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Legal Aspects in Air Traffic Control

Legal Liabilities of ATC Personnel

The determination of the responsibility and limitations of liability on the individual ATC employee appears to be determined by the Employer in a majority of cases studied.

The actual legal responsibility for some aircraft accidents often cannot be determined due to lack of evidence and surviving witnesses. As a result liability assessments are sometimes shared on an ad hoc basis, established by the legal departments of the governments involved and the aircraft owners. Such admissions of "possible negligence" and the financial sharing in the payment of claims, does not resolve the cause of said fatalities, nor remove the "aura of doubt" in the safety of aviation today.

Assessment of Responsibilities

The ATC service is discredited when such cases are settled "out of court ". The very personnel, dedicated to the advancement of ATC for the safety and efficiency of aviation operations throughout the world, are too often harassed and subjected to ridiculous questions when required to take the witness stand at inquiries and court hearings as a result of judicial authorities not being conversant with ATS procedures and overzealous lawyers who often are not interested in resolving the true reasons which caused the incident, but merely attempting to get a sizeable monetary settlement for their clients.

Government agencies employing ATC personnel seem rather reluctant to state in writing any specifics concerning the liability or involvement of Controllers in civil court suits. Most countries surveyed to date merely include ATC personnel in the regulations that cover all other civil servants "who in the performance of their duties" create a situation of questionable liability.

Government regulations to specifically assure the provision of "legal defenses" for an ATS employee accused by outside or third parties of carelessness or "negligence" apparently are non-existent according to information made available to date. Some of the Ministry or Cabinet rules which governments have legislated to supposedly cover such eventualities seem ambiguous with regard to other civil service regulations and appear to leave any decision to defend an employee entirely at the option of the employing agency with no recourse for the employee prior to reprimand or dismissal to defend himself before his peers.

Insurance for Protection from Liability

Commercial insurance policies presently do exist to cover agencies and their employees to a limited degree of liability financially. The coverage for any one incident averages approximately 15 million dollars, which is barely adequate with the stretched DC8's carrying 180+ passengers when the minimum liability insurance for bodily insurance coverage for bodily injury or death to

airline passengers, established by the ICAO Montreal Agreement is $75,000 per individual. The introduction of « jumbo jets » could completely negate the advantages of such coverage in the future.

U.S. National Transportation Safety Board 1965 Accident Statistics

The NTSB reported a total of 5,196 accidents resulting in 1,029 fatalities. 66% of the casual factors was determined to be pilot error and 11% due to weather. Although an increase from 1964 statistics indicated 127 more accidents, the actual fatalities decreased from 1,083 in 1964, by 54 persons. The NTSB pointed out the increase in mid-air collisions of general aviation operations, of 26 in 1965 compared to 15 mid-airs in 1964. Fatalities in these accidents doubled from 12 in 1964 to 26 in 1965.

Accident Investigations Involving ATC

The following is a list of some of the accident reports completed and investigations being conducted upon which the Committee is continuing its studies to ascertain the limitations of liability.

Nov. 30, 1962

Eastern Airlines DC-7B crash during ILS approach pull-up to go around at Idlewild (JFK) N.Y. - 25 of the 51 persons aboard were killed. Decision of a District Court Judge that the U.S. Government was liable because of negligence of FAA Controllers in not reporting a drop in visibility although it was still above minimums, was appealed to U.S. Supreme Court which declined to review the lower courts' findings that the U.S. Government and Eastern Airlines shared in the negligence.

July 20, 1965

Cambrian Airways Viscount on a precision approach to R26 at Liverpool, England went out of control in an unintentional manoeuver to the right of the approach path - resultant crash killed two crew members and two women in a factory that the aircraft hit - reason has not been determined.

