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<td>Engr. MUHAMMAD MUZAMMIL</td>
<td>Sr. Deputy Director Airworthiness (Reg.)</td>
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FOREWORD

1. Under rule 18 of the Civil Aviation Rules 1994 (CARs 1994), a Certificate of Type Approval (CTA) (hereafter referred as ‘Type Certificate’ (TC) as defined in latest issue of ANO-006-AWRG) maybe issued to an applicant who satisfies all the requirements laid down by PCAA. This manual establishes procedures for evaluating and approving aircraft type design data and changes to approved type design data. The procedures apply to all engineering, design, and administrative personnel involved in the type certification process. The manual also establishes the policies and procedures for the application, appointment, renewal, termination, oversight and general conduct of a PCAA “Approved” Designated Engineering Representative.

2. The purpose of this manual is to familiarize the Airworthiness Directorate officials (PCAA) and personnel/ organizations involved in type design certification, with the process of type certification (for aircraft below 5700 KGs), Type Acceptance Certificate (TAC), Supplemental Type Certificate (STC) and engineering change order (ECO) for civil aircraft.

3. Aircraft type certification is the process of evaluation and approval of aircraft type design data against designated airworthiness standards. PCAA, after carrying out investigation against designated certification standards, issues TC for aircraft designed in Pakistan whereas, TAC is issued for aircraft designed in other contracting states. It is a prerequisite for the issuance of a Certificate of Airworthiness (C of A) for an individual aircraft. Subsequently, the TC may be amended in case of modifications incorporated by TC holder or STCs issued for modifications designed by an applicant other than CTA holder.

4. Type certification (including supplemental type certification and other approval of major modifications) of an aircraft involves:
   a) Prescribing appropriate design standards and requirements.
   b) Ensuring that the product design is proven to meet the design standards, through evaluation of methods of compliance which may include ground tests, engineering analysis, flight tests, equivalent level of safety findings etc. (Refer appendix D for details on Methods of Compliance)
   c) Checking that the test articles, when manufactured, conform to the design requirements.
   d) Ensuring that the Aircraft Flight Manual (AFM) and associated operating aspects are satisfactory.
   e) Accepting the maintenance manual and approving the Airworthiness Limitations Section of the maintenance manual (if applicable).
   f) Ensuring that the TC holder has satisfactory arrangements in place for continuing airworthiness control, defect reporting and supply of service documents.

5. The latest FAA Type Certification Process Manual or any other manual related to type certification acceptable to PCAA may be referred only for those topics that have not been covered in this manual.

(Engr. MUHAMMAD ZAHID BHATTI)
Director Airworthiness
Pakistan Civil Aviation Authority

Dated: 24th Jan 2018

(Engr. AHMAD MASOOD MAHFOOZ)
Joint Director Airworthiness (Reg.)
Pakistan Civil Aviation Authority

Dated: 05-Jan-2018
File No. HQCAA/1037/156/AWRH
# RECORD OF AMENDMENTS AND CORRIGENDA

## AMENDMENTS

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## CORRIGENDA

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1 Definitions and Acronyms

For detailed definitions, kindly refer to latest issue of ANO-006-AWRG.
2 APPLICATIONS

Process of Acceptance of the application

Step 1 Submission of application.

Step 2 Acknowledge of receipt: The Airworthiness Engineering Division (AED) of HQs. Airworthiness Directorate will receive the application and acknowledge within 10 working days.

Step 3 Review for correct compliance: The application is reviewed by the AED for any correction, incomplete information or technical issues.

Step 4 Request for correction: The applicant will be communicated by the AED for any correction, incomplete information or technical issues.

Step 5 Received for correction: The letter is received by the applicant for carrying out the correction, providing incomplete information or resolving any technical issues.

Step 6 Checking application: The application is checked by the AED for the contents of the application and eligibility of the applicant on legal basis such as, the organization holds a DOA or is using alternative methods in case of small aircraft. This process is carried out within 01 month. It is at this stage where it is decided whether to Accept or Reject the application.

Step 7 Acceptance or Refusal of application:

Acceptance - The acceptance of the application is notified to the applicant in written by the AED. This information also includes the certification team selected (if selected) for carrying out the certification process, project number and receipt of any fees associated with the application. This process is to be carried out within 01 month.

Rejection - The rejection of the application is notified to the applicant in written by the AED with the reasons, a reference for the possibility of a appeal and receipt of any fees associated with the application. This process is to be carried out within 01 month.

2.1 Application for issuance of Type Certificate (TC) – A TC application is made on PCAA Form CAAF-108-AWRG. For further details refer to the current ANO-006-AWRG. An aircraft TC application must be accompanied by:

a) A three view drawing of the aircraft and
b) Basic data, including proposed operating characteristics and limitations.

2.2 Supplemental Type Certificate Application (STC) - An STC application is made on PCAA Form CAAF-195-AWRG. An STC holder may submit an application for an amendment in STC to include
additional product models to or to introduce significant changes in the modification or alteration in previously approved STC.

**Note:** The STC is the property of the applicant and will be kept confidential.

2.3  **Engineering Change Order (ECO)** - Any authorized person or organization desirous of undertaking modifications (major/ minor) on an aircraft or aircraft component of approved type design for which Pakistan is a State of Registry shall be required to obtain an "Engineering Change Order" (ECO) approval from PCAA. For this purpose, the applicant shall submit application on latest issue of PCAA CAAF-133-AWEG along-with (03) sets of ECO document, drawings and attachments, if any, to Airworthiness Directorate.

2.3.1  ECO shall be applicable for all optional modifications to be accomplished on Pakistan registered aircraft. For modifications based on AD or Mandatory/ recommended SB, ECO approval is not required.

2.3.2  The contents of ECO shall be in line with that as mentioned in Appendix I of this Manual.

2.4  **Production Certificate Application (PC)** - A production certificate application is made on PCAA Form CAAF-108-AWRG. Application for a production certificate may be made at the same time application is made for a TC, an amended TC, or an STC, however, a production certificate cannot be obtained prior to issuance of the TC. For further details refer to the current ANO-002-AWRG.

2.5  **Type Acceptance Certificate Application (TAC)** - A type acceptance certificate application is made on PCAA Form CAAF-194-AWRG. TAC is issued on the basis of accepting the certification standards used for issuance of TC by another Contracting State.

**Note** – Refer to the Major and Minor list attached to this manual, however, to determine whether a new modification is major, minor, etc, and whether it requires a TC amendment or STC, the ATCB may refer to latest revision of ANO-006-AWRG.

3  **Formation and Responsibilities of the Airworthiness Type Certification Board (ATCB)**

The following personnel will be nominated to form an Airworthiness Type Certification Board (ATCB) when an application is accepted for the issuance of TCs, STCs, TACs or amendments to those certificates:

3.1  **Head of Certification Standards (HCS)** - The Head of Certification Standards is responsible for the overall policy guidance and provision of resources to support type certification activity. The head of certification standards will preferably be an Additional Director level officer nominated by the Director Airworthiness (DAW). HCS is a person approved by PCAA to manage the certification / validation and post certification activities of the project in accordance with the PCAA procedures. From the organizational point of view, HCS deals with:

   a)  The team (i.e. Section Head, Project Manager & Inspectors/Specialists)
   b)  The applicant
   c)  The foreign authorities of the applicant
   d)  The PCAA management.

3.2  **Section Head** - The Section Head is responsible for the overall management of design certification activities and determination of priorities for all certification programs associated with the issue of TCs, STCs, TACs and amendments to those certificates and broad control of certification programs through designated Project Manager. The Section head will be an officer of the designation of Joint Director or above, based at the Airworthiness Directorate and nominated by the DAW.

3.3  **Project Manager** - Project Manager is responsible for the project management of specific certification programs, including negotiation with the appropriate organizations. Project Managers are the formal contact point for applicants throughout the project. The Project Manager will be Joint Director or above (Aerospace or Avionics) officer based at the field office and nominated by the DAW.

3.4  **Inspectors (Engineers)** - Additional project support is provided by inspectors from the relevant PCAA offices (AID & AED) and is utilized on a day-to-day basis, particularly for inspection of manufacturing and airworthiness activities. The Inspectors will be nominated by the DAW and will be a part of the working project team.

**Note** - The working project team will comprise of the inspectors/specialists of ATCB and applicant’s team.
3.5 Specialist to cover the different disciplines - Panel of experts comprise of specialist with extensive technical knowledge and experience in all technical disciplines necessary for the type certification of an aviation product. Disciplines to be covered by specialist are:

a) Flight test  
b) Performance  
c) Structures  
d) Powerplant installation  
e) Fuel systems  
f) Hydro-mechanical systems  
g) Electrical systems  
h) Avionics systems  
i) Transmissions  
j) Electronics Controls & software  
k) Cabin safety  
l) Environmental Control systems & Icing  
m) Noise & Environmental protection

Note - If PCAA do not have the appropriate qualified / experienced members for a particular project, they will hire appropriate personals from the aviation industry on contract basis, however, an alternate means can also be adopted. The specialists are not nominated from the applicant’s organization.

3.6 Applicant’s representative (not a part of the ATCB).

Applicant’s team are not a part of the ATCB, but will coordinate and work closely with ATCB and ATCB’s working team.

4 The Design Requirements for an Aircraft not exceeding 5,700 kg MTOW:

For design of aircraft below 5,700 kg, PCAA shall adopt the Airworthiness Requirements / Design Standards as stated in the current ANO-006-AWRG.

