NEWSLETTER

HAVE YOU EVER WONDERED IF WHAT YOU ARE READING IS *NEWS* OR *PUFF (a.k.a.* BS)? Considering the clout that the local companies have over the *LOCAL PRESS (for example, think about how the Ruling Power controls the National Media),* if it's *good news for the Chicago based airplane company,* consider it *PUFF!* Read thru the following that was, perhaps, posted as NEWS!

"Boeing Launches 737 New Engine Family with Commitments for 496 Airplanes from Five Airlines
- Will deliver improved fuel efficiency and lowest operating costs in single-aisle market
- Customers expressing overwhelming acceptance for new airplane
- Feldmann to lead new program; Teal named chief project engineer

These images are available for editorial use by news media.

SEATTLE, Aug. 30, 2011 /PRNewswire/ -- The Boeing (NYSE: BA) Company's board of directors has approved the launch of the new engine variant of the market-leading 737, based on order commitments for 496 airplanes from five airlines and a strong business case.

"The re-engined 737 will allow Boeing to continue to deliver the most fuel efficient, most capable airplane with the lowest operating costs in the single-aisle market," said Boeing Commercial Airplanes President and CEO Jim Albaugh. "This, coupled with industry leading reliability and maintainability, is what customers have told us they want. As a result, we are seeing overwhelming demand for this new and improved version of the 737. We are working with our customers to finalize these and other agreements in the weeks and months ahead."

The new 737 family will be powered by CFM International LEAP-1B engines optimized for the 737. It will have the lowest operating costs in the single-aisle segment with a 7 percent advantage over the competition. Deliveries are scheduled to begin in 2017.

"Customers tell us they want to improve profitability and fuel efficiency while reducing their environmental footprint," said Albaugh. "This solution meets all three of those needs."

When compared to a fleet of 100 of today's most fuel-efficient airplanes, this new model will emit 277,000 fewer tons of CO2 and save nearly 175 million pounds of fuel per year, which translates into $85 million in cost savings. The airplane's fuel burn is expected to be 16 percent lower than our competitor's current offering and 4 percent lower than their future offering.

Boeing has named Bob Feldmann vice president and general manager of the new engine 737 family. With 35 years of aerospace experience, Feldmann most recently led the Surveillance and Engagement

division within Boeing Military Aircraft, a unit of Boeing Defense, Space & Security that includes several commercial derivative programs based on the 737 platform. He has been instrumental in leading the successful development of complex programs such as the EA-18G Growler and the P-8A Poseidon.

Michael Teal has been named vice president, chief project engineer and deputy program manager. Teal's most recent role was vice president and chief project engineer on the 747-8 program, where he was instrumental in managing the airplane's configuration and integration, performance, safety, test and certification.

The Boeing 737 is the world's most popular and reliable commercial jet transport. The 737 family has won orders for more than 9,000 airplanes.

The Next-Generation 737 program has continuously improved the products, features and services that provide increasing value to customers. Today's Next-Generation 737s are up to 7 percent more fuel-efficient than the first airplanes delivered in 1998. Boeing forecasts global demand for more than 23,000 airplanes in the 737's market segment over the next 20 years at a value of nearly $2 trillion.

*Certain statements in this release may be "forward-looking" within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as "will," "expects," "intends," "plans," "projects," "believes," "estimates," "targets," "anticipates," and similar expressions are used to identify these forward-looking statements. Forward-looking statements are based on our current expectations and assumptions, which may not prove to be accurate. These statements are not guarantees and are subject to risks, uncertainties, and changes in circumstances that are difficult to predict. Actual outcomes and results may differ materially from what is expressed or forecasted in these forward-looking statements. As a result, these statements speak to events only as of the date they are made and we undertake no obligation to update or revise any forward-looking statement, except as required by federal securities laws. Specific factors that could cause actual results to differ materially from forward-looking statements include, but are not limited to, the effect of economic conditions in the United States and globally, and general industry conditions as they may impact us or our customers, as well as the other important factors disclosed previously and from time to time in our filings with the Securities and Exchange Commission. (*Emphasis added)

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We have looked into the *new engine* and verified this article is full of *fluff*, but more on that in a later issue.

