Crisisnavigator

Volume 21 (2020), Issue 3 (March)
ISSN 1619-2400, www.crisisnavigator.com

Crisis Management for Airports and Airlines

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Abstract

While Airport Managers have only to consider accidents on or close to their own airport, Airline Managers are not so lucky, about half of their incidents and accidents will occur away from their home airport. However should an airline have an 'away' accident at an airport where few of its own staff are stationed, airport and other local staff may be required to take on extra responsibilities until such time as the airline staff arrive.

The need to avoid accidents and yet to plan thoroughly for them may be confirmed by means of the detailed simulation of an accident with senior management staff forming the Crisis Management Team and having to respond to the wide range of problems cropping up following the 'accident'. A Crisis Management simulation of an 'away' accident is described.

Introduction

Airport and Airline Safety Managers are well aware of the fine line that may exist between having an incident and having a major accident. They are also usually aware of the advantages of having well prepared Emergency Procedures to minimise the effects, both social and financial, of an accident should one ever occur. Other senior managers, despite recent requirements emanating from the USA, may be less likely to appreciate the wide variety of problems that they may have to face in the aftermath of a major accident and may thus be reluctant to give safety the backing necessary if we are to maintain, let alone improve, the air transport industry's existing excellent safety record during the coming decade.

Fortunately accidents are very rare occurrences but this leads to the unfortunate fact that very few managers have had the opportunity of acquiring the knowledge necessary to deal with the kind of crisis likely to develop in the wake of an accident. It is not sufficient to know that there is a chapter, somewhere in a manual, somewhere on the shelves, somewhere in an office, on what to do immediately and what to do over the next few hours and days following an accident. There is a clear need for several key people to be familiar with everything concerned with what it is fervently hoped will never happen. This can only come about by means of the comprehensive training of all who are designated to be involved if and when an accident or other such event does occur. Without such familiarity and training a crisis can very easily become a catastrophe!

There are many areas of major importance, including: establishing good communications, finding out what has occurred and where; checking that those on board, whether fatalities, casualties or uninjured survivors, are being or soon will be looked after appropriately;

similarly that next-of-kin and other 'meeters and greeters' will be looked after and kept informed; establishing good relations with the media, it being vitally important that the airline is seen by the media to be doing all that it can to help those involved.

While airport staff will also be concerned with all these topics they may be more directly involved in matters of direct concern to the airport, including establishing the state of the airport, will it be closed to other traffic and if so for how long? fire cover status, organizing accommodation for next-of-kin, etc, the media, ...

The airport and the airline must be seen to be working together, since although the airport is unlikely to go out of business, as may the airline, its profits could be cut permanently if airlines and passengers perceive it to be in any way responsible.

There is a story going around of a senior airline official who, following a bad accident to one of its aircraft on approach to an airport, announced that the airline was not at fault as it was well known that certain key approach aids had been deficient for several months. This statement not surprisingly backfired when he was asked why it was then that the airline had continued to operate into such a deficient airport.

Many different problems may arise after the loss of an aircraft, concerning the emergency response, engineering, operations, legal matters and others, any of which if not dealt with effectively could adversely affect the finances of the airport and/or the airline.

It is important that it is recognised that other parties will have different priorities yet the airline may be the main or perhaps the only source of information vital to other parties. An example is the cargo and baggage, perhaps perceived as being of much less importance than the passengers, but to the fire and rescue crew a matter of life or death! Thus producing the cargo list must rank equal to producing the passenger list. Neither are necessarily straightforward, last minute changes may not yet be recorded everywhere and with cargo many items, all 'non-hazardous' under normal transit conditions, may be combined into a 'consolidated load' which could take some time to sort out and which when subjected to impact and fire may become distinctly less harmless.

One problem obvious to the airline will be that it must not only maintain its schedules while being one aircraft short but may also have to transport a large number of people to the accident site - or as close as is possible to it since the accident may have occurred far from an airport or, if on it, the airport may still be closed. Also if they can be got there - where will they stay?

Similarly the airport may have to deal with more passengers and other members of the public than usual because of flight delays but may have to do so with less space and fewer staff since some large rooms or areas may have to have been allocated to the various groups associated with the accident.

