

FAA POST-ACCIDENT CARGO SAFETY ACCOMPLISHMENTS

NTSB Investigation Case No. DCA13MA081 - National Air Cargo B-747

As of May 28, 2015

On April 29, 2013, at 1056 local time, a National Air Cargo B747-400, registration N949CA, crashed shortly after takeoff from Bagram Air Base, Afghanistan. All seven crewmembers onboard were fatally injured and the airplane was destroyed from impact forces and post-crash fire. Visual meteorological conditions prevailed. The 14 CFR Part 121 Supplemental cargo flight was destined for Dubai, United Arab Emirates, and was transporting heavy military vehicles under contract to the United States (U.S.) Department of Defense (DoD).

As you know, a senior air safety investigator from FAA's Office of Accident Investigation and Prevention (AVP) travelled to the accident site with the investigative team to assist in the investigation. During the on-scene phase of the investigation, and for all follow-up activities, our investigator received extensive technical support from several FAA staff and managers from AVP, Flight Standards Service (AFS), and Aircraft Certification Service (AIR).

Immediately following the accident, AFS established an ad hoc "tiger team" of inspectors to review weight and balance programs for restraining cargo as well as airplane loading and unloading for National Air Cargo and five other supplemental cargo operators (focus operators).¹ In June 2013, based on the effectiveness and results from this team, AFS established a more permanent and formalized team and designated it as the **Cargo Focus Team (CFT)**.

The purpose of the CFT is to provide a permanent technical support organization for FAA aviation safety inspectors who oversee air cargo operations. The CFT provides direct technical validation of operator cargo procedures, documents and support for technical decisions related to cargo. The CFT also developed a strategic action plan to address certification, operations, and airworthiness issues. This course of action aims to:

- Provide clearer, more precise guidance on cargo loading procedures;
- Identify non-compliant and unsafe practices with cargo operations; and
- Enhance coordination and outreach efforts with internal and external stakeholders to establish safer cargo operations.

ACTIONS COMPLETED BY THE FAA CARGO FOCUS TEAM (CFT)

As of May 1, 2015, the FAA's CFT has completed the following actions:

Reviews Performed

- Performed a gap analysis of air carrier manuals with regard to cargo loading. The analysis identified deficiencies in some air carrier procedures in the areas of cargo restraint, determining methods for securing special cargo loads, and communication among air carriers, contractors, freight forwarders, and the DoD.
- Conducted a detailed review of all existing FAA guidance related to cargo operations. The review included Advisory Circulars (AC) and inspector handbook guidance that address cargo operations.

¹ The five air carriers were either contracted with DoD, or available for contracting, to transport cargo for the military in Afghanistan at the time of the accident. These carriers were: Atlas Air, Inc.; Evergreen International; Kalitta Air, LLC; National Air Cargo Group, Inc.; Southern Air, Inc.; and World Airways, Inc.

- Reviewed the FAA Air Cargo training course provided to aviation safety inspectors. The review led to the initiation of numerous enhancements of the course. Following the implementation of these enhancements, the following training was completed:
 - Principal Inspectors (PIs) of the six focus operators completed the course in July 2013.
 - PIs also attended the Boeing Loadmaster Course in August 2013.
- Reviewed the weight and balance programs for restraining cargo, and also for airplane loading and unloading, for National Air Cargo and five supplemental cargo airlines. These reviews focused on restraint procedures for cargo that is unable to be loaded via unit loading devices (ULDs) or bulk compartments.
- Developed a schedule to review 83 Part 121 air carriers' Weight and Balance Control Programs (WBCP), to be performed in a sequence determined by risk assessment.
 - Completed comprehensive reviews of the WBCPs for six cargo air carriers, and worked with the FAA Certificate Management Offices of these carriers to correct deficiencies.
 - Three more cargo air carrier WBCPs are currently under similar comprehensive reviews.

Guidance and Publications Issued

- Issued the following two Safety Alerts for Operators (SAFO):
 - May 17, 2013 - SAFO 13005; *Title 14 of the Code of Federal Regulations (14 CFR) Part 121 Air Carriers Transporting Heavy Vehicle Special Cargo Loads*, advising operators of the potential safety impact of carrying and restraining heavy vehicle special cargo loads.
 - August 20, 2013 - SAFO 13008; *Part 121 Air Carriers Performing Special Cargo Loads Operations*, advising operators to perform an in-depth review for procedures to restrain special cargo.
- Issued the following Information for Operators (InFO):
 - November 21, 2013 - InFO 13012, *FAA-approved Boeing 747 Sample Weight and Balance Manual (WBM)*, informing B-747 operators about revisions Boeing made to its B-747 WBM for freighter operations.
- Issued the following Notices for FAA Inspectors:
 - May 6, 2014 -- Notice 8900.262 - *Review of Weight and Balance Control Programs Including Special Cargo Operations*, establishing the CFT and advising FAA PIs to review W&B control programs including special cargo.
 - Summer 2015 -- Notice 8900.xxx² -- *Accepting/Approving Manuals for All Part 91K, 121, 125, and 135 Certificate Holders Transporting Cargo on Transport Category Aircraft*, advising FAA PIs on the process of accepting and/or approving manuals and changes to manuals in relation to the carriage of cargo. The Notice clarifies what is required to be contained in the AFM, as well as cautionary language reminding inspectors that approval is required from certification (ACO) when changes are made to the limitations section.

