

5.0 HUMAN FACTORS IN MAINTENANCE: CORPORATE AND INDIVIDUAL LIABILITY FOR HUMAN ERROR

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(The views expressed in this paper are those of the author and are not to be taken as necessarily being those of the Civil Aviation Authority)

INTRODUCTION

I see from the leading article in last week's Flight magazine that [HF](#) experts put human failures into four different categories: incapacitation, "active errors", "passive errors" and "proficiency failures". This analysis is quite helpful in deciding what the liability consequences might be. Liability in this context can arise in three different ways:-

First, there is criminal liability. Have the operator, maintenance organization or aircraft maintenance engineer broken the criminal law with the result that they are liable to prosecution in the criminal courts with the risk of being convicted and punished by fine or even imprisonment.

Secondly, there is what might be described as "regulatory liability". Have the operator, maintenance organization or aircraft maintenance engineer conducted themselves in such a manner that licensing action is considered necessary by the regulatory authority in relation to the certificates, approvals and licenses that they hold.

Thirdly, there is civil liability. Has the accident or incident resulted in a third party being injured or his property being damaged so that he has a claim for compensation against the party causing the injury.

This paper seeks to look at some of the issues that arise under these three headings.

I Criminal

The safety regulatory system in the United Kingdom still derives principally from the Air Navigation Order which gives effect to the Chicago Convention and its Annexes and generally regulates civil aviation. Parliament has provided that this safety regulatory Order is enforceable by the criminal law of this country.

Article 111 of the current Air Navigation (No 2) Order 1995 provides that if any provision of the Order, the Regulations made under it such as the Rules of the Air or of JAR-145 is contravened in relation to an aircraft, the operator of that aircraft and the commander thereof shall be deemed to have contravened the provision. This is a deemed responsibility and though it is without prejudice to the liability of any other person, maintenance engineers and maintenance organizations are not specifically mentioned.

There can therefore be a joint criminal liability on the part of the individual employee and his corporate employer. However Article 111 provides two statutory defenses. First, a person is not liable if he can prove that the contravention occurred without his consent or connivance and that he exercised all due diligence to prevent the contravention. Secondly, there is a more general defense if the contravention was due to any cause not avoidable by the exercise of reasonable care. Thus an operator could avoid a criminal liability by proving that he knew nothing of the actions of the commander of the aircraft or the engineer who maintained the aircraft and that he had good safety management and quality assurance practices in place to prevent and prohibit such an incident occurring. The criminal responsibility for a maintenance failure can be squarely passed to the individual engineer at the sharp end and the corporate employer has a good defense.

This is the position where there is the close legal link of an employer/employee relationship within the one company. It would probably be even more difficult to impose criminal responsibility on the operator where all his maintenance is contracted out. In an investigation into an accident or incident he may well be able to point out that he has imposed all manner of contractual obligations on the maintenance organization in relation to quality assurance which would give the operator a good defense in any prosecution. However if there is a failure by the maintenance organization the operator's aircraft could nevertheless be flying without a valid certificate of airworthiness which the traveling public would probably find unacceptable. The way the offense and defense provisions in the Air Navigation Order are currently framed is not necessarily producing fair or sensible results and we are looking at ways of amending it.

Who decides whether criminal liability arises? Breaches of aviation law are in the main investigated and prosecuted by the [CAA](#) in England and Wales and also Northern Ireland. The CAA has undertaken this work on behalf of the Crown since it was set up in 1972. Unlike the rest of the CAA's activities which are paid for by charges levied on the industry, the cost of this activity has always been paid for out of general taxation. In Scotland with its different legal system, while the CAA can investigate cases the decision to prosecute and the conduct of the prosecution is a matter for the Procurator Fiscal Service which is a department of the Crown. However the CAA is not an exclusive prosecutor. The police can of course investigate these offenses for submission to the Crown Prosecution Service and on occasion members of the public have instituted their own private prosecutions.

The decision on whether or not to prosecute in a particular case is by far the most important one that has to be taken by a prosecuting authority. The fundamental duty of a prosecutor is to make sure that the right person is prosecuted for the right offense and that all relevant facts are given to the court. For this purpose the [CAA](#) adheres to the requirements of the Code for Crown Prosecutors.