The airline will wish to continue its operations with the minimum of disruption, if necessary by diverting flights and passengers to alternative airports. The airport does not have this option but will also wish to resume normal operations as soon as possible.

Holiday locations, particularly islands tend to be full at peak times of year. If an aircraft lands with a fresh load of holidaymakers and then crashes on or shortly after take-off, closing the airport, pressure upon accommodation may be stretched beyond its limit. If the accident occurs on US territory or if US citizens are involved then the requirements of the

National Transportation Safety Board's, (NTSB's) Federal Family Assistance Plan will need to be met, putting an even greater strain on resources. Furthermore if it is deemed by the media to be a significant accident (and this may be affected by what other major news stories are about at the time) then the media will be there in force and the media is renowned for fixing its accommodation needs very efficiently.

Legal action may be started against the airline, airport or both even before the dust has settled at the accident site and even if this does not occur there is still the need to copy any documents that might become pertinent to the accident before the originals are seized by investigation or judicial authorities.

Such matters and many more are all part of crisis management and therefore a part of Air Transport Management that may affect the whole industry and its future.

Major emergencies

A major emergency may come in a variety of forms, not only an aircraft accident but perhaps an aircraft hijack, an aircraft trapped in a war zone, the contamination of aircraft catering, a bomb explosion in the airport or in an airline sales office or any other major event associated with the airline or airport. Unfortunately not all airlines can cope properly, some will muddle through, others may go out of business. Others again may face the world and be seen to be giving every possible assistance to the survivors (if any), to the next-of-kin and to the investigators; such airlines may come through relatively unscathed.

Planning and training

Sitting back and listening to lectures or conference papers has its place and some useful information may be absorbed but there is no truly effective substitute for actually being involved. Since actual accidents are rare it is necessary for airport and airline staff to participate in regular (and if possible frequent) full scale disaster exercises, working with all the emergency services. Airports have to run such exercises to maintain their licenses but all parties can learn a great deal if they are properly run.

Such exercises are extremely valuable but they are almost inevitably limited to a 'home' airport and, however essential, are an expensive way to learn the basic lessons, many of which may be learned initially just as effectively from small scale and relatively inexpensive 'table-top' simulations.

The key point is that around a half of an international airline's accidents are likely to be abroad, at an 'away' location. Thus a table-top simulation may be the only way to become involved in and appreciate the additional problems surrounding 50% of its accidents, those in a foreign country, somewhere that the airline has only a handful of staff or perhaps where it does not operate and thus has no staff at all.

Aircraft accidents

The effects of a major accident may be divided into several distinct yet overlapping stages.

> (i) If potentially hazardous problems develop prior to landing, the Emergency Services at the intended destination and the airline itself can be alerted and emergency procedures brought into readiness before the accident, if any, occurs. If there is no such warning then inevitably action starts only after the

accident has occurred, in which case the location of the accident site may or may not be known immediately. Thus there may still be a period of uncertainty before any real action takes place.

(ii) As soon as the accident site is known the Emergency Services take control, the preservation of life taking absolute priority. The Fire and Rescue Services will usually be in control of the wreckage and the Police of everything else, enabling triage and movement to hospitals and elsewhere to take place smoothly. At the same time the airline will be seeking information both for its own use and to be passed on to others and will be working to provide accommodation for the uninjured, the 'meeters and greeters', that is the friends and relatives who may have been waiting at the airport or who may soon arrive, and for the media.

(iii) Once the accident site is cleared of people and the wreckage is secure the Emergency Services soon stand down and the accidents investigators take control of the site. Although the investigation on site may only take a few days, allowing the wreckage to be moved and the site tidied up, the whole investigation may take months of even a year or more to complete and will study events that led up to the accident, the impact itself and any fire that followed, and the actions of the airline and Emergency Services since these may have affected the continued survival of those on board.

(iv) The airport's and the airline's involvement may start before the emergency is declared and continue long after the investigation report is published. It may start with the very first problem to an aircraft, with the crew notifying Air Traffic Control who will alert airport and airline ground staff; continue in parallel to the work of the Emergency Services through the early stages after the accident; and continue both with the supply of information concerning passengers and crew and with that concerning the aircraft, its maintenance, its cargo and everything else required by the accidents investigators. However as the principal link between those on the aircraft and their next-of-kin the involvement may continue for several years, as may counselling of staff. As an example British Airways and Manchester Airport staff assisted in the organisation of the tenth anniversary service for the victims of the August 1985 Boeing 737 accident.