4.1 Other Standards - Other sets of standards may be accepted by PCAA, if the standards are appropriate for the purpose for which the aircraft is to be used. To provide evidence that the standards are appropriate, PCAA may require the applicant to provide any of the following:

(a) A copy of the set of standards and, if they are written in a foreign language, a certified English translation.

(b) Safety records of the aircraft for which the certificate has been applied for or for other aircraft of a similar type complying with the set of standards.

(c) Certificate of Compliance by the TC holder, stating that the design of the manufactured aircraft complies with the appropriate airworthiness requirements and approved drawings / specifications.

(d) Operational limitations may also be applied by the PCAA to ensure an adequate level of safety is maintained.

4.2 The certification process begins when the designer of a new product submits an application along with the required drawings / specifications and documents to the Airworthiness Directorate. The product must meet the airworthiness standards acceptable to PCAA including the additional standards found to be necessary for safety by PCAA. For issuance of a TC for an aircraft, PCAA should be satisfied on any or all of the following points:

(a) The design conforms to approved airworthiness requirements or to design standards acceptable to PCAA.

(b) The applicant for TC shall have appropriate facility or an agreement with approved manufacturing organization for production of prototypes / serialized production of the type of aircraft.

(c) The organization must have a setup to collect, analyze data related to in service difficulties and defects on the aircraft and issue continuing airworthiness information on the aircraft.
4.3 The applicant for type certificate should have an appropriate setup comprising of qualified personnel to carry out the design activities and demonstrate compliance against applicable design standards. The applicant may subcontract specialized activities for demonstration of compliance (such as F.E. Analysis, wind tunnel testing, etc), however it shall be the responsibility of the applicant to ensure the accuracy of the results. Furthermore, the applicant may be required to arrange inspection of the facilities and process, which have been subcontracted.

4.4 The applicant shall submit a copy of the following documents after issuance of the TC which shall become the approved design. Any amendments to the following shall be considered a “design change” and shall be processed in accordance with this manual:

(a) The drawing and specifications.
(b) Reports on aerodynamics and structural analysis and tests undertaken to substantiate compliance with the applicable requirements.
(c) Information, materials and process used in the construction of the product.
(d) A master listing of those drawings and specifications necessary to define configuration and design features of the product shown to comply the requirements applicable with the product.
(e) Recommended Master MEL (MMEL), if applicable.
(f) An approved aircraft flight manual.
(g) The maintenance manual with details of the manufacturer's recommended scheduled maintenance program.
(h) Structural repair manual.
(i) Weight & balance record.
(j) List of life-limited components.
(k) Any other data necessary to allow, by comparison, the determination of airworthiness.
(l) Compliance certificate (Refer to the current ANO-002-AWRG).
(m) Manufacturing License Agreement, if any.
(n) Foreign Type Certificates, if held for the product.
(o) Approval of DERs for structure, propulsion, systems, flight analyst and test pilot.
(p) List of applicable SBs / SILs.

4.5 In either case, it should be recognized that the type design records are permanent and may not be destroyed as long as an aircraft, engine or propeller remains in service.

5 Type Certification Program:

Note - Refer flowchart attached to this manual. The following procedures will be followed as applicable to the type of project. The ACTB may use alternate means of compliance or alter the procedures depending upon the type of project.

5.1 Procedure for Type Certificate- An applicant for a TC submits to the PCAA the type design, test reports, and computations necessary to show that the product to be certificated meets the applicable airworthiness and noise requirements of the Civil Aviation Regulations and any special conditions prescribed by the PCAA. The PCAA examines the data submitted by the applicant and determines if it meets the airworthiness and noise requirements of the Civil Aviation Regulations. To be entitled to a TC, for an aircraft, the PCAA must find that no feature or characteristic makes it unsafe for the category in which certification is being requested. The following certification procedures will be followed:

(a) Applicant's formal application for a TC which includes (i) Covering letter; (ii) Application form; (iii) Three view drawings.
(b) The information in the application is used by the Airworthiness Type Certification Board to develop the Certification Program Notification to the Airworthiness Directorate. A file with a specific number is opened on the subject for monitoring all correspondence with the applicant. Section Head is responsible for the progress of the certification work. In this task he is assisted by the Head of Certification Standards, Project Manager, and Inspectors. Depending upon the complexity of the certification work, officers / experts from other directorates of PCAA, such as Flight Standards Directorate, etc., are associated with the certification process.
A familiarization meeting is held with the applicant. This is a meeting to establish partnership with the applicant. It is an opportunity to develop mutual understanding of the type certification process as it applies to the applicant's design. It is highly recommended as a beginning point in the process, the applicant makes presentation to the Airworthiness Type Certification Board on the design features of the product. In this meeting airworthiness design standards to be followed, method of compliance, issues relating to type certification, composition of PCAA team / applicant's team / and specialist to cover the different disciplines, time period for completion of the project are discussed. To establish the certification basis it is necessary to determine a time frame for the completion of the project which could be 03 years or 05 years depending complexity of design. All the certification standards till the submission of the initial application will be applicable, however if the project is not completed as per agreed time frame, the applicant will have to include all the new designed standards. This includes the amendments that have been issued after the submission of the applicant's initial application up to the date the applicant applies for an extension.

The applicant is advised to develop an initial compliance document against the applicable airworthiness design standards and submit the same to the Airworthiness Type Certification Board, so as to arrive at proper understanding of the design standards and their method of compliance.

Note - Unless an applicant shows at the time of submission of the application that its product requires a longer period for design, development and testing, the extra time may be approved by the authority.

A preliminary Airworthiness Type Certification Board meeting is held. At this initial formal meeting, the project team collects data about the technical aspects of the project and the applicant's proposed certification basis and identified other information. PCAA may reduce its own participation in the project to the minimum necessary to substantiate compliance with the airworthiness design standards. For example, instead of making a complete evaluation, PCAA may make spot-check comparisons of the later applicant's data with the first applicant's data.

Note: PCAA is only responsible for the review of the data submitted by the applicant, not for the development of methods or calculations.

The applicant is required to prepare design load and analysis reports and submit the same to the ATCB for evaluation. The design load and analysis reports submitted by the applicant are examined by the ATCB and comments, if any, are communicated to the applicant. If so required, technical meetings are held by the ATCB with the applicant for clarification of certain issues. The technical meetings may cover a variety of subjects. Team members may:

(i) Approve test plans and reports
(ii) Review engineering compliance findings
(iii) Close out issue papers
(iv) Review conformity inspections
(v) Review minutes of board meetings
(vi) Issue New PCAA policy guidance
(vii) Review airworthiness limitations
(viii) Review Instructions for Continued Airworthiness (refer current AWNOT-033-AWXX)

The manufacturing instructions including but not limited to drawings, process sheets, fabrication methods, materials, and other instructions as applicable, shall be part of the approved design. The TC holder shall maintain these records and provide the same to the manufacturing facility for construction of prototypes. A conformity inspection is required to ensure that the product being certificated complies with the type design of the prototypes. It is the responsibility of Airworthiness Type Certification Board personnel to request required conformity inspections. PCAA inspectors/specialists are to determine that the product conforms to drawings, specifications, and special processes. A PCAA conformity inspection should be successfully conducted before any official PCAA tests (ground or flight) are conducted.
Note – To verify the compliance against each applicable design standard, the applicant will use the Compliance of Design Standards Form as attached to this manual. A file will be made for each applicable design certification standard which will be checked by PCAA inspectors/specialist.

(h) The applicant should prepare a test plan when testing is necessary to show compliance to certification standards for design or modifications. The test plan should be prepared and approved as early in the program as possible, but as a minimum, prior to the start of the test. The test plan is used as documentation to assure that orderly and complete testing is accomplished. As a minimum, the following items should be contained in the test plan:

(a) A description of the item(s) to be tested;
(b) A list of all test equipment necessary to conduct the test;
(c) A description of how the equipment will be calibrated (calibration is required) and approved prior to the test;
(d) A description of how the compliance will be shown prior to the test; and
(e) A test procedure written in a step-by-step format.

(i) The conformity of the test article, test setup, test procedures used, and the validity of the test results must be established for each test conducted to show compliance with a type certification requirement. If the test is lengthy, at least the initial part of the testing should be witnessed and a post-test examination conducted. If the cognizant PCAA engineer (inspector(s)) is unable to witness the test, the engineer (inspector(s)) authorizes another qualified engineer, Designated Engineering Representative (DER) to witness the test.

(j) Upon PCAA approval of the test plan, the cognizant engineer requests a PCAA conformity inspection of the test specimen and test setup to assure conformance to the engineering drawing and test plan. The minimum participants for witnessing the test are:

(a) A PCAA engineer (inspector/s), PCAA pilot, or authorized DER;
(b) Specialist to cover the different disciplines (depending on the type of test being carried out); and
(c) An applicant's knowledgeable personnel capable of performing the test duly authorized by the ATCB.

(k) After the PCAA engineer (inspector/s) witnesses the test, in coordination with the specialist, he shall write a report for the PCAA files containing the following:

(a) A description of the test;
(b) A description of the results obtained;
(c) The decisions reached; and
(d) The recommendations which have been made to the applicant.

(l) The applicant should prepare a test report detailing the data for each test and an explanation of the calculations necessary to evaluate the data. The report should include conclusions and recommendations and be presented to the Airworthiness Type Certification Board for approval, or DER approval, if delegated.

(m) Based on the tests on test articles, design changes / modifications may be required to be carried out, these changes are reflected in the prototype to be test flown.

