

Tome 2

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Annex A: International Team activities during the Study

Report

Annex A

« INTERNATIONAL TEAM ACTIVITIES »

From July 17, 2000

To

November 27, 2001

1. Mission in Dublin on 17-18 July 2000

Mr. Colin Torkington, Admiral Yves Lemerrier and Mr. Manuel Pech were convened at Dublin by the head of the AAIU, Mr. Kevin B. Humphreys, in view of:-

- Being informed on the Tuskar Rock accident, the accident report of the 1968 Investigation Commission, the follow-on of this inconclusive report, the 2000 review and the common will of the Irish and English parties to get out of all the “conspiracy” theories produced since the seventies;
- Being asked if they accepted to work as an “International Team”, on a task to be given by the Assistant Secretary General-Aviation, of the Department of Public Enterprise;
- Contributing to the definition of the task.

The three experts were informed during a session held in the AAIU on 17th afternoon; they accepted to work as a team; Mr. Torkington was leading the team’s activities with respect to technical matters; Mr. Lemerrier and Mr. Pech belonging to the same cabinet “EXP’AIR” dealt with the other matters. But all outputs of the study had to be commonly agreed by the three team members. The task was commonly agreed and defined in a letter signed by the Assistant Secretary General- Aviation, Mr. John Lumsden.

On July 19th, 2000, Mr. Torkington met Ms. O’Rourke, Minister of Public Enterprise. She confirmed the team tasking, as defined in Mr. Lumsden’s letter, (refer Study Report 1.3)

2. Activities of the French Experts between the 18th of July and the 30th August 2000

This period was dedicated to collecting the accident reports, which could be of interest for a better understanding of the EI-AOM accident.

Requests were forward to Irish, English, French, Belgium, Polish, Italian and Brazilian Authorities. All accepted to communicate the requested accident reports.

3. **C. Torkington's Visit in UK from July 25th to August 15, 2000**

During a stay in UK, the following visits were paid by C. Torkington:-

Tuesday 25, July 2000

UK Air Accidents Investigation Branch (AAIB), Farnborough

Met with:- Ken Smart - Chief Inspector

David King - Principal Inspector

This was very helpful and provided some background to the extensive work carried out by AAIB and the Ministry of Defence both at the time of the accident, and later at the time of the recent review by Kevin Humphreys and his colleagues in the Irish Air Accident Investigation Unit. This covered:-

- Interviews with retired people involved, old records reviews and files searched.
- It showed the extent of the humanitarian work carried out by the Royal Navy and often dangerous, beyond limits, efforts carried out in the recovery operation.
- The check of all aircraft records to look, for example, even for reports of accidental ground damage, to ensure no avenues were left open.
- Their firm belief that there is now sufficient hard evidence to show that there was no accidental shooting down or collision with EI-AOM and no associated conspiracy.

The foregoing material is adequately covered in the Irish Review Report issued in 2000.

Thursday 27 July, 2000 (a.m.)

UK Civil Aviation Authority Safety Regulation Group, Gatwick,

Met with:- Richard Profit - Group Director

Garry Bisshopp - Head Safety Data Unit

Library Personnel

Thursday 27 July and Tuesday 15 August, 2000

Brooklands Aviation Museum Weybridge

Met with:- Julian Temple - Curator

Norman Boorer -ex-senior executive, Vickers

Norman Barfield, ex- senior executive, Viscount Product Support, Vickers.

David Haward -ex-Vickers, Weybridge and Deputy Chief Surveyor, CAA

Albert Kitchenside, Former Chief Stressman, Weybridge

Inspected Viscount 800 series aircraft

A. Kitchenside, former Chief Stressman of Vickers Weybridge, was in charge of the Viscount-life extension program some years ago. He is currently engaged in cataloguing the Vickers historical data at Brooklands and was good enough to search for tailplane material; hence the second visit.

Thursday 3 August, 2000

BAe Systems Facility at Chadderton, Manchester,

Met with:- Martin Hyman - Airworthiness/Regulations Manager

Bob Bennett- Flight Safety Officer

Brian Whittle - Airworthiness

Extremely helpful. It would appear that the 2.04 inspection (the Aer Lingus records of which are missing), was very general and did not include tab free pay checking. Tab free play was scheduled in the Vickers Manuals at

Check 4 or 900 hour intervals.

