§ 21.3 Reporting of failures, malfunctions, and defects.

(a) Except as provided in paragraph (d) of this section, the holder of a Type Certificate (including a Supplemental Type Certificate), a Parts Manufacturer Approval (PMA), or a TSO authorization, or the licensee of a Type Certificate shall report any failure, malfunction, or defect in any product, part, process, or article manufactured by it that it determines has resulted in any of the occurrences listed in paragraph (c) of this section.

(b) The holder of a Type Certificate (including a Supplemental Type Certificate), a Parts Manufacturer Approval (PMA), or a TSO authorization, or the licensee of a Type of Certificate shall report any defect in any product, part, or article manufactured by it that has left its quality control system and that it determines could result in any of the occurrences listed in paragraph (c) of this section.

(c) The following occurrences must be reported as provided in paragraphs (a) and (b) of this section:

(1) Fires caused by a system or equipment failure, malfunction, or defect.

(2) An engine exhaust system failure, malfunction, or defect which causes damage to the engine, adjacent aircraft structure, equipment, or components.

(3) The accumulation or circulation of toxic or noxious gases in the crew compartment or passenger cabin.

(4) A malfunction, failure, or defect of a propeller control system.

(5) A propeller or rotorcraft hub or blade structural failure.

(6) Flammable fluid leakage in areas where an ignition source normally exists.

(7) A brake system failure caused by structural or material failure during operation.

(8) A significant aircraft primary structural defect or failure caused by any autogenous condition (fatigue, understrength, corrosion, etc.).

(9) Any abnormal vibration or buffetting caused by a structural or system malfunction, defect, or failure.

(10) An engine failure.

(11) Any structural or flight control system malfunction, defect, or failure which causes an interference with normal control of the aircraft for which derogates the flying qualities.

(12) A complete loss of more than one electrical power generating system or hydraulic power system during a given operation of the aircraft.

(13) A failure or malfunction of more than one attitude, airspeed, or altitude instrument during a given operation of the aircraft.

(d) The requirements of paragraph (a) of this section do not apply to—

(1) Failures, malfunctions, or defects that the holder of a Type Certificate (including a Supplemental Type Certificate), Parts Manufacturer Approval (PMA), or TSO authorization, or the licensee of a Type Certificate—

(ii) Knows were reported to the FAA by another person under the Federal Aviation Regulations; or
§ 21.3 Reporting of failures, malfunctions, and defects.

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§ 21.4 ETOPS reporting requirements.

(a) Early ETOPS: reporting, tracking, and resolving problems. The holder of a type certificate for an airplane-engine combination approved using the Early ETOPS method specified in part 25, Appendix K, of this chapter must use a system for reporting, tracking, and resolving each problem resulting in one of the occurrences specified in paragraph (a)(6) of this section.

(1) The system must identify how the type certificate holder will promptly identify problems, report them to the responsible FAA aircraft certification office, and propose a solution to the FAA to resolve each problem. A proposed solution must consist of—

(i) A change in the airplane or engine type design;

(ii) A change in a manufacturing process;

(iii) A change in an operating or maintenance procedure; or

(iv) Any other solution acceptable to the FAA.

(2) For an airplane with more than two engines, the system must be in place for the first 250,000 world fleet engine-hours for the approved airplane-engine combination.

(3) For two-engine airplanes, the system must be in place for the first 250,000 world fleet engine-hours for the approved airplane-engine combination and after that until—

(i) The world fleet 12-month rolling average IFSD rate is at or below the rate required by paragraph (b)(2) of this section; and

(ii) The FAA determines that the rate is stable.

(4) For an airplane-engine combination that is a derivative of an airplane-engine combination previously approved for ETOPS, the system need only address those problems specified in the following table, provided the type certificate holder obtains prior authorization from the FAA:

<table>
<thead>
<tr>
<th>If the change does not require a new airplane type certificate and . . .</th>
<th>Then the Problem Tracking and Resolution System must address . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Requires a new engine type certificate</td>
<td>All problems applicable to the new engine installation, and for the remainder of the airplane, problems in changed systems only.</td>
</tr>
<tr>
<td>(ii) Does not require a new engine type certificate</td>
<td>Problems in changed systems only.</td>
</tr>
</tbody>
</table>

(5) The type certificate holder must identify the sources and content of data that it will use for its system. The data must be adequate to evaluate the specific cause of any in-service problem reportable under this section or §21.3(c) that could affect the safety of ETOPS.

(6) In implementing this system, the type certificate holder must report the following occurrences:

(i) IFSDs, except planned IFSDs performed for flight training.

(ii) For two-engine airplanes, IFSD rates.

(iii) Inability to control an engine or obtain desired thrust or power.

(iv) Precautionary thrust or power reductions.

(v) Degraded ability to start an engine in flight.

(vi) Inadvertent fuel loss or unavailability, or uncorrectable fuel imbalance in flight.

(vii) Turn backs or diversions for failures, malfunctions, or defects associated with an ETOPS group 1 significant system.