(n) The applicant is required to submit the required design reports compliance statements against airworthiness requirement, drawings, Chief designer’s statement, constructor’s certificate, etc.

(o) Flight Operations Evaluation Board is a group of specialists responsible for matters related to a type of aircraft. The board’s main responsibilities are developing an MMEL and accomplishing an operational evaluation of the aircraft. Board membership typically includes flight standard inspector(s), airworthiness inspector(s), a flight test pilot, an Airworthiness Type Certification Board representative. The Flight Operations Evaluation Board will be chaired by an inspector from the Flight Standard Directorate.
(p) In case of complex aircraft, Maintenance Review Board may be constituted to approve initial maintenance/inspection requirements for new type design aircraft. Board membership includes an ATCB representative, airworthiness inspectors (AID) and specialists.

(q) After the prototype is ready, conformity inspection is carried out by the officers of the ATCB.

(r) A Pre-Flight ATCB meeting is conducted in which discussions center on the applicant's flight test program, including conformity inspections and engineering compliance determinations. After satisfactory clearance by the Airworthiness Type Certification Board and the Director of Airworthiness, permission is granted to the applicant for carrying out flight trials. For conducting flight tests, applicant is required to use the services of test pilots who are approved from the Flight Standard Directorate, PCAA. The applicant is required to conduct flight tests on the prototype as per the flight test schedule approved by the ATCB. He is required to submit the detailed flight test report to the ATCB for scrutiny. The Flight Standard Directorate officers, generally, participate in the applicant's flight tests.

(s) On successful completion of flights of the prototype, the applicant is required to prepare and submit to the ATCB, the Aircraft Flight Manual, Maintenance Manual, MMEL, Structures Repairs Manual, revisions to design documents, revised compliance statements, continued airworthiness documents, etc.

(t) Based on the flight tests, a draft Type Certification Data Sheet on PCAA CAAF-012-AWRG is prepared by the applicant giving operating limitation. This is examined by the ATCB and by the Flight Standard Directorate. The document is approved by the ATCB, if found satisfactory.

(u) In accordance with sub-para (2)(a)(b) of Rule 18B of CARs-1994, on completion of the certification programme, the applicant shall provide a DECLARATION OF COMPLIANCE that the design of the product to be type certificated complies with the Type Certification Basis. The TC is issued when the applicant:
   
   a) Has demonstrated its capability for design
   b) Has submitted the Declaration of Compliance
   c) Has shown compliance with the certification basis and environmental protection requirements
   d) No feature or characteristic makes the products unsafe
   e) If the product is an aircraft, the engine, propeller or both have a type certificate issued.

(v) The team members (specialist) issue statement of satisfaction to the ATCB with the applicant's compliance declaration. Based upon that statement and other relevant documents, the Airworthiness Type Certification Board issues a compliance statement to the Director Airworthiness confirming that the type design of the product complies with the Type Certification Basis. A type certificate on PCAA form CAAF-011-AWRG with a specific number along with the TCDS on PCAA form CAAF-012-AWRG is than issued by the Director Airworthiness.

5.2 Procedure for Type Acceptance Certificate (TAC) Approval– Director Airworthiness may accept the type certificate in respect of any aircraft (below and above 5,700 kg) that may be imported provided that:

(a) The airworthiness authority of the country in which it is designed has issued the certificate of airworthiness, type certificate or similar document, in respect of that aircraft / helicopter or components;

(b) It meets the airworthiness requirements laid down by the PCAA. The applicant shall furnish the documents as per latest revision of ANO-006-AWRG:

(c) The design documents submitted by the applicant are scrutinized by the ATCB. The Head of Certification Standards will select the members/participants of the ATCB (i.e. Project Manager, Section Head and/or Inspectors (Engineers).
In order to familiarize with the design and certification procedures, design representative of the TC holder may be required to visit Pakistan to acquaint PCAA officials with the system and design of the product. Alternately, representatives of PCAA may visit the design/manufacturing site(s) to discuss specific design/manufacturing queries with designer and/or Airworthiness Authority of the State of Design.

Special conditions may be imposed on foreign Type Certificate and Type Data sheet by PCAA in specific cases for safe operation of the aircraft in Pakistan. The special conditions so imposed, will be communicated to the manufacturer and the respective Airworthiness Authorities by the Airworthiness Type Certification Board.

On being satisfied that the basis of Type certification of aircraft/helicopter/aircraft engine/propeller is satisfactory, on the recommendations of the ATCB, Director Airworthiness may accept the Type certificate (with such exception as may be permitted) issued by Airworthiness Authority of the country in which the product has been designed. Additional conditions, operating limitations may be imposed by PCAA.

5.3 Procedure for Supplemental Type Certificates (STC) – Rule 19 of CARs-1994 prescribes conditions for validity of Certificate of Airworthiness. Sub para (e) of rule 19 requires that the C of A will not remain valid if any modification is carried out, or equipment installed other than approved by the Director General. For aircraft designed in Pakistan, the same procedures apply for approval and issuance of an STC as those for a TC. PCAA may issue STC to an applicant (other than TC holder) on CAAF-046-AWRG in respect of an aircraft (for which PCAA is state of design) involving major changes/modifications to its type design.

5.3.2 When an applicant has received approval from a regulatory body to modify an aircraft from its original design, a Supplemental Type Certificate (STC) is issued by the regulatory body, which incorporates by reference the related TC approves not only the modification, but how the modification affects the original design.

5.3.3 A TC holder may apply for an amendment to the TC rather than apply for an STC. An applicant may apply for STC if the modification to type design is considered as Major change. Major changes are classified in Appendix ‘A’.

5.3.4 An STC will not be issued to:

(a) approve minor changes, or for approval of identical replacement parts (unless the installation of such parts constitutes a major change to the type design);

(b) approve design changes to TSO approved articles unless the TSO is invalidated for the modified article. An STC which modifies a TSO article must provide for installation;

(c) combine two or more STC’s without additional showing of compliance;

Note: - The STC is the property of the applicant and will be kept confidential.

5.4 Amendments to TC – For products designed in Pakistan, the same procedures apply for approval and issuance of an amended TC as those for a TC. The ATCB’s design evaluation and level of interaction with the applicant is dependent upon the complexity of design changes/modifications. On satisfactory compliance with the applicable airworthiness requirements, amendments to TC are issued by the Director Airworthiness on the recommendation of the ATCB.

5.5 Procedure for Production Certificates (PC) - A Production Certificate is an authorization by the PCAA for a manufacturer to manufacture a product in compliance with the Civil Aviation Regulations. A PC may be issued to either the holder of a TC or to a licensee of a TC holder who meets the
requirements of rule 23 of CARs 1994. A production certificate application is made on PCAA form CAAF-108-AWRG.

Application for a production certificate may be made at the same time application is made for a TC or an amended TC, however, a production certificate cannot be obtained prior to issuance of the TC. A production certificate will be issued to the approved organization stating the type of product to be manufactured.

6 Cancellation/ Suspension Certificates

As per sub-rule(4) of rule 18B, Civil Aviation Rules (CARs 1994), if the holder of a certificate fails to comply with any of the requirements of 18B sub-rule(2) or the Director-General is satisfied that there is evidence to show that there is a defect in the design of the aircraft component of the aircraft or to make such aircraft a danger to person or property, the Director-General may, subject to rule 341, by order in writing suspend the certificate of type approval or cancel the aforesaid certificate with the prior approval of the Federal Government.

7 Responsibility of the Applicant.
An applicant is responsible for showing compliance to the Civil Aviation Regulations applicable to the specific product or operation. These requirements are as follows:

7.1 An applicant submits the type design and substantiating data necessary to show that the product to be certificated meets the applicable airworthiness and aircraft noise requirements of the Civil Aviation Regulations and any special conditions prescribed by the PCAA.

7.2 The type design consists of drawings and specifications; information on dimensions, materials, and processes; airworthiness limitations; and any other data necessary to describe the design of the product. Type design data may allow by comparison the determination of the airworthiness and noise characteristics (where applicable) of a later product of the same type (Refer the current ANO-006-AWRG).

7.3 Substantiating data is additional data which is necessary to show compliance with the certification basis, e.g., test and analysis reports, ground and flight test reports, etc.

7.4 It is strongly recommended that an applicant make and submit to the PCAA a compliance checklist which addresses each section of the current ANO-006-AWRG applicable to her/his product. In this manner, an applicant can identify certification basis problem areas early in the type certification program.

7.5 An applicant must allow PCAA to make any inspection and any flight or ground test necessary to determine compliance with the applicable requirements of the Civil Aviation Regulations. However, the applicant makes all inspections and tests necessary to show compliance prior to presenting the product to the PCAA for testing.

7.6 The applicant should demonstrate compliance with the applicable requirements of the Civil Aviation Regulations prior to making flight tests, and upon showing compliance, perform all flight tests that the PCAA finds necessary—Test flights shall only be carried out by duly authorized personnel.

7.7 TC holder/ applicant shall have satisfactory arrangements in place for continuing airworthiness control, defect reporting and supply of service documents.

8 Responsibility of PCAA—PCAA is responsible for:
8.1 Providing guidance to an applicant in the certification process;
8.2 Establishing the certification basis;
8.3 Establishing special conditions;
8.4 Processing petitions for exemptions;
8.5 Determination of Equivalent Levels of Safety;
8.6 Approving drawings, reports, data, and flight manuals;
8.7 Performing type inspection authorization (TIA), inspections and tests needed to verify compliance with the Civil Aviation Regulations and conformity with the type design;
8.8 Preparing the type inspection report (TIR) and the TCDS;
9 Flight Manual - A flight manual for each new aircraft is required.