² Originally issued in March 2015 (as Notice 8900.287), and then rescinded for additional review and clarification.

- In September 2014, issued a *Continued Airworthiness Notification to the International Community* (CANIC) to advise of the FAA’s determinations and ongoing activities related to all U.S. cargo operations with special attention on B-747 cargo airplane operations and on the “offset” method of loading intermodal containers.
- On December 1, 2014, published a Notice of Proposed Rule to propose adopting a new Airworthiness Directive (AD) advising on the unsafe conditions concerning the offset container method, and prohibiting the carriage of offset intermodal containers on the B-747.
- Developed a W&B Program job aid for use by FAA inspectors with regard to Operational Load Control.
- Developed a W&B Program job aid for use by FAA inspectors regarding Air Carrier Cargo Loading Training

Outreach Efforts and Stakeholder Meetings Conducted

- In coordination with the U.S. military, supported a voluntary military “safety stand down” in May 2013 to specifically address the shipping of heavy transport equipment on military contract carriers.
- Continued outreach efforts and stakeholder initiatives for cargo operations at the National Air Carrier Association (NACA) B-747 Special Cargo Load Meetings, June 26, 2013 and November 13, 2013.
- Conducted outreach efforts with International Air Transport Association (IATA)³ concerning the transport of intermodal containers during the following occasions:
 - On February 23, 2014, and again on Oct 22, 2014, briefed safety risks associated with the transport of intermodal containers at IATA 1st and 2nd ULDR Forums.
 - On December 2, 2014, alerted IATA of the publishing of NPRM AD on Transport of Offset Sea land Containers on Boeing 747 Airplanes.
- Participated in the 8th IATA World Air Cargo Symposium held in March 2014 in Los Angeles, California.

ON-GOING and PLANNED CARGO FOCUS TEAM EFFORTS

The FAA’s Cargo Focus Team is currently engaged in the following activities that are anticipated to be completed by the end of 2015:

- Finalizing the review and publishing of an FAA Notice (referenced above) addressing the “Accepting/Approving Manuals for All Parts 91K, 121, 125, and 135 Operators Transporting Cargo” to prohibit PIs from accepting or approving revisions or deviations to the Operating Limitations of the Airplane Flight Manual (AFM).
- Revising and creating Data Collection Tools⁴ for surveillance in Safety Assurance System⁵.

³ IATA is the global trade association for the airline industry whose 250 member airlines comprise 84% of total air traffic.

⁴ Data Collection Tools (DCTs) are process tools and aids utilized by FAA inspectors to assist in conducting surveillance and evaluation activities under the Air Transportation Oversight System (ATOS).

⁵ The FAA Safety Assurance System (SAS) is a newly designed and implemented oversight system that is replacing ATOS.

- Developing a “*Cargo Carrier W&B Review Constructed Dynamic Observation Report*” (ConDOR) to evaluate operators carrying Outsized/Heavy weight cargo outside the “traditional” cargo hauling procedures, and to collect data on the operator’s weight and balance program and manual.
- Revising AC 120-85, *Air Cargo Operations*, and the FAA Inspector Handbook, 8900.1 for enhancing FAA guidance in the following areas: training, special cargo, restraint, multiple entities, operator’s evaluation system for weight and balance control, freight staging, checklists and job aids.
 - Planning to revise the *FAA Air Cargo Operations training course* to enhance the course content in the following areas: training, special cargo, and restraint (following issuance of the revised AC 120-85 as mentioned above).
 - Planning to develop a new FAA training course to emphasize the planned revisions to AC 120-85 (following issuance of the revised AC 120-85).
- Developing an exemplar Operations Specifications (OpSpec) specific to cargo operations. This topic is currently scheduled for discussion and review at the next Ops Specs Working Group meeting in June 2015.
- Initiating a study to research duty day/hour limitations and human factors for Load Supervisors and Flight Mechanics when conducting cargo operations. The study will also attempt to explore the feasibility of creating an airman certificate requirement for Load Supervisors and Flight Mechanics, and also the feasibility of creating a certificate of demonstrated proficiency requirement for Load Supervisors and Flight Mechanics.