

Producers. The cooperative states that the sharing of the cost of regulation with Gillette in addition to the low milk prices and high feed costs has caused several dairymen to discontinue dairying.

Associated Milk Producers, Inc. (North Central Region), in its comment letter, stated that because population, consumption, and milk supply in the 11 counties is fairly evenly balanced the proposed action would have a marginal effect on Order 65 blend prices. In addition, the other supporters who filed comments (i.e., the South Dakota Department of Agriculture, 5 United States Senators, and the Rapid City Area Chamber of Commerce) state that the action would eliminate the payments by Gillette into the producer-settlement fund (i.e., \$500,000 during the first 6 months of 1998 or \$83,000 per month) when regulated under Order 65. Thus, they claim that this cost directly affects the producers supplying the dairy and has been a contributing factor to producers discontinuing their dairy farm operations.

Dairy Farmers of America (DFA) and Meadow Gold Dairies expressed opposition to the proposed action and contend that it would create an inequitable marketing situation between handlers and producers. DFA is a cooperative that represents about 39 percent of the producers on Order 65 and 927 producers in other affected markets. DFA argues that the proposal would lower the returns of DFA member producers supplying the handlers affected by this action. The cooperative also contends that the proposal would lower the blend prices to these DFA producers in Order 65.

According to DFA, the proposal would provide Gillette with a financial advantage over competing handlers because Gillette competes with handlers over a broad geographic area (in counties in Nebraska, Colorado, and Wyoming). DFA asserts that the action would prohibit the sharing of revenues from the sale of milk by Gillette to DFA members and the Federal Order 65 producers. In addition, the cooperative claims that the action would assist Gillette in expanding its business further into Order 65 and the Eastern Colorado order (Order 137). The proposed action, it concludes, would adversely impact cooperatives' ability to negotiate over-order premiums in the future due to the perceived inequity in the marketplace.

Two additional letters were submitted after the comment period ended. Sinton Dairy filed a comment in opposition to the proposed action and Gillette submitted another letter in response to

the issues addressed by DFA. Both comment letters were dated and received after the comment expiration date and cannot be given due consideration.

After careful consideration of the comments submitted, it is concluded that there is sufficient basis to grant the request for suspension of the 11 counties from the Order 65 marketing area for an indefinite period of time until the implementation of Federal order reform. Statistics clearly show that the majority (i.e., 65 to 70 percent) of the fluid milk sales into the 11-county area is by Gillette. Moreover, the 11 counties represent about 6 percent of the population and fluid milk consumption in the State of Nebraska and about 5 percent of the population and fluid milk consumption in the Order 65 marketing area. In addition, this milk has not been historically associated with the Order 65. Therefore, the removal of the 11 counties from the marketing area definition of Order 65 should not have an adverse impact on other order producers and other handlers. However, if the counties were to remain as part of the Order 65 marketing area definition, the effect could be severely disruptive for the Black Hills Milk Producers.

At this time, the Federal order reform process is expected to be completed by October 1, 1999. In the proposed federal order reform rule that was issued on January 21, 1998 (63 FR 4802), the proposed Central order marketing area, which included most of the existing Order 65 marketing area, did not include the 11 counties suspended in this action. However, this recommendation, together with all of the provisions in the proposed rule, is currently under consideration.

After consideration of all relevant material, including the proposal in the notice, the comments received, and other available information, it is hereby found and determined that for the period of February 1, 1999, and extending for an indefinite period until the implementation of a final rule consolidating Federal milk orders as required by the 1996 Farm Bill, or a subsequent action to terminate the suspension, the following provisions of the order do not tend to effectuate the declared policy of the Act:

In § 1065.2(a), the words "Banner, Box Butte, Cheyenne, Dawes, Deuel, Garden, Kimball, Morrill, Scotts Bluff, Sheridan, and Sioux."

It is hereby found and determined that 30 days' notice of the effective date hereof is impractical, unnecessary, and contrary to the public interest in that:

(a) The suspension is necessary to reflect current marketing conditions and to assure orderly marketing conditions in the marketing area;

(b) This suspension does not require of persons affected substantial or extensive preparation prior to the effective date; and

(c) Notice of the proposed suspension was given interested parties and they were afforded opportunity to file written data, views or arguments concerning this suspension. Several comments supporting the suspension, and one comment opposing it, were received.