9.1 Flight Manual Approvals – The Flight Standards, PCAA is responsible for the approving the flight manuals, including revisions and supplements. The flight manual should not be approved until:

   a) PCAA project flight test pilot and/or flight test engineer, the operations specialist, and appropriate PCAA airworthiness inspectors concur with the operational limitations and normal and emergency procedures;

   b) PCAA flight test engineer recommends approval of the performance section of the flight manual; and

9.2 Flight Manual Revisions or Supplements – Changes to flight manuals submitted by the CTA holder will be handled by PCAA in the same manner as original manuals. Each revised page should bear a revision date or symbol so that required revisions may be properly identified. Changes to flight manuals submitted by other than the CTA holder should be accomplished by the use of a flight manual supplement.

10 Documents required of the TC/STC Holder and Licensee of a TC Holder-

The holder of a TC, STC, or the licensee of a TC must supply the following documents to PCAA at the time of aircraft delivery:

   a) A current approved aircraft flight manual;

   b) A current weight and balance statement;

   c) Instructions for Continued Airworthiness (also refer current AWNOTs)

   d) Compliance status of AD’s; and

   e) Other appropriate documents as necessary.

Note1: All the records of Type Certificates, Type Certificate Data Sheets, Type Approvals, type design documents, compliance checklists, calculations and test reports, etc. should be preserved.

Note2: For new aircraft the TC holder will furnish complete information regarding its actual weight and balance, which shall also include sketches and other data that will assist the applicant in checking the balance after alterations, together with weight and balance control manual or loading instructions.

11 Monitoring the lead aircraft–

The five initial aircraft that are manufactured under the TC issued by PCAA will be the lead aircraft. It will be the responsibility of the applicant to monitor the aircraft.

11.1 A structural fatigue inspection program for the fleet lead aircraft is to be developed by the applicant. This program is to be approved by the Airworthiness Directorate. The structural fatigue inspection program will comprise of complete disassembly; fatigue checks of critical parts through NDT, visual inspection, replacement of all electrical looms / cables and repair of repairable structure. The detailed report is to be submitted to PCAA, which should contain fatigue inspection analysis, additional inspections carried out, parts replaced, modification accomplished and aircraft weight and balance schedule.

12 Designated Engineering Representative (DERs) Requirement –

12.1 PCAA Policies - The following policy statements list the PCAA airworthiness policies associated with the DER program:

   a) DERs are appointed and approved by PCAA only when there is a justified need for engineering delegation;

   b) The DERs are delegated to make findings of compliance to airworthiness requirements on behalf of the PCAA in support of major alteration and repair only for aircraft manufactured or registered in Pakistan;

   c) A database containing names, categories, designations, validity period and contact information of valid DERs shall be maintained by the PCAA so that interested parties engaged in the operation and maintenance of aircraft registered in Pakistan may contact these DERs;
d) DERs (Foreign and Domestic) must be employed or hired by an organization. Application for DER should be submitted through an organization planning to use the DER services;

e) Applications shall not be accepted from foreign applicants for DER in the candidate category;

f) Any application for a DER Certificate of Authority shall be assessed against the requirements of current FAR 183.29, the supporting procedures contained in the current FAAO 8110.37E and FAAO 8100.8D or subsequent, and the specified policies and procedures contained in this document. In case of conflict between this document and the FAAOs, the former would prevail;

g) The validity period for a DER (Domestic) shall be one calendar year from date of appointment;

h) The validity period for a DER (Foreign) shall not exceed the validity period on the foreign DER authorization on which the DER authority is based and in no case shall it exceed 2 years;

i) DERs performance shall be evaluated by the PCAA Airworthiness Directorate on an ongoing basis and corrective actions taken to correct identified deficiencies in performance;

12.2 DER Categories, Designations, Privileges and Limitations - Designation of a person as a DER is a privilege granted by PCAA. It is not a right of every qualified applicant to be granted a DER designation. A DER finds compliance or recommends PCAA findings of compliance with appropriate airworthiness requirements.

12.2.1 DERs shall be appointed with specific categories, designations, privileges (authorized scope of authority, functions, areas) and limitations. Each DER appointment will list the specific categories, designations, privileges and limitations in the Certificate of Authority which is issued to the DER.

12.2.2 Categories - DERs shall be appointed in one of the following categories.

a) Company DER

b) Consultant DER

c) Dual Appointment

d) Candidate DER

12.2.2.1 Company DER - An individual may be approved as a Company DER for their employer and may only approve or recommend approval of technical data to PCAA for their sponsoring company. DERs approved in the Company DER category may only perform DER activities while employed by the sponsoring company.

Note: A Company DER cannot be employed by an Organization unless an officer of the company within which the DER can exercise his/her delegation has recommended it in writing on PCAA form “CAAF-165-AWEG, block 10.

12.2.2.2 Consultant DER - An individual may be approved as an independent (self-employed) Consultant DER to approve, or recommend approval of technical data to the PCAA for a client.

12.2.2.3 Dual Appointment - PCAA presently does not issue Dual Appointments.

12.2.2.4 Candidate DER - If an applicant meets all the requirements for a DER designation except for significant experience in a direct working relationship with PCAA, the applicant may be identified as a DER candidate. Candidates do not have the authority to make findings of compliance or approve data, but must review and make recommendations of compliance to the PCAA to demonstrate their ability to function as a DER. After demonstrating this capability, the DER candidate will be delegated authority as a DER provided PCAA has a need and the ability to manage the DER.

12.2.3 Designations - DERs may be appointed in one or more of the following designations subject to their qualifications and experience and requested designations.
12.2.3.1 **Structural DER** - Structural DERs may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

a) Engineering reports,  
b) Drawings,  
c) Material and process specifications used in structural applications, and  
d) Other data relating to structural considerations.

12.2.3.2 **Powerplant Installation DER** - Powerplant Installation DERs may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

a) Engineering reports,  
b) Drawings, and  
c) Other data relating to powerplant installations, including all systems and equipment necessary for the proper operation of the powerplant.

12.2.3.3 **Systems and Equipment DER** - Systems and Equipment DERs may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

a) Engineering reports,  
b) Drawings, and  
c) Other data relating to aircraft systems and equipment design not covered by structural or powerplant representatives.

12.2.3.4 **Radio DER** – PCAA Radio DERs may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

a) Engineering reports,  
b) Drawings,  
c) Tests, and  
d) Other data relating to the design and operating characteristics of radio equipment being manufactured and/or modified.

12.2.3.5 **Engine DER** - Engine DERs may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

a) Engineering reports,  
b) Drawings, and  
c) Other data relating to durability, materials, and processes employed in engine design, operation, and maintenance.

12.2.3.6 **Propeller DER** - Propeller DERs may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

a) Engineering reports,  
b) Drawings, and  
c) Other data relating to propeller blade and hub design, pitch control, propeller governing, and maintenance, provided these items comply with the pertinent regulation(s).

12.2.3.7 **Flight Analyst DER** - Flight Analyst DERs may prepare and/or approve, within the limits of their appointment, the following items that comply with pertinent regulation(s):

a) Aircraft performance flight test data,  
b) Aircraft quantitative operating data, and  
c) Flight characteristics data.

12.2.3.8 **Flight Test Pilot DER** - Flight Test Pilot DERs may conduct and approve, within the limits of their appointment, flight tests of new or modified aircraft.

12.2.3.9 **Acoustical DER** - Acoustical DERs may witness and approve or recommend approval of tests/data, remaining within the limits of their appointment.
12.2.4 **Privileges** - Specifically, DERs shall be granted privileges for categories of products, functions and areas for which PCAA has found that they are qualified and their appointment would be in the interest of PCAA. Specifically, each DER shall be granted privileges in the following manner.

12.2.4.1 **Scope of Authority** - Scope of Authority shall list aircraft categories as per FAR design requirements (i.e. Part 23 in this case);

**Note:** The identification of a specific FAR Part also implies any predecessor regulations (i.e., Part 23 includes CAR 3).

12.2.4.2 **Delegated Functions** - Delegated functions shall be established and specified as per charts found in (Appendix H)

12.2.4.3 **Authorized Areas** - Authorized Areas shall be established and specified as per charts found in (Appendix H)

12.2.4.4 **Special Delegations/Authorizations** - DERs may be authorized special delegations or functions as determined on a case-to-case basis. Special authorizations and limitations for DERs will be established in accordance with FAAO 8110.37E as amended, with the exception that Administrative DERs, PMA Identically and Major Repair and Major Alteration special authorizations will not be granted by the PCAA.

12.2.5 Limitations - DERs shall be limited in their authorized activities to those functions and activities which they are qualified. DERs shall be limited in their activities in accordance with individual limitations established on a case-by-case basis and General Limitations (as per Section 12.2.5.1).

