

ALPA WHITE PAPER



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MARCH 2015

Enhancing Pilots' Occupational Health Protections



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Executive Summary

The airline pilot's work environment poses numerous health risks. In flight, pilots are exposed to cosmic radiation, ozone, a very arid atmosphere, high levels of ambient noise, and communicable diseases, among other risks.

The purpose of the Occupational Safety and Health Act of 1970 was to ensure a safe and healthful work environment for all workers. The Occupational Safety and Health Administration (OSHA) was created to develop and enforce workplace health standards; however, Congress limited the agency's authority to act when and where another federal agency may exercise such authority. The FAA has asserted jurisdiction over aviation crewmembers as relates to health risks. However, even though the FAA has statutory authority and technical expertise, the agency has not proactively pursued programs to help ensure the occupational health of flightcrew members.

The FAA's Office of Aerospace Medicine, which oversees occupational health programs for the FAA, was established to enhance aerospace safety through surveillance, research, education, medical standards, and prevention of illness and injury.

The Canada Labour Code (the Code) requires employers to provide for the

health of employees working under federal jurisdiction. This is accomplished primarily through various health committees as well as an appointed health representative. In addition, the Code provides for a health officer appointed by the minister of labour. This officer may investigate workplace conditions and issues related to employee health and may recommend prosecution for noncompliance.

The purpose of the Occupational Safety and Health Act of 1970 was to ensure a safe and healthful work environment for all workers.

In the United States, a number of aircrew health issues are either ignored or not adequately addressed by either the FAA or the airlines. ALPA recommends that the FAA establish a specific office under the authority of the associate administrator for aviation safety with the responsibility to address occupational health issues for flightcrew members, including the flight deck crew, in air carrier operations. ALPA further recommends that FAA collaborate with airlines on the creation of Aviation Health Partnership Programs.



Pilot Health in the United States

The airliner cabin is quite comfortable and accommodating for passengers who may fly only a few trips per year and poses very little risk for them because of the short time spent in that environment. For crewmembers, however, it is quite different. Flight deck crews may spend up to 1,000 hours in flight during any calendar year. During that time they are exposed to a number of environmental hazards, one of which is cosmic radiation; exposure is increased at higher altitudes and latitudes, as in transpolar intercontinental flights. Scientists are investigating relationships between cosmic radiation and increased incidence of cancer in flightcrew members.

Another hazard is ozone, which may exceed federal limits at typical flight levels in the United States. Breathing ozone can cause headaches and respiratory illness and has even been linked to cancer. While there are federal limits to radiation and ozone exposure, aircraft monitoring for these risks is neither required nor performed. Exposure to airborne contagious diseases is also a potential health threat, either through exposure to passengers or other crewmembers or through the use of a contaminated oxygen mask.

In addition to environmental hazards, flightcrew members are exposed to various

operational conditions that may, over a period of time, be harmful to health. For example, combating fatigue is a constant battle for pilots, especially in short-haul operations with many short flight legs during an operational period.

The Occupational Safety and Health Act (OSH Act) of 1970 was promulgated in part to ensure a safe and healthful working environment for all workers in the United States. The OSH Act created the Occupational Safety and Health Administration (OSHA) with authority to develop and enforce workplace health standards. The OSH Act also established the National Institute for Occupational Safety and Health (NIOSH) as part of the Centers for Disease Control and Prevention. NIOSH is the federal agency responsible for conducting research and making recommendations for the prevention of work-related injuries and illness.

When Congress enacted the legislation creating OSHA, it limited the administration's authority to prescribe or enforce standards or regulations affecting occupational safety or health when another federal agency opted to exercise such statutory authority. In this regard, the Federal Aviation Administration (FAA) has asserted jurisdiction with respect to the working conditions of aviation employees on aircraft in operation. On July 10, 1975, the FAA published guidance information

in the Federal Register (40 FR 29114) that detailed the FAA's role with respect to occupational health conditions affecting aircraft crewmembers on aircraft in operation. In this statement, the FAA determined that its authority to promote the safety of civil aircraft operations "completely encompass[es] the safety and health aspects of the work environments of aircraft crewmembers." The FAA concluded that, with respect to civil aircraft in operation, the "overall FAA regulatory program . . . fully occupies and exhausts the field of aircraft crewmember occupational health."¹

In the spring of 1999, the FAA met with OSHA regarding the effect of the FAA's jurisdiction over occupational health issues related to employees on aircraft in operation. The FAA held a public meeting on December 10, 1999, entitled "Occupational Safety and Health Issues for Airline Employees," to elicit comments from the regulated community and other interested parties. The FAA ultimately determined that the workplace for crewmembers onboard civil commercial aircraft differs significantly from the workplace of non-aviation workers and that the FAA must take the lead in promulgating regulations to address these concerns.