August 16, 1965

United Air Lines B-727-22 crashed into Lake Michigan enroute to Chicago O'Hare after being cleared to maintain 6000 feet. There was no evidence of distress or inflight difficulties on the recorded transmissions from the crew, although at the time of last radio contact, Semi-Automatic Ground Environment height finders indicated the aircraft was somewhere between 500' and 2000' over the water. Reasons why aircraft was not levelled off at 6000' even though the pilot initially read back an incorrect altimeter setting and was corrected by O'Hare APC and repeated it back correctly, was not determined.

October 21, 1965

Lear Jet Corporation L-23 enroute IFR from Detroit to Wichita at FL250 encountered moderate turbulence at night plus an a.c. electrical power failure that resulted in a loss of control probably due to inadequate attitude reference, crashed eight miles northeast of Jackson, Michigan. Six minutes after departure the pilot reported level at FL250 although on passing FL180, he had repeated an earlier request to Cleveland Center for further clearance to climb "as soon as possible". This was the last transmission received. Modifications to the electrical systems and instrumentation have since been designed and installed to provide attitude indication through a separate power supply system.

March 5, 1966

BOAC 707 crashed shortly after T/O from Tokyo International at the foot of Mt. Fuji, killing all 113 passengers and 11 crew members. Some 79 of 100 aircraft flying in the vicinity of Mt. Fuji reported turbulence, four classifying it as severe. Photographs from the Tiros weather satellite confirmed cloud formations that could produce high turbulence. Formation of mountain waves and associated turbulence peculiar to the region following a deviation to the right of course during a VMC climb could have placed the a/c in an area of extremely severe turbulence causing its break-up in the air. It is assumed that the Captain requested the VMC climb, within company regulations due to other traffic, although it may have been associated with the desire to allow the passengers to obtain a better view of Mt. Fuji, which is occasionally requested, but this cannot be established with any certainty. Cause was established as "gust loading" considerably in excess of aircraft design limits.

October 1, 1966

West Coast Airlines DC-9 on radar vectors issued by Seattle ARTCC enroute from Eugene to Portland, Oregon crashed at the 3,830 ft. level on the eastern slope of Salmon Mountain, during darkness. Moderate to severe turbulence within 4000’ of mountainous terrain where strong surface winds existed had been reported. Both radio altimeters indicated approximately the same at impact, but were not preset to give a "low altitude" warning. The flight was cleared to descend from 14 to 9 thousand feet and twice given a heading of 300 degrees, at which time the recovered flight recorder indicated the aircraft was already 1500’ below the assigned level and on autopilot. The flight continued descent to approximately 3800’ in a normal manner when an abrupt climb was initiated 2 seconds before impact.

June 23, 1967

Mohawk Airlines BAC 111 in flight fire and crash near Blossburg, Pennsylvania. ATC communications with both NY Centre and Elmira Tower introduced at hearing as evidence - handling was routine and preliminary information indicated fire caused loss of tail in flight - 30 passengers and 4 crew members killed. Modifications to air condition, auxiliary power and air supply systems were made mandatory by FAA for all such U.S. transports.

July 19, 1967

Mid-air collision of Piedmont Airlines B-727 and Lanseair C-310 near Asheville, N.C. The B-727, while in VFR conditions approximately 7 miles SE of the airport at 4000 feet, was struck by the C-310 that had deviated from its last assigned clearance non-radar facility.

November 6, 1967

TWA 707 aborted T/O Greater Cincinatti Airport. Question - Was Delta DC-9 stuck in mud clear of runway a contributing factor to the TWA First Officer aborting after V1 resulting in runoff of 150 feet? Of the 39 persons aboard - 11 injured, one of which subsequently died.

November 20, 1967

TWA CV-880 crash in IFR conditions on approach to Greater Cincinatti. Question - Was the ILS approach clearance issued when the Glide Slope out of service since September 5 due to runway extension work, a factor in causing the aircraft to crash 7,500 feet short of the runway after apparently brushing the tree-tops for approximately a 1000 feet, thereby not enabling the pilots to recover? 64 passengers plus 5 crew killed - 11 passengers plus 2 crew survived.