12.2.5.1 **General Limitations** - All DERs shall be limited in their authorized activities in accordance with general limitations as noted below.

a) DER activities shall be carried out in accordance with FAR Part 183.29, PCAA CTA process manual, and FAA Order 8110.37E- Designated Engineering Representative (DER) Guidance Handbook (or subsequent), unless otherwise stated by PCAA. In case of conflict between CTA process manual and the FAAO, the former is to prevail.

b) Statements of Compliance shall be made using PCAA form ‘CAAF-166-AWEG’

c) DER authorized activities may only be carried out while a DER is employed by an Organization.

d) The PCAA project numbers are required to be quoted by the DER on the PCAA form ‘CAAF-166-AWEG’ in the “Purpose of Data” block. (PCAA project numbers would be PCAA file number)

e) Should the scope of a project (for which a project number has already been issued) change to the extent that the DER authorized activities are exceeded then the DER must report the situation to PCAA and await for PCAA determination before the DER completes the project activities.

f) The DER may use as many experienced engineers as needed to completely evaluate engineering technical data; however, the DER accepts the responsibility for approving the technical data when signing the PCAA form ‘CAAF-166-AWEG’. A DER may decline to approve any or all portions of the technical data, and may forward such data to PCAA for approval. In such instances, the DER must specify reasons for not approving the technical data.

g) PCAA does not authorize any DER to infer that he or she is a PCAA employee or to use the PCAA logo on things such as: business cards, letterheads, facsimile covers, document covers, or any other business forms.

h) DERs may not use their DER identification number when signing company or personal reports, drawings, service documents, or letters. This ensures that the DERs signature on such documents does not constitute PCAA approval.

i) Any other specific limitation listed on the DER Certificate of Authority.

12.2.5.2 **Items Requiring PCAA Approval** - PCAA retains authority and responsibility for examining and approving certain items, e.g., the certification basis, any special conditions, exemptions, equivalent
12.3 **DER Application Procedures** - This paragraph addresses application procedures for both DER (Domestic) and (Foreign).

12.3.1 **DER (Domestic)** - This section addresses DER application procedures from qualified individuals who are residents of Pakistan.

12.3.1.1 **Eligibility Requirements** - Eligibility requirements for foreign DER are mentioned in following paragraphs;

12.3.1.1.1 **Residency Status** - Applicants for DER (Domestic) must be either:

a) a Pakistani national possessing a Nationality Identification document, or 
b) a non-Pakistani national possessing a valid Resident Permit and Passport.

12.3.1.1.2 **General** - Applicants for DER (Domestic) must:

a) be able to read, write, speak and understand the English language; 
b) be permitted by the laws of Pakistan Engineering Council to practice engineering in Pakistan; 
c) hold an engineering degree granted by a college or university of recognized standing; 
d) have at least eight years of progressively more responsible aeronautical, mechanical, electrical or general engineering experience, or satisfactory combinations thereof as

...
appropriate to the designations sought. An applicant may apply for credit of up to four years maximum for the successful completion of his engineering degree to meet the eight-year experience requirement;

e) have at least one year of experience in a direct working relationship with the PCAA in which the applicant was continuously and actively engaged in the processing of engineering work for PCAA approval of the type in which the applicant is seeking appointment. The experience in direct contact with the PCAA, which may be part of the eight year experience requirement, must have occurred during the last three years prior to the application for DER appointment.

f) have a thorough working knowledge of the pertinent regulations (e.g. FAR Parts 1, 21, 23);

g) have been in a responsible position in connection with the type of work for which the applicant is to be designated and be entirely cognizant of related technical requirements and problems related to civil aircraft approval, or have otherwise demonstrated suitability for the designation; and

h) possess integrity, sound judgment and a cooperative attitude.

12.3.1.1.3 Structural DER - An applicant for a Structural DER with a delegated function of fatigue analysis shall, in addition to the general eligibility requirements, possess the following:

a) As education:
   I. a degree in Engineering Mechanics, Aerospace/Aeronautical Engineering, Mechanical Engineering; and
   II. Specialized training in fatigue analysis.

b) As experience:
   I. more than two years experience in airframe stress analysis performing as the principal investigator and responsible for results and conclusions within the last ten years prior to appointment.

12.3.1.1.3.1 An applicant for a Structural DER with a delegated function of damage tolerance evaluation shall, in addition to the general eligibility requirements, possess the following:

a) As education:
   I. a degree in Engineering Mechanics, Aerospace/Aeronautical Engineering, Mechanical Engineering; and
   II. a specialized course in fracture mechanics, damage tolerance assessment and fatigue analysis.

b) As experience:
   I. more than two years experience in damage tolerance analysis performing as the principal investigator and responsible for results and conclusions within the last ten years prior to appointment.

12.3.1.1.4 Flight Test Pilot DER - Flight test pilot DERs shall, in addition to the general eligibility requirements, possess the following:

a) Hold a commercial pilot's certificate with an instrument rating, and be qualified in aircraft of the same category and class and similar in design to that in which the applicant will be conducting tests;

b) Have logged a minimum of 2,000 pilot-in-command (PIC) flying hours (1,000 hours for helicopters) of which at least 100 hours have been logged within the past 12 months; and

c) Have logged a minimum of 100 hours of appropriate experimental flight testing experience in the same certification category and in a similar type of aircraft for which the DER appointment is requested.

12.3.1.1.5 Application for initial appointment and renewal - All the steps in the procedure described herein are to be followed in the sequence presented, unless otherwise indicated by the PCAA. The procedure may be terminated at any step in the process. The following steps apply:

a) the Organization determines the need for DER involvement;
12.3.2 **DER (Foreign)** - This section addresses application procedures for DER from individuals who hold an engineering delegation from the FAA or other PCAA recognized CAA and who are not residents of Pakistan.

12.3.2.1 **Eligibility Requirements** – Eligibility requirements for foreign DER are mentioned in following paragraphs;

12.3.2.1.1 **General** - The PCAA will only accept applications for a DER (Foreign) from persons holding a current FAA DER Certificate of Authority (or an equivalent authority issued by a PCAA recognized CAA considered by PCAA as equivalent to FAA). An FAA DER Candidate is not eligible to apply for a DER Certificate of Authority.

12.3.2.1.2 **Other Requirements** - The applicant's DER Certificate of Authority issued by the FAA or a PCAA recognized CAA must be relevant to the activities sought. A DER Certificate of Authority will not be endorsed with categories, designations, authorized areas and delegated functions which exceed those shown on their current FAA DER Certificate of Authority and related letter of authorization.

The applicant must be able to demonstrate his/her knowledge of the current PCAA/FAR regulations and related policies and procedures, and of their Organization’s policies and procedures relevant to design change approval.

12.3.2.1.3 **Application for initial appointment and renewal** - All the steps in the procedure described herein are to be followed in the sequence presented, unless otherwise indicated by the PCAA. The procedure may be terminated at any step in the process. The following steps apply:

a) the Organization determines the need for DER involvement;

b) the Organization nominates the appropriate person for PCAA consideration, after ensuring that the person meets the PCAA eligibility requirements;

c) the nominated person ensures that he/she has access to the necessary facilities, data, documentation, and resources to perform the activities sought;

d) the Organization submits the following documents to PCAA;

i. a completed PCAA form ‘CAAF-165-AWEG, Statement of Qualifications, signed by the applicant, along with supporting documentation (including an accurate record of the applicant’s relevant qualifications and experience) (In the case of initial appointment) or a DER activity report for the last DER validity period. and,

ii. evidence of the applicant’s current FAA DER delegation including copies of the current FAA Certificate of Authorization
12.4 DER Appointment and Renewal Procedures – Procedures mentioned in the following paragraphs will be followed for DER appointment and renewals;

12.4.1 Application Evaluation - The PCAA receives and evaluates the applicant’s submission. First the PCAA ensures if the need is genuine. Then the PCAA initiates administrative action which includes the opening of a DER file and the assignment of a DER number from the DER number register in accordance with paragraph 5.3. Evaluations of the applicant’s technical capability shall include interviews, tests, portfolio reviews and any other means necessary to establish acceptability to be DER. Appendix 1 of FAAO 8100.8, Designee Management Handbook, provides additional guidance in this area.

12.4.2 Interview - If required, the PCAA may interview DER applicants to assess his/her eligibility to be a DER and also provide orientation on PCAA organizational structure, regulatory framework and certification procedures.

12.4.3 DER Designation Numbers - Each DER shall be assigned a unique designation number at time of their first and subsequent appointment as DER in the format PCAA/DER-yyymmnnx(-z) (e.g. PCAA/DER-01025F-1) where:
   a) yy = year (Gregorian) of first appointment
   b) nnn = DER counter of first appointment beginning at 1 in each year, reset to 1 at beginning of each year
   c) x = F for foreign DER or D for domestic DER or C for Candidate DER
   d) z = counter for each subsequent renewal

12.4.4 Certificate of Authority - The DER Certificate of Authority shall be prepared using PCAA Form ‘CAAF-044-AWEG. The Certificate of Authority shall state the DER category, designation number, the privileges which the person concerned is authorized to perform, limitations of authority and an issue and expiration date. The certificate may be reissued to correct administrative errors or to replace a lost or destroyed original.

12.4.5 Letter of Appointment - The PCAA shall notify the DER applicant, in writing and with a copy to the nominating Organization, of its decision regarding DER appointment within fifteen (15) working days following the date of receipt from the applicant/Organization of all the information required as 12.4. The letter of appointment is to include the DER Certificate of Authority.
   A sample Letter of Appointment is found in Appendix E.

12.4.6 Letter of Renewal - The PCAA shall notify the DER applicant, in writing and with a copy to the nominating Organization, of its decision regarding DER renewal within fifteen (15) working days following the date of receipt from the Organization of all the information required as per 12.4. Note that a DER may apply himself once for yearly renewal, in between two renewals through an Organization or project. The notification is to include the DER renewal letter and DER Certificate of Authority.
   A sample Letter of Renewal is found in Appendix F.