IF YOU ARE A FOLLOWER OF THE SEATTLE TIMES’S BOEING DIGEST and you read the COMMENTS, you have learned that most readers are *died in the wool* Boeing folks. Some are IAM or SEEPA union members - too many are *BOGAS* - Boeing Douglas pronouced B*OGUS*. Many of them appear to be Boeing *technical types* and some may be from the FAA’s Aircraft Certification Branch in

Renton (one *commenter* traced TATSCO down and we had several very good exchanges). Often the *person* will either validate what the article said or take strong objections and sorta like *spill the beans* and lead you to the real story. SO THE POINT HERE IS TO VERIFY THE HOOK ON THE WALL TtHAT YOU ARE GOING TO HANG YOUR HAT (a.k.a. *EGO*) ON IS STRONG ENOUGH.

ANA HAS FLOWN ITS FIRST 787 PASSENGER FLIGHT . . . Haneda to Hong Kong. The approximate distance is 1750 miles - 4.5 hours. It was sorta' a demo. Tickets were auctioned with the first selling for a reported $33,000.

*Originally published November 15, 2011 at 4:18 PM | **Page modified November 15, 2011 at 10:49 PM***

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"First 787 upgraded in San Antonio returns to Everett

Boeing's 787 Dreamliner No. 23 returned to Everett Sunday, eight months after it was flown to San Antonio, Texas, to complete the modifications necessary to conform with the plane's final FAA-approved design.

By Seattle Times staff

Boeing's 787 Dreamliner No. 23 returned to Everett Sunday, eight months after it was flown to San Antonio, Texas, to complete the modifications necessary to conform with the plane's final FAA-approved design.

The plane was initially assembled before that final design was authorized.

An interior will now be installed in Everett and the jet will be prepared for delivery to Japan Airlines.

The San Antonio facility is scheduled to take three more 787s for similar modifications, plus three of the flight test airplanes that must be refurbished. The work will be performed through 2013."

ACCORDING TO THE SAN ANTONIO EXPREE NEWS six flight test and 3 new production aircraft are scheduled to be modified at "PORT SAN ANTONIO".

GM Volt Fire After Crash Said to Prompt Lithium-Battery Probe

Q
By Jeff Green, David Welch and Angela Greiling Keane - Nov 11, 2011 9:00 PM PT

Nov. 11 (Bloomberg) -- Regulators from the U.S. National Highway Traffic Safety Administration will now examine the safety of lithium-ion batteries that power all plug-in electric vehicles after a General MotorCo. Chevrolet Volt caught fire, according to people familiar with the probe. Megan Hughes reports on Bloomberg Television's "Street Smart." (Source: Bloomberg)

U.S. auto-safety regulators are examining the safety of lithium-ion batteries that power all plug-in electric vehicles after a General Motors Co. (GM) Chevrolet Volt caught fire, people familiar with the probe said.

The regulators have asked automakers, including GM, Nissan Motor Co. and Ford Motor Co. (F), that sell or have plans to sell vehicles with lithium-ion batteries about the batteries' fire risk, four people familiar with the inquiry said. LG Chem Ltd. (051910), South Korea's biggest chemical maker, supplies Volt batteries.

The Volt caught fire while parked at a National Highway Traffic Safety Administration testing center in Wisconsin, three weeks after a side-impact crash test May 12, said an agency official. The official and the three other people familiar with the inquiry declined to be identified because the investigation isn't public.

"I want to make this very clear: the Volt is a safe car," Jim Federico, GM's chief engineer, said in an e-mailed statement yesterday. "We are working cooperatively with NHTSA as it completes its investigation. However, NHTSA has stated that based on available data, there's no greater risk of fire with a Volt than a traditional gas-powered car."

A SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) PAPER 2008-01-2875 STATES . . .

David G. Vutetakis and John B. Timmons
Concorde Battery Corporation

At present, there is limited experience with Lithium-Ion batteries in aircraft applications. However, other applications of this technology, ranging from cellular telephones, laptop computers, and electric vehicles, have encountered safety problems. These safety problems can occur as a result of overcharging, overdischarging, internal shorting, and flammability of cell components.

