whether there is any new technology that may require MOC issue papers, special conditions, exemptions, ELOS or other direct FAA involvement. For simple projects that the Applicant has significant experience with the description may be abbreviated and contain fewer details.

If SW is involved at the aircraft level it may be appropriate to add a short description of what its purpose is and point to a more detailed description in another place in the PSCP or another document.

For more complex projects or projects that the Applicant does not have experience with or that involve new technology additional information should be provided in either:

- a. The description in the PSCP,
- b. Description subsections of the PSCP, or
- c. In other documents, as appropriate.

B-8. OTHER CERTIFICATION RELATED ITEMS

Following are some additional items that should be considered as part of a PSCP when applicable. These items should be described in either the PSCP or in other referenced documents as appropriate.

B-8.1. SYSTEM SAFETY ASSESSMENT

If the certification project involves either electrical/avionics or mechanical systems, the plan for addressing System Safety should be briefly addressed. For more complex systems or those with certification aspects that could potentially influence the means of compliance necessary to show compliance, a Functional Hazard Analysis (FHA) or Preliminary System Safety Assessment (PSSA) may need to be completed and summarized in the Certification Plan. In these cases, the criticality of the systems should be identified, the classification of the failure condition(s) should be stated, and the methods to be used to show compliance with the airworthiness requirements defined. For complete aircraft or the most complex of systems, a separate plan for addressing System Safety could be necessary.

B-8.2. AIRBORNE ELECTRONIC HARDWARE

If AEH will be included, a brief discussion of the hardware and the certification approach and the use of DO-254 or DO-178, as applicable, should be discussed. Note that DO-254 or DO-178 compliance established as part of TSO Authorization should eliminate the need for DO-254 or DO-178 compliance re-review of those appliances for the purpose of TC/STC. There may be additional AEH-related requirements levied at the aircraft level but only those aspects would require additional review.

B-8.3. SOFTWARE

If SW certification will be included in the project a brief discussion of the SW certification approach should be discussed. This discussion should address the SW criticality and any unique design features (Commercial Off the Shelf (COTS), Windows NT™ Operating System, etc.). Note that DO-178 compliance established as part of TSO Authorization should eliminate the need for DO-178 compliance re-review of those appliances for the purpose of TC/STC. There may be additional SW-related requirements levied at the aircraft level but only those aspects would require additional review.

B-8.4. HUMAN FACTORS

A human factors plan should be outlined in the PSCP when applicable. This outline may be brief or comprehensive, depending on the complexity of the equipment. For new types of avionics or applications, the human factors plan should be comprehensive. For guidance on developing a human factors plan, refer to GAMA Publication 10, Recommended Practices and Guidelines for Part 23 Cockpit/Flight Deck Design.

B-8.5. OTHER (OPERATIONAL, EQUIPMENT, SAFETY)

It may be useful in developing the certification approach to provide a brief discussion of the operational aspects, equipment compatibility, or safety enhancements of the project or change. These discussions should provide enough detail to support the certification approach. For well-established types of avionics systems, addressing these additional topics would not be necessary.

B-9. PROJECT SCHEDULE

The PSCP should provide a schedule outlining the important milestones for the project. The amount of detail necessary will be dependent on the level and type of FAA or OMT involvement expected. For ODA projects where little or no FAA participation is expected, the schedule section could be very minimal. Such as:

- a. PSCP Submittal
- b. Initial Data Package Approval
- c. TIA Issuance
- d. Conformity & Testing
- e. Final Data Package Approval
- f. TC/STC Issuance

For more complex projects with potential FAA involvement in multiple aspects of the project, the detail should be commensurate with the complexity and FAA involvement. In those cases, the Applicant should provide a detailed project schedule with realistic dates considering the total workloads and resource commitments of all parties. Although the schedule is shown as a section in the PSCP in this document, for very complex projects it may be more appropriate to make it either an appendix or a separate document. This more detailed schedule should identify:

- a. All major milestones, including appropriate project management reviews and any required scheduled deliverables such as those listed in Table 1. These milestones need to be established in accordance with the operating norms identified in the PSP. It should also include any Gates that must be completed before moving to certain other aspects of the project. Every effort must be made to establish realistic schedules considering the total workloads and other resource commitments of all parties.
- b. Design, production, operational, and maintenance aspects.
- c. All IPs should also be included with a resolution plan and prioritization of the issues to be resolved.
- d. Foreign authority validation requirements.
- e. All appropriate deliverables for the project such as, but not limited to, those shown in the Project Deliverables List below. Not all items listed in the table will be applicable to all types of projects or even to all projects of a type. Also, for an ODA, some documents may only be a deliverable to the ODA Unit and not to the OMT. The PSCP will identify what is required for a specific project and who is to receive the specific item. Most TSOA and PMA projects would not normally require many of the deliverables shown in the table but very complex TSOAs such as APUs and very complex Avionics Systems may require more of these deliverables than a normal TSOA or PMA project. In those

cases, the deliverables requirements will be agreed to with the applicable certifying office.

B-9.1. Project Deliverables List

The Applicant should develop a project deliverable list. It may be part of the schedule and should include the following items as appropriate for the project:

- a. Familiarization and board meeting(s) minutes
- b. PSCP (containing most of the items below)
- c. Product Certification team and management status reviews
- d. Application for TC/STC/Production Certification Approvals
- e. CPN
- f. Letter of application acknowledgment
- g. Certification/Approval Project Notification
- h. TC/Approval basis (documented in G-1 IP)
- i. Certification Basis (G-1 IP)
- j. System Safety Assessment (SSA)
- k. Issues tracking list
- l. Compliance check list
- m. CIP
- n. Statement of Conformance and Conformity Inspections
- o. TIAs and Conformity requests
- p. Compliance plan
- q. Compliance data submittals (e.g., test plans/reports, analyses.)
- r. TIR
- s. Installation and Operating instructions
- t. AFM
- u. Structural Repair Manual (SRM)
- v. Instructions for Continued Airworthiness (ICA)
- w. Continued Airworthiness management plan

B-10. CERTIFICATION BASIS

The Certification Basis should identify the applicable standards and amendment levels to which the Applicant must show compliance for the project. For amended TCs or STCs this might include some historical certification information to define the configuration starting point for the modification that is relevant to the current project.

Topics this section should identify and discuss, where applicable, include the following:

- a. Aircraft TCDS
- b. Any applied or concurrent STCs or other alterations
- c. Airworthiness Directives
- d. Special Conditions

- e. Significant Issues
- f. Change Significance
- g. Project Significant
- h. Project/Modification Certification Basis
- i. Exemptions
- j. ELOS Findings

For more complex projects an issues list should be included to highlight those special requirements needing resolution and other areas which may be significant, even though they may not warrant a special condition, exemption, or ELOS finding.

B-11. COMPLIANCE PLAN

The compliance plan should address the following types of topics:

- a. Title 14 CFR part 21 Compliance Checklist or Matrix with the Certification Basis
- b. Compliance Documents
- c. Methods of Compliance for each requirement listed in the Certification Basis
- d. Designees (DER, DAR, ODA UM roles if finding compliance)
- e. Applicant Statement of Compliance Signatory (see AC 21-51)

For the Compliance Checklist or Matrix, the PSCP will summarize the applicable CFRs paragraph by paragraph with the agreed method of compliance that will be used for certification or approval. The Applicant is responsible for all Showings of compliance. Where policy or competence does not allow a showing only, additional finding will be required of a DER/ODA UM or the FAA. The Applicant will propose, including rationale, the level of compliance involvement by DERs, ODA UMs, and the FAA. The FAA or OMT, as applicable, will review and provide concurrence or correction to these items. While some activities, such as those that involve rulemaking (Special Conditions) or the establishment of ELOS determinations, will always necessitate FAA involvement, it is the FAA's goal to fully utilize the authority of the ODA and/or the Designees the Applicant plans to use.