The FAA's Office of Aerospace Medicine has technically qualified health professionals who administer occupational health programs for FAA employees. In 2002, the FAA and OSHA teamed up to develop a recommendation for a voluntary Aviation Safety and Health Partnership Program (ASHP) that would address air carrier employee health issues. This recommendation has not yet been implemented, even though a number of outstanding health issues affect air carrier crewmembers.

In view of the FAA's stated exercise of its legislative authority, OSHA historically

OSHA has generally exercised its authority with respect to the working conditions of aviation employees when not precluded from doing so by the FAA.

has not attempted to enforce the provisions of the OSH Act with respect to employees on aircraft in operation. However, OSHA has generally exercised its authority with respect to the working conditions of aviation employees when not precluded from doing so by the FAA.

According to the FAA/OSHA Aviation Safety and Health Team report,² the FAA has issued regulations and guidance material that directly affect the workplace of flight attendants and other persons whose workplace is an aircraft in operation. This regulatory material addresses, among other things: protective breathing equipment for crewmembers; emergency exits used by crewmembers; crewmember seatbelts; toxicity and other characteristics of materials in the crewmember workplace; noise reduction; smoke evacuation; carbon monoxide, carbon dioxide, and cabin ozone concentrations; ventilation, heating, and pressurization; first aid, emergency medical equipment, and protective gloves; and prohibiting interference with crewmembers.

FAA advisory materials address issues such as radiation exposure of air carrier crewmembers, air carrier first-aid programs, and exposure to bloodborne pathogens. However, the FAA has not promulgated enforceable regulations or adequate guidance material to address health issues associated with working conditions in and around aircraft for all employees, including flight deck crew.

¹ FAA/OSHA Aviation Safety and Health Team, First Report, December 2000, p. iv.

² Ibid.

FAA/OSHA Memorandum of Understanding

On August 7, 2000, the FAA and OSHA, at the urging of Congress, signed a memorandum of understanding (MOU) agreeing that the FAA and OSHA would work collectively to enhance employee health in the airline industry. In the MOU, the FAA and OSHA agreed to establish a procedure for coordinating and supporting enforcement of the OSH Act regarding the working conditions of employees on aircraft in operation—other than flightcrew members—and for resolving jurisdictional questions. In the MOU, the FAA defined an aircraft as being “in operation” from the time it is first boarded by a crewmember in preparation for flight to the time the last crewmember leaves the aircraft after completion of that flight. This includes stops on the ground if at least one crewmember remains on the aircraft, even if the engines are shut down.

The MOU recognized that it is important for the FAA and OSHA to work together to ensure that one agency does not unnecessarily block the application of the other agency’s regulations. The MOU called for the FAA and OSHA to establish a procedure for coordinating and supporting enforcement of the OSH Act with respect to the working conditions of employees on aircraft in operation (other than flight deck crew) and for resolving jurisdictional questions. It was specified that a team of FAA and OSHA representatives would identify the factors to be considered in determining whether OSH requirements can be applied to the working conditions of employees on aircraft in operation (other than flight deck crew).³

On August 26, 2014, 14 years after the MOU was issued, a second MOU between FAA and OSHA stipulated that OSHA will enforce regulations pertaining to hazard

communication, bloodborne pathogens exposure, and occupational noise as these affect cabin crewmembers. FAA has retained all authority over these matters as they pertain to employees in the cockpit.⁴

Joint FAA/OSHA Aviation Safety and Health Team

During the development of the joint FAA/OSHA report issued in December 2000, the Aviation Safety and Health Team identified the need to assess the potential occupational health hazards on aircraft in operation through reliable empirical data. In its effort to gather data, the team sought alternatives that would allow an assessment of the potential hazards and the feasibility of compliance with OSHA standards and regulations, whether these OSHA requirements are enforced by OSHA or by the FAA. A voluntary partnership is a means to gather data and test it with all parties involved.

