



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2017-0099; Product Identifier 2017-NE-02-AD; Amendment 39-19035; AD 2017-19-05]**

**RIN 2120-AA64**

**Airworthiness Directives; Siemens S.A.S. Smoke Detectors**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Siemens S.A.S. smoke detectors installed on various transport category airplanes. This AD requires inspection and replacement of the affected smoke detectors. This AD was prompted by a report that the affected smoke detectors failed an acceptance test. We are issuing this AD to correct the unsafe condition on these products.

**DATES:** This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Siemens, Aviation Customer Support, 697 Rue Fourny, 78530 Buc, France; phone: (33) 1 3084 6650; fax: (33) 1 3956 1364. You may view this service information at the FAA, Engine

and Propeller Standards Branch, Policy and Innovation Division, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0099.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0099; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the mandatory continuing airworthiness information (MCAI), the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Erin Hulverson, Aerospace Engineer, FAA, Boston ACO Branch, Compliance and Airworthiness Division, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7655; fax: 781-238-7199; email: [erin.hulverson@faa.gov](mailto:erin.hulverson@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to the specified products. The NPRM was published in

the *Federal Register* on April 20, 2017 (82 FR 18588). The NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

During a maintenance operation, some smoke detectors P/N PMC1102-02 failed an acceptance test, due to a significant degraded optical sensitivity. Investigation results concluded that light-emitting diodes (LED) were abnormally degraded, affecting specific batches where changes occurred in the LED manufacturer production process. Further investigation has determined that the affected LED have been installed on smoke detectors manufactured between November 2010 and January 2013, and on certain repaired units.

This condition, if not corrected, will generate an abnormal ageing of the smoke detector, leading to a decrease of the light intensity capability, possibly resulting in failure to detect smoke and consequent risk of an on-board uncontrolled fire.

You may obtain further information by examining the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0099.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

### **Comment on Certifying Authority**

The European Aviation Safety Agency (EASA) commented that the affected smoke detectors were approved by EASA rather than by France.

We agree. These smoke detectors were approved by EASA. We did not change this AD because this AD does not reference the certifying authority for these smoke detectors. The section commented on by EASA exists only in the “Determination and Requirements of This Proposed AD” section of the NPRM. We did not change this AD.

### **Request to Revise Applicability**

Delta Air Lines (Delta) requested that we revise the Applicability section of this AD to remove the reference to the date range when certain affected smoke detectors were produced. Delta indicated that the NPRM may be interpreted as implying that there are more affected smoke detector serial numbers than those identified in paragraph 1/D/ of Siemens Service Information Letter (SIL) PMC-26-002, Revision No. 1, dated January 2016, and of SIL PMC-26-003, Revision No. 2, dated February, 2016. Delta commented that removing the date range from the Applicability section of this AD would clarify applicability for operators.

We agree. We find that providing the part numbers (P/Ns) and serial numbers (S/Ns) for the affected smoke detectors sufficiently identifies all affected detectors. We revised this AD by removing the reference to the production date range from the Applicability section of this AD.

### **Request to Revise Compliance Schedule**

Delta requested that we revise paragraph (f)(2) in the compliance section of this AD to indicate that repaired units identified in Figure (1) to paragraph (c) of this AD should be replaced within 5 months after the effective date of this AD. Delta commented that the NPRM does not specify when these affected detectors are to be replaced.

We agree. We revised the compliance section of this AD to specify that smoke detectors identified in paragraph (c)(2) of this AD must be replaced within 5 months after the effective date of this AD.

## **Support for this AD**

The Air Line Pilots Association, International, commented that it supports the intent of this AD to correct the unsafe condition on the affected products.

## **Conclusion**

We reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously. We determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

## **Related Service Information under 1 CFR Part 51**

Siemens has issued SIL No. PMC-26-002, Revision No. 1, dated January 2016 and SIL No. PMC-26-003, Revision No. 2, dated February 2016. SIL No. PMC 26-002 provides a list of S/Ns for affected smoke detectors, P/Ns PMC1102-02, PMC3100-00, and GMC1102-02, known to be installed on Airbus A330 passenger, A330 freighter, and A380 airplanes. SIL No. PMC 26-003 provides a list of S/Ns for affected smoke detectors, P/N PMC1102, known to be installed on Boeing B737-400 airplanes that have been converted via supplemental type certificate from a passenger to a freighter airplane. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

## **Costs of Compliance**

We estimate that this AD affects an unknown number of smoke detectors installed on, but not limited to, various aircraft of U.S. registry.

We estimate the following costs to comply with this AD:

### Estimated costs

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
Inspection	0.2 work-hours X \$85 per hour = \$17	\$0	\$17
Replacement	0.8 work-hours X \$85 per hours = \$68	\$1,285	\$1,353

### Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. “Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to engines, propellers, and appliances to the Manager, Engine and Propeller Standards Branch, Policy and Innovation Division.

## **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2017-19-05 **Siemens S.A.S.:** Amendment 39-19035; Docket No. FAA-2017-0099; Product Identifier 2017-NE-02-AD.