Therefore, good cause exists for making this suspension effective less than 30 days from the date of publication in the **Federal Register**.

#### List of Subjects in 7 CFR Part 1065

Milk marketing orders.

For the reasons set forth in the preamble, 7 CFR Part 1065 is amended as follows:

#### PART 1065—MILK IN THE NEBRASKA-WESTERN IOWA MARKETING AREA

1. The authority citation for 7 CFR Part 1065 continues to read as follows:

**Authority:** 7 U.S.C. 601-674.

#### § 1065.2 [Suspended in part]

2. In § 1065.2(a), the words "Banner, Box Butte, Cheyenne, Dawes, Deuel, Garden, Kimball, Morrill, Scotts Bluff, Sheridan, Sioux" are suspended.

Dated: January 26, 1999.

**Enrique E. Figueroa,**

*Administrator, Agricultural Marketing Service.*

[FR Doc. 99-2430 Filed 2-1-99; 8:45 am]

BILLING CODE 3410-02-P

#### DEPARTMENT OF TRANSPORTATION

##### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. 98-NM-50-AD; Amendment 39-11018; AD 99-03-04]

RIN 2120-AA64

#### Airworthiness Directives; Boeing Model 737-100, -200, -300, -400, and -500 Series Airplanes

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

**SUMMARY:** This amendment adopts a new airworthiness directive (AD), applicable to all Boeing Model 737-100, -200, -300, -400, and -500 series airplanes, that requires installation of

components to provide shielding and separation of the fuel system wiring (that is routed to the fuel tanks) from adjacent wiring. This amendment also requires installation of flame arrestors and pressure relief valves in the fuel vent system. This amendment is prompted by testing results, obtained in support of an accident investigation, and by re-examination of possible causes of a similar accident. The actions specified by this AD are intended to prevent possible ignition of fuel vapors in the fuel tanks, and external ignition of fuel vapor exiting the fuel vent system and consequent propagation of a flame front into the fuel tanks.

**EFFECTIVE DATE:** March 9, 1999.

**ADDRESSES:** This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Chris Hartonas, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2864; fax (425) 227-1181; or Dorr Anderson, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2684; fax (425) 227-1181.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to all Boeing Model 737-100, -200, -300, -400, and -500 series airplanes was published in the **Federal Register** on April 22, 1998 (63 FR 19852). [An action to reopen the comment period for the proposal was issued on July 8, 1998 (63 FR 38524, July 17, 1998).] That action proposed to require installation of components for the suppression of electrical transients, and/or installation of components to provide shielding and separation of the fuel system wiring (that is routed to the fuel tanks) from adjacent wiring. That action also proposed to require installation of flame arrestors and pressure relief valves in the fuel vent system.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

### Support for the Proposal

Two commenters support the proposed rule.

### Request To Withdraw or Delay the Release of the AD

Two commenters, the airplane manufacturer and a supplier of fuel quantity indication system (FQIS) components, indicate that the current fuel system wiring configuration is safe when properly maintained, and that modifications are not necessary or, at the very minimum, should be delayed until further testing can be completed. Both commenters stress that the safety record regarding the existing FQIS for Boeing Model 737-100 through -500 series airplanes is excellent and exceeds all regulatory requirements. In addition, the commenters note there is no proof that the FQIS contributed to the center fuel tank explosions on a Model 737-300 series airplane in 1990 and on a Model 747-100 series airplane in 1996. The commenters further note that the data gathered to date relative to electromagnetic interference (EMI) testing of the FQIS do not clearly support the contention that an unsafe condition exists. The airplane manufacturer also states that additional data should be gathered on potential ignition threats, in order to reach a regulatory and industry consensus regarding the adequacy of the current FQIS. The features of the existing FQIS that are intended to prevent an ignition source from entering the fuel tank are also extensively discussed by the airplane manufacturer.

The FAA does not concur with the request to withdraw or delay the release of the final rule. The FAA has determined that sufficient data currently are available to support a requirement to incorporate shielding and separation of the fuel system wiring on Model 737-100 through -500 series airplanes to protect against hot shorts or EMI transients, which may result in in-tank energy levels of sufficient magnitude to ignite fuel vapor. Therefore, the current fuel system wiring configuration on Model 737-100 through -500 series airplanes must be modified. In addition, the FAA has determined that delaying publication of the final rule to accommodate further testing is not in the best interest of the public or industry. No change to the AD in this regard is necessary.