Delegation should be applied to the maximum extent practicable with appropriate oversight as defined in the FAA's delegation management process policy and the PSP. The PSCP should be specific as to what aspects of the project are not delegated and the rationale and what if any stipulations, coordination, or limitations are placed upon those aspects that are not delegated. Because of the close integration of the design, production, and continued airworthiness processes, it is necessary to have all stakeholders agree on the procedures and degree of delegation and oversight to be used in the project.

While some activities, such as those that involve rulemaking or the establishment of ELOS determinations, will always necessitate FAA involvement, it is the FAA's goal to fully delegate

as much of the compliance activity as possible and encourage the Applicant to take full responsibility for the project. FAA participation should be limited to those areas determined to need FAA participation. It is understood that a cooperative working relationship is beneficial to all parties and it is the mutual goal of all team members to meet or exceed the expectations of the PSCP.

A Compliance Checklist similar to that shown in Table 2 clearly identifies the applicable regulations, Means of Compliance that will be used to comply with the regulations, and helps to ensure that all the applicable rules will be complied with. The Means of Compliance shown in the table is one form of identifying the means and is an example only. Other forms are also used and may be acceptable but should be coordinated with the FAA. The Compliance Checklist should also identify the documents that will be used to show compliance. The Showing Only column will identify those regulations that the Applicant will provide a Show Only without a Finding. The Finding Columns at the right side identify those regulations that the Applicant will depend on an ODA UM, or a DER as applicable, to find compliance and those regulations that the FAA has retained for finding.

Any testing or analyses applicable to the project that has been previously approved for a different project should be incorporated into new or revised documents specifically applicable to this project and identified in the Compliance Checklist.

Table B-11-1 - Compliance Checklist

		Means of Compliance (1)					Showing (2) Finding			
14 CFR	Amdt. Level	Inspection	Analysis	Material Tests	Component Test	Structural Test	Flight Test	Applicant	ODA UM or DER (3)	FAA (4)
23.303	Original	X		X				X		
23.305(a)	45	X		X				X	X	
23.305(b)	45	X		X				X	X	
23.307(a)	Original	X		X				X	X	
23.337	48	X		X				X	X	
23.365(d)	Original	X		X				X	X	
23.561(e)	34	X		X				X		X
23.562	62	X	X	X				X		X
23.571	62	X	X	X				X	X	
23.572	48	X	X	X				X	X	
23.601	Original	X	X					X		X
23.603	23	X	X					X		
23.605(a)	23	X	X					X		
23.607(b)	48	X	X					X		
23.609	Original	X	X					X	X	

- (1) The Means of Compliance shown is only one way of showing the Means of Compliance. Each Applicant may use different ways of identifying the Means of Compliance.
- (2) The regulations shown for Show Only were arbitrarily chosen for demonstration purposes only and may not be eligible for Show Only in accordance with FAA Policy found in FAA Policy Memos AIR100-15-140-PM17, dated September 30, 2015 and AIR100-15-150-PM16 dated September 30, 2015. Regulations for which a Show Only will be applicable will not have an “X” either of the next two columns.
- (3) For FAA Managed projects this column would identify rules to approved by a DER. For ODA Managed projects this column would identify rules to be approved by an ODA UM.
- (4) An “X” in this column will indicate a regulation the FAA will make the finding on.

A key requirement of all projects is that the Applicant provides a Statement of Compliance at the end of a project that they have shown compliance to all of the regulatory requirements. This Statement of Compliance from the Applicant is separate from any individual Showing statements and findings by FAA engineers, DERs, or ODA UMs depending on whether the project is FAA managed or ODA managed. An objective of the Applicant should be to make the project Statement of Compliance based on Showing Only and continually reducing the need for any Findings of Compliance by DERs, UMs, or FAA engineers.

B-12. COMMUNICATION AND COORDINATION

B-12.1. COMMUNICATION

This section describes the communication and coordination paths between the FAA and Applicant parties, whether the project is FAA Managed or ODA Managed, and, where appropriate, co-producers, suppliers, other CAA, etc. For some Applicants, much of this communication and coordination information may be included in the Applicants' ODA Manual or other agreement with the FAA and need not be discussed in detail in the PSCP but simply reference the appropriate document.

For ODA projects where little or no FAA participation is expected, this section could be very minimal. For more complex projects with potential FAA involvement in multiple aspects of the project, the detail in this section should be commensurate with the complexity. In those cases, focal points and their roles should be clearly identified and kept to a minimum to avoid conflict.

The applicable management of all involved parties must be kept informed of all critical communications. This does not preclude any team member from communicating with any other member, but they need to ensure the appropriate management is informed. Thus, critical links should be defined to ensure roles and responsibilities are clear to define accountable team members responsible for deliverables and to facilitate conflict resolution. For ODAs this requires that communication with FAA personnel be coordinated with the ODA administrator as described in the ODA Manual.

If there are any questions and/or issues regarding ODA or FAA requirements, the Applicant agrees to resolve these expeditiously using a written tracked process available to all parties. Issues will be resolved at the lowest possible level of authority practicable. An IP process will be used to resolve issues related to published guidance, special conditions, ELOS findings, and methods of compliance. All issues should have a provision for automatic elevation if not resolved within a specified time.

B-12.2. TEAM MEMBERS

For ODA projects where little or no FAA participation is required, identification of team members could be a simple listing of the project lead, ODA administrator, and UMs.

To successfully implement the PSCP plan for more complex projects with potential FAA involvement in multiple aspects of the project the entire team should be listed and there must be an understanding between the team members of each other's roles and responsibilities.

Team members should be included as appropriate, and are not limited to those shown in Table 3. Any particular project may use only part of these people or may use others not identified in the Table. If foreign validation or testing in a foreign country is included as part of the project the names of the appropriate foreign team members may need to be included. It will be the responsibility of the Applicant to identify the positions required for a specific project.

Table B-12-1 - Project Team Members

Role	Name	Phone/email
Applicant's PM		
FAA PM		
ODA administrator		
FAA OMT		
Applicant's PM		
FAA Engineers by Discipline		
DERs by Discipline		
UMs by Discipline		
FAA Aviation Safety Inspectors		
FAA Aviation Safety Designees		
FAA Flight Test Pilots		
FAA Standards Staff Project Officer		
FAA AFS AEG		
FAA CSTA		
Other authorities (for overseas assistance on witnessing or conformities or when TC validation is anticipated)		
FAA's Legal as required		
Applicant's Legal as required		

B-13. TESTING PLAN

This section of the PSCP should address the conformity, testing, and compliance verification required to support the project. This typically includes comments to address the following types of testing:

- a. Flammability
- b. Qualification
- c. Bench/Lab
- d. Functional Ground
- e. EMI
- f. Taxi / Flight
- g. Other

It is recommended that the Applicant addresses the test types by both identifying the required and not required types of test to demonstrate that the testing types have been evaluated for applicability.