The crisis management simulation described later is primarily intended to cover the first two or three days after an accident but it also points to issues that are likely to arise at some considerable time in the future.

Emergency Procedures

While it is obvious that the airline's emergency procedures may be crucial, in some cases the efficiency of an airport's emergency procedures may also significantly affect the outcome, for better or for worse. In its report on an accident in 1997 the UK's Air Accidents Investigation Branch (AAIB) made the following comment:

> *Study of the 'Airport Emergency Procedures', published to co-ordinate the responses of both the airport and Island emergency services, showed that they were drawn-up in November 1983 and amended in January 1985. Since then they had fallen into disuse and as such no current definitive Airport Disaster Plan existed.*

and made this safety recommendation some two weeks after the accident:

The Airport Director should produce, issue and be responsible for the maintenance of an Airport Disaster Plan that defines the policy, procedures and areas of responsibility of those airport and Island services identified as being required to react in the event of an airport disaster.

There must have been many occasions throughout the world when similar comments could have been levelled at the airline concerned! Although there is no magic formula for success there can be no doubt that careful planning, training and practice can minimise the adverse effects of a major accident, yet this cannot be done in isolation. The key to this is in the management structure; all senior staff must be aware of what actions are required after an emergency alert. It follows that all parties must have an Emergency Procedures Manual that is kept up to date, frequently reviewed and practised. It is of no use knowing that somewhere there is a manual setting out what should be done, manuals must be available 24 hours a day and **not** in a locked office **nor** in a locked cupboard. Furthermore key personnel (and those who cover for them in their absence) must be familiar with the main contents and at the very least know what immediate actions are down to them, including who else they need to alert without delay.

The Crisis Management Team and Centre

Although names and acronyms may vary the concept of having a Crisis Management Team, members of which will all be notified at the first sign of an emergency, is common to many organizations, however it is essential to have designated alternative members for when any are away or otherwise unavailable. Ideally the team should have a suitably equipped room at its disposal, the Crisis Management Centre (CMC). This may be a dedicated room but more often it might be an existing board room but with the provision of a photocopier, additional phone, fax and other communication lines, clocks, maps, boards for writing out and/or pinning up information for all members of the team to see, manuals, and indeed everything that might be needed at any time of the day or night. Note that rapid communication is essential which is why the names (primary and alternatives) and numbers published in Emergency Procedures Manuals must be kept right up to date.

It also has to be remembered that since a crisis may last for several days a single team may not be sufficient, handing over to others must be planned for, but to whom? The crisis will mean much extra work for essentially the same number of staff, deputies will already be deputising for those in the CMT and thus cannot leave this job to start another! All will need to work extra hours each day the CMT is required, these hours will need to be carefully arranged in advance, to be set in motion immediately the emergency is recognised. Because there may be a large time difference between the CMC and the accident site it is possible that all 24 hours will need to be fully covered for several days.

It is the task of the CMT to keep itself informed about all that is happening, to be and to be seen to be the centre of all operations relevant to the accident, to make the major decisions necessary for the handling and containment of the emergency and thus to control the whole situation with the aim of ensuring the survival of the airline. As such it will be in contact with the normal departments of the airline and with other specific groups such as that dealing with passenger information.

The Telephone Enquiry Centre

Whether an airline has its own Telephone Enquiry Centre (TEC - previously known as the Passenger Information Centre or PIC) or whether it uses equivalent services such as that run by British Airways and the Police at Heathrow Airport, the collection of detailed information on passengers (and on those who might have been passengers) is an essential part of the post-accident activity. Not all passengers are who they have said they are, there may be last minute changes that would have been put onto paper or into the computer the next morning, thus it can take some time to establish exactly who was on board and who was not. Even then it may takes weeks or months to identify all the fatalities. These matters will not be the prime responsibility of the CMT but the CMT will usually wish to be regularly briefed with the latest news from the TEC, not least because of the need to prepare information for the media.