OVERCHARGING - Overcharging can occur if the charging voltage is too high or if one or more cells in the battery is out of balance with the rest of the cells. Overcharging causes heating and destabilization of the components of the cell, leading to formation (by plating) of highly unstable metallic lithium. The metallic lithium can ignite, resulting in a self-sustaining fire or explosion. The severity of thermal runaway from overcharging increases with increasing battery capacity, because of the higher amount of active material and flammable electrolyte in larger batteries. As a result of these safety hazards, Lithium-Ion aircraft batteries require sophisticated charge control, either by means of an external battery charger or internal electronics if the battery is charged from the aircraft DC bus.

OVERDISCHARGING - Discharge of most types of Lithium-Ion batteries beyond a certain voltage (typically below 2.0-2.5 volts/cell) can cause corrosion of the negative electrode of the cell, resulting in loss of battery capacity that cannot be reversed by recharging. This loss of capacity may not be detected by the simple voltage measurements commonly available to flight crews as a means of checking battery status. Thus, the battery capacity may be below that needed for airworthiness without a means to detect this condition.

INTERNAL SHORTING – Lithium-Ion batteries are susceptible to internal cell failures that can result in rapid increases in temperature and pressure (thermal runaway), leading to fire and explosions. This type of failure has occurred with laptop computer batteries and has been well publicized. Although the number of occurrences was very low in comparison to the number of batteries produced, over 10 million batteries have been recalled as a result of this failure mode.

FLAMMABLITY OF CELL COMPONENTS -Unlike Nickel-Cadmium and Lead-Acid batteries, Lithium-Ion batteries use organic electrolytes that are flammable. The electrolytes provide a source of fuel if the cell becomes too hot, either from an internal or external source of heat. Furthermore, the cathode material in many types of Lithium-Ion cells is made of metal oxides (e.g., cobalt oxide, nickel oxide, manganese oxide). Upon heating, the metal oxides release oxygen gas which further increases the intensity of the electrolyte combustion reaction. This internal oxygen supply makes Lithium-Ion battery fires self-sustaining and it becomes very difficult to extinguish the fire once it starts. For Lithium-Ion chemistries that do not use metal oxides (e.g., Lithium-Iron Phosphate), internal release of oxygen gas does not occur, so these chemistries are inherently safer than those with metal oxide cathodes.

THE FAA HAS ISSUED SPECIAL CONDITIONS TO *MITIGATE* OR *CONTROL* THESE THREATS.

Justia Regulation Tracker

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. NM375 Special Conditions No. 25-359-SC]

Special Conditions: Boeing Model 787-8 Airplane; Lithium Ion Battery Installation

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions.

SUMMARY: These special conditions are issued for the Boeing Model 787-8 airplane. This airplane will have novel or unusual design features when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. The Boeing

Model 787-8 airplanes will use high capacity lithium ion battery technology in on-board systems. For these design features, the applicable airworthinessregulations do not contain adequate or appropriate safety standards. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing standards. Additional special conditions will be issued for other novel or unusual design features of the Boeing Model 787-8 airplanes.

DATES: Effective Date: November 13, 2007.

FOR FURTHER INFORMATION CONTACT: Nazih Khaouly, FAA, Airplane and Flight Crew Interface, ANM-111, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-2432; facsimile (425) 227-1149.

SUPPLEMENTARY INFORMATION:

Background

On March 28, 2003, Boeing applied for an FAA type certificate for its new Boeing Model 787-8 passenger airplane. The Boeing Model 787-8 airplane will be an all-new, two-engine jet transport airplane with a two-aisle cabin. The maximum takeoff weight will be 476,000 pounds, with a maximum passenger count of 381 passengers.