B-13.1. GENERAL

This section should contain the requirements for the planning, preparation, and conduct of, required testing for certification purposes. Guidance for the requirements for each individual project should be included in the Applicant's procedures for developing a PSCP since they may vary for any of the following reasons:

- a. The project is FAA managed and may involve FAA participation for observation or for finding compliance if they have retained the finding of compliance.
- b. The project is ODA managed, and will normally involve only the ODA holder and UMs unless the FAA has retained the finding of compliance or has requested to observe only.
- c. The testing is routine and following detail procedures in an AC or other approved guidance that may allow for an ASO without participation by either an ODA UM for ODA managed projects or a DER or the FAA for FAA managed projects.
- d. The testing is complex and/or is new to the Applicant.
- e. Other reasons as defined in the procedures for developing the PSCP.

The Applicant's product development tests are not normally used to show compliance for certification and consequently do not require FAA or ODA Unit involvement. However, FAA certification credit can be granted for development tests when arrangements are made and agreed upon prior to testing. The agreements must be coordinated with the appropriate FAA personnel for FAA managed projects in accordance with FAA policy or ODA personnel for ODA managed projects in accordance with the OPM. These pretest arrangements must be coordinated with appropriate Engineering and/or Flight Test Pilots, and Aviation Safety Inspectors in accordance

with the procedures for developing the PSCP with sufficient lead-time to ensure all aspects necessary for the desired credit toward certification are achieved. This is particularly important for critical parts and components or when new technology, new materials, or new processes are involved which may necessitate a greater depth of review and conformity inspection. The Applicants procedures for developing the PSCP will provide details on the specific process used by the Applicant.

All ground and flight certification testing will be delegated unless the FAA has issued a specific finding and provided the rationale for the specific finding. The FAA may request to be allowed to observe tests on a non-participatory or non-official basis for oversight, information, or education purposes. Who will witness which tests should be planned for and documented in the PSCP and the compliance checklist. When the FAA will witness tests, they will make every effort to meet the project schedule as agreed. The Applicant should keep the FAA informed of test schedules and changes should be negotiated with affected team members.

The PSCP will document the detail requirements for the different types of testing and the preparations necessary for the testing. The following items are normally required prior to certification testing:

- a. Released drawings and specifications sufficiently describing the design and production of the test article;
- b. Approved test plan, including a description and/or drawing of the test set-up, instrumentation, calibration requirements, etc.;
- c. Test Risk Assessment;
- d. Intended schedule and location of tests;
- e. The Applicant's completed inspections and Statement of Conformity, FAA Form 8130-9;
- f. FAA Form 8120-10, Request for Conformity (RFC);
- g. FAA Form 8100-1, Conformity Report,
- h. FAA Form 8110-1, TIA, when applicable,
- i. Disposition of deviations in accordance with the PSCP or Quality procedures, as applicable.

B-13.2. CONFORMITY

14 CFR 21, §§ 21.33 and 21.53 require the Applicant to make all inspections necessary to establish the conformity of the product being used for certification and to submit a Statement of Conformity to the FAA on FAA Form 8130-9. The FAA Form 8130-9 along with a Company Statement of Conformity in accordance with 14 CFR § 21.53 will be adequate for conducting certification in accordance with the Applicants Conformity Procedures agreed to in the Quality Procedures or ODA Manual unless the FAA or ODA Unit specifically requests an FAA Form 8100-1. The FAA or ODA Unit will then determine as far in advance as possible, which Statements of Conformity it will accept without verification and which will require FAA conformity inspections with an FAA Form 8100-1. Some factors affecting this would be the criticality of the part/component, whether there is new material, new process, or technology

involved, and/or whether there is an existing quality control or inspection system that has demonstrated its ability to adequately ensure conformity, or all of these.

This section of the PSCP should describe what conformities will be needed, and the different parties' roles in the conformity inspection process for the project. The CIP will include a detailed description of the processes for the following:

- a. Maintain custody of conformed articles destined for an official certification test.
- b. Notify the FAA Aviation Safety Inspector or ODA Inspection UM, as applicable, of any changes to ground/flight test articles after conformity inspection has been completed.
- c. Identify who issues the requests, conducts the inspections, and dispositions the deviations.
- d. Provide for the completion of inspection, documentation, and dispositioning of deviations or changes before tests are conducted.
- e. Provide for timely conduct of conformity inspection at non-US suppliers.

FAA Conformity inspections requiring an FAA Form 8100-1 will be performed by FAA Aviation Safety Inspectors or their Designees, or the ODA Inspection UMs (unless withheld by the OMT), as applicable. These inspections will be performed in response to a RFC, FAA Form 8120-10, or the TIA, FAA Form 8110-1, issued in accordance with the CIP. The CIP will document the process for conducting the conformity.

In general, all drawings, specifications, and other documentation defining the hardware and SW design of the article should be released into the Applicant's configuration control system prior to conducting any conformity inspection.

B-13.3. CONFIGURATION CONTROL

This section of the PSCP should describe the process that will be used to maintain configuration control of test articles throughout compliance testing. Test articles may require repair or design changes as a result of qualification testing. The Applicant should establish a process to maintain configuration control for all changes or repairs incorporated into the test article and know when the article is in a satisfactory condition for performing tests. This process should be sufficient to ascertain where credit may be taken for tests already completed and where re-testing is required. The procedures may be documented in the PSCP itself or if the procedure is a standard procedure it may be documented in another appropriate document and referred to in the PSCP.

This procedure must ensure that articles used for certification testing are subject to a control process to ensure an accurate accounting of their configuration for each test. Where an FAA-approved company quality control system exists, an inspection conducted in accordance with that system and resulting in a Certificate of Conformity is typically adequate.

An inspection process involving MIDO personnel, or resulting in an 8100-1 Conformity Inspection Record or 8130-3 Authorized Release Certificate, Airworthiness Tag, is not required. However, one of these alternate means of configuration control may be necessary when the TSO

test article is installed on an aircraft for the purpose of obtaining certification data in support of an STC/TC project. The Applicant's plan for these requirements should be included in this section.

B-13.4. FLIGHT TEST

In addition to the General test requirements, this section should contain any unique requirements for the planning, preparation, and conduct of certification flight testing. Flight tests are conducted in accordance with the requirements of the TIA, FAA Form 8110-1. The TIA also authorizes conformity and airworthiness inspections and flight tests to determine compliance to the certification requirements. If flight test specific findings or FAA participation is included, it is important to ensure close pre-flight test coordination with the FAA, including as applicable FAA discipline managers, Aviation Safety Inspectors, and the flight test pilots.

The Applicant has the responsibility to conduct all of the testing and inspections necessary to show compliance. The FAA will determine what aspects the FAA will participate in or retain the finding.”

B-14. COMPLIANCE DOCUMENTATION PROCESS

This section should describe the procedures for processing of compliance documentation if it is not documented in the ODA Manual or another Applicant procedures document referenced in the PSP. The process will identify how compliance documents are managed, submitted to the FAA when applicable, and retained. The process should identify under what conditions documents will be submitted to the FAA and by whom. The Document Management process should account for all data (not just drawings) pertinent to defining the type design, including manufacturing specifications, and to conducting the showings of compliance required for FAA certification or approval. This would include, but is not limited to, test plans, test reports, test setup schematics, test instrumentation, drawings, analyses (e.g., stress, safety, damage tolerance), material or process specifications, manuals.