Under the team’s recommended plan issued June 18, 2002, air carriers would voluntarily enter into an Aviation Safety and Health Partnership Program (ASHP) with the FAA. This program would specify the kinds of occupational health protections air carriers would provide; establish a steering group consisting of members from the FAA, air carriers, and employee unions; and contain evaluation criteria to ensure program effectiveness. OSHA would provide technical assistance and program evaluations, as resources allow. The FAA would retain its complete and exclusive jurisdiction over aviation safety while increasing its role in the health of crewmembers other than flightcrew on aircraft in operation.

According to the report, the ASHP would expand the FAA’s role in worker health issues, while voluntary participation by

³ Memorandum of Understanding between the Federal Aviation Administration, U.S. Department of Transportation, and the Occupational Safety and Health Administration, Department of Labor, August 7, 2000.

⁴ Memorandum of Understanding between the Federal Aviation Administration, U.S. Department of Transportation, and the Occupational Safety and Health Administration, Department of Labor, August 26, 2014.

the air carriers would provide additional health protections for air carrier employees in a relatively short time without requiring lengthy rulemaking activities by either agency. As an example, the ASHP would collect injury and illness data that, when analyzed, would allow an assessment of the potential hazards in aircraft cabins while the aircraft is in operation. Once these areas are identified, the FAA and the air carrier industry would be able to focus their resources on recommended remedies.⁵

FAA Health Resources

The mission of the FAA's Office of Aerospace Medicine (AAM) is to enhance aerospace safety through aeromedical standards, certification, surveillance, education, and research.⁶ The AAM, headed by the federal air surgeon, comes under the oversight of the associate administrator for aviation safety with the singular mission to promote worldwide aviation safety in the interest of the flying public and the millions of people who rely on the aviation industry for business, pleasure, and commerce.⁷

The federal air surgeon oversees, among other areas, the occupational and preventive health programs for the FAA Mike Monroney Aeronautical Center (MMAC), as required by the OSH Act, provides agency health awareness, and ensures that FAA medical certification standards and policies conform to international standards and recommended practices.⁸

The FAA Civil Aerospace Medical Institute (CAMI), located in Oklahoma City, Oklahoma, is the medical certification, research, education, and occupational health wing of the FAA's Office of Aerospace

CAMI scientists study the human factors of aviation in the laboratory and the aviation environment.

Medicine.⁹ Since 1926, the FAA has developed and applied health standards for airmen to ensure the safety of all who fly. All aviators must be medically certified as fit to fly; about a half-million airman medical certificates are issued annually.

The FAA is required by Congress to promote the safe and efficient use of U.S. airspace. One way CAMI promotes aviation safety is through a number of aerospace medical education programs.

Also, CAMI scientists study the human factors of aviation in the laboratory and the aviation environment. This includes selecting the right person for the job and determining the skills, tasks, training, and equipment that influence performance, especially for safety-critical jobs such as aircrew members and air traffic controllers. Aerospace medical issues are studied by scientists, engineers, and technical specialists working at two major CAMI laboratories: the Bioaeronautical Sciences Research Laboratory and the Protection and Survival Research Laboratory.

Finally, CAMI's health professionals administer FAA occupational health programs for agency employees at the Aeronautical Center. These programs are mandated by the Occupational Safety and Health Act and Executive Order 12196—Occupational Safety and Health Programs for Federal Employees. They also provide professional advice and technical knowledge to the federal air surgeon and other agency officials.

⁵ FAA/OSHA Aviation Safety and Health Team Action Plan, Safety and Health in the Aviation Industry, June 18, 2002.

⁶ FAA Order AM 1100.3J, Aerospace Medicine Organization, 05-12-2014.

⁷ 2014 AVS Business Plan.

⁸ FAA Order AM 1100.3J, Aerospace Medicine Organization, 05-12-2014, pages 7-8.

⁹ Welcome to the FAA Civil Aerospace Medical Institute . . . Publication AM-400-04/1 (rev. 11/09) FAA, CAMI, Aerospace Medical Education Division, AAM-400.



Pilot Health in Canada

The Canada Labour Code (the Code) applies to employees who work under federal jurisdiction, which encompasses about 10 percent of the Canadian workforce. They are employed in key sectors of the economy, notably air, rail, and highway transport, pipelines, banks, broadcasting and telecommunications, uranium mines, marine transport, and related services.

Some 40 Crown corporations and agencies, and the entire federal public service are also subject to the Code. Enforcement and administration of the Code comes under the responsibility of the Labour Program of Human Resources and Skills Development Canada in partnership with Transport Canada and the National Energy Board.

Transport Canada is responsible for on-board employees in the aviation, marine, and rail sectors under federal jurisdiction.