Type Certification Basis

Under provisions of 14 Code of Federal Regulations (CFR) 21.17, Boeing must show that Boeing Model 787-8 airplanes (hereafter referred to as ``the 787'') meet the applicable provisions of 14 CFR part 25, asamended by Amendments 25-1 through 25-117, except Sec. Sec. 25.809(a)and 25.812, which will remain at Amendment 25-115. If the Administrator finds that the applicable airworthiness regulations do not contain adequate or appropriate safety standards for the 787 because of a novel or unusual design feature, special conditions are prescribed under provisions of 14 CFR 21.16.

In addition to the applicable airworthiness regulations and special conditions, the 787 must comply with the fuel vent and exhaust emission requirements of 14 CFR part 34 and the noise certification requirements of 14 CFR part 36. The FAA must also issue a finding of regulatory adequacy pursuant to section 611 of Public Law 92-574, the ``Noise Control Act of 1972.''

The FAA issues special conditions, as defined in 14 CFR 11.19,

under Sec. 11.38, and they become part of the type certification basis under Sec. 21.17(a)(2).

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same or similar novel or unusual design feature, the special conditions would also apply to the other model under Sec. 21.101.

Novel or Unusual Design Features

The 787 will incorporate a number of novel or unusual design features. Because of rapid improvements in airplane technology, the applicable airworthiness regulations do not contain adequate or appropriate safety standards for these design features. These special conditions for the 787 contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

The 787 design includes planned use of **lithium ion batteries for the following applications:**

Main and Auxiliary Power Unit (APU) Battery/Battery Charger System.

Flight Control Electronics.

Emergency Lighting System.

Recorder Independent Power Supply. (e*mp added)*

Large, high capacity, rechargeable lithium ion batteries are a novel or unusual design feature in transport category airplanes. This type of battery has certain failure, operational, and maintenance characteristics that differ significantly from those of the nickel-cadmium and lead-acid rechargeable batteries currently approved for installation on large transport category airplanes. The FAA issues these special conditions to require that (1) all characteristics of the lithium ion battery and its installation that could affect safe operation of the 787 are addressed, and (2) appropriate maintenance requirements are established to ensure the availability of electrical power from the batteries when needed.

Background

The current regulations governing installation of batteries in large transport category airplanes were derived from Civil Air Regulations (CAR) part 4b.625(d) as part of the re-codification of CAR 4b that established 14 CFR part 25 in February, 1965. The new

battery requirements, 14 CFR 25.1353(c)(1) through (c)(4), basically reworded the CAR requirements.

Increased use of nickel-cadmium batteries in small airplanes resulted in increased incidents of battery fires and failures. This led to additional rulemaking affecting large transport category airplanes as well as small airplanes. On September 1, 1977, and March 1, 1978, respectively, the FAA issued 14 CFR 25.1353c(5) and c(6), governing nickel-cadmium battery installations on large transport category airplanes.

The proposed use of lithium ion batteries for the emergency lighting system on the 787 has prompted the FAA to review the adequacy of these existing regulations. Our review indicates that existing regulations do not adequately address several failure, operational, andmaintenance characteristics of lithium ion batteries that could affect the safety and reliability of the 787's lithium ion battery installations.

At present, there is limited experience with use of rechargeable lithium ion batteries in applications involving commercial aviation. However, other users of this technology, ranging from wireless telephone manufacturing to the electric vehicle industry, have noted safety problems with lithium ion batteries. These problems include overcharging, over-discharging, and flammability of cell components.

1. Overcharging

In general, lithium ion batteries are significantly more susceptible to internal failures that can result in self-sustaining increases in temperature and pressure (thermal runaway) than their nickel-cadmium or lead-acid counterparts. This is especially true for overcharging, which causes heating and destabilization of the components of the cell, leading to formation (by plating) of highly unstable metallic lithium. The metallic lithium can ignite, resulting In a self-sustaining fire or explosion. Finally, the severity of thermal runaway from overcharging increases with increasing battery capacity, because of the higher amount of electrolytes in large batteries.

2. Over-Discharging

Discharge of some types of lithium ion batteries beyond a certain voltage (typically 2.4 volts) can cause corrosion of the electrodes of the cell, resulting in loss of battery capacity that cannot be reversed by recharging. This loss of capacity may not be detected by the simple voltage measurements commonly available to flightcrews as a means of checking battery status. This is a problem shared with nickel-cadmium batteries.