The Code establishes two stages in the decision to prosecute. The first stage is the evidential test. The prosecutor must be satisfied that there is enough evidence to provide a “realistic prospect of conviction” against each defendant on each charge. A realistic prospect of conviction is an objective test. It means that a jury or bench of magistrates, properly directed in accordance with the law, is more likely than not to convict the defendant of the charge alleged. If the case does not pass the evidential test, it must not go ahead, no matter how important or serious the case may be. If it does, the second stage is for the prosecutor to decide if a prosecution is needed in the public interest. The classic statement on public interest was made by Lord Shawcross who was Attorney General in 1951 which has been supported by Attorney Generals of both parties ever since: “It has never been the rule in this country - I hope it never will be - that suspected criminal offenses must automatically be the subject of prosecution”. The Code sets out a number of common public interest factors both for and against prosecution. One factor which favors prosecution and which is particularly relevant to aviation cases is where the defendant is in a position of authority or trust.

The [CAA](#) investigates some 200 cases a year of which on average around three dozen cases are prosecuted. A similar number are dealt with by way of formal caution or warning letter. Of the cases that are prosecuted around half involve pilots mainly for low flying offenses and breach of the Rules of the Air. The other half consists of a mixed bag of offenses for illegal public transport, breach of the Air Travel Organizer’s Licensing Regulations, carriage of dangerous goods, offenses relating to forged documents, falsification of maintenance records and, rather more than in the past, passengers for drunken or unruly behaviour and now refusal to comply with no smoking rules.

It is important to stress that the [CAA](#) carries out its enforcement activities entirely independently of the Air Accidents Investigation Branch. It is of course the fundamental purpose of investigating accidents as set out in the Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 1996 which implements Council Directive (EC) 94/56 dealing with accident investigation, to determine the circumstances and causes of the accident with a view to the preservation of life and the avoidance of accidents in the future; it is not the purpose to apportion blame or liability. Similarly the CAA has given an assurance since the introduction of the Mandatory Occurrence Reporting Scheme in 1976 that it will not be its policy to institute proceedings in respect of unpremeditated or inadvertent breaches of the law which come to its attention only because they have been reported under the Scheme, except in cases involving dereliction of duty amounting to gross negligence. This assurance has been criticized as in effect giving an amnesty to those who break the law. However it must be of much more importance to the industry to encourage the free reporting of incidents which can be collated, analyzed and disseminated to prevent them happening again. In fact, the reports that we act on come from a variety of other sources including CAA inspectors, the police, HM Customs & Excise and members of the public. However what we will not accept is someone putting in a report under the Scheme when he knows an investigation has been started simply as a means of staving off a prosecution.

In addition to the regulatory type offenses contained in the Air Navigation Order, there are two general offenses which are likely to be relevant in the event of an aircraft accident or incident. First, under Article 55 it is an offense for a person to recklessly or negligently act in a manner likely to endanger an aircraft or any person therein. Secondly, under Article 56 a person shall not recklessly or negligently cause or permit an aircraft to endanger any person or property.

Most prosecutions for endangering have been brought against individuals acting solely in the capacity of pilot of the aircraft or as the “one man” operator of the aircraft. However in an appropriate case, if it is considered that the operator’s maintenance systems have failed due to negligence, we will prosecute a commercial operator.

The penalties available on conviction of an endangering offense are a £5000 fine if the case is dealt with by the Magistrates Court or an unlimited fine or imprisonment for a term not exceeding two years if the case is dealt with by the Crown Court. Serious cases will be taken to the Crown Court and fines imposed on operators have been high.

That then is the current position. However the spate of serious public transport accidents in the late 1980s in particular caused demands for the use of the law of manslaughter following public disasters. The Law Commission has recently produced a report on involuntary manslaughter and devoted particular attention to corporate liability for manslaughter. The Commission recognized that there is a widespread feeling among the public that in appropriate cases it would be wrong if the criminal law placed all the blame for an accident on an employee such as the pilot of an aircraft but did not fix responsibility on their employers who are operating and profiting from the service and who may be at least as culpable.

An appalling statistic shows that some 20,000 people have been killed in this country since 1965 in commercially related deaths, principally in factory and building site accidents, but only one company has ever been convicted of corporate manslaughter. This was OLL Limited which you may recall was convicted of four counts of manslaughter after four children died in the Lyme Regis canoe disaster.