When simulating an accident for one major international airline it was decided to extend the simulation to exercise the airline's own TEC. The call-out following the first news of the accident was all 'in real time' with all staff being called on their listed numbers. We then passed relevant information directly to TEC staff and left it to them to pass what they thought fit on to the CMT and to answer the CMT's questions.

Despite extensive training of its volunteer staff several cultural and translation problems arose that had not been foreseen and which a less realistic simulation might not have revealed. One of particular significance to airlines with staff coming from a variety of cultures and with several languages came about because all TEC staff training had been done in English, it being assumed that local staff would be able to cope even better in their own native language. Several callers acting as next-of-kin were instructed to pretend that they only spoke their native tongue throughout the simulation; they were correctly put through to appropriate members of staff with a similar background but there matters fell apart. Well trained and experienced staff suddenly found that they could not respond to the caller, nor ask essential questions in a sensitive manner, in their own language! Training has now been modified to encompass the lessons learned and to correct this unexpected failure.

A Casualty Bureau may also be established by the local Police, the division of responsibility between this and the airline's TEC will vary according to conditions. A point common to many countries in these circumstances is that only the police are authorised to inform a person that their close relative is dead. This can cause great suffering to waiting relatives even if handled with care. If everyone else nearby is being united with or given details of their relative then it is difficult not to imagine the worst if airline staff say that they have no information for **you**, worse still if they say that they cannot give you any information!

If the accident occurs upon US territory then the NTSB's Family Assistance Plan calls for the formation of a Joint Family Support Operations Centre (JFSOC). This will normally be close to the accident site and in a hotel or similar building offering office accommodation and good communication facilities. A hotel's Business Centre and conference facilities might be ideal but there is of course no guarantee that anything like this will be available should the need arise.

Other matters

Cultural differences must also be taken into account by those monitoring media information following a fatal accident. There are vast differences around the world and especially when it comes to reporting deaths. In some countries informed estimates are

likely to be reported which may eventually turn out to be either over- or under-estimates of the final total but which are usually of the correct order of magnitude. In others it is traditional to issue exact numbers even if it is quite certain that the final number will be very much higher even before the report is transmitted. Thus the 'exact' number can go up and up as time passes but give little idea of what the final number is likely to be. In the early stages of an emergency such cultural differences must be accepted and must be respected.

Areas, often within the airport or in nearby buildings and preferably at some distance from each other, will have been set aside for the accommodation of next-of-kin, the uninjured and the media. The CMT, TEC staff and the police will keep in close touch with staff looking after these groups and should ensure that the media are contained in a suitable area and kept well informed. Otherwise the chances of journalists and TV crews getting to the others will be even higher.

Simulations

As suggested earlier it believed that the best way of learning about and appreciating the wide range of problems that may occur following an overseas or 'away' accident is by means of a detailed simulation.

Since some people seem to have an in-built resistance to simulations to get the most out of one the ground needs to be well prepared in advance by means of a relaxed but thorough briefing session. Then the simulation must involve people from the start and appear 'real'. Furthermore the simulation itself must be followed by a thorough debriefing that not only allows time for discussion of the lessons learned but also encourages the participants' feelings to be expressed and to be shared. With this preparation they should become better able to deal with the similar feelings of anger, frustration, helplessness, etc, that are likely to occur during the management of a real crisis.

Finally we hope that the discussions started both during and immediately after the simulation will be continued and acted upon when delegates return to their regular places of work. Seeing and being involved with the major and protracted problems that follow an accident may not only insure that the airline will be better prepared should a real accident ever occur but, even more important, delegates whose airline positions do not directly involve safety may be more receptive and understanding when colleagues bring safety issues to their attention. The hope that this will lead to improved safety levels and fewer accidents is the prime reason for running such simulations!

So far The Cranfield Aviation Safety Centre in conjunction with Avinta Ltd has run eight of these simulations, three for two major international airlines, one for a cargo carrier plus four 'open' simulations in which delegates from some five or six different airlines or airports have participated together. From these it is clear that participants have been totally involved, treating the simulation as if it were a real event and have been made aware of many important, previously un-thought-of problems. In addition the impression we have gathered is that participants **have** gone back to their airports and airlines and discussed crisis management at a variety of management levels right to the top.