December 1, 1967

Cessna 182 privately owned crashed while Tower was attempting to get a position and assist pilot to land. Aircraft apparently spun in, following an attempt to land on a highway during very adverse weather. The 3 occupants, all members of the same family, were killed.

December 10, 1967

Twin Beech during an ILS approach to R-36 crashed in Lake Monona near Madison, Wisconsin. & fatalities and 1 survivor.

December 11, 1967

United Airlines Viscount making an ASR approach at Canton-Akron, Ohio, overshot end of runway resulting in 2 injuries.

Technological Advances and Procedures

The FAA has proposed a new regulation which would require all civil jet aircraft to be fitted with an ALTITUDE WARNING DEVICE which would provide both visual and aural warnings to a pilot if he varied his altitude more than 200 feet from his last assigned clearance level, which could be set in just as barometric pressure is.

Clear Air Turbulence (CAT) detectors using infra-red sensors have been tested aboard a Pan-American B-707 with encouraging results. The system developed by North American Autonetics Division detects temperature differences of flowing air at the edges of he jet stream or on either side of a wind shear up to 48 miles ahead or 45 degrees either side of the aircraft's track. The

direction of the CAT is displayed to the pilot on 3 side-by-side cockpit gauges indicating left, straight ahead or right of track turbulence. With sub-sonic jets this gives the pilot 3 to 4 minutes advance warning to turn or change altitude. The N.A.A. representatives admit the detector has limitations as it picks-up spurious infra-red radiation from the earth when the aircraft is in a turn or descent and is useless when flying east-west directly into the rising or setting sun. At present it occasionally mistakes the hot jets of a preceding flight several miles ahead as being CAT, and with its present limited range would be impractical for SST aircraft. Nevertheless, if such a sophisticated device had been readily available, possibly some of the foregoing accident investigations and needless losses of life may have been averted.

Equipment Inadequacies

Probably one of the most prevalent psychological stress factors on an operating Controller is the fear that his radio and radar will fail simultaneously during peak period traffic. This anxiety should not be permitted to even exist with today's technological advances!

On June 28, 1967, a failure of the radar system at New York's Kennedy International for almost 7 hours resulted in 25 inbound flights being diverted and up to 2 hours' delay for numerous departures. During a normal evening, JFK Controllers handle 105 - 110 operations per hour. This is only one failure out of probably more than a hundred that occur throughout a year at various ATC facilities in North America. Such instances of endangering human lives and valuable cargo should not be tolerated. Even the momentary failure of a navigational aid in a busy terminal area is no longer an acceptable "fail-safe" standard.

ATC operations are paralysed by electrical power failures far too often. Transistorized circuitry and "battery-banks" which enable immediate operation of transmitters and receivers for maintaining communication are and have been for a number of years well within the real of present technology. At least, these buffer batteries would allow "emergency communications" to be maintained until gasoline or diesel generators could take over. To permit such failures to occur is tantamount to negligence on the part of the employer. If an ATC employee was proven to be as "careless" in his control procedures, he would undoubtedly be suspended and probably dismissed, with little or no recourse to plead his case before his peers. Perhaps it is time for aviation organisations to band together as a "jury" and "pass sentence" on those who are responsible for ensuring the safety and efficiency of the ATC system before there occurs a reason to assess liability for murder!

Summary

The Committee would appreciate the opportunity to continue its studies of existing documents, information and survey reports for the IFATCA. We would request the assistance of the Swiss ATC Association and general membership in obtaining legal viewpoints and effecting contacts and the necessary liaison in co-operation with us, to assure that the concern of the Federation over this project is adequately kept before ICAO and national aviation authorities.

Those Member Associations that have NOT completed the Committee's questionnaire are requested to do so immediately in order to permit the completion of this initial phase of the project. The Committee would like to express its appreciation to all parties who have provided

statistical data and legal viewpoints over the past year and expresses the hope that some recommendations may be summarized for consideration by Member Associations prior to the 1968 Conference.

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