There was no prosecution of London Underground following Kings Cross, British Rail following Clapham and the platform operator in the Piper Alpha disaster despite serious criticism of these organizations by the Inspectors at the subsequent Public Inquiries. There was a prosecution by the Director of Public Prosecutions of P&O European Ferries and seven individuals following the Herald of Free Enterprise disaster but the trial collapsed after the Judge had to direct the jury to acquit the company and the five most senior individual defendants. The outcome of this case provoked much criticism and the Law Commission took an interest. The Commission in their report have recommended that there should be a special offense of corporate killing broadly corresponding to the individual offense of killing by gross carelessness. Like the individual offense the corporate offense should be committed only where the defendant’s conduct in causing the death falls far below what could reasonably be expected. Unlike the individual offense the corporate offense should not require that the risk be obvious or that the defendant be capable of appreciating the risk. A death should be regarded as having been caused by the conduct of a corporation if it is caused by a failure in the way in which the corporation’s

activities are managed or organized to ensure the health and safety of persons employed in or affected by those activities. In particular it should be possible for a management failure on the part of a corporation to be a cause of a person's death even if the immediate cause is the act or omission of an individual. This point would be crucial following an aircraft accident. The operator would not be able to escape criminal liability because a maintenance engineer made a mistake.

The Law Commission have produced a draft of a Bill and the new Government has indicated that it will make available Parliamentary time for the Bill, possibly in the next Session of Parliament.

Some might argue that the criminal law is a rather crude intruder into the increasingly sophisticated world of safety regulation where there is now a much greater understanding of why and how humans make mistakes and standards and practices are constantly being developed to prevent mistakes from occurring. The trial Judge in a recent [CAA](#) prosecution involving maintenance error by an airline set out the justification for criminal sanctions as follows:

“Obviously the public must have confidence that companies that run airlines are taking all proper and necessary steps to ensure the safety of their passengers. Furthermore the public must have confidence that if criminal lapses are detected then the Courts will pass such sentences that not only punish the company for the offense committed but which also act as a spur on that individual company to maintain the greatest possible efforts to ensure the safety of their aircraft and act as a deterrent for the aircraft companies in general in this country and one hopes elsewhere to ensure that they are not tempted to cut corners or to skip in the procedures that they have in place to ensure the safety of aircraft. The company must be punished to ensure that it continues to exert utmost efforts to maintain high standards and deterrence for the air transport world as a whole to make it quite clear that any cutting of corners is simply not worth the candle.”

II Regulatory

The risk of criminal liability arising from an accident or incident for both an individual and an operator is perhaps in practice remote even if it is the most serious liability. Much more likely is regulatory action from the safety regulator.

An aircraft maintenance engineer is granted a license by the [CAA](#) if the Authority is satisfied that the applicant is a fit person to hold the license and is qualified by reason of his knowledge, experience, competence and skill in aeronautical engineering - Article 13(1) Air Navigation (No 2) Order 1995.

An aircraft flying for the purpose of commercial air transport must have a certificate of release to service issued by an organization approved under Joint Aviation Regulation-145. JAR-145 is legally binding throughout the European Community by virtue of being annexed to EC Regulation 3922/91.

Before granting a [JAR-145](#) approval, [CAA](#) must be satisfied that an applicant meets all the requirements of JAR-145.

An operator is granted an Air Operator's Certificate by the [CAA](#) if it is satisfied that the applicant is competent having regard in particular to his previous conduct and experience, his equipment, organization, staffing, maintenance and other arrangements to secure the safe operation of aircraft of the types specified in the Certificate on flights of the description and for the purposes so specified - Article 6 Air Navigation (No 2) Order 1995.

If following an accident or an incident doubt is cast on any of these factors, the CAA may consider it necessary to take licensing action not as a punishment but for public safety reasons. This can take the form of revoking, suspending or varying the license, certificate or approval. The [CAA](#)'s power to take such action is set out in Article 71(1) of the Air Navigation (No 2) Order 1995. This provision sets out a two stage process. First, the CAA may, if it thinks fit, provisionally suspend a license pending inquiry into or consideration of the case. Secondly, the CAA may, on sufficient grounds being shown to its satisfaction after due inquiry, revoke, suspend or vary any certificate, license or approval.

These are fairly draconian powers directly affecting an individual's ability to earn a living and a company's ability to trade and the [CAA](#) accordingly has to exercise them in accordance with the rules of natural justice. This means that the person or company against whom substantive licensing action is taken has a right to make representations to put forward his side of the case and the right to a fair and unbiased hearing by the person taking the decision. However in the case of provisional suspension action often has to be taken fairly swiftly as a preventative measure while inquiries are carried out.

There can be a conflict here between the need on the part of the regulatory authority to take immediate steps to protect public safety and the rights of the individual license holder to have a reasonable opportunity of presenting his case. This problem has been considered by the High Court in a 1989 case involving Romanian pilots who had difficulty meeting the [CAA](#)'s licensing requirements which led to the provisional suspension of the airline's operating permit by the Secretary of State on advice from CAA. The Judge held that when dealing with cases of provisional suspension one is at the lower end of the duties of fairness to the individual.