12.5 DER Responsibilities and Indemnification - Once appointed, each DER has the following responsibilities:
   a) The DER may only perform those functions that are stated on his/her PCAA Certificate of Authority and only while the certificate remains valid. The holder must comply with the limitations of their appointment as specified in their Certificate of Authority and this process manual;
   b) A DER Certificate of Authority does not constitute an authorization for the DER to work on a particular project. Each project must be authorized by PCAA on a case-to-case basis;
   c) The DER must ensure that all documentation pertaining to a specific project (including PCAA Compliance Checklists (CCL) given at Appendix D contains the PCAA project authorization number and the DER designation number (For guidance regarding method of compliance in the CCL, FAA AC 23-24 may be referred);
   d) The DER must make findings of compliance against the PCAA/FARs orders and regulations, using the associated policies, procedures guidance material;
   e) For each project, the DER must supply the PCAA with a completed PCAA CCL (Appendix D) and any other required reports and data in a form and manner acceptable to the PCAA;
12.5.1 **Indemnification** - A DER, while acting pursuant to a DER appointment, is a representative of the PCAA for specific functions. A DER is not an employee of the PCAA and is therefore fully liable for his/her work performed and decisions made as a DER. The PCAA will not indemnify DERs against personal civil liability incurred by reason of any act or omission within the scope of their employment or duties as a DER.

12.6 **Continued Validity of DER Certificate of Authority** - Unless terminated by the PCAA, a DER Certificate of Authority becomes invalid as a result of any of the following:

   a) when the validation date expires.
   b) Note: Notwithstanding, a DER authorization for a particular PCAA project remains valid until the end of the project, even if the DER Certificate of Authority expires in the mean time; upon the written request from the DER; upon a DER appointed in the Company category ceasing to be employed by the company who sponsored their delegation; or upon a non-Pakistani national DER no longer possessing a valid Work permit.

12.6.1 **Certificate Validation Date** - Unless terminated by the PCAA, a DER Certificate of Authority remains valid for the period as stated thereon. The validity period shall be established based on the following criteria:

   12.6.1.1 **DER (Domestic)** - Validity periods shall be one year from date of appointment.
   12.6.1.2 **DER (Foreign)** - Validity period shall not exceed validity period on the foreign DER authorization on which the DER authority was based and in no case shall it exceed 2 years.
   12.6.1.3 **DER Candidate** - Validity periods shall be established on a case-to-case basis but shall not exceed three calendar years from date of appointment.

12.6.2 **Renewal Procedures** - DER may apply for renewal of his/her DER Certificate of Authority within 15 days of its expiry date or when changes in scope of approval are sought. Applications for renewals and changes in scope of approval must follow the same procedures as described in Chapter 4 for initial DER appointment. DER renewal procedures are described in 12.4.

12.7 **Termination of DER Certificate of Authority** - The DER Certificate of Authority may be terminated for any of the following reasons:

   a) subsequent to a finding by the PCAA that the DER is not performing his/her duties in accordance with their Certificate of Authority;
   b) subsequent to a finding by the PCAA that the DER has not had sufficient activity to warrant continuance of the designation; or
   c) for any other reason that the PCAA considers appropriate.

12.8 **DER Oversight** - Every interaction between the DER and the PCAA constitutes oversight of the DER by the PCAA. Interactions may be in the form of data review or may be in the form of personal contact (e.g. telephone calls, visits, etc.). The PCAA in performing its regulatory obligations shall use the interactions to evaluate the compliance of the DER with the PCAA/FAR requirements and this process manual. The results of these interactions will determine the continued validity of those certificates.
MAJOR MODIFICATIONS
(DEFINITION)

1. **Airframe Major Modifications**: Major modifications include modifications to the listed aircraft parts, or the listed types of modifications (when not included in the applicable aircraft specifications):

   1.1 Wings.
   1.2 Tail surfaces.
   1.3 Fuselage.
   1.4 Engine mounts.
   1.5 Control system.
   1.6 Landing gear.
   1.7 Hull or floats
   1.8 Elements of an airframe including spars, ribs, fittings, shock absorbers, bracing, cowlings, fairings, and balance weights.
   1.9 Hydraulic and electrical actuating system of components.
   1.10 Rotor blades.
   1.11 Changes to the empty weight or empty balance which result in an increase in the maximum certified weight or centre of gravity limits of the aircraft.
   1.12 Changes to the basic design of the fuel, oil, cooling, heating, cabin pressurization, electrical, hydraulic, de-icing, or exhaust systems.
   1.13 Changes to the wing or to fixed or movable control surfaces which affect flutter and vibration characteristics.

2. **Powerplant Major Modifications**: Major powerplant modifications, even when not listed in the applicable engine specifications, include:

   1.1 Conversion of an aircraft engine from one approved model to another, involving any changes in compression ratio, propeller reduction gear, impeller gear ratios or the substitution of major engine parts which requires extensive rework and testing of the engine.
   1.2 Changes to the engine by replacing aircraft engine structural parts with parts not supplied by the original manufacturer or parts not specifically approved by the Authority.
   1.3 Installation of an accessory which is not approved for the engine.
   1.4 Removal of accessories that are listed as required equipment on the aircraft or engine specification.
   1.5 Installation of structural parts other than the type of parts approved for the installation.
   1.6 Conversions of any sort for the purpose of using fuel of a rating or grace other than that listed in the engine specifications.

3. **Propeller Major Modifications**: Major propeller modifications, when not authorized in the applicable propeller specifications, include:

   1.1 Changes in blade design.
   1.2 Changes in hub design.
   1.3 Changes in the governor or control design.
   1.4 Installation of a propeller governor or feathering system.
   1.5 Installation of propeller de-icing system.
   1.6 Installation of parts not approved for the propeller
4. **Appliance Major Modifications:** Modifications of the basic design not made in accordance with recommendations of the appliance manufacturer or in accordance with applicable Airworthiness Directive are appliance major modifications. In addition, changes in the basic design of radio communication and navigation equipment approved under type certification or other authorization that have an effect on frequency stability, noise level, sensitivity, selectivity, distortion, spurious radiation, AVC characteristics, or ability to meet environmental test conditions and other changes that have an effect on the performance of the equipment are also major modifications.

**Note**—For further details, to determine whether a new modification is major, minor, etc, and whether it requires a TC amendment or STC, the ATCB may refer to FAA or EASA documents.
SAMPLE TYPE CERTIFICATE, TC AMENDMENT
or STC FLOWCHART

(For practical purposes, the ATCB may deviate from this flowchart)

Applicant submits Application

PCAA constitutes Airworthiness Type Certification Board (ATCB) consisting of PCAA officials in accordance with the PCAA’s approved MNL-003-AWRG

ATCB will check the application

No

Application “Accepted”

Yes

ATCB inform the Applicant of the shortcomings

ATCB will inform the application that the application has been “ACCEPTED”

ATCB and Applicant to hold FIRST Meeting

FIRST Meeting –

• The applicant will give a presentation of the new product.
• According to the project it will be decided as to in which discipline with the specialist be hire for (if necessary).
• ATCB and applicant will also decide the certification basis of FAR

ATCB will start the process for hiring on contract the specialist in different

As an ALTERNATE, the applicant may hire the specialist and obtain ATCB’s Approval. These specialists will then

Applicant will hire DER(s) as per PCAA requirements and submit their application for “Approval”.

ATCB scrutinize the application as per requirements and grant “Approval” if found “SAT”

(Continued)
Approved DER will submit a Compliance Plan which will show the compliance of the product against the certification basis of the FARs (i.e. Applicable or Not Applicable).

ATCB specialist / inspectors will check the Compliance Plan submitted by the DER

1 - The DER/s will submit the Compliance Matrix Plan to the ATCB in which it will be decided by the DER and inspector / specialist as to how will the applicant demonstrate the compliance of the product against the FARs, that is by calculations, flight test, ground test, analysis, design, similarity, equivalent level of safety finding, petition for exemption, or only by reviewing of documents / reports, etc – refer AC 23-24 Appendix I.

Compliance Matrix Plan will be discussed and “Approved” by the ATCB on the recommendations of the specialist/inspectors

(Continued)
The DER will physically show or demonstrate the Compliance of the new product against the FARs to the inspectors / specialist (refer to the compliance form).

No

Compliance Plan completed

Yes

A “Service Bulletin” will also be prepared (if necessary for TC amendment or STC) by the DER showing as to how to apply the changes on the product and will also cover the “Continuing Airworthiness”.

Test Flight will be carried out and the report will be reviewed by the specialist/inspector

No

Necessary changes carried

Yes

Test Flight Report “Satisfactory”

After completing the compliance process and test flight, the inspectors / specialist will submit their “Final Report” along with all documentations to the ATCB for “Approval”.

No

Final Report “Approved”

Yes

Inspector / Specialist will draft a TC or Amended Type Certificate or STC

(Continued)
Final TC or Amended Type Certificate or STC will be ‘Approved’ by the ATCB

On the recommendation of the ATCB, the final TC or Amended Type Certificate or STC will be submitted to DAW for “Approval” and signatures.

Airworthiness Directorate will then issue the TC or Amended Type Certificate or STC to the applicant.

