

It's How You Say It

An online “booklet” and a DVD reinforce the importance of clear and standardized phraseology in radio communication between pilots and controllers.



ELECTRONIC MEDIA

CAP 413 Supplement: A Quick Reference Guide to UK Phraseology for Commercial Air Transport Pilots

U.K. Civil Aviation Authority, with support from NATS, the UK Flight Safety Committee and Thordis. 1st edition. 32 pp. May 2007. Available via the Internet at <www.caa.co.uk/docs/33/CAP413Supplement.pdf>.

The supplement offers a condensed version of CAP 413, *Radiotelephony Manual*, for commercial pilots. The online PDF version is designed to give a sense of familiarity by mimicking a booklet, complete with simulated ring binding. Clicking an icon “turns” the “pages.”

Examples of correct U.K. terminology are given in sections titled “Push and Start,” “Taxi and Takeoff,” “Climb–Cruise–Descent,” “Approach and Landing,” and “Emergency Communications.” Color coding clearly distinguishes pilot speech from controller speech in the examples, and the pages contain buttons for audio links.

Concise and standard phraseology is “especially important when operating within busy sectors with congested frequencies, where any time wasted with verbosity and non-standard, ambiguous phrases could lead to flight safety incidents,” the guide says.

Communication Error

NATS. Digital Versatile Disc (DVD). Available from <karen.skinner@nats.co.uk>.

NATS provides air traffic control services to aircraft flying in U.K. airspace and over the eastern part of the North Atlantic. It has produced the DVD, with support from the British Air Line Pilots’ Association, aimed at promoting clear and unambiguous communication between pilots and air traffic controllers.

According to the introductory module, one-third of safety incidents involve communication error; 25 percent of pilot acknowledgements fail to include a call sign; and 48 percent of pilot readbacks are incomplete. Forty percent of runway incursions and 25 percent of level busts — unauthorized departures from assigned altitudes or flight levels — have a communication error component, the narrator says.

The second, third and fourth modules illustrate examples of communication error in the airport, approach and en route environments respectively. Controllers, their radar screens and pilots are seen and heard in re-enactments of actual incidents. The modules analyze the communication errors that led to misunderstandings. Each module ends with a quiz asking the viewer to select the correct phraseology from multiple choices.

The fifth module summarizes the key points made on the disc and offers the “Top 10 Tips” for avoiding communication error or making it more likely to be detected before loss of required separation results.

BOOKS

Supervisory Best Practices for Operational Error Prevention

Booz Allen Hamilton. Prepared for U.S. Federal Aviation Administration (FAA) Air Traffic Organization. DOT/FAA/AR-06/39. 158 pp. Sept. 15, 2006. Available via the Internet from <www.hf.faa.gov/Portal/techrptdetails.aspx?id=1994>.

Operations supervisors (OSs) at FAA air traffic control facilities are uniquely positioned to observe and influence controllers — and, it is hoped, to prevent or minimize operational error. But highly experienced OSs retire, and the organization that produced this study, Booz Allen Hamilton, “could not identify any effort currently under way to capture their knowledge and experience for the benefit of future supervisors.”

The study used a “proven and effective” human performance model that addressed two critical factors:

- “Accomplishment. This is what OSs *produce*, not simply what they *do*; [and,]
- “Exemplary performance. This is OS performance in which accomplishments exceed standards.”

Interviewing 12 OSs considered “high performing” in six air route traffic control centers, the researchers identified seven major accomplishments and 24 tasks of OSs. Using the methodology based on the human performance model, they analyzed the techniques of the high-performing controllers to develop performance intervention techniques. Those techniques included selection and assignment, skills and knowledge, motivation and incentives, and environmental interventions.

“Selection and assignment” includes choosing the most appropriate candidates for a job. For an OS position, that means both administrative

ability and effective interaction with controllers, the study says.

“OSs are often selected based on their success as a controller; however, the technical skills that define controller success do not necessarily indicate supervisor success,” the study says. “Supervisory ‘soft skills’ are as important to safe and effective OS performance as technical proficiency.”

The learning and understanding that go with the OS position come under the heading of “skills and knowledge,” but there is currently no formal program to groom high-performing controllers for OS work, the study says. It concludes that “most new OSs could benefit from initial supervisor orientation/indoctrination training to give them the skills and knowledge to succeed. Recurrent and supplemental training is necessary to improve and reinforce abilities to execute complex procedures and ensure standardization.”

Booz Allen Hamilton used the findings to develop the guide *Air Traffic Operations Supervisor Quick Reference Guide*, which is bundled with the description of the study’s methodology and findings.

“The guide contains ‘best practices’ that OSs can refer to for guidance when dealing with situations for which they have not received formal training,” the study says. “The guide serves as a job aid that addresses the gap between existing OS training resources that deal with administrative functions but overlook the people skills that are critical for effectively avoiding operational errors.” (See also “Keys to Safety,” p. 12.)