Regarding safety of the existing FQIS and compliance with 14 CFR part 25 ("Airworthiness Standards: Transport Category Airplanes"), the FAA notes that the current regulations do not explicitly address the unsafe condition

that is or may be present in the fuel tanks of Model 737-100 through -500 series airplanes. Therefore, the fact that the existing FQIS was determined to be in compliance with part 25 when these airplane models were certificated is not relevant. In addition, the FAA is currently working on a proposal to amend part 25 that would explicitly require demonstrating that ignition sources could not be present in fuel tanks when failure conditions and aging are considered. The FAA agrees with the commenters that no conclusive evidence exists to indicate that the FQIS contributed to the two accidents referred to by the commenters. However, it is the nature of such accidents that they often destroy the evidence that could lead to a conclusive identification of the cause of the accident. Even without the destruction caused by the accident, there often is no specific physical evidence of low energy electrical arcing.

The FAA does not concur that the final rule should be delayed until further EMI testing and data gathering can be completed. The FAA recognizes the value of further testing; however, the final rule should not be delayed for this purpose. Though further testing may be used to better understand possible scenarios that may lead to excessive voltage reaching the fuel tanks, the FAA has determined that separation and shielding is the most practical and reliable method to eliminate or minimize this hazard. An explanation of how the FAA reached this determination follows.

The FAA has developed the requirement for fuel system wiring separation and shielding as a result of investigation into the 1996 accident referred to by the commenter. During the investigation, the National Transportation Safety Board (NTSB) used systems analysis methods to determine what systems on the Model 747 series airplane are most likely to have been the source of ignition energy in the center fuel tank. That analysis included examinations of system failure modes and effects, service history, and similar airplanes.

The FAA notes that more than one failure would be required to create an ignition source inside the tank. The fact that fuel tank explosions on Model 737 and 747 series airplanes are rare would seem to support a claim that single failures have not been causing fuel tank explosions. However, during the 1996 Model 747 accident investigation, the fuel system wiring safety analysis and the examinations of Model 747 series airplanes performed by the NTSB revealed several scenarios in which a

combination of a latent failure or aging condition within the fuel tank and a subsequent single failure or electrical interference condition outside the tank can cause an ignition source to occur inside a fuel tank.

Examples of these in-tank and out-of-tank conditions that can contribute to a multiple failure ignition scenario were found in airplane service records and on Model 747 series airplanes that were inspected by the FAA and the NTSB. Various center wing fuel tanks were found to have conductive debris in the tanks, damaged FQIS wire insulation at the fuel probes, and contamination of probes and in-tank wiring by conductive copper/sulfur or silver/sulfur films. Each of these conditions can create latent potential ignition sources inside the fuel tank.

During the investigation into the 1990 accident involving a Model 737-300 series airplane, examination of the fuel system float switch wiring revealed damaged insulation and exposed conductor material of several wires. Further examination of wire bundles for other systems revealed numerous areas in which wire insulation had been damaged. The wire insulation damage may have resulted during a modification after the airplane was delivered to the airline. However, because other wires were found to have damage not related to any post-delivery modifications, the wire insulation damage may have resulted from the installation of the wire bundle at the factory. Recent inspections of the final assembly revealed wiring damage during out-of-sequence production on Model 737 series airplanes.

In addition, several conditions have been identified that can lead to sufficient energy in the fuel system wiring to create an ignition source if combined with one of the latent conditions described above. For example, direct short circuit conditions can occur in wire bundles containing FQIS wiring. Model 737 series airplanes have recently been observed with aluminum drill shavings on and inside various wire bundles in several locations between the flight deck and the fuel tank. Such shavings can, with vibration or other motion, cut through wire insulation and provide a conductive path between wires in a bundle. Service history contains records of wire bundle fires, which may have been due to such conditions. Also, electromagnetic coupling can occur between systems routed together in bundles.