Note – The Compliance Plan Checklist and Compliance Matrix Plan Checklist maybe covered in one form as deemed appropriate by the ATCB.
# Design Standards Compliance Form

*(To be filled only for applicable regulations)*

<table>
<thead>
<tr>
<th>Project No. / File No.</th>
<th>Date:</th>
<th>TCDS No.(if any):</th>
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<table>
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<tr>
<th>Originator:</th>
<th>Original Certification Basis:</th>
<th>Product Name:</th>
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<tr>
<th>Applicable Design Standard Regulation Number and Description</th>
<th><em>(ie FAR, CS, or another design acceptable to PCAA,)</em></th>
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<th>Method of Compliance:</th>
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<td>□ Calculations</td>
<td>□ Flight test</td>
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<td>□ Similarity</td>
<td>□ Ground test</td>
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<tr>
<td>□ Analysis</td>
<td>□ Design</td>
</tr>
<tr>
<td>□ Equivalent level of safety finding</td>
<td>□ Petition for exemption (give details below)</td>
</tr>
<tr>
<td>□ Other Method acceptable to PCAA</td>
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</table>

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<tr>
<th>Details of Compliance</th>
<th><em>(How did the applicant demonstrate the compliance with the regulation – Please provide references such as plan, drawing report number, design reference number, compliance findings after tests, etc)</em></th>
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<tr>
<th>Inspectors / Specialist Remarks:</th>
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<tr>
<td>□ Satisfactory</td>
<td>□ Not Satisfactory (Please state reason if not satisfactory)</td>
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<td>Inspector:</td>
<td>Specialist (If any):</td>
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<th>DER:</th>
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*Note – Use additional sheets if necessary. This form may be altered as deemed suitable.*
Compliance Plan Checklist

*Note – This form may be altered as deemed suitable.*

**Project No. / File No.** ________________  **Date:** ________________

**Originator** ________________

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<thead>
<tr>
<th>Regulations FARs Number and Title and date</th>
<th>Regulations FARs Amendments and date</th>
<th>Applicable or Not Applicable</th>
<th>Remarks</th>
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Name: ______________________________________

Signatures and stamp: _________________________
**Compliance Matrix Plan Checklist**

*Note – This form may be altered as deemed suitable.*

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<th>Revision</th>
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- □ Type Certificate
- □ Amended Type Certificate
- □ Supplemental Type Certificate

(a) Make:  
(b) Description of Product or Modification/Amendment:

(c) Model:  

(d) TCDS No. (For ATC/STC only):

(e) Original Certification Basis (For ATC/STC only):

(f) Agreed Certification Basis:

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<th>FAR Part 23 Regulation</th>
<th>Applicable Amendment (As per Agreed Certification Basis)</th>
<th>Applicability on proposed design change (Yes/No)</th>
<th>Method Of Compliance</th>
<th>Plan/ Drawing/ Report No.</th>
<th>Person finding compliance (Initials of concerned DER)</th>
<th>Applicable Guidance/ Reference Doc (PCAA/ FAA ANO/ AWN/ AC/ AQ etc.)</th>
<th>Verification by PCAA (sat/ unsat)</th>
<th>Initials of verifying PCAA inspector</th>
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</table>

*Methods of Compliance:*

- FT = Flight Test, GT = Ground Test, AN = Analysis, DE = Design, SI = Similarity, ELOS = Equivalent Level of Safety Finding, PExmpt = Petition for Exemption, N/A = Not Applicable
Sample Letter of Appointment (DER)

Mr. Idrees Ahmed
123 Anytown Lane
Rawalpindi
PAKISTAN

Subject: DER Appointment

Dear Mr. IA,

This letter is to serve as notice of your appointment as PCAA Designated Engineering Representative (DER) by the PCAA in response to an application received from VIP Aviation Incorporated dated February 4, 2001.

Your DER designation number is CAAP /DER-01099F. Details of your appointment including privileges (scope of authority, authorized areas, delegated functions), limitations and validity date are found on the attached Certificate of Authorization. Applications for renewal must be made in accordance with PCAA DER process manual, as amended.

Please contact your PCAA advisor, Mr. Ali Ahmad at Tel. xxxxx should you have questions pertaining to this appointment.

Regards,

Original Signed By
HQ Airworthiness, PCAA

cc: Mohammad Taha, Quality Assurance Manager, VIP Aviation Incorporated
Sample Letter of Renewal (PCAA -DER)

Mr. Idrees Ahmed
123 Anytown Lane
Rawalpindi
PAKISTAN
Subject: DER Renewal

Dear Mr. IA,

This letter is to serve as notice of your renewal as PCAA Designated Engineering Representative (DER) by the PCAA in response to an application received from VIP Aviation Incorporated dated February 1, 2002.

Your new DER designation number is PCAA /DER-01099F-1.

Details of your appointment including privileges (scope of authority, authorized areas, delegated functions), limitations and validity date are found on the attached Certificate of Authorization. Applications for renewal must be made in accordance with PCAA DER process manual, as amended.

Please contact your PCAA advisor, Mr. Ali Ahmad at Tel. xxxxxxx should you have questions pertaining to this appointment.

Regards,

Original Signed By

HQ Airworthiness, PCAA

cc: Mohammad Taha, Quality Assurance Manager, VIP Aviation Incorporated
Limitations on DER Functions

GENERAL

The following are inherently governmental functions and are to be referred to the PCAA for approval. DERs may only RECOMMEND these data for approval:

a) Departures from specific policy and guidance.
b) New/Unproven technologies.
c) Equivalent level of safety findings.
d) Special Conditions.
e) Exemptions.
f) Alternate Means of Compliance (AOM)
g) Life Limited Components and Certificate Maintenance requirements (CMR’s)
h) System Safety Analyses

The PCAA may delegate any examination, inspection, and test necessary to the issuance of a certificate. The decision to delegate is influenced by many factors. Some critical factors include the knowledge and expertise of the PCAA personnel and the potential delegated personnel; the impact of the delegated task on safety; and the political sensitivity of the task. With this in mind, for any given certification program, the PCAA would more than likely reserve for itself, the approval of the following items.

STRUCTURAL

a) Approval of test plans.
b) Basic load reports.
c) Material and fastener allowables, including fatigue allowables.
d) Approval of life limits.
e) Previously unapproved crashworthiness matters.
f) Emergency evacuation test plans and analysis.
g) Damage tolerance evaluation methodologies.
h) Airworthiness limitations section of the instructions for continued airworthiness.
i) Approval of probability conclusions.
j) Interior Compliance Inspection.

POWERPLANT

a) Approval of test plans.
b) Flight Test results.
c) Operational procedures and limitations.
d) System Safety Analyses for New Engine Installations.
e) Rotorburst Analyses for New Engine Installations
f) Operational procedures and limitations.
g) Fire safety hazard analyses.
h) Powerplant drainage test witnessing.
i) Induction system ice protection and installed engine characteristics in icing conditions for new engine installations.
j) Flammable fluid fire protection compliance inspection.
k) Fire detector and extinguishing systems and installations.
   Software Verification and Validation.
l) Engine Performance Methodology.

**SYSTEMS & EQUIPMENT.**

a) Approval of test plans.
b) New Concepts of System/Equipment Design.
c) Software:
   i. Plan for Software Aspects of Certification
   ii. Configuration Index
   iii. Accomplishment Summary

d) Plan for Software Aspects of Certification.
e) Configuration Index.
f) Accomplishment Summary.
g) Unconventional Applications of Systems/Equipment.
h) Schematic Diagram, and Probability/Criticality analysis approvals.
i) Control systems compliance inspection.
j) Previously unapproved crashworthiness matters.
k) Interior Compliance Inspection.
l) Emergency evacuation test plans and analyses.

**RADIO.**

a) Approval of test plans.
b) New Concepts of System/Equipment Design.
c) Schematic Diagram and Probability/Criticality analysis approvals.

**ENGINE.**

a) Approval of test plans.
b) Operational procedures and limitations.
c) Critical rotating parts lifting methodologies.
d) Installation instructions.
e) Airworthiness limitation sections.
f) Repairs to critical engine parts.
g) Software Verification and Validation.
h) Engine Noise and Emissions.

**PROPELLER.**

a) Approval of test plans.
b) Operational limits.
c) Vibration analysis methods.
d) Airworthiness limitation sections.

e) Fatigue allowables and fatigue life.

f) Loads Reports, particularly vehicle usage spectra.

**FLIGHT ANALYST**

a) Approval of test plans.

b) Overall flight and ground test plans limitations, operating procedures, or sequences.

c) New methods or principles of testing or presentation of results.

d) Unusual aircraft flying qualities and aircraft performance.

e) Aircraft Flight Manuals or revisions, and Flight Manual Supplements

f) Flight advances technical design features.

g) New operational procedures.

h) Evaluation of Several STCs on one aircraft

i) Spot check certification flight test results.
Delegated Functions and Authorized Areas

The charts below show the authorized areas and delegated function for each category of DERs. The delegated functions are indicated by white squares which are automatically included in the authorized areas. If any special delegations are to made, they must be mentioned separately on the DER Certificate.

When authorizing a DER, a selection shall be made from the following authorized areas. Each delegated function, highlighted in the authorized area shall be automatically included in the scope of authority. If required, a specific function may be included in the limitations section of the certificate.