The simulation

For our open simulations we provide a set of draft Emergency Procedures but activate the call out ourselves since we already have the airline Crisis Management Team (CMT) together. When working with a real airline we decide how to accomplish the call out in

conjunction with non-participating airline personnel and on one occasion this led to the call going out when most members of the CMT were travelling to work, not all with mobile phones.

Our simulations vary but that to be described, without it is hoped giving away too many secrets to potential delegates, is essentially the open simulation offered at Cranfield in May of each year.

The timetable

During one real day our Crisis Management simulation attempts to cover the problems that may face the airline's CMT during the first two or three days following an accident to one of the airline's aircraft. We therefore compress this period into the one day by having occasional time jumps and with a relief team supposedly operating over each night.

Each delegate has, for the purposes of the simulation, just joined KronAir, the flag carrier of the Grand Duchy of Kronenbourg, a small European country adjoining Germany and France. Each receives a welcoming letter from the MD of KronAir and a folder of information concerning Kronenbourg and KronAir, the latter including draft Emergency Procedures. Each is informed that he/she will be a member of the CMT should an emergency arise, one being designated as its Head. The delegates arrive for dinner and for an evening briefing after having viewed their reasonably well equipped CMC.

The following morning they are scheduled to attend a meeting in the CMC to go over the draft emergency procedures but, surprise, surprise, an accident occurs before they can get properly down to business and information and requests start coming in, thus they are set to work with no prior warning. So the day (encompassing over two days) passes until the evening when we break for the course dinner!

The next and final morning is devoted to the thorough debriefing sessions with delegates departing after lunch.

The rôles

During the simulation (and during the first part of the debriefing) the 10 or so delegates, being mainly KronAir staff but perhaps with one or two Kronenbourg International Airport staff, form the CMT; we, the 6 or 7 members of the Directing Staff, are everybody else! For example we take the parts of top airport and airline management, members of the press, contacts in the police, in ATC and at airline offices closer to the accident site. KronAir opens its TEC with a member of our Directing Staff acting as the TEC Manager. We prepare complete passenger and crew lists and pass on appropriate information as it becomes available either on a routine basis or as called for by the CMT. Thus while most information arrives in the CMC by fax or memo there is also voice and direct contact to provide additional realism. A point occasionally missed is that in this case they have to make their own record of what was said and/or agreed. We stress that no decision made by the CMT is effective until it has been communicated correctly to the outside world via the Directing Staff.

When an accident occurs, real or simulated, to a real airline at or close to a real airport, the delegates may well know each other but may not previously have worked together closely. They are of course familiar with their rôles since they are working as themselves. The accident will occur to one of the airline's aircraft, though not necessarily in a location with

which they are familiar. These conditions are not possible during an 'open' simulation since delegates come from different airports and airlines and from different parts of the world. Thus each delegate is still himself or herself but is now working for KronAir or Kronenbourg international Airport with new colleagues; usually all will have been promoted, or why would they have moved? We try to put each of them into a post closely related to their previous one, a post in which they should feel reasonably comfortable. In addition they all have an evening at the bar together to get to know each other before the real work starts.

The accident site

Since one important objective is to make delegates aware of the problems associated with an accident outside their immediate control, one where they must rely heavily on personnel they do not know and in a foreign country that they have never visited, we have always used an accident site well away from the home base of the airline. Thus for non-European airlines (real or invented) we may have an accident in the aforementioned Kronenbourg. For a European airline, or one from almost anywhere else for that matter, we have our accidents in the Caribbean, on the island of Sainte-Angelique which is the largest of a group of ex-French islands called Les Isles Saintes. In fact Ste-Angelique can be renamed and put down in a variety of places throughout the world where the French once had (or might well have had) colonies. At present we have a group of identical islands, the largest of which is Ste-Emeulue, positioned off the west coast of Sumatra so as to be close to many routes to and from Singapore. We are also considering possible sites in the Pacific, or indeed anywhere of a customer's choosing!

Recently and in order to introduce the requirements of the NTSB's Family Assistance Plan it came about that a few years ago the US took over Les Isles and called them the US Windward Islands. It is here that the accident occurs during our open courses.

Fiction must go no further than is strictly necessary, so although the place where the accident occurs must be under the total control of the Directing Staff, which it could not be if we used a real country, it must be geographically in a real place. Therefore both Kronenbourg and Ste-Angelique appear on the maps provided and can, without any ambiguity, be related in terms of distances and times to other airports.

