

THE CHIEF INSPECTOR'S REPORT

57. I have made previous allusion to the report which was completed and published by the Chief Inspector of Air Accidents. The chief inspector is the head of the Office of Air Accidents Investigation which is administered by the Ministry of Transport. The Office of Air Accidents Investigation is specifically declared, however, by section 18 (3) of the Civil Aviation Act 1964, to be entirely independent from the Ministry of Transport and the Civil Aviation Division. The chief inspector is at liberty, in the discharge of his statutory function, to make whatever criticism he feels is right against any party involved in an aircraft incident or accident including, where necessary, the Civil Aviation Division, which is a branch of the Ministry of Transport.

58. It was the responsibility of the chief inspector, upon being notified of this accident, to institute an inquiry pursuant to the Civil Aviation (Accident Investigation) Regulations 1978. The occurrence of the accident was notified to the chief inspector by the airline at 8.50 p.m. New Zealand daylight time on 28 November 1979. I pause to observe that this was nearly 6 hours after the airline had been notified by McMurdo Station that there had been radio silence from TE 901 for one and a half hours. His investigations commenced on the crash site after his arrival in Antarctica on 29 November 1979. In accordance with standard practice there were sundry overseas officials who accompanied the chief inspector to Antarctica. These were a representative of the United States National Transportation Safety Board, and representatives of the Federal Aviation Administration, the McDonnell Douglas Corporation which had manufactured the aircraft, and the General Electric Company which had manufactured and supplied the engines. The chief inspector was able to make some degree of progress with his inquiries at Antarctica, but the major work which he had to undertake in this very considerable task commenced after his return to New Zealand.

59. The chief inspector's inquiries, in which he was assisted from time to time by other inspectors from his office, covered an exceptionally wide assembly of facts and circumstances which all had some connection with the occurrence of the disaster. The circumstances of the case were far removed from the ordinary type of accident investigation. In most cases the immediate and indeed the controlling cause of an aircraft accident or incident is reasonably clear from the outset. Many of the world's major air disasters have not involved any great difficulty in their investigation by the appropriate investigatory authorities. There have been cases where a disaster has been occasioned by an obvious engine failure or structural defect. There have been other cases involving a sudden occurrence of a known emergency in the air notified by radio signals from the air crew. In many cases there have been eyewitnesses and, in more recent times, the presence of the CVR. In very many cases therefore, whether the originating cause was structural or mechanical failure, or whether it was the response of the air crew to some emergency, or failure on their part to observe known procedures, an investigator has not been confronted with anything like the formidable difficulties which in this case were encountered by the chief inspector, Mr. R. Chippindale.

60. As I have made clear already, this aircraft accident was the culmination of not only a succession of events but also the co-existence of contributing factors. The disappearance of any one of these causative factors from the chain of events would clearly have avoided the collision of

the aircraft with the slopes of Mt. Erebus. Added to all this was the predominant difficulty that the disaster occurred in a distant and hostile terrain in the polar regions some 3000 miles south of New Zealand, and in circumstances where no living person ever saw the aircraft from the time when it departed from New Zealand. So there was no one who had seen the aircraft, observed its course, observed the weather through which it was flying, and observed its manoeuvres during the crucial period of minutes prior to its destruction.

61. The invaluable technical data provided by the black box and, to a lesser extent, by the CVR duly answered many questions which otherwise might have been insoluble. In addition, there was the very unusual advantage that the chief inspector had at his disposal large quantities of prints of photographs taken by passengers at various stages of the flight, including (and this was a vital factor) certain photographs taken within seconds of impact. But even with these advantages, such as they were, the task confronting the chief inspector in respect of this almost inexplicable tragedy was daunting in the extreme. It involved him in hundreds of hours of work and in many thousands of miles of travel to various parts of the world. His total dedication to a task of mammoth proportions is only in part revealed by the extremely lucid and comprehensive report which he later signed and delivered to the Minister of Transport in accordance with his statutory duty.