4. Mission in Dublin from August 30 to September 5, 2000

The aim of this mission was to present the International Team, and their tasking to the Irish authorities and to the relatives of the victims.

In addition, the Team had to organize their work, after reception of the first pieces of information coming from the technical side and from a first review of the “relevant” accidents.

The Team visited the Minister on September 1st, 2000, at the Department premises.

The Team met with the relatives at Cork on September 2nd, 2000.

It was decided that the AAIU should proceed to a “Call for witnesses”, in the Irish press, with the instruction to answer directly to the International Team, in France.

5. Activities from September 5 to September 25, 2000

Whilst analysing the accident reports, Mr. Lemercier and Mr. Pech prepared their first mission in UK, with the aim to meet the major manufacturers of the Viscount:- BAe, Rolls-Royce and Dowty, and the relevant administrative bodies:- the Ministry of Defence, the Ministry of Foreign Affairs, the CAA and the AAIB.

This visit was organized through the AAIB.

6. Mission of Mr. Lemercier and Pech in UK from September 25 to October 3, 2000

A preparatory document, listing most of the questions that the Team intended to ask to the manufacturers was forwarded to them through the AAIB.

When they read that document, the Industrialists requested the Team to apply the same rules as for an accident investigation with the aim to be protected by the procedures defined in the Annex 13. This was accepted.

A complete review of the questions was performed at BAe Systems, with Mr. Rob Bennett, and at Dowty, with Mr. Gareth Williams.

Relevant documentation was delivered to the Team, when available.

When the answers could not be given on the spot, BAe provided the costs to be accepted for either digging the existing archived documentation, or for asking the Design Office to work.

This meeting was matter of a BAe report; BAe also provided an answer to the "Request for quotation" (refer Appendix 7a).

Since Dowty had requested Mr. Barnfield to attend the meeting, and since Mr. Barnfield had been in charge to perform the accident investigation and to report on it, all questions could be answered, and relevant documentation delivered.

Rolls-Royce cancelled the meeting the day before it was planned to take place, due to lack of preparation.

On the 29th, the Team Members met, at Whitehall, with Mr. David Brett, from the MOD, and Mr. Simon Elvey from the Foreign Affairs. Both clearly stated that all relevant documentation on the official side had been forwarded to the Irish party, during the Review, since every documentation related to Tuskar Rock had been de-classified, when it was confidential.

Consequently, any further request of documentation had to come through the AAIU.

The Team Members met the CAA on October 2, 2000. A preparatory document had been sent prior to the meeting. All questions were answered, when the documentation was available.

Unfortunately, since the CAA was created in 1976, there were only few documents still available related to the period prior to 1976. This meeting was matter of a report by the CAA (refer Annex Ba), and the Team received all relevant documentation (Viscount occurrences in particular) post -1976.

Mr. David King, from AAIB, attended the meeting. He confirmed that the AAIB files, related to the Tuskar Rock accident were destroyed in 1994.

As a conclusion of that mission, it may be stated that the Team Members were well received, their questions openly answered when feasible, with the exception of Rolls-Royce.

The AAIB efficiently opened the doors and is to be thanked.

7. From October 4 to November 2 2000

This period was mainly dedicated to the follow-on activities of the mission in UK, to the exploitation of the letters sent by those people answering to the “call for Witnesses”, and to the exploitation of the Viscount Accident reports.

8. Mission of Mr. Lemerrier and Mr. Pech in Ireland from November 2 to November 9, 2000

That mission was aimed at interviewing those people having answered to the “Call for witnesses”, and some others considered as “of interest”, in particular Aer Lingus or ex-Aer Lingus people.

The Team members met:-

On Friday November 3rd

- A retired engineer from Aer Lingus in charge of “Planning” in 1968
- A passenger on EI-AOM the day before the accident
- An eye-witness in 1968

On Saturday November 4th

- A friend of a victim

On Monday 6th – people from Aer Lingus

- The Captain, today in charge of the OPS
- The head of Maintenance
- The Captain who was the Captain of the Aer Lingus Viscount (Dublin-Briston) having heard the AOM distress message, and was directed to search AOM between Strumble and Tuskar, at low altitude

- The Captain who was in charge of training the Viscount pilots, and member of the Aer Lingus internal Investigation Team.
- The Captain, OPS technician in 1968
- A technical project manager, who requested to be heard by the Team for reporting on a possible presence of German Fighters in the Irish Sea air space on Sunday March 24, 1968
- The Captain, President of IFALPA

On Tuesday November 7th at Rosslare

- The Minister of State, of Wexford area
- A relative of a victim
- A witness

On Wednesday 8 in New Ross-Waterford area

- Four witnesses
- A farmer
- A writer

9. From November 10 to November 27 2000:

Following these series of interviews, it appeared that the track reconstruction of the Saint Phelim flight could be different from the one reconstructed in the 1970 accident report.