The events

As with the places involved so all events are derived from those that have occurred following real accidents. This is important and is explained during the briefing, we don't need to invent surprising or unlikely events, they have already happened! Accidents are extremely rare events in themselves so it should be no surprise to find that they are often caused by and associated with very rare and unlikely events. In addition the timings are based on real accidents, for example the time taken to remove people from the aircraft, alive but trapped by wreckage, is based mainly on the accident near East Midlands Airport in January 1989.

Planning the simulation

While certain events are based closely on past accidents other timings depend on the terrain and the distances over which vehicles and, occasionally, people have to travel. It is therefore necessary to have detailed maps of the area and use, as far as possible, exactly what is there. With Ste-Angelique we had a list of existing hotels and hospitals and all we

needed to add were details of a few apartments that were probably there anyway, very little having changed since the US take-over.

Having also decided upon the number of ambulances and other vehicles available and where they are based, the exact times that passengers and crew, alive and dead, are taken from the accident site and subsequently arrive elsewhere are determined by progressively building up a chart in an 'Excel' file. Something over six hours are covered one minute at a time down the page and the starting point, the crash site and all eventual destinations are listed in columns across the page. Thus at any given time information is available showing how many passengers and crew are at each location or are en route.

The names and addresses of everybody who was on the aircraft, together with those who had intended to fly but didn't, and of all their next-of-kin, are contained in the columns of a 'Works' file. This is based on having a row for each aircraft seat, numbered in the way used by the airline but with additional lines for cockpit and cabin crew. The columns include a triage category (Cat 0 = dead to 3 = uninjured) and other notes that cross refer to other data, events, etc. On the KronAir flight passengers may be anywhere from 01A to 47K with cockpit crew in 000a and 000b and cabin crew in rows 00, 08, 30 and 48. It is also possible to add 'rows' with the details of anybody on the ground who happened to be injured as a result of the crash.

This file also has data derived from the Excel file so that each person's time to leave the site, en route and arrival at hospital, hotel, temporary mortuary or elsewhere is recorded. Having certain information in two independent files helps track down errors before the names of people arriving at, for example, hospitals or hotels, are recorded and passed to the JFSOC by fax.

While we, the Directing Staff, have determined where everyone is, no person **within the simulation,** including the rôles taken by the Directing Staff, will have all of this information available to them. These files thus show basic information not necessarily known by anyone, although most of the information could be ascertained if all the relevant questions were asked of all the right people. However it must also be understood that some answers to perfectly valid questions will be wrong and that it will take some considerable time to recognise this and to correct the errors.

Running the simulation

Since by the very nature of the occasion delegates will be expecting an 'accident' to one of their aircraft, the only surprise open to us is to have it occur slightly earlier than most will expect it. Information arriving at the Safety Department is relayed to all delegates with follow-up instructions from the MD for them to get on and manage the emergency. Thus perhaps the most important section in their Emergency Procedures, the call out of the CMT, goes smoothly! Thereafter they need to deal with information, requests and instructions coming in by SITA, fax, memorandum, letter, telephone and, occasionally, directly from another person.

As the accident is in the Caribbean where the airline has only a small handful of staff much of their Emergency Procedures Manual is of little or no use (since it, like many real ones, does not adequately address this situation), they therefore need to consider carefully how to deal with the crisis as the situation reveals itself. Usually their initial ideas of working

within their job specifications are soon overtaken by the realisation that they need to spread the workload more equally.

Passenger lists

Although establishing the passenger and crew lists is the task of the TEC we anticipate that the CMT will want to know these as soon as possible, we therefore supply progressively more complete and more accurate information throughout the day, based upon the time taken following real events. However when information comes it doesn't always arrive in the TEC, it may go to the CMC when it is essential that it is forwarded to the TEC. We have observed that very often people will assume that anything that comes to them must also have gone to other appropriate parties. In fact very often this is not the case and we supply several pieces of information that should be immediately passed to the TEC, others to the accident site or to some other person or group. Similarly when we have had a TEC operating we have given them information that is not their concern but that should be passed on to the CMT, very often it has not been passed on because they assumed .....