3. Flammability of Cell Components

Unlike nickel-cadmium and lead-acid batteries, some types of lithium ion batteries use liquid electrolytes that are flammable. The electrolytes can serve as a source of fuel for an external fire, if there is a breach of the battery container.

These problems experienced by users of lithium ion batteries raise concern about use of these batteries in commercial aviation. The intent of these special conditions is to establish appropriate airworthiness standards for lithium ion battery installations in the 787 and to ensure, as required by 14 CFR 25.601, that these battery installations are not hazardous or unreliable. To address these concerns, these special conditions adopt the following requirements:

Those sections of 14 CFR 25.1353 that are applicable to lithium ion batteries.

The flammable fluid fire protection requirements of 14 CFR 25.863. In the past, this rule was not applied to batteries of transport category airplanes, since the electrolytes used in lead-acid and nickel-cadmium batteries are not flammable.

New requirements to address the hazards of overcharging and over-discharging that are unique to lithium ion batteries.

New maintenance requirements to ensure that batteries used as spares are maintained in an appropriate state of charge.

These special conditions are similar to special conditions adopted for the Airbus A380 (71 FR 74755; December 13, 2006).

Discussion of Comments

Notice of Proposed Special Conditions No. 25-07-10-SC for the 787 was published in the Federal Register on April 30, 2007 (72 FR 21162).

We received comments from the Air Line Pilots Association, International, which are discussed below.

The Air Line Pilots Association (ALPA) conditionally supports the FAA's proposal for special conditions for lithium ion batteries on the 787 aircraft, but ``strongly maintains that there need to be adequate protections and procedures in place to ensure that concerns regarding lithium ion batteries are fully addressed and protected against.''

Appended to the ALPA comments was a copy of FAA report DOT/FAA/AR-06/38, September 2006, Flammability Assessment of Bulk-Packed, Rechargeable Lithium-Ion Cells In Transport Category Aircraft. With the knowledge of the safety hazards described in the appended report

and by others, ALPA requested that the FAA consider the specific concerns discussed below.

ALPA Comment re Special Condition (3): The commenter requested that paragraph 3 of the special conditions be revised to ensure that the certification design of the 787 prevents explosive or toxic gases emitted by a lithium ion battery from entering the cabin. The commenter also requested that the FAA ensure that flightcrew procedures and training are adequate to protect both passengers and crew, if explosive or toxic gases do enter the cabin.

FAA Response: 14 CFR 25.857 prohibits hazardous quantities of smoke, flames, or extinguishing agents from cargo compartments from entering any compartment occupied by the crew or passengers.

Paragraph (3) of these special conditions specifies that

No explosive or toxic gases emitted by any lithium ion battery in normal operation, or as the result of any failure of the battery charging system, monitoring system, or battery installation not shown to be extremely remote, may accumulate in hazardous quantities within the airplane.

The special conditions require that any explosive or toxic gases emitted by a lithium ion battery be limited to less than hazardous quantities everywhere on the airplane. The FAA does not expect the need for additional training above and beyond the training that crews receive today. We made no change to these special conditions as a result of this comment.

ALPA Comment re Special Condition (4): The commenter stated,We are very concerned with a fire erupting in flight, and being able to rapidly extinguish it. The Special Conditions should require that there be a means provided to apply extinguishing agents by the flight (cabin) crew instead of promoting it as an option in managing the threat posed by the use of lithium-ion batteries. ALPA maintains that the petitioner must provide means for extinguishing fires that occur vs. listing it as an option in Sec. 25.863.

ALPA clarified this comment in the following communication, sent by e-mail on August 10, 2007.

The intent of our comments submitted to the Docket for question [Special Condition] Number 4 (see below) is to assure that the FAA includes language or makes it clear in the Special Conditions directing the OEM or a potential STC applicant that a fire from these devices, in any situation, is unacceptable. ALPA requests the FAA reiterate that preventing a fire and not reacting to one, if one occurs, is critical. The last sentence of our comments in this Question [Special Condition] refers to the potential for an ``equivalent level of safety'' being introduced or referenced in the document that would negate the prevention of a fire; ALPA finds this

``option'' **unacceptable.**

(4) Installations of lithium ion batteries must meet the requirements of 14 CFR 25.863(a) through (d).