REPORTS

Improved Data Collection Needed for Effective Oversight of Air Ambulance Industry

U.S. Government Accountability Office (GAO). GAO-07-353. February 2007. 66 pp. Figures, tables, appendixes. Available via the Internet at <www.gao.gov/cgi-bin/getrpt?GAO-07-353> or from GAO.*

Air ambulance service — also known as emergency medical services — can be crucial for the survival of victims of severe injury, trauma or shock. Air ambulance helicopter flying must be performed under time pressure, sometimes in adverse weather and

unfamiliar patient pick-up locations, possibly in difficult terrain. In recent years, the number of air ambulance accidents has led to government and industry concern, as well as media scrutiny. The U.S. National Transportation Safety Board (NTSB) has urged the Federal Aviation Administration (FAA) to issue stricter safety requirements for the industry.

Researchers for the report analyzed FAA, NTSB and industry data, interviewed federal and industry officials, and conducted five site visits, the report says.

“FAA’s main challenge in providing safety oversight for air ambulances is that its oversight approach is not geared toward air ambulance operations,” says the report. “For example, FAA uses the same set of regulations to oversee air ambulance operations as it uses to oversee other air taxi services. ... The broad nature of the applicable regulations further inhibits FAA oversight because they may not fully address the potential risks air ambulance operations face.”

The report recommends that FAA:

- “Identify the data necessary to better understand the air ambulance industry and develop a systematic approach for gathering and using this data. At a minimum, this data should include the number of flights and flight hours, the number and locations of air ambulance helicopters, and the number and types of FAA violations and enforcement actions related to the air ambulance fleet; [and,]
- “Collect information on the implementation of voluntary FAA guidance by air ambulance operators and evaluate the effectiveness of that guidance.”

WEB SITES

FAA Wildlife Hazard Mitigation, <wildlife-mitigation.tc.faa.gov/public_html/index.html>

The U.S. Federal Aviation Administration (FAA) airport wildlife-hazard abatement Web site is managed by its Airport Technology Research and Development Branch.

In recent years, the branch says, for a number of reasons “the probability of wildlife strikes has increased dramatically.” The branch is “undertaking an aggressive research program ... to mitigate wildlife strikes with aircraft by providing practical

solutions as well as real-time critical information to pilots and airport managers.” Results of some of the research and development work and related educational and informational materials appear on this Web site.

“The purpose of this [wildlife hazard mitigation] site is to provide users with information that will allow them to better understand and practice wildlife hazard mitigation at airports through wildlife control,” the site says. Along with photographs and news accounts of international wildlife-aircraft encounters, contents include:

- “FAA Wildlife Hazard Management Manual” in English, Spanish and French;
- Transport Canada’s aviation industry guide to wildlife hazards management;
- FAA report of wildlife strikes to U.S. civil aviation, 1990–2005;
- FAA regulatory and guidance materials;
- Review of current hazard assessment systems;
- Embry-Riddle Aeronautical University (ERAU) “Airport Wildlife Mitigation” newsletters;
- Bird identification resources;
- Transport Canada’s “Control Procedures Manual”;
- International bird strike information with Web links to additional resources and



committees in Australia, Canada, Germany, Israel, and Italy; and,

- Public access to the FAA’s wildlife aircraft-strike database, which includes a strike summary by species and state; maps showing strikes by species, state and specific location; and other pertinent data.

Much of the information pertains primarily to the United States, but given the nature of the subject, some will be of interest internationally.

This primary Web site and its mirror site at <wildlife.pr.erau.edu> are maintained by ERAU, Prescott, Arizona, U.S., on behalf of the FAA.

Cabin Operations Safety Toolkit,
[<www.iata.org/ps/services/toolkit/>](http://www.iata.org/ps/services/toolkit/)

The International Air Transport Association (IATA) says its cabin operations safety task force has developed a tool kit to help “safety officers, training instructors and airline managers develop strategies to prevent incidents” in two key areas considered priorities in cabin safety and costs — cabin crew turbulence-related injuries and inadvertent slide deployments. The modules about inadvertent slide deployments are discussed more fully in “A Slip of the Wrist,” p. 22.



The tool kit is divided into four sections: turbulence management, cabin safety management system (CSMS), cabin safety quality system (CSQS) and inadvertent slide deployment

prevention. Each section contains numerous files that may be downloaded, read online, printed or saved at no charge. Each section deals with issues related to safety, training and airline management. Files contain presentation slides, guidance materials, statistics, images, graphics and survey forms.

According to IATA, “Turbulence is the leading cause of injury in nonfatal accidents. Turbulence-related injuries to cabin crew cost the airline industry over [US]\$60 million per year.” The turbulence management section addresses safety challenges and remedies, terminology, causal factors, procedures, crew communication, and training.

The CSMS section discusses safety and quality management, organizational and safety culture, and application of safety management system (SMS) components — safety, accident prevention, risk management, audits and emergency response. IATA’s SMS implementation guide for senior airline managers is included in this section.

CSQS “involves measuring, correcting and improving cabin crew performance on the line and informing crews of the outcomes/actions taken to improve safety.” Using this part of the tool kit, “airlines [are able] to assess their current processes and improve them without the involvement of a third party.”

Inadvertent slide deployment prevention covers door design and operations, human factors, checklists, technology, training, and threat and error management analysis.

With one tool kit, IATA is giving safety managers the tools and information to diagnose and correct specific issues; materials to integrate into training programs; and cost analysis templates and action plans to aid in management discussions. ●

Source

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