Data required to be submitted to the FAA for approval may add to the processing time and should be taken into account when developing the project schedule. The FAA and Applicant will agree and document the amount of time needed for review, disposition, and approval or acceptance of the data, as appropriate. Typically, this may be up to four (4) weeks for Designee recommended approval data. Some submittals such as Instructions for Continued Airworthiness and safety analyses due to size or complexity may require more time. The timing and process for such submittals should be agreed between the FAA and Applicant and documented in the PSCP. Data submittals that are Designee approved are reviewed only for Designee oversight purposes, whereas data that is recommended for approval must be reviewed for those aspects that the Designee could not or did not evaluate. Hence, communication and pre-planning for data submittal and consideration of the level of delegation between Designees and FAA is essential, and encouraged to ensure timely and efficient data approval.

B-15. PRODUCTION CERTIFICATION

The production approval process will vary significantly between the types of projects covered by the PSCP. This process will be most applicable to TC projects but may not be applicable to

many STC projects and can be deleted from the PSCP for those projects if not applicable. Each Applicant should document their process for obtaining production approval for their products in an Applicant Production Approval document referred to in the PSP. The PSCP can then refer to that approved process for production approval unless the project contains requires something unique. In that case the unique part of the process can be documented in the PSCP and then considered for addition to the Applicant Production Approval document.

This section of the PSCP should outline production quality project issues and how they will be managed to permit early approval of the production system. The goal is to have concurrent design and production approval issuance.

The primary focal points for the production approval process are the FAA Principal Aviation Safety Inspector and the Applicant's Project Quality Manager. Production approval is granted after the Applicant has demonstrated, and the FAA has verified, that the Applicant has developed and is capable of maintaining a quality assurance system. This system will ensure that only products and parts conforming to the design data are released for commercial service use.

For existing Production Approval Holders (PAH) who will be adding a new product to an existing approved production system, issues to be considered should include:

- a. Approval of new materials, new processes, new suppliers, co-production agreements, new technologies or new applications of existing technology, etc.
- b. FAA undue burden assessment of non-US suppliers and/or co-producers, or both.
- c. Instructions for assembly and test of the final product to ensure conformance.
- d. Coordination with Engineering on production Material Review Board (MRB) requirements and integrating engineering and production Certificate Management activities.
- e. Controls to be placed on production as a result of design Airworthiness Limitations or the criticality of parts and components.
- f. Configuration control requirements.
- g. Any other reviews necessary to ensure that a conforming product will be produced under the FAA approved quality inspection system.

In addition, for Applicants who do not hold an existing production approval for the type of product which is being certificated under this PSCP, the Applicant must demonstrate, to the satisfaction of the FAA, the existence of and compliance to a quality system which satisfies ALL the requirements of the applicable subparts of 14 CFR part 21.

B-16. POST CERTIFICATION REQUIREMENTS

B-16.1. INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

Projects that need Airworthiness Limitations or instructions for Continued Airworthiness (ICA) should include a brief description of those requirements in this section. Airworthiness

Limitations must be complete at the time of certification or approval. The ICA may be incomplete at the time of TC or approval but, a program must be in place to insure any ICA are complete prior to issuance of the standard airworthiness certificate or delivery of the first aircraft or product. Refer to FAA Order 8110.54A, Instructions for Continued Airworthiness Responsibilities, Requirements, and Content, for limitations placed in the TCDS or on the STC, as applicable, when ICA are incomplete at time of design approval.

B-16.2. CONTINUED OPERATIONAL SAFETY

The details of how the FAA and Applicant will handle COS issues, after delivery of the first aircraft or issuance of the standard airworthiness certificate, will be agreed and documented and referenced in the PSP. This will be consistent with the 14 CFR and FAA policy on certificate management, reporting, self-disclosure and the requirements for implementing corrective actions in both the type design and production systems. This process will be described in an Applicant document referred to in the PSP and may simply be referenced here.

B-17. PROJECT ISSUE PLANNING

For more complex projects with potential FAA involvement in multiple aspects of the project, the Applicant and FAA PMs, or the ODA and OMT, as applicable should jointly maintain a project issues tracking list. This list, at a minimum, should include issues identified as potential “show-stoppers” for the project that may have a significant adverse impact on the schedule or ability to complete an activity as planned. The list will identify the issue, the plan and milestones for their resolution, as well as the primary responsible team member for ensuring the closure of each issue within the operating norms of the project schedule. The process will include an automatic escalation process for issues that are show stoppers. This process may be defined in the ODA Manual or another Applicant document and simply referred to as appropriate to support the project. For Applicants conducting multiple projects simultaneously, these issues may be consolidated into a single issues list that is reviewed with the ODA Unit or FAA, as applicable, on and agreed to frequency.

APPENDIX C TSOA PSCP

C-1. CONTENT

The material contained herein is an aid for preparing the PSCP for an article being approved under 14 CFR part 21, Subpart O, Technical Standard Order Authorizations (TSOA). The accepted PSCP defines what is needed to meet the certification process requirements of 14 CFR part 21. This aid is intentionally not a “boilerplate,” but allows the freedom to innovate and meet the special project needs of the Applicant and the FAA as appropriate. For that reason, this document will focus on WHAT is required, or expected, in a PSCP and leave it to the Applicant’s TSOA procedures as applicable to define HOW they will meet WHAT is required depending on their specific needs.

The PSCP will establish the requirements for successfully completing a project. These requirements include the compliance requirements, the schedule for meeting those requirements, the persons involved in the various aspects of the project, and the project deliverables.

Each individual PSCP should include any project unique elements that were not addressed in detail in the Applicant’s TSOA procedures and it should incorporate by reference appropriate procedures, agreements, or other elements pertinent to the project. The Applicant should then determine if the additional project unique elements or other information should be added to their TSOA procedures and if so, add them to the appropriate documents to support their Continuous Improvement Process.

Applicants without a PSP should clearly define as a part of their plan how they intend to accomplish the requirements needed to fulfill their obligations for an approval and present that information as a separate part of the overall project. This should be agreed to by the FAA prior to the FAA approval of the PSCP.

Applicants may conduct project management in the manner most efficient within their company.

The PSCP is a revisable plan with the authority tantamount to a contract. Revisions require agreement with all parties. The PSCP will be developed to the greatest extent possible as soon as the applicable parties agree that the TSOA project is viable. As the project progresses, the PSCP will be managed and maintained jointly between the Applicant and the FAA.

C-2. TSOA PSCP TEMPLATE**C-2.1. COVER PAGE (EXAMPLE)****PROJECT SPECIFIC CERTIFICATION PLAN**

for Technical Standard Order Authorization of

The Applicant should provide in the PSCP title specific information that will identify this as a unique PSCP. The Applicant's TSOA procedures will specify how their PSCPs will be identified.

C-2.2. RECORD OF REVISIONS

A record of revisions should be included in the PSCP to provide a means of identifying changes that occurred during the project.

C-2.3. TABLE OF CONTENTS (EXAMPLE)

This is an example of what a TSOA PSCP Table of contents might look like. Each project is going to be slightly different so the table of contents for any specific TSOA PSCP may vary slightly from what is shown. The purpose of this example is to show the recommended content and order.

