ACCIDENTS INVESTIGATION BRANCH
Department of Trade and Industry

McDonnell-Douglas DC8-63 CF N 801 WA and Aerospatial Caravelle 6N OO-SRG Report on the incident approximately ten nautical miles southeast of Lands End VOR, on 12 March 1973

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Department of Trade and Industry
Accidents Investigation Branch
Shell Mex House
Strand
London WC2R 0DP

9 November 1973

The Rt Honourable Peter Walker MBE MP
Secretary of State for Trade and Industry

Sir,

I have the honour to submit the report by Mr N S Head, an Inspector of Accidents, on the circumstances of the incident between a McDonnell-Douglas DC8 – 63 CF N 801 WA and an Aerospatial Caravelle 6N 00-SRG which occurred approximately 10 nautical miles southeast of Lands End VOR on 12 March 1973.

I have the honour to be
Sir
Your obedient Servant

V A M Hunt
Chief Inspector of Accidents

Accidents Investigation Branch
Civil Aircraft Accident Report No 1/74
(EW/C441)

Aircraft (1):	McDonnell-Douglas DC8 – 63 CF N 801 WA		
Engines:	Four Pratt and Whitney JT3D–7		
Registered Owner and Operator:	World Airways Incorporated		
Crew:	Commander	Captain M Sheets	– Uninjured
	Crew members	10	– 1 Slightly injured
Passengers:	None		

Aircraft (2):	Aerospatial Caravelle 6N 00-SRG		
Engines:	Two Rolls-Royce Avon 531		
Registered Owner and Operator:	SABENA Belgian World Airlines		
Crew:	Commander	Captain P Claeys	– Uninjured
	Crew members	4	– 1 Slightly injured
Passengers:	51		– 2 Slightly injured

Place of Incident:	Approximately 10 nm southeast of Lands End VOR
Date and Time:	12 March 1973 at 1118 hrs 30 seconds
	All times in this report are GMT

Summary

The Caravelle 00-SRG was operating a scheduled passenger service from Brussels to Barcelona. Due to the French Air Traffic Control (ATC) strike the flight was re-routed over United Kingdom airspace to avoid flying over France.

The DC8 was on a positioning flight – without passengers – from Chicago to Paris.

Whilst both aircraft were in the vicinity of Lands End VOR in conditions of good visibility and under control they narrowly avoided a collision.

The direct cause of the airmiss was a mistake made by the radar controller whilst he was under heavy pressure. Shortcomings in ground radar equipment, a failure in the equipment for about one minute just before the incident, and heavy traffic, exacerbated by the French ATC strike were contributory causes.

1. Investigation

1.1 History of the flights

1.1.1 *Caravelle 00-SRG*

This aircraft was operating a SABENA scheduled passenger service from Brussels to Barcelona. In view of the French ATC strike the operator decided to re-route this flight over United Kingdom airspace so as to avoid over-flying France. The Caravelle entered British airspace by way of Air Traffic Service Routes Upper Blue 29 (UB 29) and Upper Red 1 South (UR 1S) routing via the Ongar and Midhurst VOR's to the Ibsley VOR reporting overhead that facility at Flight Level (FL) 310 at 1035 hrs.

A clearance was requested and given for entry into the Shanwick oceanic control area (OCA) at 50°N 8°W FL 250 at 1132 hrs.

The aircraft continued to Lands End VOR arriving overhead at 1057 hrs and entered a right hand holding pattern. After the completion of two complete patterns, at 1113 hrs 30 seconds SRG was instructed to turn on to a heading of 150° and shortly afterwards to descend to FL 290. At 1114 hrs 49 seconds the pilot of SRG reported leaving FL 310 for FL 290. At 1117 hrs SRG was instructed to turn right on to a heading of 350°.

During this turn, just as the aircraft was approaching FL 290, the co-pilot of the Caravelle reported an aircraft converging from the right at the same height. The pilot disconnected the autopilot, increased the angle of bank and then both pilots pushed hard on the control column. The Caravelle whilst turning through a heading of 220° passed below the other aircraft, a DC8. The Belgian crew considered that they heard the DC8 engines as the aircraft passed each other at an angle of approximately 90°.

In the course of taking evasive action one stewardess and two passengers were slightly injured. Two further passengers complained of discomfort.

00-SRG continued the flight and landed at Santiago airport in Spain, to allow the injured to be treated. There was no structural damage found to the aircraft.