The Code prescribes regulations that address the following:

- ✈ Prevention of accidents and injuries arising out of, linked with, or occurring in the course of employment to which this part applies.
- ✈ Elimination of hazards, the reduction of hazards, and finally, the provision of personal protective equipment, clothing, devices, or materials, all with the goal of ensuring the health and safety of employees.

- ✈ A general obligation or duty to ensure that the health and safety of every person is protected while working.
- ✈ Specific duties of employers regarding each workplace they control and every work activity under their authority.

Workplace Health and Safety Committees

Workplace health and safety committees must be established in workplaces with 20 or more employees. At least half of the committee members must be employees who do not have managerial functions.

Each workplace health and safety committee is required to meet a minimum of nine times a year, at regular intervals and during regular working hours. If circumstances make additional meetings necessary, they should be held during or outside regular hours—whatever is required.

The powers and duties of workplace health and safety committees are to:

- ✈ consider and expeditiously dispose of health and safety complaints;
- ✈ participate in the implementation and monitoring of programs for the prevention of workplace hazards;
- ✈ participate in the development, implementation, and monitoring of programs to prevent workplace

- hazards, if there is no policy committee in the organization;
- ✈ participate in all of the inquiries, investigations, studies, and inspections pertaining to employee health and safety;
- ✈ participate in the implementation and monitoring of a program for the provision of personal protective equipment, clothing, devices, or materials, and, if there is no policy committee, participate in the development of the program;
- ✈ ensure that adequate records are kept on work accidents, injuries, and health hazards;
- ✈ cooperate with health and safety officers;
- ✈ participate in the implementation of changes that may affect occupational health and safety, including work processes and procedures, and, if there is no policy committee, participate in planning the implementation of those changes;
- ✈ assist the employer in investigating and assessing the exposure of employees to hazardous substances;
- ✈ inspect all or part of the workplace monthly, so that every part of the workplace is inspected at least once a year; and

- ✈ participate in the development of health and safety policies and programs, if there is no policy committee.

The committee may request from an employer any information that it considers necessary to address workplace hazards. It has full access to all government and employer reports, studies, and tests relating to the health and safety of employees. Of course, it does not have access to an individual's medical records without the individual's consent.

Policy Health and Safety Committees

Policy health and safety committees must be established where an employer has 300 or more employees. The intent of this committee is to take a more strategic approach to health and safety in an organization by dealing with global issues.

The policy committee consists of at least two members. The employer appoints members in accordance with the following conditions:

- ✈ Half of the members of the committee are to be employees who do not exercise managerial functions. These members are to be selected by the trade union representing the employees.
- ✈ If the employees are not members of a union, then the employees at large will select their representatives on the policy committee.
- ✈ If a collective agreement allows, the membership of a policy committee may include people who are not employees.
- ✈ The policy committee will be led by two chairpersons. One will be selected by the employer members and the other by the employee members.
- ✈ Terms of office for committee members are not to exceed two years.



Policy committee duties are to:

- assist in the development of health and safety policies and programs;
- deal with matters raised by members and those referred to it by a workplace committee or health and safety representative;
- participate in the development and monitoring of a program for the prevention of workplace hazards, according to regulations, that also provides for the health and safety education of employees;
- participate in inquiries, studies, investigations, and inspections as it considers necessary;
- monitor data on work accidents, injuries, and health hazards;
- participate in the development and monitoring of a program, if any, for the provision of personal protective equipment, clothing, devices, or materials; and
- participate in the planning and actual implementation of changes that may affect health and safety, including work processes and procedures.

The policy committee has access to all government and employer reports, studies, and tests relating to the health and safety of employees. It can request from the employer any information it considers necessary to identify existing or potential hazards with respect to materials, processes, equipment, or activities in any of the employer's workplaces.

The legislation requires that a policy committee meet at least quarterly during regular working hours. If additional meetings are necessary, the committee can meet during or outside regular working hours.

Health and Safety Representatives

In workplaces with fewer than 20 employees or in workplaces exempted from the committee requirement, there must be a health and safety representative.

The policy committee has access to all government and employer reports, studies, and tests relating to the health and safety of employees.

The employees of the workplace who do not exercise managerial functions select, from among those employees, the person to be appointed health and safety representative. If the employees are represented by a trade union, the union selects the person to be appointed, after consulting any employees who are not in the union.