When the fuel system wiring practices used on other manufacturers' transport airplanes certificated in the same time

period as the Model 737 series airplane are examined, the FAA finds that those other airplanes incorporated wiring features (shielding and separation from other systems) that preclude the multiple failure scenarios discussed above. An examination of the service history for those other airplane manufacturers' models also shows that significantly fewer fuel tank fire/explosion events have occurred (a tabulation of transport airplane fuel tank fires was included in the FAA Notice of Request for Comments on NTSB Safety Recommendations published in the **Federal Register** on April 3, 1997). The two most recent fuel tank explosion accidents (in 1990 and 1996, as referred to previously) remain unsolved, and both airplane types involved in those accidents follow the wiring practices addressed by this AD. Therefore, the FAA has determined that, to address the potential for fuel tank ignition due to a latent failure plus one subsequent failure, the type design of Model 737-100 through -500 series airplanes must be brought up to the same wiring standards as other transport airplanes certificated during the same time period the Model 737 was certificated. No change to the final rule is necessary in this regard.

#### **Request To Extend Compliance Time**

Five commenters, comprising the airplane manufacturer, a supplier of FQIS components, two operators of Model 737 series airplanes, and an association of airlines operating in the U.S., request an extension of the compliance period for incorporation of fuel system wiring modifications and installation of fuel vent system flame arrestors. In general, the commenters consider the 12-month compliance period to be too short.

One commenter recommends a 24-month compliance time for both actions, to ease the demand on hangar space and to spread the cost out over two fiscal years instead of one. In addition, one commenter is concerned that service instructions are not yet available.

Two of the commenters, including the airplane manufacturer, recommend a longer compliance period for modification of fuel system wiring. One commenter recommends 36 months because of the lack of immediate safety concern associated with the existing wiring configuration and because of logistical considerations for accomplishing the modification. In addition, this commenter notes that the fuel system modification for Model 737-100 through -500 series airplanes required by this AD, as well as the modification for Model 747 series

airplanes required by AD 98-20-40, amendment 39-10808 (63 FR 52147, September 30, 1998), will affect up to 3,500 airplanes, and the requirements for manpower and hangar space will require that the work be spread out over several years. The other commenter recommends that the compliance time for the fuel system wiring modification be extended to 72 months, adding that such an extension would accommodate a flow time of 12 months to develop service instructions and 36 months to fabricate the required parts, as well as a projected incorporation rate that allows operators to complete the modification during a normal "D" check interval.

Two of the commenters state that the proposed compliance period for installation of vent system flame arrestors is too short, based on anticipated parts availability. The airplane manufacturer recommends a 3-year compliance period for that action, based on anticipated availability of parts and service instructions.

The FAA concurs with the request to extend the compliance period for accomplishment of the actions required by this AD. Generally, the commenters recommend that the compliance period for the wiring modification be different from that for the flame arrestor installation. The FAA concurs with this approach and has revised the final rule to extend the compliance period from 12 months to 48 months for modification of the fuel system wiring, and from 12 months to 36 months for installation of fuel vent system flame arrestors and pressure relief valves. These extensions are intended to allow sufficient time for the fabrication of required parts and subsequent modification of most of the affected airplanes during scheduled maintenance visits. The FAA has determined that these extensions will not have a significant adverse effect on the safety of the fleet of Model 737-100 through -500 series airplanes.

The FAA also agrees that, as these modifications are spread out over several years, the cost per year is reduced and the demand for hangar space and manpower is reduced. The FAA finds that both compliance periods allow ample time for development of service instructions and the fabrication of parts. The FAA has taken into account the size of the fleet in determining appropriate compliance times. The airplane manufacturer recommends a 72-month compliance time to accomplish fuel system wiring modifications. However, the FAA has determined that this activity may be completed in 48 months. This

determination was made by accepting the maximum compliance period requested from commenters (other than the manufacturer) and allowing 12 months for development of service instructions and retrofit kits. The manufacturer indicates that service information will be available within 12 months, and sufficient parts to support all U.S.-registered airplanes will be available within 24 months. In addition, the manufacturer predicts an incorporation rate of 50 airplanes per month. In light of these numbers (all of which the FAA considers to be conservative), wiring modifications on the U.S.-registered fleet can be accomplished in a total of 36 months. Recognizing that non-U.S.-registered airplanes will also be requiring parts, which will delay incorporation on U.S.-registered airplanes, the FAA believes it is sufficient to extend the compliance period for an additional 12 months for a total of 48 months.