1.1.2 *DC8 N 801 WA*

This aircraft was on a positioning flight, without passengers from Chicago to Paris. Flying on airway Upper Green 4 (UG 4) at FL 290 the pilot reported entering United Kingdom airspace at point 'LEE' at 1104 hrs with an estimate for Lands End VOR of 1116 hrs. He was advised to maintain FL 290 and cleared via UG 4 to Paris.

At 1116 hrs the DC8 reported passing Lands End VOR maintaining FL 290. Whilst approaching the VOR the crew observed two aircraft contrailing at a higher level. One aircraft turned to the north whilst the lower aircraft was seen to start a slow turn to the right. The turn continued and it suddenly became apparent that a risk of collision had arisen as the other aircraft had descended to about the DC8 level and was turning into its flight path. The DC8 pilot was about to apply down elevator when he saw the Caravelle enter a steep dive whereupon he pulled hard on the control column and the Caravelle disappeared out of sight below.

The pilot made an 'Airmiss' report over the R/T to London ATC.

The DC8 continued its flight to Le Bourget without further incident. Only one crew member was slightly injured and no damage was suffered by the aircraft.

1.2 Injuries to persons

Injuries	*Crew*	*Passengers*	*Others*
Fatal	-	-	-
Non-fatal	2	2	-

1.3 Damage to aircraft

There was no damage to either aircraft.

1.4 Other damage

There was no other damage.

1.5 Personnel

1.5.1 *00-SRG*

The flight crew of this aircraft consisted of two pilots and a systems operator. There were all experienced on the aircraft type and held the appropriate valid Belgian licences.

1.5.2 *N 801 WA*

The flight crew of this aircraft consisted of two pilots and two flight engineers. They were all experienced on the aircraft type and held the appropriate valid American licences.

1.5.3 *London Radar Controller*

Mr L G Revell was the radar controller on duty handling the aircraft in the vicinity of Lands End VOR at the time of the incident. After service in the Royal Air Force (RAF) as a navigator he was trained as a civil ATC controller in 1957 and has been employed more or less continuously as a radar controller for the past 14 years. He held a valid United Kingdom Air Traffic Controller's Licence. He was 'validated' as a LATCC Sector 20/23 radar controller at Sopley on 30 June 1972.

1.6 Aircraft information

1.6.1 *DC8 N 801 WA*

This aircraft had a valid USA certificate of airworthiness (C of A) and a current certificate of maintenance (C of M). The weight and centre of gravity (CG) were within the prescribed limits.

1.6.2 *Caravelle 00-SRG*

This aircraft had a valid Belgian C of A and a current C of M. The weight and CG were within the prescribed limits.

1.7 Meteorological information

The weather in the vicinity of Lands End at the time of the incident was good. An anticyclone was centered over Scotland with an associated weak ridge of high pressure extending towards Spain. Small amounts of cumulus cloud existed extending from 1,500 feet to 3,500 feet. There was no upper cloud. The FL 300 wind was estimated as $100^0/10$ knots associated with an air temperature of -54^0 C.

The weather is not considered to have been a factor in this incident.

1.8 Aids to navigation

1.8.1 *London Air Traffic Control Centre (LATCC)*

This centre has responsibilities which include those for the control of civil air traffic and military air traffic using the airway system with Air Traffic Service Routes over southern United Kingdom air space. Civil Controllers provide radar services in the southwest from the Joint Air Traffic Control Units (JATCRUs) at RAF Sopley and Aberporth in South Wales.

The procedural aspects of Civil ATC are handled at LATCC with a landline link to the radar controller.

1.8.2 *Southern Radar*

The main control radar equipment used by the JATCRU is a 10cm type 80 radar with a modified Mark 10 IFF (SIF) secondary radar. This radar is effective at FL 250 to about 6°W (ie just to the West of Lands End). The secondary radar facility is relatively crude by present day standards with no height reporting mode available. Backup to the type 80 is provided by a 50 cm type 264 radar with limited cover of UR 8 as it does not extend to Lands End. Just before the time of the airmiss the type 80 radar ceased functioning for about one minute between 1112 hrs 30 seconds and 1113 hrs 30 seconds.