The proposal states that the certification requirements of Sec. 25.283 [Sec. 25.863] must be complied with; however, the FAA report (FAA report DOT/FAA/AR-06/38, September 2006) indicates that a relatively small fire source is sufficient to heat the lithium-ion cell above the temperature required to activate the pressure release mechanism in the cell. This causes the cell to forcefully vent its electrolyte through the relief ports near the positive terminal. The electrolyte is highly flammable and easily ignites when exposed to an open flame or hot surface. Fully charged cells released small white sparks along with the electrolyte.

FAA Response: The FAA shares the commenter's concern over a fire erupting in flight. The regulations and the rigid requirements defined in these special conditions are intended to prevent lithium battery fires on board the aircraft. **We have made no change as a result of this comment.**

ALPA Comment re Special Condition (7): The commenter suggested that the special conditions address means to ensure that the lithium ion batteries do not overheat or overcharge in the event of failure or malfunction of the automatic disconnect function, when a means of disconnecting the batteries from the charging source is not available.

FAA Response: The **FAA agrees** with the commenter. Special Condition *(but, I add,)*
(7) requires means to prevent overheating or overcharging of lithium ion batteries in the event of failure or malfunction of the automatic disconnect function. The issue of failure modes of the lithium ion batteries is covered by Special Conditions (1), (2), and (6). **We made no change as a result of this comment.**

[[Page 57844]]

ALPA Comment re Special Condition (8): Finally, ALPA commented on monitoring and warning features that will indicate when the state-of-charge of the batteries has fallen below levels considered acceptable for dispatch of the airplane. The commenter suggested that the special conditions address the location of the warning indication; whether it is displayed to the captain, the crew, or both; and the training to be incorporated in the crew training programs.

FAA Response: Flight deck warning indicators associated with the state-of-charge of the lithium ion battery and appropriate training of the crew will be addressed during certification as part of the

flight deck evaluation. As required by Sec. 25.1309(c), this evaluation willensure that the warning indication is effective and appropriate for the hazard. **We made no change as a result of this comment.**

These special conditions are issued as proposed.***(but we have no assurance the changes will be incorporated or implemented)***

Applicability

As discussed above, these special conditions are applicable to the 787. Should Boeing apply at a later date for a change to the type certificate to include another model on the same type certificate incorporating the same novel or unusual design features, these special conditions would apply to that model as well.

Conclusion

This action affects only certain novel or unusual design features of the 787. It is not a rule of general applicability.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44702, 44704.

The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for the Boeing Model 787-8 airplane.

In lieu of the requirements of 14 CFR 25.1353(c)(1) through (c)(4), the following special conditions apply. Lithium ion batteries on the Boeing Model 787-8 airplane must be designed and installed as follows:

(1) Safe cell temperatures and pressures must be maintained during any foreseeable charging or discharging condition and during any failure of the charging or battery monitoring system not shown to beextremely remote. The lithium ion battery installation mustpreclude explosion in the event of those failures.

(2) Design of the lithium ion batteries must preclude the

occurrence of self-sustaining, uncontrolled increases in temperature or pressure.

(3) No explosive or toxic gases emitted by any lithium ion battery in normal operation, or as the result of any failure of the battery charging system, monitoring system, or battery installation not shown to be extremely remote, may accumulate in hazardous quantities within the airplane.

(4) Installations of lithium ion batteries must meet the requirements of 14 CFR 25.863(a) through (d).

(5) No corrosive fluids or gases that may escape from any lithium ion battery may damage surrounding structure or any adjacent systems, equipment, or electrical wiring of the airplane in such a way as to cause a major or more severe failure condition, in accordance with 14 CFR 25.1309(b) and applicable regulatory guidance.

(6) Each lithium ion battery installation must have provisions to prevent any hazardous effect on structure or essential systems caused by the maximum amount of heat the battery can generate during a short circuit of the battery or of its individual cells.