The position is very different with the second stage of the procedure. Here, the rules of natural justice are in effect enshrined in the statutory procedures prescribed by Regulation 6 of the Civil Aviation Authority Regulations 1991. If for example the Head of Engineer Licensing, who is an employee of the [CAA](#), proposes to revoke, suspend or vary an engineer's license, the engineer has the right to request that the decision on the proposal be taken by the Members of the Authority who are appointed by the Secretary of State. That decision can only be taken after the engineer has had an opportunity to make written representations on his case and appear at a hearing if he so wishes.

The [CAA](#) generally holds up to nine such hearings under Regulation 6 a year. While some of the hearings relate to revocation of pilot's licenses and aircraft maintenance engineers' licenses where for example engineers have been grossly incompetent or there has been forgery of certifications or license documents, most cases recently have involved the revocation of [AOCs](#). However the sanction of revoking an AOC is very much a weapon of last resort to be used when all attempts at corrective action through the Flight Operations Inspectorate have been exhausted since revocation is usually fatal to the operator's business.

What if the regulator fails to act? This was an issue before the Canadian courts in 1990 (Swanson and Others v R). The case involved a fatal accident to an aircraft owned by Wapiti Aviation Limited. The court held that Transport Canada had failed to inspect and enforce safety regulations and that this failure contributed to the development of a lax safety environment at Wapiti which in turn caused loss to the Plaintiffs. The court apportioned liability equally between the pilot, the operator and Transport Canada.

Transport Canada appealed on the grounds that the Crown did not owe a duty of care. Under the Canadian Crown Negligence Act the Crown was not liable for "policy" decisions but could be liable for "operational" decisions. The Canadian Appeal Court held that Transport Canada's response to the complaints and reports about the lack of safety at Wapiti was an "operational" decision and therefore a civil duty to exercise reasonable care in the circumstances was owed to the passengers and their dependents.

Would the [CAA](#) be liable in these circumstances? I think the answer is probably no. Whether or not the CAA owed a duty of care in regulatory matters was recently examined by the Court of Appeal in *Philcox v CAA*. Here the Court held that the CAA did not owe a duty of care to the owner of an aircraft when issuing a Certificate of Airworthiness. The Court held that it was a matter for Parliament to lay down in what circumstances the CAA could be liable for negligence. Parliament had done so when enacting that the CAA would be liable for negligent acts or omissions arising out of the provision of air navigation services but there was no such provision in the Civil Aviation Act where the CAA was exercising its other regulatory functions.

III Civil Liability

The third type of liability is civil liability.

At common law a person is under a general duty to take reasonable care to avoid acts or omissions which he can reasonably foresee would be likely to injure someone else or their property if that person was so directly affected by the act or omission that the former ought to have had him in mind. If there is a breach of this general duty of care and damage results, the injured party will have a right of action for compensation.

Aircraft accidents are inevitably expensive whether in terms of damage to the aircraft itself, loss of life and limb to persons in the aircraft and they may also involve injury to persons and damage to property on the ground. Most aircraft accidents will therefore generate claims for compensation from those who have suffered loss.

All skilled professionals owe at least a common law duty to exercise reasonable skill and care in his occupation. Accordingly if there is a “pilot error” accident a Plaintiff seeking compensation could sue the pilot personally or indeed his estate if the pilot has been killed. If a maintenance error is found to be the cause of the accident the maintenance engineer could be sued personally. We have seen this happen in general aviation accidents where the dependents of the pilot or passenger killed in the aircraft have sued the maintenance engineer for damages.

Most pilots are aware of this and protect themselves by taking out insurance cover although it is an oddity that whereas the Road Traffic Acts have required compulsory third party insurance for drivers since 1930 there is no compulsory insurance requirement for pilots. Again there is no compulsory insurance requirement for maintenance engineers.

Where a person has prudently taken out insurance cover he is of course obliged to comply with the terms and conditions of the insurance policy. Invariably this will contain a requirement not to infringe the terms of the Air Navigation Order. If there is such a contravention, for example if it is an unlawful public transport flight or the maintenance certification has been falsified, the policy may be voided and the insurers will not pay up.

However the individual maintenance engineer is likely to be an employee of an airline or maintenance organization. A Plaintiff seeking compensation then has his right of action against the employer under the doctrine of vicarious liability if the breach of the duty of care by the maintenance engineer had been committed in the course of his employment. In contrast to criminal responsibility there is much less scope for the corporate body to escape from liability to pay compensation.

Each one of these topics could be the subject of a day’s conference but I hope that this brief description is an indication of some of the issues involved.