Powers and duties of the health and safety representative are to:

- consider and expeditiously dispose of health and safety complaints;
- ensure that adequate records of work accidents, health hazards, and the disposition of health and safety complaints are kept, and to regularly monitor this data;
- meet with the employer as necessary to address health and safety issues;
- if there is no policy committee, to participate in the development, implementation, and monitoring of programs to prevent hazards in the workplace, which also provide for the education of employees in health and safety;
- participate in all inquiries, investigations, studies, and inspections pertaining to the health and safety of employees;
- cooperate with health and safety officers;
- participate in planning the implementation of changes that may affect occupational health and safety, including work processes and procedures;
- inspect all or part of the workplace each month, so that every part of the

workplace is inspected at least once each year;

- participate in the development of health and safety policies and programs;
- assist the employer in investigating and assessing the exposure of employees to hazardous substances; and
- participate in the implementation and monitoring of a program for the provision of personal protective equipment, clothing, devices, or materials and, where there is no policy committee, to participate in the development of the program.

A health and safety representative may request from an employer any information that the representative considers necessary to identify existing or potential hazards in the workplace. The representative has full access to all government and employer reports, studies, and tests relating to the health and safety of employees. Of course, the representative does not have access to the medical records of any individual except with the person's consent.

Training

Under the Code, the employer provides, in the appropriate manner, each employee with the information, instruction, training, and supervision necessary to ensure their health and safety at work to:

- ensure that employees who have supervisory or managerial responsibilities are adequately trained in health and safety and are informed of the responsibilities they have under this part where they act on behalf of their employer; and
- ensure that members of policy and workplace committees and health and safety representatives receive the appropriate training in health and safety and are informed of their responsibilities.

Health and Safety Officer

In the context of the Code, a health and safety officer is a person appointed by the minister of labour. The health and safety officer may, as part of his or her duties:

- enter any workplace at any reasonable time;
- conduct, or have conducted, tests, examinations, inquiries, investigations, or inspections;
- take or remove for analysis samples of any material, equipment, or substance;
- be accompanied or assisted by any person and bring any equipment the officer deems necessary;
- take photographs and make sketches of the workplace; and
- meet with any person in private, or when requested by the person, in the presence of legal counsel or union representation.

The health and safety officer also has the power to direct:

- the employer, to ensure a certain area or thing is not disturbed pending the officer's investigation;
- any person, not to disturb a certain area or thing pending the officer's investigation;
- the employer, to produce documents and information relating to the health and safety of the employees or the workplace and to allow the officer to make copies of those documents;
- the employer or an employee, to make or provide statements respecting working conditions, material, and equipment affecting the health and safety of employees in the workplace; and
- the employer or an employee, to accompany the officer while in the workplace.

A health and safety officer may issue directions regardless of whether the officer is in the workplace. As a final step, a health and safety officer will recommend prosecution for noncompliance with his or her direction.

Inadequate Protections of Flightcrew Member Health in the United States

In the United States, a number of health issues that affect flightcrew members are either ignored or not adequately addressed by either the FAA or the airlines themselves. As can be seen from the information above, Canada has developed comprehensive organizations, training, and procedures for safeguarding flight crew health. There may be FAA advisory material or even regulations addressing these health issues, but they are used or applied in an inconsistent and inadequate manner. Among these are:

- ✈ fatigue
- ✈ heat and humidity of the work environment
- ✈ rain repellent and other chemical contaminations
- ✈ laser strikes
- ✈ cosmic radiation
- ✈ ozone
- ✈ aircraft disinsection
- ✈ contagious disease
- ✈ contamination of cockpit oxygen masks
- ✈ smoke-protection masks in the cockpit
- ✈ ambient flight deck noise

Conclusions

1. The FAA has extensive, very well-qualified, and professional resources within the Office of Aerospace Medicine for ensuring the health of their employees.

In the United States, a number of health issues that affect flightcrew members are either ignored or not adequately addressed by either the FAA or the airlines themselves.

2. These resources are not being applied to address the same issues for airline flightcrew members.
3. There exists a need for structured and formal Aviation Health Partnership Programs at the operator level that would be actively involved in seeking areas where health is found to be less than adequate. These partnership programs need the mandate, responsibility, and authority to effect change where necessary.
4. The extensive experience of the Canadian government's flightcrew member health programs demonstrates the worth of such measures.

Recommendations

ALPA recommends that:

1. The FAA establish an office under the authority of the associate administrator for aviation safety that will be responsible for addressing occupational health issues for flightcrew members in air carrier operations.
2. FAA collaborate with airlines and labor on the development and implementation of Aviation Health Partnership Programs, as described above. ▲

