

# ARSA Regulatory Compliance Training—Questions

**Part 21:** Certification Procedures for Products and Articles    **Level 1:** For anyone working in aviation

§ 21.4(b) ETOPS reporting requirements.

(b) **Reliability of two-engine airplanes** —

- (1) **Reporting of two-engine airplane in-service reliability.** The holder of a type certificate for an airplane approved for ETOPS and the holder of a type certificate for an engine installed on an airplane approved for ETOPS must report monthly to their respective Aircraft Certification Service office on the reliability of the world fleet of those airplanes and engines. The report provided by both the airplane and engine type certificate holders must address each airplane-engine combination approved for ETOPS. The FAA may approve quarterly reporting if the airplane-engine combination demonstrates an IFSD rate at or below those specified in [paragraph \(b\)\(2\)](#) of this section for a period acceptable to the FAA. This reporting may be combined with the reporting required by [§ 21.3](#). The responsible type certificate holder must investigate any cause of an IFSD resulting from an occurrence attributable to the design of its product and report the results of that investigation to its responsible Aircraft Certification Service office. Reporting must include:
  - (i) Engine IFSDs, except planned IFSDs performed for flight training.
  - (ii) The world fleet 12-month rolling average IFSD rates for all causes, except planned IFSDs performed for flight training.
  - (iii) ETOPS fleet utilization, including a list of operators, their ETOPS diversion time authority, flight hours, and cycles.
- (2) **World fleet IFSD rate for two-engine airplanes.** The holder of a type certificate for an airplane approved for ETOPS and the holder of a type certificate for an engine installed on an airplane approved for ETOPS must issue service information to the operators of those airplanes and engines, as appropriate, to maintain the world fleet 12-month rolling average IFSD rate at or below the following levels:
  - (i) A rate of 0.05 per 1,000 world-fleet engine-hours for an airplane-engine combination approved for up to and including 120-minute ETOPS. When all ETOPS operators have complied with the corrective actions required in the configuration, maintenance and procedures (CMP) document as a condition for ETOPS approval, the rate to be maintained is at or below 0.02 per 1,000 world-fleet engine-hours.
  - (ii) A rate of 0.02 per 1,000 world-fleet engine-hours for an airplane-engine combination approved for up to and including 180-minute ETOPS, including airplane-engine combinations approved for 207-minute ETOPS in the North Pacific operating area under appendix P, section I, paragraph (h), of [part 121 of this chapter](#).
  - (iii) A rate of 0.01 per 1,000 world-fleet engine-hours for an airplane-engine combination approved for ETOPS beyond 180 minutes, excluding airplane-engine combinations approved for 207-minute ETOPS in the North Pacific operating area under appendix P, section I, paragraph (h), of [part 121 of this chapter](#).

*Note: The remainder of § 21.4 is covered on separate training sheets.*

**Question 1:** *Two-engine airplane in-service reliability reports must be submitted by both the holders of type certificates for airplanes approved for ETOPS and for engines installed on them.*

- A: True.  
B: False.

**Question 2:** *Two-engine airplane in-service reliability reports may be combined with the reporting of failures, malfunctions, and defects required by § 21.3.*

- A: True.  
B: False.

**Question 3:** *Type certificate holders for airplanes or engines approved for ETOPS must submit service information to the FAA to maintenance acceptable in-flight shutdown rates.*

- A: True.  
B: False.

**Question 4:** *The FAA may approve annual reporting if the airplane-engine combination demonstrates an in-flight shutdown rate at or below those specified in § 21.4(b)(2).*

- A: True.  
B: False.

Name and/or Identification \_\_\_\_\_

Clearly Print the Name and/or Identification of the Person Taking the Test

Date \_\_\_\_\_

Date Test was Completed

Score \_\_\_\_\_

Enter as x (number correct) of y (number of questions)

Hours \_\_\_\_\_

Time Credited for Test

Approved by \_\_\_\_\_

Signature of Supervisor or Person Administering Test

# ARSA Regulatory Compliance Training—Answers

Part [21](#): Certification Procedures for Products and Articles

Level 1: For anyone working in aviation

§ [21.4\(b\)](#) ETOPS reporting requirements.