The radar tube picture was continuously recorded on film for later processing. The upper air traffic service route between Ibsley VOR and 8°W is controlled by Sector 23 at LATCC. Radar control is provided by the Sector 23 radar Controller at Sopley. Flight plan information is passed by an 'A' side assistant controller at LATCC to the flight plan position at Southern Radar by telephone. Air traffic information is presented to the radar controller by means of an edge-lit situation board divided under two headings – pending traffic

and aircraft actually being controlled. For air traffic eastbound from the Shanwick OCA the radar controller is provided with updated Estimated Times of Arrival (ETAs) at the OCA boundary. These are displayed to him on the situation board. Aircraft using Very High Frequency (VHF) radio telephony (R/T) make contact at 8°W (the OCA boundary) via a relay station in the south west.

Complications can occur with some military aircraft. Although they are treated as normal oceanic traffic by Shanwick they cannot contact Southern Radar, or Western Radar on their Ultra High Frequency (UHF) R/T until they reach the vicinity of the Scilly Isles, about 6° 30'W. Whilst this was not the case in the subject incident, this can, on occasions, provide the civil procedural controller with some problems as due to the lack of radar cover between 6°W and 8°W he is inhibited in instructing an aircraft to climb or descend to the west of Lands End VOR in cases where the aircraft in question has been allocated a cruising level in the OCA which is different from that flown over the UK (a not uncommon occurrence). The sector 20/23 radar controllers at Aberporth can assist in resolving some of the problems in cases where the military aircraft contact Western Radar and both civil and military aircraft can be identified on radar.

1.8.3 *Lands End VOR*

A VOR station call sign LND radiating on 114.2 MHz is installed on the northern side of the Lands End peninsular. An associated TACAN station located 4.5 nm SSW of the VOR provides a Distance Measuring facility for aircraft equipped to receive its signals.

On the day of the incident the DME was not operating but was not NOTAM'd as such. Due to geographical considerations Lands End VOR is the most westerly point where UR 8 traffic can hold if delays and congestion occur prior to entering the OCA.

1.9 Communications

Satisfactory two way R/T communications were established on 132.6 MHz between the radar controller and both N 801 WA and 00-SRG.

There are two points worthy of comment however in the communications field. Firstly, as a direct result of the French ATC strike aircraft, whose crews were unfamiliar with the process of obtaining oceanic clearances, were routeing via the Shanwick OCA. In spite of the additional assistance arranged by the watch supervisor, a considerable extra volume of R/T traffic had to be dealt with. Secondly an analysis of the frequency utilisation on 132.6 MHz revealed that the average utilisation factor between 1100 hrs and 1130 hrs was 67 per cent. Between 1110 hrs and 1120 hrs (ie about the time of the incident) the factor was 79 per cent, a very high figure indeed.

1.10 Aerodrome and ground facilities

Not applicable.

1.11 Flight recorders

1.11.1 N 801 WA was fitted with a Fairchild Industries F 5424 flight recorder in which four parameters: Magnetic Heading, IAS, Pressure Altitude and Normal Acceleration were recorded as a function of time using engraved metal foil as the recording medium.

A good quality readout was made from the foil in the USA by the National Transportation Safety Board (NTSB).

The record showed that at the time of the incident the aircraft was flying at a Pressure Altitude of 29,225 feet on a heading of 136°M at an IAS of 320 knots. During the pull-up a maximum value of +3.27 'g' was achieved. See Appendix A for the track plot.

1.11.2 *00–SRG*

The aircraft was fitted with a 'SFIM' flight recorder in which four parameters: Magnetic Heading, IAS, Pressure Altitude and Normal Acceleration were recorded against a common time base using sensitized photographic paper as the recording medium. A good quality analogue trace was obtained from the photographic record in Belgium by SABENA.

The record showed that at the time of the incident the aircraft was flying at a pressure altitude of 29,200 feet, turning to the right passing a heading of 220° M at an IAS of 235 knots. A minimum value of –0.5 'g' was achieved during the push over manoeuvre, followed by a maximum value of +2.2 'g' in the ensuing pull-up. See Appendix A for the track plot.

1.12 Wreckage

Not applicable

1.13 Medical and Pathological information

Not applicable.

1.14 Fire

Not applicable.

1.15 Survival aspects

Not applicable.

1.16 Tests and research

Not applicable.

1.17 Other information

1.17.1 *French ATC Strike*

Because of a strike by some French civil air traffic controllers the French military ATC organisation was providing a limited air traffic service for civil aircraft in French airspace at the time of the incident. As a result of this situation several continental and United Kingdom operators decided to re-route their flights to Spain via SW England in order to remain clear of French airspace. A considerable amount of extra traffic was therefore using UR 8, routeing, Lands End, 49°N 8°W to Santiago. The daily number of aircraft movements were equal to or slightly in excess of the previous summer weekend peak rate.