62. The course which the chief inspector was required to follow pursuant to the Civil Aviation (Accident Investigation) Regulations 1978 was broadly as follows. First of all he had to complete his inquiries to the extent of being able to construct an interim or draft report. Then he was required, on the basis of what his draft report disclosed, to notify any appropriate party of any opinion held by the chief inspector supporting some degree of blameworthiness for the accident as against that party. On 1 March 1980 the chief inspector delivered to four specified parties a copy of his draft report, together with a statement by him of the areas in which it appeared to the chief inspector that the party in question might be held blameworthy. These areas of culpability were separately itemised and stated in each case. The parties in question were Air New Zealand Limited, the Civil Aviation Division of the Ministry of Transport, the estate of Captain Collins, and the estate of First Officer Cassin.

63. As against the airline, there were four suggested areas of blame. One of these areas, however, referred to the route qualification briefing for antarctic flights and in that respect there were said to be 10 specified omissions or mistakes. In the case of the Civil Aviation Division, there were six suggested areas of blame. In the case of the estate of Captain Collins, the representatives of the deceased pilot were advised that there were six specified areas of blame, and all of these related to the conduct of Captain Collins as pilot-in-command during the course of the flight. In the case of the estate of First Officer Cassin the areas of blame suggested by the chief inspector comprised one broad allegation. That allegation was that while acting as co-pilot he did not attempt to question the actions of Captain Collins or to advise him against such actions in respect of the conduct of Captain Collins adverted to in the notification made to the estate of Captain Collins.

64. In terms of regulation 15 of the Civil Aviation (Accident Investigation) Regulations 1978, the chief inspector was required to give the recipients of such allegations the opportunity to make a statement, examine witnesses, give evidence or produce witnesses so as to refute or

modify (if so desired) the belief of the chief inspector that a degree of responsibility for the accident might be attributable to the party against whom the allegations had been made. The four parties so notified each delivered a statement in rebuttal of the allegations made by the chief inspector, but they did not avail themselves of the further rights to which I have just referred because the Attorney-General had made a public announcement on 10 March 1980 that a Commission of Inquiry would be established to investigate the circumstances of the disaster. The parties who had received the chief inspector's allegations, although setting out in detail various factors which in their opinion effectively rebutted these allegations, nevertheless preferred to wait for the hearings of the Commission of Inquiry before going into the process of testing the evidence upon which the chief inspector had formed his conclusions.

65. The Government decided to set up a Royal Commission to inquire into the circumstances of the accident. A Royal Commission is one which is created under the Royal Prerogative, that is to say, appointed by His Excellency the Governor-General upon the advice of the appropriate Ministers of State. Whilst having many conventional and extensive powers of inquiry flowing from the direction of the Crown to inquire and report, a Royal Commission has also at its disposal statutory powers contained in the Commissions of Inquiry Act 1908 and those provisions were, to some extent, clarified and extended by the Commissions of Inquiry Act 1980 which came into force on 4 July 1980. A Commission of Inquiry, whether a Royal Commission appointed under Letters Patent from the Crown or whether a Commission appointed by the Executive under the Commissions of Inquiry Act, has a purely investigatory function. Its duty is to inquire into the events designated in its terms of reference and to report in the case of a Royal Commission to the Governor-General, and in the case of a Commission of Inquiry to the Government, its opinion on the particular points set out in its terms of reference.

66. In the present case, as in the case of many other Commissions, the inquiry was conducted by a judicial officer in the interests of giving every witness the right to state his position in public and to be cross-examined in public. The ordinary procedure was adopted of arranging for witnesses to be called to give evidence on oath and to be cross-examined and to be re-examined on the same footing as if the Inquiry had been a trial at law. But as I have emphasised already, the proceedings of this Royal Commission, as in the case of all other Commissions, do not amount in any sense to Court proceedings. I was required, in my capacity as Royal Commissioner, to investigate the circumstances of this disaster in such manner as I thought fit and, apart altogether from the powers conferred by my terms of reference, I was empowered by section 4 of the 1980 amendment to . . . "receive as evidence any statement, document, information, or matter that in its opinion may assist it to deal effectively with the subject of the inquiry, whether or not it would be admissible in a Court of law," a provision which, substantially speaking, merely re-states in codified form the powers which a Royal Commission has always possessed.