#### **Request To Delay Issuance of the AD Pending Release of Service Information**

Two commenters, comprising an association of airlines operating in the United States and an operator of U.S.-registered airplanes, note that detailed compliance methods for the fuel system wiring modification and flame arrestor installation must be developed before the AD is released. The commenters indicate that, without such detailed instructions, the operators will have to be reactive instead of proactive; therefore, design and implementation errors may be introduced. One of the commenters stresses that the compliance methods must be based on results from EMI tests conducted on Model 737 FQIS's and that caution should be taken because wiring modifications may cause damage to existing wiring. The other commenter stresses that, because of the fleet size and the relatively short proposed compliance times, the rule should not be released until compliance methods are available.

The FAA concurs partially. The FAA does not concur that delaying this action until after the release of the manufacturer's planned service instructions is warranted, because sufficient technology currently exists to devise and install the required features within reasonable compliance times. However, as discussed previously, the final rule has been modified to allow 36 months to install fuel vent system flame arrestors and 48 months to modify fuel system wiring.

The FAA has taken into account the size of the fleet in determining appropriate compliance times and has

adopted the recommendation of the airplane manufacturer relative to the compliance period for the installation of fuel vent system flame arrestors. The selection of a 48-month compliance time for fuel system wiring modification also has taken into account the fleet size (explained in detail under the heading, "Request to Extend Compliance Time," above).

The FAA does not concur with the request to delay release of the rule to complete further EMI testing on additional Model 737 series airplanes. The airplane manufacturer has completed testing on one Model 737 series airplane to date. The FAA has determined that the test procedures used during the EMI testing are not representative of the many possible conditions on an airplane in operation. Specifically, no attempt was made to represent any system failure conditions or compromise shielding/grounding provisions on the systems that were powered and switched. Also, because of the way airplane wire bundles are manufactured and installed, significant variation in levels of coupling between systems has been seen in the past and would be expected on Model 737 series airplanes.

Moreover, the FAA's determination of the existence of an unsafe condition is not wholly dependent on the results of the EMI testing. In the Model 747 fuel system wiring safety analysis and airplane inspections performed by the NTSB during the investigation of the 1996 accident, several tank ignition scenarios were identified involving a combination of a latent failure or aging condition inside the fuel tank and a subsequent failure or electromagnetic coupling outside the tank. Various FAA and NTSB activities identified actual examples of the specific potential for each of those types of contributing conditions on Model 747 series airplanes. In addition, the FAA has determined that these same types of scenarios are applicable to Model 737-100 through -500 series airplanes.

The FAA shares the commenters' concern that modification of fuel system wiring may damage existing wiring, and the airplane manufacturer has carefully considered this concern as well. To minimize possible damage, the manufacturer's service instructions will not specify removal of any of the existing wiring; instead, this wiring will be terminated properly and retained in the airplane. In addition, newly installed shielded wiring will be spatially separated from all other airplane wiring.

#### **Preference for a Specific Design Solution**

Two commenters discuss application of transient suppression devices as they relate to the proposed AD. Responses to these comments have not been included in this AD because the optional requirement for installation of transient suppression devices has been removed from the final rule.

Based on comments from the airplane manufacturer, and on its own further analysis, the FAA has determined that installation of transient suppression devices alone would not meet the intent of the rule. The FAA has concerns that transient suppression devices may have latent failure modes that would render the transient suppression function inoperative, or may have failure modes that would cause introduction of high voltage signals into the fuel tank that otherwise would not have occurred. Therefore, paragraph (a) of the final rule has been revised to eliminate the general requirement for transient suppression components and to delete the reference to "install components." Operators that have specific design changes other than those required by the AD that may provide an acceptable level of safety may request approval of an alternative method of compliance in accordance with paragraph (c) of this AD.

#### **Request To Separate the Proposed Rule Into Two AD's**

One commenter, an operator of U.S.-registered airplanes, requests that the AD be divided into two AD's. The commenter points out that the corrective actions cannot be done in one maintenance visit.

The FAA does not concur with the request to separate the rule. Although both required actions most likely will not be accomplished during the same shop visit, the FAA notes that more than one shop visit to accomplish the actions required by an AD is not uncommon. The manufacturer plans to issue service information for each modification separately, which will allow the actions to be readily performed at different maintenance visits. No change to the AD in this regard is required.

#### **Request To Revise Cost Estimate for Wiring Modification**

Two commenters, an operator of U.S.-registered airplanes and the airplane manufacturer, discuss work hour and cost estimates regarding modification of fuel system wiring. One commenter questions how the FAA determined the work hour and cost estimates for wiring changes in the proposed rule. The other

commenter provides its own specific work hour and cost estimates for wiring modifications.