**Figure 1. Chart A, DER Structural**

### Table: Delegated Functions and Authorized Areas

<table>
<thead>
<tr>
<th>Delegated Functions</th>
<th>Authorized Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Static Analysis</td>
<td>A</td>
</tr>
<tr>
<td>2. Dynamic Analysis</td>
<td>B</td>
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<tr>
<td>3. Fatigue Analysis</td>
<td>C</td>
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<tr>
<td>4. Design and Construction</td>
<td>D</td>
</tr>
<tr>
<td>5. Flutter/Ground Vibration</td>
<td>E</td>
</tr>
<tr>
<td>6. Safety Analysis</td>
<td>F</td>
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<tr>
<td>7. Flotation &amp; Ditching Analysis</td>
<td>G</td>
</tr>
<tr>
<td>8. Structural Loading Limitations</td>
<td>H</td>
</tr>
<tr>
<td>9. Service Documents</td>
<td>I</td>
</tr>
<tr>
<td>11. Flammability</td>
<td>K</td>
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<tr>
<td>12. Damage Tolerance Evaluations</td>
<td>L</td>
</tr>
</tbody>
</table>

**Note:** Includes all airframe components: wing, fuselage, empennage, landing gear, flight controls, engine mounts, and special components. Does not apply to rotors.

**Notes:** (2) and (3): Select Specialty by Note number and sub-letter from lists below. General applies to all processes listed.

1. **Metallic Materials/Processes**
   - A - Materials & Processes - General
   - B - Non-Destructive Inspection/Testing
   - C - Metallurgy
   - D - Metal Joining Processes
   - E - Structural Adhesives
   - F - Mechanical Fasteners
   - G - Surface Treatment/Coatings
   - H - Bearings

2. **Nonmetallic Materials/Processes**
   - A - Material & Processes - General
   - B - Transparent (Glazed) Material
   - C - Polymeric Materials
   - D - Structural Adhesives
   - E - Mechanical Fasteners
   - F - Composites
   - G - Non-Destructive Inspection/Testing
   - H - Surface Treatment & Coatings
   - I - Structural Joining Methods
Delegated Functions and Authorized Areas (Continued)

Figure 2. Chart B, DER Powerplant Installations

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<tr>
<th>DELEGATED FUNCTIONS</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<td>3 INDUCTION/EXHAUST SYSTEMS</td>
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Delegated Functions and Authorized Areas (Continued)

Figure 3. Chart C1, DER Systems and Equipment (Mechanical Equipment)

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<th>DELEGATED FUNCTIONS</th>
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<td>3 SOFTWARE</td>
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<td>4 SAFETY ANALYSIS</td>
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<td>5 FLAMMABILITY</td>
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<td>6 LIGHTNING/HIRF PROTECTION</td>
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**Delegated Functions and Authorized Areas (Continued)**

**Figure 4. Chart C2, DER Systems and Equipment (Electrical Equipment)**

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Delegated Functions and Authorized Areas (Continued)

Figure 5. Chart D, DER Radio

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Delegated Functions and Authorized Areas (Continued)

Figure 6. Chart E, DER Engines

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Delegated Functions and Authorized Areas (Continued)

Figure 7. Chart F, DER Propellers

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### Delegated Functions and Authorized Areas (Continued)

**Figure 8. Chart G, DER FLIGHT ANALYST**

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**Note:** Although the chart authority limits a DER to recommending approval, the PCAA may authorize a DER with this delegated function to approve AFM revisions or supplements. DERs should recommend approval, unless specifically authorized to approve AFM revisions or supplements.
Delegated Functions and Authorized Areas (Continued)

Figure 9. Chart H, DER Flight Test Pilot

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Note (1): Although the chart authority limits a DER to recommending approval, the FAA may authorize a DER with this delegated function to approve flight test plans. DERs should recommend approval of test plans, unless specifically authorized to approve them.

Note (2): Although the chart authority limits a DER to recommending approval, the FAA may authorize a DER with this delegated function to approve AFM revisions or supplements. DERs should recommend approval, unless specifically authorized to approve AFM revisions or supplements.
Delegated Functions and Authorized Areas (Continued)

Figure 10. Chart I, DER Acoustical

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<td>5 CALCULATION PROCEDURE</td>
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**Note:** Acoustical DERs may only recommend approval of test plans and final noise certification compliance reports. Acoustical DERs may also recommend approval for AFM/AFMS/SFM pages or other media related to compliance with PCAA regulations.
CONTENTS OF ECO

A1. The contents of application and ECO shall contain following items:

A2. **THE TITLE PAGE** of application shall be properly filled and signed by Chief Engineer / Engineer In Charge of the operator / MRO. All the pages of the ECO must have page no. and ECO number in the top right hand column as:

a. ECO Number
b. Issue number
c. Date
d. Page Number as "-----of-----"

A3. **SUBJECT**: This item in the ECO shall have the title of the ECO, indicating Type of the aircraft and /or ATA Chapter

A4. **BACKGROUND**: Under this heading background details pertaining to this request for ECO are to be presented briefly that why operator is raising this ECO.

A5. **ACTION**: The actions, which are required to be taken by the operator for incorporation of this ECO, are to be given under this heading.

A6. **EFFECTIVITY**: The Registration Numbers of the affected aircraft by the ECO are to be given under this heading as, AP-XXX and /or MSN (Manufacturer Serial Number)

A7. **REASON**: Reason for the ECO, which may be either of these:

a. Airworthiness/ safety requirement
b. Standardization
c. Improvement in reliability
d. Operator's internal requirement/retrofit
e. Improvement in Economics
f. Obsolete Equipment

A8. **DESCRIPTION**: Under this heading, brief description of what is to be accomplished on the aircraft.

A9. **DEVIATION IN APPROVED TYPE DESIGN**: If there is any deviation in approved Type Design the applicant shall seek approval of State of Design and/ or TC Holder (e.g. availability of AD/ SB/ STC etc.).

A10. **NO TECHNICAL OBJECTION (NTO)**: For critical modifications, NTO from the manufacturer might be required before commencing modification. It shall be ensured that the (NTO) certificate or equivalent is issued from the organization responsible for Type Design (TC Holder) of the equipment. The conditions /limitations in the NTO must also be taken into account.

A11. **MANPOWER**: This item presents details of the Manpower required to accomplish ECO on aircraft such as Number of Engineers, Number of Technicians etc. Total man-hours and elapsed time is also given under this heading.

A12. **SPECIAL TOOLS**: Details of Special Tools required for accomplishment of this ECO are to be given in the ECO (as applicable).
A13. **WEIGHT & BALANCE:** ECO should also reflect the changes in Weight and Balance due to accomplishment of this ECO are to be given. If change in weight or Mean Aerodynamic Chord (MAC) is anticipated beyond limit defined in current AWNOT-11, reweighing of the aircraft shall be performed.

A14. **EVALUATION OF IMPACT TO NOISE CERTIFICATION:** Details related to impact of modification on the noise levels are to be provided and if there is any change in noise certification it should be addressed accordingly.

A15. **ELECTRICAL LOAD CHANGES:** Electrical Loads increase or a decrease is to be given in Watts or Kilowatts for DC and KVA for AC. While submitting the Electrical Load Analysis following must be catered.

a. The increase in load does not increase maximum load limit of the Bus/ power source in any phase of flight (as mentioned in electrical load sheet of the aircraft)

b. Phase imbalance must also be avoided in case of three phase generators.

c. Emergency /essential buses are critical therefore, new load should not be connected with buses unless the designed data is approved from manufacturer/state of design.

d. The type of wires and circuit breakers must be capable to handle the loads in the extreme conditions.

A16. **STRUCTURE STRESS ANALYSIS (SSA):** Structure Stress Analysis is to be given, (if applicable). Following must be considered while submitting SSA.

a. The strength of the doublers/fasteners must be evaluated against the design standards as applicable.

b. If holes are required to be drilled in the skin for installation of antennas, the diameter of hole should be checked and TC holder’s consent might be required.

c. Moreover consideration must also be given to the place where the hole is to be drilled, whether it is in pressurized or un-pressurized area. If the hole is in pressurized area TC Holder’s consent is to be taken.

d. If new LRUs are to be installed, the strength of the racks/supporting equipment may also be calculated in accordance with the standards.

e. Effects of air on the antenna will add stresses, therefore Effect of these stresses should also be considered.

A17. **REFERENCES:** Listing of references related to ECO is to be given under this item.

A18. **PUBLICATIONS AFFECTED:**

a. Listing of all affected pages, figures, drawings (WDM, IPC etc)

b. Part number or quantity changes if any

c. Configuration drawing changes, if any

d. Procedural changes or amendments in Flight Crew Operating Manual (FCOM), if any

e. Amendments in MEL (as applicable)

f. Amendments in AMP (If any)

A19. **MATERIAL INFORMATION:** All kits, material required are to be tabulated along-with part no. and quantity required per aircraft. Details of TSO’s for the avionics components must also be presented. Any disposition of old parts such as re-work, modification or discard are to be mentioned as well.
A20. **ACCOMPLISHMENT INSTRUCTIONS:** Step by step procedures for accomplishment of the engineering changes are to be given under this heading. Proper references of attached ECO Drawings and Figures must be given. Two columns for signatures of technician and AME shall substantiate step by step installations.

A21. **ENGINEERING DRAWINGS:** Number of the Engineering drawings required under this ECO are to be given. The drawings are to be prepared by authorized/ qualified person or organization. The master data package mentioned in STC shall also be attached if the incorporation of the ECO requires STC as supporting document.

A22. The applicant shall also clarify compatibility between proposed design changes and existing design.

A23. The design standards applicable to the modification, shall be the design standards accepted at the time of its registration.

A24. PCAA may seek any additional documents/information from the applicant.

A25. The Airworthiness Inspectors can inspect applicant’s facilities at any time before, during or after the accomplishment of the ECO.

A26. The applicant shall inform PCAA and the respective airworthiness field office before and after the accomplishment of the ECO.