1.17.2 *Introduction of tracks LIMA* and *MIKE*

Following the experience gained from the early days of the French strike it was decided to rationalise aircraft routeings through the Shanwick OCA for traffic to Spain, Portugal and beyond. The majority of this traffic had been routeing Lands End 49°N 8°W to Santiago in both directions. During the period 1200 hrs 24 February 1973 to 2200 hrs 26 February 1973 (58 hours) some 700 flights were handled.

To implement this decision two tracks LIMA and MIKE were promulgated.

(a) *Track LIMA*

Cork: 51°N 11°W : 45°N 13° 30'W : 43°N 13° 30'W : Lisbon

(b) *Track MIKE*

Southbound : Lands End: 50°N 8°W : 45°N 8° 25'W : Santiago

Northbound : Santiago : 45°N 8° 25'W : 49°N 8°W : Lands End

The concept of splitting the inbound and outbound traffic on track MIKE was introduced after consultation between Shanwick Oceanic Control and LATCC who considered it to be the best arrangement within the London Upper Information Region (UIR). The original intention was for tracks LIMA and MIKE to be effective from 2 March 1973 to 5 March 1973. However, a mid-air collision which had occurred over France on 5 March 1973 had the effect of significantly increasing the number of aircraft using the tracks therefore they were re-introduced on 6 March and were in force for the remainder of the French ATC strike.

1.17.3 *Military Air Traffic*

In the upper airspace ie above FL 245 military traffic is generally divided into General Air Traffic (GAT) and Operational Air Traffic (OAT). For all intents and purposes military GAT are flights conducted in accordance with the regulations and procedures promulgated by the Civil Aviation Authority (CAA) and operating under the control or authority of the Civil Air Traffic organisation in the same way as civil aircraft. OAT aircraft are handled differently in that they are flights conducted under the control or authority of the Military Air Traffic Organisation. In those parts of the UIR designated as Mandatory Radar Service Areas (MRSA) OAT aircraft are in communication with and under the control of the appropriate military ATC unit.

The western boundary of the southern MRSA lies along 5°W longitude. The upper airspace between 5°W and 8°W (ie up to the Shanwick OCA boundary) is designated a Radar Service Area (Non Mandatory). Military aircraft operating in this area, unless operating as GAT are not required to participate in the ATC service. In cases where Eastbound UHF equipped military aircraft leave the OCA at 8°W they cannot contact Southern Radar or Western Radar until about 6° 30'W. This is mainly due to the lack of a suitable remote UHF relay station.

On the day of the incident a series of air-refuelled jet fighter flights were scheduled to pass eastbound through the Lands End Sector 23 area. For this purpose FL 270 and FL 290 had been blocked to civil air traffic. In all 24 aircraft flying in formations of 6 were involved, comprising 4 'speaking units'. These aircraft were UHF equipped only, but were accompanied during the ocean crossing by an HF equipped aircraft. Position reports were relayed to Shanwick Oceanic Control with forward estimates for Lands End. The aircraft were estimating 45°N at 1111 hrs but because of a communication error in the civil ATC network, this ETA was taken to be for 49°N and this was passed to Sopley and displayed on the 'pending' movements board of the Sector 23 radar controller. Thus, he expected the military aircraft to arrive in his area much earlier than they did. Consequently, tracks LIMA and MIKE at FL 270 and FL 290 were blocked to civil traffic for a longer period than necessary.

The tanker aircraft did not enter United Kingdom airspace but returned to their base in Spain.

Military Training Areas, in this case the South Western (SWMTA) (FL 245 – FL 450), are established within MRSAs to afford freedom of operation for aircraft involved in exercises incompatible with normal ATC procedures. During the hours of promulgated training activity, military pilots need not request a radar service and upper ATS routes do not pass through these areas.

1.17.4 *Civil Air Traffic*

Airspace between FL 245 and FL 460 over the UK is designated an Upper Airspace Special Rules Area (SRA). In the upper airspace SRA civil aircraft are required to comply with the instructions of ATC (Rule 39, Rules of the Air and Air Traffic Control Regulations 1972).

The upper airspace SRA is provided with a network of Upper Air Traffic Service Routes. One of the ATS Routes involved in the subject incident was Upper Red 8 (UR 8). This route is a line joining Ibsley VOR with Lands End VOR. Because of the closeness of the Lyme Bay and Plymouth danger areas to the south and the SWMTA to the north, when these areas are promulgated as active it is necessary for the civil element of Southern Radar to monitor all civil air traffic and military GAT using this route, to ensure that the danger and training areas are not encroached upon (see Appendix B).