The FAA infers that the commenters request a revision of the work hour and cost estimates for the wiring modification. The FAA concurs. In the absence of specific instructions addressing wiring modifications, the FAA based its original work hour estimate (40 work hours) and cost estimate (\$12,400 per airplane) on similar modifications accomplished on other airplane models. The cost impact information, below, has been revised in this regard, based on the information provided by the manufacturer.

#### **Request To Revise Cost Estimate for Installation of Flame Arrestor**

Three commenters, comprising an operator of U.S.-registered airplanes, an association of airlines operating in the U.S., and the airplane manufacturer, discuss work hour and cost estimates regarding installation of fuel vent system flame arrestors and pressure relief valves. One commenter suggests that the FAA's determination of 48 work hours to install flame arrestors is underestimated. Another commenter questions the method the FAA used to estimate the work hours and parts necessary to install the flame arrestors. A third commenter provides its own specific work hour and cost estimates.

The FAA infers that the commenters request a revision of the cost estimate for this installation. The FAA concurs partially. The FAA considers the cost estimates provided in the proposed rule to be generally representative of the actual costs associated with this modification. The FAA's estimated work hours and costs are based on previously released service instructions from the airplane manufacturer that detailed installation of fuel vent system flame arrestors and pressure relief valves on Model 737-200 series airplanes. The airplane manufacturer's labor cost estimate is comparable to the FAA's estimate and its parts cost estimate is actually lower than that of the FAA. The cost impact information, below, has been revised in this regard, based on the information provided by the manufacturer.

#### **Request To Maintain Minimum FQIS Performance Requirements**

One commenter, a manufacturer of fuel system components, requests that the minimum performance requirements for FQIS's regarding maximum allowable energy into the fuel tank not be changed as a result of this AD. The commenter states that a change to the minimum performance requirements

implies the currently certified FQIS is not safe.

The FAA concurs with the request and finds that the changes that result from this AD do not directly affect the minimum performance requirements for fuel system wiring and components in the future. Though the AD does not specifically address the performance requirements, the FAA notes studies are in progress that may address the currently accepted maximum allowable energy levels in fuel tanks. If, as part of this study activity, it is determined that the currently recognized levels need to be adjusted, then the FAA may consider further rulemaking to address that. As stated previously, the fact that two unexplained center fuel tank explosions have occurred in the last eight years on Boeing airplanes leads the FAA to conclude that modifications to the fuel system wiring are necessary. The FAA has determined that wire separation and shielding is the appropriate action to take at this time. These modifications do not directly affect the minimum performance requirements for fuel system wiring. Therefore, no change to the AD in this regard is required.

#### **Concerns Regarding Flame Arrestor Qualification Tests**

One commenter expresses concern that flame arrestor qualification tests are not sufficiently defined and that the installation of fuel vent system flame arrestors would not have prevented the 1990 center fuel tank explosion on a Model 737-300 series airplane.

The FAA recognizes there are credible explanations for the accident that do not involve an external flame front traveling through the vent system into the center fuel tank. Regardless of the role a fuel vent system flame arrestor may have played in that specific accident, the FAA has determined that the lack of fuel vent system flame arrestors in Model 737-100 through -500 series airplanes creates an unacceptable risk of fuel tank explosion and constitutes an unsafe condition. Based on comments received on the NPRM, this opinion appears to be held by a number of commenters (including the airplane manufacturer) as well. The sufficiency of qualification testing for flame arrestors does not have a specific bearing on this AD.

However, the FAA is interested in obtaining more information regarding this commenter's concerns. The FAA has asked the commenter to submit additional detailed information on this concern to the Seattle Aircraft Certification Office for consideration.

#### **Concerns Regarding Detection of Wire Chafing**

One commenter, a manufacturer of electronic test equipment, states it believes that electrical coupling between adjacent wires is not plausible as a cause for either accident referred to previously. The commenter notes these wires have been adjacent to other wires for years with no apparent problems. In addition, the commenter suggests the test equipment utilized by industry is not sophisticated enough to detect the types of wire damage that may be present in the fuel system wiring. The commenter also details the benefits of utilizing more advanced test equipment for detection of wire damage. The commenter further indicates that it manufactures this advanced equipment.