TABLE OF CONTENTS

RECORD OF REVISIONS
EFFECTIVITY
PRODUCT CERTIFICATION/APPROVAL
 1. **PURPOSE**

2. SCOPE
3. PROJECT DESCRIPTION
4. OTHER CERTIFICATION RELATED ITEMS
5. PROJECT SCHEDULE
6. MEANS OF COMPLIANCE
7. COMMUNICATION AND COORDINATION
8. TESTING PLAN
9. COMPLIANCE DOCUMENTATION
10. PRODUCTION APPROVAL
11. PROJECT ISSUES PLANNING

The sections shown in this document are generally required for most PSCPs. However, some Applicants for certain products may not need some of the sections. The Applicant's PSCP Procedures will identify the sections that will be used in their PSCPs and the order in which they appear.

C-3. EFFECTIVITY

This section should provide the details for when the PSCP is considered to be effective.

Normally the PSCP becomes effective upon approval by the FAA ACO Manager and the Applicant's Certification or Airworthiness Manager for FAA Managed Projects or by the ODA administrator or OMT Lead, as appropriate, and the Applicant's Certification or Airworthiness Manager. It will continue in effect throughout all phases of the product certification unless it is superseded, revised, or terminated. The PSCP may be amended by mutual agreement or terminated by either party. Any change in the services furnished or other provisions of the PSCP will be formalized by an appropriate written amendment signed by both parties, which will outline the nature of the change.

C-4. PURPOSE

The purpose of this PSCP is to define and document a TSO Authorization plan between the (*specify appropriate*) ACO of the Federal Aviation Administration (FAA) and the Applicant. The plan should expedite the issuance of TSOA for the Applicant's (*specify LRU or system*) under standardized procedures.

C-5. SCOPE

The scope should identify things such as:

- a. Test Articles
- b. Work Locations
- c. Foreign Validations
- d. Other things appropriate for the specific project such as the following:
 - i. Technology being developed, including Non-TSO Functions
 - ii. Certification basis

- iii. Means of communication
- iv. Timeframe for project completion
- v. Any new or novel technology
- vi. Anything else that will help coordinate any additional efforts anticipated by the Applicant to include the ACO.

When a TSOA project is being worked in parallel with a project for the installation of that TSOA article, the scope of the PSCP for each project should refer to the other project and include any relevant information for the other project such as the project number (if known), the organization conducting the other project, and the associated FAA office the project is being worked under. Alternatively, if practical and both PSCPs would be owned by the same Applicant, they may be combined into a single PSCP.

C-6. PROJECT DESCRIPTION

This section should contain a description of the article and intended purpose or function. It should include a listing of the TSOs being applied for, including reference to any incomplete TSO functionality of the article (refer to FAA Order 8150.1() and AC 21-46() for more information). The description should be sufficient for the reader to obtain enough information to determine the amount of FAA involvement that may be necessary and whether there are any non-TSO functions, new technology, or planned deviations that may require direct FAA involvement.

To support FAA evaluation of non-TSO functions, the description should also include a high-level list of all systems functionality with an indication of any functionality that is not covered under TSO. The intended uses of each function should be documented, as well as any operational assumptions.

For more complex projects or projects that the Applicant does not have experience with or that involves new or novel technology it may be appropriate to have additional information in either the description in this document or in other documents as appropriate. The Applicant's PSCP procedures should identify the amount and kind of information to be included in their PSCP for the different types of TSO programs they conduct.

C-7. OTHER CERTIFICATION RELATED ITEMS

Following are some additional items that should be considered as part of a PSCP when applicable. These items should be described in either the PSCP or as a reference to other documents as appropriate.

C-7.1. TSO ARTICLE LEVEL SYSTEM SAFETY ASSESSMENT

If the project involves either electrical/avionics or mechanical systems, the plan for addressing System Safety should be briefly addressed. For more complex systems or those with aspects that could potentially influence the means of compliance necessary to show compliance, an FHA or PSSA may need to be completed and summarized in the PSCP. In these cases, the criticality of

the systems should be identified, and the classification of the failure condition(s) should be stated. If the applicable TSO(s) specify a failure classification(s), the classification of the failure conditions of the article should not be less than required by the TSO(s), unless the Applicant has an approved deviation with appropriate aircraft level mitigations documented as restrictions in the Installation Manual.

C-7.2. SOFTWARE

If SW will be included in the project, a brief discussion of the SW approval approach should be included. This discussion should address the means of compliance to the TSOs SW assurance requirements and the SW criticality, as well as any unique design features (Commercial Off the Shelf (COTS), Windows NT™, etc.).

C-7.3. AIRBORNE ELECTRONIC HARDWARE

If AEH will be included in the project, a brief discussion of the AEH approval approach should be included. This discussion should address the means of compliance to the TSOs AEH assurance requirements and the AEH criticality, as well as any unique design features (Commercial Off the Shelf (COTS), etc.). Note any legacy AEH devices that predate the requirement for compliance to RTCA/DO-254.

C-7.4. ENVIRONMENTAL QUALIFICATION

A brief discussion of the environmental qualification approach should be discussed. This discussion should address the means of compliance to the TSO's environmental qualification requirements.

C-7.5. CONTINUED AIRWORTHINESS

Approach for addressing any required periodic maintenance, calibration, and repair for the continued airworthiness of the article. This may also include recommended inspection intervals and service life, as appropriate.

C-7.6. HUMAN FACTORS

A human factors plan should be outlined in the PSCP when applicable. This outline may be brief or extensive, depending on the complexity of the equipment. For new types of avionics or applications, the human factors plan should be comprehensive. For guidance on developing a human factors plan, refer to GAMA Publication 10, Recommended Practices and Guidelines for Part 23 Cockpit/Flight Deck Design.

C-7.7. ISSUE PAPERS

If applicable, address any IPs associated with approval of TSO articles.

IPs that are applicable to aircraft level installation approval, but not TSO Authorization, may be addressed during the TSO development phase. This can be documented generically (without specific reference to the IP number) based on known issues applicable to installation approval.

[Note: Coordination with the aircraft level integrator should be arranged to ensure they understand how to utilize any IP related content as part of their TC/STC application, since no formal compliance may be demonstrated as part of the TSOA].

C-7.8. OTHER

It may be useful in developing the certification approach to provide a brief discussion of some of the following topics; Operational Concept, Equipment Compatibility, Envisioned Safety Enhancements, Alternative Design Approval Methods, or other things appropriate for the project. These discussions should provide enough detail to support the certification approach. For well-established types of avionics systems, addressing these additional topics would not be necessary.

C-8. PROJECT SCHEDULE

The PSCP should provide a schedule outlining the important milestones for the project. The amount of detail necessary will be dependent on the level and type of FAA involvement expected. For projects where little or no FAA participation is expected, the schedule section could be very minimal. For more complex projects with potential FAA involvement in multiple aspects of the project, the detail should be commensurate with the complexity. In those cases, the Applicant should provide a detailed project schedule with realistic dates considering the total workloads and resource commitments of all parties. This more detailed schedule should identify:

- a. All major milestones, including appropriate project management reviews and any required scheduled deliverables such as those listed in table 1. These milestones need to be established in accordance with the operating norms identified in the PSP. Every effort must be made to establish realistic schedules considering the total workloads and other resource commitments of all parties.
- b. Design, production, operational, and maintenance aspects.
- c. Foreign authority validation requirements, as needed.
- d. All appropriate deliverables for the project such as, but not limited to, those shown in C-8.1. Not all items listed in the table will be applicable to all types of projects or even to all projects of a type.