(7) Lithium ion battery installations must have a system to control the charging rate of the battery automatically, so as to prevent battery overheating or overcharging, and,

(i) A battery temperature sensing and over-temperature warning system with a means for automatically disconnecting the battery from its charging source in the event of an over-temperature condition, or,

(ii) A battery failure sensing and warning system with a means for automatically disconnecting the battery from its charging source in the event of battery failure.

(8) Any lithium ion battery installation whose function is required for safe operation of the airplane must incorporate a monitoring and warning feature that will provide an indication to the appropriate flight crewmembers whenever the state-of-charge of the batteries has fallen below levels considered acceptable for dispatch of the airplane.

(9) The Instructions for Continued Airworthiness required by 14 CFR
25.1529 must contain maintenance requirements for measurements of battery capacity at appropriate intervals to ensure that batteries whose function is required for safe operation of the airplane will perform their intended function as long as the battery is installed in the airplane. The Instructions for Continued Airworthiness must also contain procedures for the maintenance of lithium ion batteries in spares storage to prevent the replacement of batteries whose function is required for safe operation of the airplane with batteries that have experienced degraded charge retention ability or other damage due to prolonged storage at a low state of charge.

Note: These special conditions are not intended to replace 14 CFR 25.1353(c) in the certification basis of the Boeing 787-8 airplane. These special conditions apply only to lithium ion batteries and their installations. The requirements of 14 CFR 25.1353(c) remain in effect for batteries and battery installations of the Boeing 787-8 airplane that do not use lithium ion batteries.

Issued in Renton, Washington, on September 28, 2007.
Ali Bahrami,
Manager, Transport Airplane Directorate, Aircraft Certification Service.
[FR Doc. E7-19980 Filed 10-10-07; 8:45 am]

BILLING CODE 4910-13-P

(SOMEDAY WHEN YOU HAVE SPARE TIME WE SUGGEST READING Sec. 25.1353 (b).

THIS HAS BEEN A LITTLE LONGER THAN OUR AVERAGE *NEWSLETTER*, but the issue of *FIRE, SMOKE AND TOXICITY* IS A LIFE OR DEATH ISSUE TO US AND MANY OF OUR FRIENDS! ALLOW ME TO ASK A QUESTION . . . *YOU TAKE A PLASTIC AIRPLANE THAT CONTAINS AN ESTIMATED 60,000 POUNDS OF FLAMMABLE RESIN THAT BURNS VERY HOT and PRODUCES DENSE BLACK TOXIC SMOKE, WRAP IT AROUND A BUNCH OF INCENDIARY DEVICES, THEN LOAD 250 (OR SO) PASSENGERS IN IT . . . AND CALL IT SAFE?*

HAVE A VERY HAPPY THANKSGIVING HOLIDAY. SEE YOU IN ABOUT TWO WEEKS.

WHOOPS . . . Someone "got thru" the thick head of GM folks. The following was published by Bloomberg News yesterday (11-17-11)

Nov. 11 (Bloomberg) -- Regulators from the U.S. National Highway Traffic Safety Administration will now examine the safety of lithium-ion batteries that power all plug-in electric vehicles after a General Motors Co. Chevrolet Volt caught fire, according to people familiar with the probe. Megan Hughes reports on Bloomberg Television's "Street Smart." (Source: Bloomberg)

General Motors Co. (GM) is developing ways to discharge the battery in Chevrolet Volts after accidents to prevent fires like the one that followed a government crash- test of the plug-in hybrid car in May.

GM is working on safety practices with the U.S. National Highway Traffic Safety Administration and will make them public when completed, Rob Peterson, a GM spokesman, said yesterday. The Detroit-based automaker has taken longer to develop a plan than Nissan Motor Co. did for its Leaf electric car. Both the Volt and Leaf went on sale in December 2010.

"I can't conceive that they didn't have a standard operating procedure in place for handling a wrecked vehicle before the car went on sale," said Clarence Ditlow, executive director of the Center for Auto Safety in Washington. "NHTSA and GM should have established protocols in place before it went on sale."

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