If the accident occurs within or close to an airport we can expect the fire and rescue crews to be on site very quickly and for triage to start soon after. However locating, counting and recording details of a plane load of passengers and crew in no easy task and mistakes and omissions will occur. Some may run or walk away from the site, missing the triage stage, these may subsequently be difficult to trace. We build in a few such problems but also, eventually, fill in most of the gaps.

With a flight departing late in the evening, particularly if it has been delayed, airline staff may depart for home and their beds as soon as the aircraft has taken off, leaving the paperwork until the morning! Should the aircraft return and crash there may be long delays before all relevant information concerning passengers, baggage and cargo can be found. Such a scenario frequently fits in with our desired crash time at Cranfield.

While the TEC will be seen to be coping with the 'routine' problems we introduce a few, all based upon real past events, that require decision making at CMT level. Some of these have built in pitfalls that they need to take care to avoid.

The JPSOC

US requirements state that, somewhere not too far away from the accident site, the airline must set up a Joint Family Support Operations Centre. It will be obvious that under the circumstances or our remote accident the responsibility for doing this must be passed to a local organization. We pre-empt this by having the local airline, Aér Angelique, do this as part of their own local procedures and for them to then ask KronAir to send staff to help operate it. Thus the JFSOC very soon starts collecting passenger information from the site and later from the hospitals, hotels and temporary mortuary. This has obvious short term benefits for KronAir but also some less obvious longer term disbenefits that the CMT must try to minimise.

The cargo

While it is hoped that the CMT will very soon start making enquiries or issuing instructions about the cargo manifest (which will eventually be supplied), enquiries will arrive from the sources and/or destinations of certain items thought to be on board. The contents of the cargo hold will also be of prime concern to those at the accident site. Although the Fire and

Rescue Services will initially have gone ahead with their duties without knowledge of the possible hazards, once the fire is out and the survivors have been removed from the area detailed information is requested prior to shifting the cargo and baggage to a safe place.

Despite the usual assurances that there were no dangerous goods on board shippers admit that certain items might be potentially dangerous if subjected to impact and fire and those on site find some pretty nasty looking substances oozing from damaged packages. The CMT finds itself at the centre and must pass on information and obtain answers as a matter of priority.

The media

While the TEC is attempting to put together the passenger list some surviving passengers may talk to reporters, or may contact their relatives by telephone who, in turn, may talk to reporters. Consequently dealing with the media works both ways: it is necessary that the CMT keep the media informed and are deemed by the media to be sympathetic and to be doing everything possible, but equally all news items should be checked in case the media have obtained information not yet gathered through official channels. To make this point we, in the guise of the airline's PR department, supply transcripts of radio and TV reports, copies of newspaper articles and CNN internet reports. Some include vital information perhaps tucked away at the bottom of the page and/or close to a distracting photograph, such information can easily be missed!

The accident investigation

This will start immediately although little will occur on site until all survivors have been removed. Nevertheless the CMT may be the focal point for requests for information from the investigators, in this case from the NTSB, before more official channels have been established. In this context and to avoid too long a quiet period our Investigator-in-Charge on site offers some useful details from the site while requesting information that he needs from the CMT.

As the State of the Operator the Kronenbourg Directorate of Aviation will be participating in the investigation and the Accredited Representative will almost certainly wish to take a senior KronAir pilot and an experienced engineer with them as Advisors. As we don't supply the CMT with a complete staff list we make them aware of the request but have the MD actually make the choice and inform the CMT of the names. It is however up to the CMT to try to sort out their means of transport and their accommodation for when they arrive.

Legal aspects

In reality many legal problems may occur but for our comparatively brief simulation we have two main inputs. The airline's firm of solicitors fax the CMT offering extensive advice and another firm announce that legal action will be taken on the basis that, in effect, the airline had not been pro-active in providing more protection from fire for its passengers. Much of the advice should be passed on to various departments and the threat of legal action needs to be discussed, the CMT must decide how to proceed.

General

In all the CMT receives some 120 sheets sent directly into the CMC, including memoranda, letters, faxes, maps, transcripts of radio broadcasts and photocopies of newspaper articles.

In addition the TEC receives some 50 sheets, mostly faxes from hospitals and hotels forwarded by the JFSOC, which are copied to the CMC for information.