**(a) Effective Date**

This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

(1) This AD applies to Siemens S.A.S. smoke detectors, part numbers (P/Ns) PMC1102-02, PMC3100-00, and GMC1102-02, with serial numbers (S/Ns) listed in paragraph 1/D/ of Siemens Service Information Letter (SIL) No. PMC-26-002, Revision No. 1, dated January 2016; or paragraph 1/D/ of Siemens SIL No. PMC-26-003, Revision No. 2, dated February 2016.

(2) This AD also applies to those smoke detectors with P/Ns and S/Ns listed in Figure 1 to paragraph (c) of this AD; installed on, but not limited to, any airplane, certificated in any category, listed in paragraphs (c)(2)(i) or (ii) of this AD.

**Figure 1 to Paragraph (c) of this AD – P/N and S/Ns of Repaired Smoke Detectors**

P/N	S/N
PMC1102-2	2129, 2281, 2335, 2343, 2356, 2399, 2411, 2428, 2588, 2731, 2851, 2888, 3658, 3696, 3710, 3729, 3731, 5032, 5039, 5040, 5107, 5216, 5233, 50069, 50075, 50087, 50122, 50204, 50250, 50264, 50268, 50270, 50272, 50366 and 50386
PMC3100-00	201, 208, 213 227, 260, 268, 312, 528, 588, 592, 606, 652, 655, 660, 667, 50037, 50046, 50058, 50060, 50062, 50067, 50070, 50072 and 50090

(i) in production on Airbus A330, A330 freighter, and A380 airplanes;

(ii) in service by supplemental type certificate modification on:

(A) Airbus A319 and A320, and Bombardier CL-600-2B19 (Challenger 850),

Boeing (formerly McDonnell Douglas) DC-9 series 80 airplanes; and

(B) Boeing 737-400 (BDSF), 767, and 747-8 airplanes.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 2611, Smoke Detection.

**(e) Reason**

This AD was prompted by a report that the affected smoke detectors failed an acceptance test. We are issuing this AD to prevent failure of the smoke detector, on-board uncontrolled fire, and damage to the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

(1) Within 30 days after the effective date of this AD, inspect each Siemens smoke detector, or review your maintenance records, to determine if an affected detector is installed.

(2) For smoke detectors identified in paragraph (c)(1) of this AD, replace the detectors within the compliance times specified in Figures 2, 3, and 4 to paragraph (f) of this AD.

**Figure 2 to Paragraph (f) of this AD – P/N PMC1102-02 (Cargo Compartments)**

<b>Manufacturing Date (month/year)</b>	<b>Compliance Time (after the effective date of this AD)</b>
122010 to 112011 inclusive	Within 5 months
122011 to 012013 inclusive	Within 11 months

**Figure 3 to Paragraph (f) of this AD – P/N PMC3100-00 Detectors (Cargo Compartments)**

<b>Manufacturing Date (month/year)</b>	<b>Compliance Time (after the effective date of this AD)</b>
032011 to 012012 inclusive	Within 5 months
022012 to 012013 inclusive	Within 11 months

**Figure 4 to Paragraph (f) of this AD – P/N GMC1102-02 (Passenger Cabin or any other location)**

<b>Manufacturing Date (month/year)</b>	<b>Compliance Time (after the effective date of this AD)</b>
112010 to 022012 inclusive	Within 24 months
032012 to 122012 inclusive	Within 36 months

(3) For smoke detectors identified in paragraph (c)(2) of this AD, replace the detectors within 5 months after the effective date of this AD.

**(g) Installation Prohibition**

After the effective date of this AD, do not install on any airplane a smoke detector:

(1) with a manufacturing date and P/N listed in Figure 2 or 3 to paragraph (f) of this AD;

(2) listed in Figure 4 to paragraph (f) of this AD unless the detector is marked ‘SIL PMC-26-002’.

**(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, FAA, Boston ACO Branch, Compliance and Airworthiness Division, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the Boston ACO Branch, send it to the attention of the person identified in paragraph (i)(1) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(i) Related Information**

(1) For more information about this AD, contact Erin Hulverson, Aerospace Engineer, FAA, Boston ACO Branch, Compliance and Airworthiness Division, 1200

District Avenue, Burlington, MA 01803; phone: 781-238-7655; fax: 781-238-7199;  
email: erin.hulverson@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency AD 2016-0024, dated January 26, 2016, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2017-0099.

**(j) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Siemens Service Information Letter (SIL) No. PMC-26-002, Revision No. 1, dated January 2016.

(ii) Siemens SIL No. PMC-26-003, Revision No. 2, dated February 2016.

(3) For Siemens service information identified in this AD, contact Siemens, Aviation Customer Support, 697 Rue Fourny, 78530 Buc, France; phone: (33) 1 3084 6650; fax: (33) 1 3956 1364.

(4) You may view this service information at FAA, Engine and Propeller Standards Branch, Policy and Innovation Division, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

(5) You may view this service information at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA,

call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on September 20, 2017.

Robert J. Ganley,  
Manager, Engine and Propeller Standards Branch,  
Aircraft Certification Service.  
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