The FAA does not agree with the commenter's opinion that electrical coupling between adjacent wires could not be a factor in either the 737-300 or the 747-100 fuel tank explosion. As noted in the proposed rule, the FAA participated in testing of fuel system wiring in which electrical coupling was induced in combination with an aging condition or a latent failure of the FQIS probes, which resulted in energy in excess of that required to ignite fuel vapor. The fact that the wires had been adjacent for years with no apparent problems prior to the tank ignition may only indicate that neither the aging condition nor the latent failure inside the tank was present during that time to allow the induced voltage to cause an ignition source inside the fuel tank.

Regarding the advanced test equipment discussed by the commenter, the FAA cannot dictate the types of electrical equipment that industry utilizes in conducting airplane wiring tests. This AD is based on the determination that separation and shielding of the fuel system wiring is currently the only practical method to ensure that induced transients or wire-to-wire hot shorts do not cause an ignition source inside the fuel tank. No change to the AD in this regard is required.

#### **Clarification of Systems Affected**

Since the issuance of the NPRM, the FAA recognized the proposed AD may be unclear with respect to which electrical circuits were intended to be affected by the proposed AD. The NPRM proposed, and the final rule requires, providing shielding and separation of the fuel system wiring (that is routed to the fuel tanks) from adjacent wiring. The FAA considers "fuel system wiring" to include all electrical circuits associated with the control or indication

of the fuel quantity on the airplane. This would include, but not be limited to, the FQIS tank probe circuits, the volumetric shutoff compensator circuits, densitometer circuits, and float switch circuits. The term "circuits" is considered by the FAA to include airplane wiring as well as wiring within electrical equipment.

### Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

### Cost Impact

There are approximately 2,780 airplanes of the affected design in the worldwide fleet. The FAA estimates that 1,140 airplanes of U.S. registry will be affected by this AD.

It will take approximately 278 work hours per airplane to accomplish the required installation of shielding/separation components, at an average labor rate of \$60 per work hour. Required parts will cost approximately \$4,500 per airplane. Based on these figures, the cost impact of this action on U.S. operators is estimated to be \$24,145,200, or \$21,180 per airplane.

It will take approximately 48 work hours per airplane to accomplish the required installation of flame arrestors, at an average labor rate of \$60 per work hour. Required parts will cost approximately \$17,100 per airplane. Based on these figures, the cost impact of this action on U.S. operators is estimated to be \$22,777,200, or \$19,980 per airplane.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted.

### Regulatory Impact

The regulations adopted herein will not have substantial direct effects 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. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) 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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

### List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

### Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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. Section 39.13 is amended by adding the following new airworthiness directive:

**99-03-04 Boeing:** Amendment 39-11018. Docket 98-NM-50-AD.

**Applicability:** All Model 737-100, -200, -300, -400, and -500 series airplanes; certificated in any category.

**Note 1:** This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

**Compliance:** Required as indicated, unless accomplished previously.

To prevent possible ignition of fuel vapors in the fuel tanks, and external ignition of fuel vapor exiting the fuel vent system and consequent propagation of a flame front into the fuel tanks, accomplish the following:

(a) Within 48 months after the effective date of this AD, provide shielding and separation of the fuel system wiring (that is routed to the fuel tanks) from adjacent wiring, in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate.

(b) Within 36 months after the effective date of this AD, install flame arrestors and pressure relief valves in the fuel vent system, in accordance with a method approved by the Manager, Seattle ACO.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle ACO. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

(e) This amendment becomes effective on March 9, 1999.

Issued in Renton, Washington, on January 26, 1999.

**Darrell M. Pederson,**

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.*  
[FR Doc. 99-2272 Filed 2-1-99; 8:45 am]

BILLING CODE 4910-13-U

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### Food and Drug Administration

#### 21 CFR Part 5

### Delegations of Authority and Organization; Center for Devices and Radiological Health

**AGENCY:** Food and Drug Administration, HHS.

**ACTION:** Final rule.

**SUMMARY:** The Food and Drug Administration (FDA) is amending the regulations for delegations of authority to reflect redelegations to other officials within the Center for Devices and Radiological Health (CDRH) pertaining to: Certifying true copies and using the Department seal, disclosing official records, issuing reports of minor violations, and medical device reporting procedures. This amendment is intended to reflect those redelegations.

**EFFECTIVE DATE:** February 2, 1999.