The Applicant's PSCP Procedures will identify how the schedule will be included and what other detailed information may be needed as appropriate for that Applicant.

C-8.1. PROJECT DELIVERABLES

C-8.1.1. APPLICANT DELIVERABLES

- a. Familiarization and technical/status meeting(s) minutes
- b. Plan for SW Aspects of Certification (PSAC)
- c. Plan for Hardware Aspects of Certification (PHAC)
- d. Human Factors Plan
- e. A listing of deviations, as applicable, to the TSO performance standards (with ELOS rationale)
- f. Quality Control Procedures and Documentation (for new Applicants)
- g. Statement of Conformance
- h. Application for TSOA
- i. Compliance data submittals (e.g., test plans/reports, analyses, installation instructions, operating manual, etc.)
- j. TSO/Minimum Operational Performance Standard (MOPS) Compliance Summary or Checklist Document
- k. Other data required by applicable TSO(s)
- l. Foreign approvals anticipated that will involve the ACO
- m. Foreign approval compliance documentation list
- n. Letters of conformance and application for the foreign approvals

C-8.1.2. FAA Deliverables

- a. Production approvals (for new Applicants)
- b. FAA letter accepting TSO deviations
- c. FAA TSOA letter
- d. FAA letters of validation for the foreign approvals.

C-9. MEANS OF COMPLIANCE

C-9.1. TSO APPLICATION

In this section the Applicant should identify:

- a. The TSO authorization requested.
- b. If a foreign authorization or validation is to be requested, and
- c. The certification basis should also be identified, along with any requested deviations. The Certification Basis of obtaining a TSO is 14 CFR part 21, Subpart O, and the applicable TSOs.

When making application for a TSO the Applicant submits:

- a. A statement of conformance certifying that the Applicant has met the requirements of 14 CFR part 21, Subpart O,
- b. A statement certifying that the article concerned meets an applicable TSO that is effective on the date of application for that article when installed in accordance with the appropriate installation instructions, and

- c. If applicable, the listing of, or reference to, deviations to the TSO and ELOS findings, if any.

An objective of the Applicant should be to be able to make the Statement of Compliance without the need for any additional review by FAA engineers.

C-9.2. TSO TABLE AND MINIMUM OPERATIONAL PERFORMANCE STANDARDS

A table that lists the applicable TSO/MOPS should be included, along with a detailed TSO/MOPS Compliance Matrix (or Compliance Checklist) or a plan for including one with the TSO application.

For more complex projects, providing the matrix (or checklist) in the PSCP should facilitate efficient FAA issuance of the TSOA at the end of the program.

C-10. COMMUNICATION AND COORDINATION

C-10.1. COMMUNICATION

This section describes the communication and coordination paths between the FAA and the Applicant parties, and where appropriate, suppliers, another CAA, etc. The FAA and the Applicant's PMs/engineers must be kept informed of all critical communications. Critical links should be defined to ensure that roles and responsibilities are clear to define accountable team members responsible for deliverables and to facilitate conflict resolution.

C-10.2. TEAM MEMBERS

For projects where little participation is required, identification of team members could be a simple listing of the FAA project focal, responsible Applicant TSO Manager and Applicant Internal Compliance Finders (aka company TSO Specialists).

For more complex projects with potential FAA involvement in multiple aspects of the project, to successfully implement the PSCP plan, there must be an understanding between the team members of each other's roles and responsibilities. While some activities, such as those that involve rulemaking or the establishment of ELOS determinations, will always necessitate FAA involvement, it is the FAA's goal to fully delegate as much of the compliance activity as possible and encourage the Applicant to take full responsibility for the project.

FAA participation should be limited to those areas determined to need FAA participation. It is understood that a cooperative working relationship is beneficial to all parties and it is the mutual goal of all team members to meet or exceed the expectations of the PSCP.

Team members should include as appropriate, but are not limited to those shown in Table 3. Any particular project may use only part of these people or may use others not identified in the table.

If engineering resources in a foreign country are included as part of the project the names of the appropriate foreign team members may need to have FAA-approved procedures for utilizing and overseeing those resources. (Refer to FAA Order 8110.49 and 8110.115 for details on supplier oversight expectations for SW and AEH suppliers, respectively.)

It will be the responsibility of the Applicant to identify the positions required for a specific project.

Table C-10-1 - Project Team Members

Position	Name	Phone/Email
Applicant's PM		
FAA PM		
Applicant's TSO Manager		
FAA Engineers by Discipline		
Applicant's TSO Specialists by Discipline		

C-10.3. APPLICANT USE OF SUBJECT MATTER EXPERTS

A TSO program is a self-certified process where the Applicant makes conformance statements to the FAA indicating compliance with those items listed in 14 CFR part 21 Subpart O and to the applicable TSO.

However, the process may be difficult if the TSO Applicant is new to this process or has limited knowledge of the TSO Authorization process. In this case, it may be helpful for the Applicant to become familiar with the certification process or use consultant(s) who are familiar with the process, and known to the FAA, to review the data that is to be submitted to support the project.

Certification subject matter experts in applicable disciplines (SW, AEH, Environmental Qualification, etc. and applicable regulatory guidance such as DO-178(), DO-254(), DO-160(), etc.) may be used by the Applicant in the approval process. This promotes streamlining of the approval process by ensuring competent showings of compliance and maintaining/increasing FAA confidence in the Applicant.

C-11. TESTING PLAN

C-11.1. GENERAL

This section should outline the Applicant's approach to developing test-based compliance documentation. Plans for Hardware and SW Aspects of Certification (PHAC and PSAC respectively) are typical means used to identify Verification and Validation (V&V) methodologies.

This portion of the PSCP should also consider the requirements of the specific TSO and associated MOPS where performance under normal and severe environmental conditions is concerned. A strategy for the planning, preparation, and conduct of the required environmental and qualification testing would be appropriate content.

The plan should identify the proposed methods for evaluating the flight crew interface aspects of the product, as needed. The plan should address the occasions when and how FAA human factors evaluations are to occur, and recognize that the findings from such evaluations need to be documented and validated to ensure appropriate "credit" will be evaluated if needed for installation approvals.

Note that any "credit" sought for prior testing of a baseline TSOA article or functionality reused from another TSOA article that remains applicable to the new or changed article should be described in this section with proper justification.

C-11.2. CONFIGURATION CONTROL

Articles used for compliance testing must be subject to a control process to ensure an accurate accounting of their configuration. This section of the PSCP should indicate the process/procedure to be used.

Where an FAA-approved company quality control system exists, an inspection conducted in accordance with that system and resulting in a Certificate of Conformity is typically adequate. In general, all drawings, specifications, and other documentation defining the hardware and SW design of the article should be released into the Applicant's configuration control system prior to conducting any conformity inspection.

An inspection process involving MIDO personnel, or resulting in an 8100-1 Conformity Report or 8130-3 conformity finding, is not required. However, one of these alternate means of configuration control may be necessary when the TSO test article is installed on an aircraft for the purpose of obtaining certification data in support of an STC/TC project. The Applicant's plan for these requirements should be included in this section of the STC/TC PSCP.

The Applicant should also describe a process to maintain configuration control of the test article throughout compliance testing. Test articles may require repair or design changes as a result of qualification testing. The Applicant should establish a process to maintain configuration control for all changes or repairs incorporated into the test article. This process should be sufficient to ascertain where credit may be taken for tests already completed and where re-testing is required.