1.17.5 *Co-ordination Military/Civil*

The civil controllers at JATCRU Sopley are required to inform the RAF co-ordinator of all details of aircraft receiving a civil air traffic control (ATC) service in the upper airspace (UIR) other than routes Upper Green 1 (UG 1) and Upper Green 4 (UG 4).

They should identify to the RAF co-ordinator any aircraft receiving a civil ATC service in the UIR not transmitting the appropriate secondary radar code.

If any air traffic under civil control appears to be in conflict with aircraft not under civil control the RAF co-ordinator should be consulted.

These procedures are classified as 'active' co-ordination. In times of high workload the Sector 23 controller can, with the agreement of the RAF co-ordinator, abandon 'active' procedures. This means that civil traffic on recognised routes are not identified to the RAF co-ordinator. On 12 March 1973 this action was taken at 1115 hrs – ie some 3½ minutes before the incident.

Similarly in the case of the SWMTA the civil radar controller can request the RAF co-ordinator to 'roll back' the southern boundary of the training area to make available more airspace for UR 8 traffic.

This action was taken at 1110 hrs on 12 March 1973 – ie some 8½ minutes before the incident.

1.17.6 *Radar Controller Workload*

The high workload imposed on the Sector 23 radar controller was not solely related to the number of aircraft under his control. Lands End VOR is the converging point for a number of routes and is the point where aircraft, departing for or arriving from the Oceanic Control Area are, if necessary, re-allocated cruising flight levels.

At the time of the incident four aircraft were holding at the Lands End VOR and awaiting descent clearance under radar control in order to achieve their OCA penetration times and flight levels. In addition a further four aircraft were approaching the VOR, two from the west, one from the north and one from the south.

The restrictions imposed on the controller by virtue of the limited radar cover to the West of Lands End meant that the flight level changes had to be made in the vicinity of the Lands End VOR. In the course of just such a procedure the incident occurred.

2. Analysis and Conclusions

2.1 Analysis

2.1.1 *The aircraft*

From the evidence it is apparent that the crews of both aircraft were conforming with ATC instructions promptly and correctly. There is no evidence to suggest that the aircraft were not being operated normally. It is possible that if the pilots had not taken swift and positive evasive action a mid-air collision would have occurred.

2.1.2 *The radar controller*

The radar controller was experienced and suitably qualified. From his evidence it is apparent that, as a result of the workload to which he was subjected at the time, he made an honest mistake in confusing N 801 WA with another aircraft and the route it would follow after Lands End.

If modern secondary radar equipment had been available to him he would have been in a better position to make and maintain a positive identification of the various aircraft. In the event the secondary radar equipment available to him presented difficulties because of its limitations. Although the situation board showed N 801 WA (the DC8) would be routing along UG 4 from Lands End, a great deal of other information was also displayed and he erroneously formed the impression that the DC8 would be routeing along UR 8 to Ibsley. The result of this was that when he saw a radar echo leaving Lands End and tracking slightly north of UR 8 he assumed that this was N 801 WA. In fact it was another aircraft. As the radar vectors given to 00-SRG south of Lands End would have kept it clear of N 801 WA's assumed track no danger was foreseen. The DC8 continued along UG 4 after passing Lands End and its flight path then conflicted with that of 00-SRG. Although the radar controller may have seen a radar return which was N 801 WA heading for 00-SRG, he may well have assumed that it was that of another aircraft en route or in the holding pattern in which case it would have been vertically separated from SRG and would therefore have represented no danger.

The control situation existing in Sector 23 at the time of the incident was complex and the tripping of the rader shortly before the incident added to the controller's problems. However, it is evident that the near collision which occurred was the direct result of instructions given to the pilot of the Caravelle by the radar controller.

2.1.3 *Radar equipment*

The type 80 radar has been in service for some years and has given good service during that time. However this 10 cm equipment does suffer from a low scan rate and is particularly sensitive to weather clutter, although the latter was not a factor in the subject incident. The associated

Mark 10 IFF (SIF) secondary radar is no better than primary radar for maintaining radar identification when several aircraft are close together as it does not allow selective or full code identification. In addition, mode 'C' height reporting facility is not available. The radar site near Bournemouth barely provided cover at Lands End at FL 250 and above. It is highly desirable that controllers should be able to track aircraft to at least 8°W longitude. This would help to ensure a safe transfer of control to Oceanic control from LATCC control. The introduction into service of a new 23 cm primary radar facility in North Devon with remote control data links to LATCC, associated with a new secondary radar with an altitude reporting facility, will go a long way to rectifying the shortcomings of the existing equipment. However the lack of radar tube picture recording facilities in the new equipment could hamper the detailed investigation of future accidents of incidents.