67. I have alluded to the statutory notification by the chief inspector to various parties of the areas in which he believed that they were responsible to some degree for the accident. Following receipt of written replies from each one of the four parties, the chief inspector then

proceeded to complete his final report. On 31 May 1980 he signed his final report and transmitted the same to the Minister of Transport. It was then for the Minister to decide whether he would approve the release of the report as a public document. In one sense this seemed incongruous, because a Royal Commission had been appointed to investigate the disaster, and in those circumstances the opinion of the chief inspector as to the causes of the accident, although of great assistance to a Royal Commission, could not be relevant to its final conclusions. However, on 12 June 1980, some days before the hearings of the Royal Commission were due to commence, the Minister approved for release as a public document the chief inspector's report. It naturally received wide publicity. After recounting all the circumstances the chief inspector stated as his final conclusion what, in his opinion, had been the probable cause of the disaster. His opinion on this point is contained in paragraph 3.37 of his report and reads as follows:

"Probable cause: The probable cause of this accident was the decision of the captain to continue the flight at low level toward an area of poor surface and horizon definition when the crew was not certain of their position and the subsequent inability to detect the rising terrain which intercepted the aircraft's flight path."

It is clear from the text of the report that the chief inspector was not satisfied with the written explanations furnished to him by Air New Zealand and the Civil Aviation Division, and he held that they were in breach of sundry duties which he enumerated. But he did not ascribe any of these breaches of duty as being the cause of the accident. The Minister of Transport was strongly criticised at the Commission hearings by counsel for the estates of the two deceased pilots for his decision to release the chief inspector's report. It was asserted by counsel, and of course rightly, that the content of the report gave the impression that in the chief inspector's opinion the sole cause of the disaster was pilot error, whereas that was not the chief inspector's opinion at all. I fully agree that publication of the report led to widespread public misconception. It was popularly supposed, for example, that the aircraft was flying in cloud and that the air crew did not know where they were. But the chief inspector had not alleged in his report that the aircraft was flying in cloud. Quite the contrary. He had said that the aircraft had been flying *towards* an area of impaired visibility. Nevertheless, I do not think that the Minister's decision to release the report can be criticised. Nearly 7 months had passed since the disaster. There had been newspaper criticism of the delay in the release of any information which might throw light on what had occurred. There were hundreds of relatives of deceased passengers who were waiting to hear some official account of what had happened. The Minister's decision to release the report was, in my opinion, correct.

68. I should here say something about the form of the chief inspector's report. It was apparent from a preliminary perusal of the report that it was designed upon a stylised format, and it is in fact identical in its layout to various overseas accident reports which came into my possession during the hearings of the Commission. The form of the chief inspector's report is based upon Annex 13 to the Convention of International Civil Aviation which is printed under the heading "Aircraft Accident Investigation". The format of the final report of an accident investigation is set out at pages IV-4-1 to IV-5-2 of Annex 13. The investigator is

required to use the working language of the International Civil Aviation Organisation (ICAO) and the final report of the chief inspector in the present case followed the sequence of stating the required technical information, survival aspects, appraisal of readings obtained from technical aids such as the CVR and the black box, and followed by a series of conclusions, statement of cause or causes, and a list of safety recommendations. At page IV-4-10 of Annex 13 there appears the following sentence:

"The expression of causes should be a concise statement of the reasons why the accident occurred and not an abbreviated description of the circumstances of the accident".

69. In the present case the chief inspector for the most part maintained in his final report his belief that the four named parties had contributed in one way or another to the occurrence of the accident. But he selected as the single "probable cause" the opinion which I have previously quoted. The selection of a single "probable cause" of this nature is in apparent accordance with the convention adopted under the ICAO format for the reporting of accidents. The investigating inspector is not required to assemble all contributing causes and then to apportion blame. The general practice, as I follow Annex 13, is to select a cause which represents what lawyers would call the "proximate" cause. That is to say, the act or omission which occurred closest to the time of the occurrence of the accident.