C-11.3. FLIGHT TEST

In some cases, such as for Traffic Alert and Collision Avoidance System (TCAS) products, flight tests are necessary to provide compliance data. While FAA participation in these flight tests is not required, the responsible ACO office may have an interest in observing use of the product in its actual operating environment. This section of the PSCP should specify how to accommodate such requests.

Where a concurrent aircraft level project (TC/STC) has been initiated, use of language in the project's TIA may be used to enable FAA participation. This will also facilitate the Applicant's ability to take credit for these tests as part of the TC/STC project.

Since a TIA is not necessary to authorize the Applicant's conduct of flight tests associated with gathering TSO compliance data, advance arrangements may be needed for ACO personnel to participate in flight tests that are solely in support of a TSO project. This issue should be negotiated with the responsible ACO manager early on in the TSO project.

The need for evaluation of the product's human factors attributes should also be addressed in this section. Many new and revised TSOs contain requirements for human centered design considerations. In addition, some FAA ACOs are including this type of evaluation as a part of the TSO project where the product has a major man-machine interface element (such as display systems). This item should be discussed with the ACO early in the project's life cycle. For some products, use of a bench simulator or demonstrator may be adequate. Others may require a combination of bench and flight test evaluations. Where flight test human factor assessments are warranted, a plan for FAA participation similar to that described immediately above may be needed.

Additionally, non-TSO functions may require evaluation on the aircraft as part of a certification program (TC/STC). Refer to the FAA guidance for integrating non-TSO functions into TSO articles and describe the plan to meet the expectations. (Note: At the time of writing this version of the TSOA PSCP guidelines, the FAA's non-TSO function guidance is in FAA Order 8110.4C but is anticipated to be moved into FAA Order 8150.1D.) This may be a simple description, with references to a concurrent certification program and the Applicant's FAA-accepted TSOA procedures. If details are not provided in an FAA-accepted procedures document, provide the details in this section. For non-TSO functions for which a concurrent certification program is not deemed necessary, the Applicant may provide rationale.

C-12. COMPLIANCE DOCUMENTATION

This section should describe the procedures for submittal and processing of compliance documentation. The PSCP should identify what data will be submitted and by whom. It should account for all data (not just drawings) pertinent to defining the type design, including manufacturing specifications and to conducting the showings of compliance required for FAA approval.

The TSOs identify the required deliverables; note that these can vary from TSO to TSO, so it is important to carefully review the listing of artifacts required for submittal to the FAA. The following list of items should be considered:

- a. PSAC
- b. PHAC
- c. Environmental qualification test reports
- d. Environmental qualification form
- e. TSO MOPS compliance test reports
- f. SW Accomplishment Summary (SAS)
- g. Hardware Accomplishment Summary (HAS)
- h. SW Configuration Index
- i. Hardware Configuration Index
- j. DO-200() artifacts, as applicable
- k. Functional Hazard Assessment (FHA)/ SSA at LRU level
- l. Top level drawing /Bill of Material (BOM)
- m. LRU identification tag(s)
- n. Installation Manual
- o. Operating manual
- p. TSO/MOPS Compliance Summary or Checklist Document

The FAA and the Applicant will agree and document the amount of time needed for review, disposition, and approval or acceptance of the data, as appropriate. The timing and process for such submittals should be agreed upon between the FAA and the Applicant and documented in the PSCP, if not already addressed in the PSP.

C-13. PRODUCTION APPROVAL

Each Applicant should document their process for obtaining production approval for their products in the PSP or another Applicant procedures document. The PSCP can then refer to that approved process for production approval unless the project requires something unique. In that case, the unique part of the process can be documented in the PSCP and then considered for addition to the PSP or another Applicant document.

This section of the PSCP should outline production quality project issues and tell how they will be managed to permit early approval of the production system. The goal is to have concurrent design and production approval issuance. The primary focal points for the production approval

process are the FAA Principal Aviation Safety Inspector and the Applicant's Project Quality Manager.

Production approval is granted after the Applicant has demonstrated, and the FAA has verified, that the Applicant has developed and is capable of maintaining a quality assurance system. This system will ensure that only products and parts conforming to the design data are released for commercial service use.

For existing PAH who will be adding a new product to an existing approved production system, issues to be considered should include the following:

- a. Approval of new materials, new processes, new suppliers, co-production agreements, new technologies or new applications of existing technology, etc.
- b. FAA undue burden assessment of either non-US suppliers or co-producers, or both
- c. Instructions for assembly and test of the final product to ensure conformance
- d. Coordination with engineering on production MRB requirements and integrating engineering and production Certificate Management activities
- e. Controls to be placed on production as a result of design Airworthiness Limitations or the criticality of parts and components
- f. Configuration control requirements
- g. Any other reviews necessary to ensure that a conforming product will be produced under the FAA approved quality inspection system

In addition, for Applicants who do not hold an existing production approval for the type of product that is being approved under this PSCP, the Applicant must demonstrate, to the satisfaction of the FAA, the existence of and compliance with a quality system that satisfies ALL the requirements of the applicable subparts of 14 CFR part 21.

C-14. PROJECT ISSUE PLANNING

The Applicant and FAA PMs will jointly maintain a project issues tracking list. This list, at a minimum, should include issues identified as potential "show-stoppers" that may have a significant adverse impact on the schedule or ability to complete an activity as planned. The list will identify the issue, the plan and milestones for their resolution, as well as the primary responsible team member for ensuring the closure of each issue within the operating norms of the project schedule. These items should be identified so that if not completed on schedule or as planned they are automatically escalated and a mitigation plan developed.

The process will include an automatic escalation process for issues that are show stoppers. The process may be defined in the PSP or another Applicant document and simply utilized as appropriate to support the project.

For Applicants conducting multiple projects simultaneously, these issues may be consolidated into a single issues list that is reviewed with the FAA, as applicable, on an agreed to frequency.

APPENDIX D GLOSSARY AND ACRONYMS

D-1. GLOSSARY

Applicant: An individual or organization seeking FAA approval of a specific aircraft component or installation. The approval may be a TSOA, PMA, or STC. It includes:

- a. An individual, applying via the FAA or an ODA Unit,
- b. A company, applying via the FAA or an ODA Unit,
- c. An ODA Holder, applying via the FAA or an ODA Unit,
- d. An ODA Holder, acting as an agent of a third-party Applicant.

Approval: The FAA issues approvals that include certifications, authorizations, and other forms of approval. Approval may be a TSOA, PMA, TC, or STC, as applicable. The FAA may issue an approval only after determining that all applicable requirements have been met.

Certification: A form of FAA approval where a certificate is issued, such as TC, STC, Production Certificate, or Airworthiness Certificate. Certification is broadly used and includes all design approvals under 14 CFR part 21, e.g. those marked with a TC or STC certificate, and also TSOA and PMA products that receive only an approval.

Certification Basis: The applicable airworthiness, aircraft noise, fuel venting and exhaust requirements of 14 CFR §§ 21.17, 21.101, and 21.115, as appropriate; special conditions; and ELOS; to which the Applicant must show compliance, or not show compliance when granted an exemption.

Certification Plan: The applicant's intended means for showing that a product complies with the applicable regulations.

Certification Project Plan (CPP): A living document (see FAA Order 8110.4, appendix 1, figure 7) used to coordinate schedules, responsibilities, and personnel resources between the accountable directorate and project ACO.

Criteria for Success: Attributes that are expected in the successful completion of each Phase.