The necessity of separating the radar and procedural controllers under the present system is undesirable, but unavoidable due to the lack of suitable radar facilities at LATCC.

2.1.4 *French ATC strike*

The French ATC strike increased the volume of air traffic using UR 8 in two ways. Firstly, the number of aircraft originating from the continent and over-flying the United Kingdom was increased and secondly, United Kingdom based aircraft were re-routed via the south west to avoid French airspace. In addition, it had the effect of increasing the R/T workload of the controllers as a result of the unfamiliarity of some pilots with the procedures for obtaining clearances for the Shanwick Oceanic Control Area.

2.1.5 *Military air traffic*

The existing situation where in the UIR to the west of Southern Mandatory Radar Service Area, military OAT need not receive an ATC service, whilst both civil air traffic and military GAT in the SRA are required to do so, poses an additional hazard. This is particularly so when the limitations of UHF R/T cover are taken into account.

The concept that eastbound military air traffic is treated as GAT until it leaves the OCA at 8°W when it reverts to OAT can only be applied safely when R/T communications and adequate radar cover are both available. At the present time they are not.

In the case of the subject incident, because of a human error in civil ATC communications, the ETA at Lands End of some military traffic passed to the radar controller was in error by more than one hour. The effect of this was that FL 270 and FL 290 were 'Blocked' between Lands End and 8°W at the time of the airmiss so that 00-SRG (the Caravelle) could not be procedurally cleared through these flight levels west of Lands End and had to be held for the descent to be made within radar cover. It is important that trans-atlantic traffic should have their accurate ETAs passed to ATC controllers in the United Kingdom in order to allow the civil controller to make decisions based upon the fullest and most up to date information.

2.1.6 *Traffic flow restrictions*

The major restriction on air traffic using UR 8 consequent upon the French ATC strike was that imposed by Madrid Air Traffic Control Centre (ATCC) which varied between an acceptance rate of one aircraft every 6 minutes to one aircraft per hour, with occasional complete bans on traffic with no prior notice. The longest period during which no traffic was allowed was 1 hour and 3 minutes. The effect of such irregular rates of flow was to cause aircraft already airborne to carry out holding procedures en route thus adding to the congestion within the air traffic control system and increasing and complicating controller workload. If major disruptions to the flow of air traffic, following unilateral action by adjacent Centre(s), are to be avoided, it is clear that an improved form of international co-operation is necessary, if only to restrict traffic overflying the United Kingdom when ATC restrictions exist in respect of the availability of outward routes and levels. Such improved co-operation might go a long way towards eliminating irregularities in flow rates which can cause serious and possibly dangerous disruptions.

2.2 Conclusions

(a) Findings

(i) The crews were properly licensed and experienced.

(ii) The radar controller was properly licensed and experienced.

(iii) The actions of the crews of the two aircraft probably prevented a mid-air collision.

(iv) Deficiences in the cover provided by the primary radar equipment at Southern Radar seriously limited the use of radar west of Lands End to facilitate traffic entering or leaving the oceanic control area.

(v) Because of the limitations of the existing SSR equipment the controller was unable to obtain the assistance he needed in order to maintain aircraft identification in the particular traffic situation.

(vi) The French ATC strike significantly increased the flow of aircraft via Lands End VOR.

(vii) The radar controller, who was working under an abnormally high workload at the time, made a mistake as to the route aircraft N 801 WA would follow.

(viii) By instructing 00-SRG to turn to the right and descend, the radar controller placed the aircraft on a collision course with N 801 WA.

(ix) The facilities provided for the integration of military OAT and GAT to the west of Lands End VOR are inadequate and not conducive to the safety of civil and military GAT.

(b) Cause

The airmiss was caused by the radar controller making a mistake which placed the two aircraft on a collision course. Shortcomings in the ground radar equipment available to him and a high workload caused by abnormally heavy traffic contributed to the error.

N S Head
Inspector of Accidents

Accidents Investigation Branch
Department of Trade and Industry

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