(b) **Reliability of two-engine airplanes** —

- (1) **Reporting of two-engine airplane in-service reliability.** The holder of a type certificate for an airplane approved for ETOPS and the holder of a type certificate for an engine installed on an airplane approved for ETOPS must report monthly to their respective Aircraft Certification Service office on the reliability of the world fleet of those airplanes and engines. The report provided by both the airplane and engine type certificate holders must address each airplane-engine combination approved for ETOPS. The FAA may approve quarterly reporting if the airplane-engine combination demonstrates an IFSD rate at or below those specified in [paragraph \(b\)\(2\)](#) of this section for a period acceptable to the FAA. This reporting may be combined with the reporting required by [§ 21.3](#). The responsible type certificate holder must investigate any cause of an IFSD resulting from an occurrence attributable to the design of its product and report the results of that investigation to its responsible Aircraft Certification Service office. Reporting must include:
  - (i) Engine IFSDs, except planned IFSDs performed for flight training.
  - (ii) The world fleet 12-month rolling average IFSD rates for all causes, except planned IFSDs performed for flight training.
  - (iii) ETOPS fleet utilization, including a list of operators, their ETOPS diversion time authority, flight hours, and cycles.
- (2) **World fleet IFSD rate for two-engine airplanes.** The holder of a type certificate for an airplane approved for ETOPS and the holder of a type certificate for an engine installed on an airplane approved for ETOPS must issue service information to the operators of those airplanes and engines, as appropriate, to maintain the world fleet 12-month rolling average IFSD rate at or below the following levels:
  - (i) A rate of 0.05 per 1,000 world-fleet engine-hours for an airplane-engine combination approved for up to and including 120-minute ETOPS. When all ETOPS operators have complied with the corrective actions required in the configuration, maintenance and procedures (CMP) document as a condition for ETOPS approval, the rate to be maintained is at or below 0.02 per 1,000 world-fleet engine-hours.
  - (ii) A rate of 0.02 per 1,000 world-fleet engine-hours for an airplane-engine combination approved for up to and including 180-minute ETOPS, including airplane-engine combinations approved for 207-minute ETOPS in the North Pacific operating area under appendix P, section I, paragraph (h), of [part 121 of this chapter](#).
  - (iii) A rate of 0.01 per 1,000 world-fleet engine-hours for an airplane-engine combination approved for ETOPS beyond 180 minutes, excluding airplane-engine combinations approved for 207-minute ETOPS in the North Pacific operating area under appendix P, section I, paragraph (h), of [part 121 of this chapter](#).

*Note: The remainder of § [21.4](#) is covered on separate training sheets.*

**Question 1:** *Two-engine airplane in-service reliability reports must be submitted by both the holders of type certificates for airplanes approved for ETOPS and for engines installed on them.*

A: True. See § [21.4\(b\)\(1\)](#).

B: False.

**Question 2:** *Two-engine airplane in-service reliability reports may be combined with the reporting of failures, malfunctions, and defects required by § [21.3](#).*

A: True. See § [21.4\(b\)\(1\)](#).

B: False.

**Question 3:** *Type certificate holders for airplanes or engines approved for ETOPS must submit service information to the FAA to maintenance acceptable in-flight shutdown rates.*

A: True.

B: False. § [21.4\(b\)\(2\)](#) required type certificate holders issue service information to operators.

**Question 4:** *The FAA may approve annual reporting if the airplane-engine combination demonstrates an in-flight shutdown rate at or below those specified in § [21.4\(b\)\(2\)](#).*

A: True.

B: False. § [21.4\(b\)\(1\)](#) states that reporting is a monthly requirement, the FAA may approve quarterly reports based on IFSD rates of § [21.4\(b\)\(2\)](#).