Deliverables: Items to be produced during any particular Phase of the Product Certification Process by either the FAA, Designees, or the Applicant.

Designee: For the purposes of the Guide, Designee includes individual and organizational delegations. It will include both Designated Engineering Representatives (DERs) and ODA Unit Members (UMs) since most of the requirements for them finding compliance are the same or equivalent unless specifically noted.

FAA: Where FAA is used in this document it may include the ODA Unit acting on the FAA's behalf in accord with the ODA Unit's approved procedures manual.

FAA Form 337: Used to record major repairs or alterations to an airframe, powerplant, propeller or appliance. The form should be completed in accordance with 14 CFR §43.9; 14 CFR part 43, Appendix B; and AC 43.9-1(), Instructions for Completing Form 337.

First-of-Type STC: An initial STC (major design change) issued for a particular make and model of aircraft.

Follow-on STC: A STC subsequent to the first-of-type STC, issued for a similar make and model of TC'd aircraft.

Installation Approval: Installation Approval is described in 14 CFR § 43.5 and requires the following three specific criteria to be met:

- a. A maintenance record is accomplished;
- b. A Major Repair and Alteration form (FAA form 337) has been properly executed; and,
- c. If the alteration results in any change in the aircraft operating limitations or flight data contained in the approved AFM, then appropriate revisions will be required.

Intended Function: The defined characteristic(s) that equipment must demonstrate and achieve to meet the specific requirements.

Key Players: Accountable FAA, FAA Designees, and Applicant personnel required for successful completion of any particular Phase of the Product Certification Process.

Operational Approval: Operational Approval is a 5-step process used by AFS to authorize an operator to conduct operations using a specific aircraft and associated equipment in a specific operating environment. See FAA Order 8400.10.

Project Specific Certification Plan (PSCP): An integrated planning and project management tool combining the information from the applicant's certification plan, the FAA's CPP, and other information recommended in The FAA and Industry Guide to Product Certification.

PSP: The high-level agreements of how the FAA and the Applicant will work and interact together. It sets the expectations and needs of both parties for the relationship. It is not a legally binding agreement but a mutual statement of the intent of the FAA and the Applicant to hold their respective personnel accountable for building the professional working relationships and business practices upon which successful product certification projects are built.

PMA: Issued by the FAA to manufacture aircraft modification or replacement parts, that includes design approval by the ACO and a production system approval by the MIDO.

PSAC: An agreement between the Applicant and the FAA describing how the Applicant will satisfy the objectives of RTCA Document DO-178B, SW Considerations in Airborne Systems and Equipment Certification.

Product: Product is used throughout the Guide to identify aircraft, aircraft engine, or propeller. Certification of these includes addressing approvals for necessary articles that are encompassed

in the Product, to include material, part, component, process, or appliance. It may also be used more broadly to include TSOA and PMA articles that technically only receive an approval.

Product Certification: The complete certification cycle that includes TC (design approval), production certification (production approval), airworthiness certification (airworthiness approval) and continued airworthiness management.

PSCP: A Plan that addresses the specific issues of a specific project. It sets the expectations for the project. It is not a legally binding agreement but a mutual statement the intent of the FAA and the Applicant to hold their respective personnel accountable for the success of the project.

TC or Significant STC Project: (For the purposes of this document) Any new TC application. Any application for amended TC or new/amended STC in which:

- a. The design appears to require special conditions, exemptions, or ELOS findings or a certification basis derived from an unusual application of CFR §§ 21.101(a)(2) or 21.101(b).
- b. The design uses novel or unusual methods of construction.
- c. The design changes the kinematics, dynamics, or configuration of either the flight control system or rotor drive system.
- d. The design change would substantially alter the aircraft's flight characteristics.
- e. The design affects an area that has been the subject of a major service difficulty, accident, or airworthiness directive action.
- f. The aircraft design changes the engine configuration from reciprocating to turbopropeller or turbojet powered.
- g. The integrity of the basic load-bearing structure necessary for continued safe flight and landing or operation of the aircraft within approved limits is affected.
- h. The design consists of new state-of-the-art systems of components that have not been previously certificated or for which adequate certification criteria have not been published.
- i. The certification is likely to be controversial or highly visible.
- j. Other significant projects or amendments as defined in FAA Order 8110.4.D-2

D-2. ACRONYMS

AC - Advisory Circular

ACO - Aircraft Certification Office

AEA - Aircraft Electronics Association

AEG - Aircraft Evaluation Group

AEH – Airborne Electronic Hardware

AIR - Aircraft Certification Service

AFM - Aircraft Flight Manual

AFS - Flight Standards Service

AIA - Aerospace Industries Association

AMOC – Alternative Means of Compliance

APU – Auxiliary Power Unit

ASO – Applicant Showing Only

BOM – Bill of Material

CAA – Civil Aviation Authority

CEO - Chief Executive Officer

CFR - Code of Federal Regulations

CIP – Conformity Inspection Plan

COS - Continued Operational Safety

COTS - Commercial Off The Shelf

CPN - Certification Project Notification

CRI – Certification Review Item

CSTA – Chief Scientific and Technical Advisor

DAR – Designated Airworthiness Representative

DER - Designated Engineering Representative

DMIR – Designated Manufacturing Inspection Representative

ELOS – Equivalent Level of Safety

FAA - Federal Aviation Administration

FHA - Functional Hazard Assessment

FSDO - Flight Standards District Office

GAMA - General Aviation Manufacturer’s Association

HAS – Hardware Accomplishment Summary

IP – Issue Paper

LOPI – Level of Project Involvement

LRU - Line Replaceable Unit

MARPA - Modification and Replacement Parts Association

MIDO - Manufacturing Inspection District Office

MOPS - Minimum Operational Performance Standard

MOU – Memorandum of Understanding

MRB – Material Review Board

MSAD - Monitor Safety Analyze Data

NT™ - Windows NT™ Operating System

ODA – Organization Designation Authorization

OMT – Organization Management Team

OPM - ODA Procedures Manual

PA – Project administrator

PAH – Production Approval Holder

PHAC - Plan for Hardware Aspects of Certification

PM - Project Manager

PMA - Parts Manufacturer Approval

PNL – Project Notification Letter

PSAC - Plan for Software Aspects of Certification

PSCP - Project Specific Certification Plan

PSP - Partnership for Safety Plan

PSSA - Preliminary System Safety Assessment

PTCBM - Preliminary Type Certification Board Meeting

QM – Quality Manual

RAM – Risk Assessment Methodology

RBRM – Risk Based Resource Management

RBRT - Risk Based Resource Targeting

RBRTa –Risk Based Resource Targeting for FAA Managed Projects

RBRT_o- Risk Based Resource Targeting for ODA Managed Projects

RFC – Request for Conformity

RTCA - Radio Technical Commission for Aeronautics

SAS - Software Accomplishment Summary

SMS - Safety Management System

SSA - System Safety Assessment

SSCP - Subject Specific Certification Plans

STC - Supplemental Type Certification or Supplemental Type Certificate

SW – Software

TC - Type Certificate or Type Certification

TCAS - Traffic Alert and Collision Avoidance System

TCDS – Type Certificate Data Sheet

TIA - Type Inspection Authorization

TIR – Type Inspection Report

TSO - Technical Standard Order

TSOA - Technical Standard Order Authorization

UM – Unit Member

V&V - Verification and Validation

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