70. The chief inspector quite obviously considered this accident to be a combination of a series of causes and as already stated he considered that all four parties were at fault in one respect or another. But he selected as his single "probable cause" the decision of Captain Collins to fail to climb away when approaching an area of deteriorating visibility. As a matter of interest, this particular omission had not been one of the areas of fault attributed to Captain Collins when the inspector notified the Collins estate on 1 March 1980 of the suggested areas of responsibility. He had alleged in his letter of 1 March 1980 that Captain Collins had been at fault "in failing to climb to the minimum safe altitude on finding the high ground in the area ahead obscured". It is significant that in his final report the chief inspector omitted to state, as part of the "probable cause" any suggestion that Captain Collins was aware that there was any "high ground" ahead.

71. The other aspect of the chief inspector's report which is of primary significance is the conclusion expressed at paragraph 2.5, where the Chief Inspector describes the alteration to the destination co-ordinates and the non-disclosure of that alteration to the air crew. He concludes paragraph 2.5 by saying:

"In the case of this crew no evidence was found to suggest that they had been misled by this error in the flight plan shown to them at the briefing".

With respect, the conclusion just stated is untenable. The evidence adduced before the Commission made it clear, as I have stated already, that Captain Collins had plotted, on the night before the fatal flight, certainly on his atlas and almost certainly on the other maps in his possession, the flight path upon which the erroneous nav track would take the aircraft. Apart from anything else, the decision of Captain Collins to arm the nav mode of the aircraft within a few minutes of impact

completely destroys any suggestion that he had not previously plotted the destination co-ordinates which had been produced to him and to First Officer Cassin at their briefing.

72. If all the evidence on this latter point had been placed before a civil Court and the matter determined upon the balance of probabilities, then it is inevitable that the conclusion reached by any Court would be the same as my own. But I would go further than that. Suppose that the same evidence had been presented before a Court charged with reaching a decision in which the evidence must justify a finding beyond reasonable doubt. This, of course, is a higher standard of proof than proof on a mere balance of probabilities. Again, looking at all the evidence produced before the Commission, such a tribunal would certainly find it proved beyond reasonable doubt that Captain Collins had plotted, on his own map or maps on the evening before the flight, the track from Cape Hallett down McMurdo Sound and terminating at the co-ordinates displayed to him at his briefing.

73. There was one other major conclusion, apart from the one I have mentioned, where I find myself in disagreement with the chief inspector's opinion. This conclusion was the chief inspector's belief that the crew was "uncertain" of its position. For the reasons already expressed, I think it clear beyond doubt that the two pilots and the flight engineers were each certain of the position of the aircraft at all material times, and I have emphasised my opinion in this respect because once it is shown that Captain Collins had plotted on his map or maps the flight path indicated by the flight plan produced to him at the briefing, with consequential certainty as to the position of the aircraft as it approached the McMurdo area, then the major part of the case against Captain Collins and his co-pilot vanishes away. It does not dispose by any means of a careful review of the conduct of the flight crew during the last stages of the flight, and it in no way exonerates the crew from other aspects of management of the aircraft which may well have been a contributing factor, even though a minor factor, in the occurrence of the disaster. I shall in due course be required to give careful consideration to the conduct of Captain Collins and First Officer Cassin as to the decisions which they made over the last part of the flight of TE 901. But, as Mr Baragwanath said in his closing submissions, the concept that this accident was essentially caused by "pilot error" has substantially disappeared and this is the principal area upon which I am compelled to disagree with the opinion of the chief inspector.

74. In my own review of all the circumstances of the disaster as disclosed by the evidence, I am entitled to take into account not only specific facts but inferences fairly to be taken from the establishment of specific facts. Further, I am not required to insist that some particular conclusion, whether founded on direct evidence or inference, shall be established beyond reasonable doubt. I am entitled, as part of my investigatory function, to reach conclusions based upon the balance of probabilities. This is the course which I have adopted. And in regard to allegations in respect of which the evidence seems to me to be in even balance, or not sufficiently tilted one way or the other, then I have held the truth of any such allegation, likely though it may be, to have been not established.

75. I now turn to examine each of the areas of factual inquiry which are relevant to the terms of reference as set out in the Warrant appointing me as Royal Commissioner to inquire into this disaster.