When in any doubt about whether information might be requested we include it, the object being that we want to limit the number of decisions that the Directing Staff have to make during the simulation. We are hard pressed to keep to schedule and stay abreast of the CMT's progress so although we have the facility to produce new information, to be delivered verbally or by memo or fax, we try to keep this to a minimum. Sometimes if a reasonable request is made for information that we haven't prepared in advance we do concoct the answer (it will then be available as a standard answer for the next simulation) but sometimes we promise to provide the answer but fail to do so within the time available. This is perfectly realistic, people are not always available when required, they may be out of their office or their telephone may be engaged. Following an accident everybody may feel that their job should take priority over those of everyone else, it is all to easy to forget that all normal work must still go on, with depleted staff, and that of the CMT duties are additional to the normal workload.

Lessons learned

It has already been stated that at the final morning's debriefing sessions participants have been invited to share the feelings that they experienced during the simulation as well as the lessons they have learned. Most are prepared to admit to, for example: periods of anger, of frustration when nothing seemed to be happening but they felt that they ought to be doing something, when they felt inadequate, of extreme pressure of work. Many also reported periods of pleasure or relief when a difficult problem appeared to have been solved satisfactorily. The majority stated that the whole simulation had felt very real indeed and had been pretty exhausting.

These admissions of personal feelings had clearly helped participants understand each other better and to be prepared for such feelings and emotions to be present, probably to a much greater extent, during any real emergency. It was also appreciated that following a real emergency a debriefing along the same lines could be beneficial as without a session to share one's feelings in this way resentments could be carried forward and adversely affect future working relationships.

Whether working with their own Emergency Procedures Manual or, during an 'open' simulation, with the one prepared by us for their use, participants generally found that the Manual left much to be desired. Certainly many problems arose that were not covered neatly by any one chapter and it was generally agreed that the events experienced during the simulation would enable them to go through their own emergency procedures with a much clearer idea of what was required.

One problem that we noticed early on in our planning was that facsimile or fax numbers for some airline offices, as shown in reference books and on many letterheads, were those for 'office hours only'. Since many accidents, particularly to international airlines traversing several time zones, are likely to occur outside normal office hours information and requests may be sitting in a fax machine for several hours before being seen and delivered, unless this possibility is foreseen and planned for.

Another important lesson learned was that many senior staff are lost without their secretaries to help organize their workload. Dealing with all the incoming paperwork, PCs

and telephones without the help that they are used to can add to the stress inevitable following an accident. Planning to provide such help at a very early stage is essential, this of course being reflected in the space and the facilities required in a CMC. The need for good communications between the CMC and a variety of other places is widely appreciated, the difficulty of ensuring good communications within a single room is perhaps not!

The future

It is possible to extend our simulations into other areas, one plan being to combine the Airline Crisis Management simulation with that for the Emergency Services. At present we decide the accident scenario and all the actions at the accident site, including all the exact timings. An alternative is to define the initial scenario and a selection of factors that are outside everybody's control but to allow the decisions taken by our participating Emergency Service personnel to affect much that follows, including the exact timings of various key events. In this case the information passed to the airline's CMT will be dependent on the Emergency Services and not by our own preplanning.

It might also be appropriate to provide plans of the airport terminal and surrounding buildings and to allow the airport representatives to choose which rooms to use depending upon the numbers of people expected, numbers based initially upon incomplete or possible inaccurate information.

The main problem to be solved before such a simulation can be offered is how to build in sufficient safeguards to ensure that both groups **do** succeed despite any misunderstandings and mistakes. Without these a fundamental mistake by the Emergency Services group could render the CMT's tasks impossible. The Directing Staff thus need to provide the feedback that would be immediately obvious at a real accident site but missing in a table-top simulation, this is no easy task.

Concluding remarks

A detailed simulation of the events that may follow an airline accident can help prepare both airport and airline staff for such an unlikely eventuality. Having experienced the problems rather than having merely read about them staff are in a better position to review and possibly change their emergency procedures and to improve their colleague's appreciation of the problems that they may have to face.

Note

This article was presented at the 3rd annual conference on Aviation Safety Management, Copthorne Tara Hotel, London, England, 22/23 May 2000.

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First published in Crisisnavigator (ISSN 1619-2400):
Volume 1 (2000) - Issue 9 (September)