The complete International Team met in Paris for preparing a progress report to be presented to the Minister of Public Enterprise.

On November 23rd, the Team members met Mr. Al Simmons, now working in the AAIB. In 1968, Mr. Al Simmons was an employee of Vickers; later on, still at Vickers, he was deeply involved in the investigation of the Indonesian Bouraq accident, which show large similarities with that of EI-AOM.

10. Mission in Ireland from November 27th to December 2nd, 2000

The first part of that mission was dedicated to the search and interviews of witnesses.

The Captain who had proposed the “No Recovery Scenario” refused to meet the Team.

A writer had based a possible mid-air collision scenario on the statement of a farmer, living near Carnsore Point.

For some time, this man was supposedly being identified.

But, the information was not precise enough, and after having met several people in that area, the Team considered that the identification was presumably wrong, and the writer's memory misleading. The observer could not be identified among several persons bearing the same name.

The Team members met:-

- One of the key witnesses, for the second time; and the Ballykally's Parish priest
- A witness, from Mullinavat
- The ATC Shannon Supervisor on duty, on this Sunday 24th morning
- One of the ATC Shannon Controllers on duty, on this Sunday 24th morning

The presentation of the progress status was made to the Minister on Friday December 1st 2000.

11. From December 2, 2000 to April 3, 2001

11.1 This period lasted for around 4 months, since it was a lengthy process to define the adequate procedure for meeting in UK the people belonging to the various administrations, involved in the answers to the questions asked by the Team. These questions were either originated in the process of the Team tasking implementation, or presented to the Team by the Irish individuals or by the Celtic League.

The final procedure accepted by all parties was to forward the preparatory document listing all the questions through the AAIU, the UK Embassy in Ireland, a focal point in UK, and the various UK departments involved in the answers, mainly:-

- The Foreign Affairs
- The MOD
- The historical branch of the Navy
- The historical branch of the Air Force
- The historical branch of the Army
- The DERA
- The Public Records Office

This process ended with a meeting held in the building of the Foreign Affairs, in London, on April 4th, which was prepared by a document finalised on March 26, 2001.

11.2 In parallel, various requests for information were forwarded by the Team.

On December 6th, 2000, a new attempt to get in touch with the author of the “No Recovery Scenario” was unsuccessful.

On December 14th, several requests were presented to the AAIB related to the archives of London ATCC. Unfortunately, none could be answered.

Whilst on familial holidays in the UK, Mr. C. Torkington paid another visit to the Brooklands Museum, in particular to see the Viscount 806 displayed in the Museum. Mr. Torkington could take pictures, in particular of the internal side of the tail cone.

On January 8th, 2001, a letter was sent to the Irish Deputies of Wexford and of Waterford area. The Wexford deputy had not enough time to answer, the Waterford deputy introduced to the Team several witnesses living in his constituency. Two further meetings were held with him.

On January 15th, the Team members asked for a meeting with Mr. E.D. Glaser, former Viscount test pilot at Vickers'. Mr. Glaser accepted.

During the presentation to the Minister she asked the Team to give their opinion on the “No Recovery Scenario” document. It was then reported that any meeting had been refused. Following the instructions then given by the Minister, the author sent his document to the Team, who acknowledged, and requested again a meeting, in a letter dated February 2nd, 2001. This letter was refused by the addressee. No further attempt was made by the Team.

On February 2nd, a letter was sent to the Chief of the French military mission near Cinceastlant, at North Wood, asking for the list of NATO exercises performed in March 1968, in the vicinity of the St. George Channel. The answer was that the request should be forwarded directly to the General Secretary of the OTAN.

On the same day, a request for information related to the possible presence of German Forces in the vicinity of the St. George channel in March 1968, was forwarded to the German Embassy in France.

This was partly answered, after a second letter sent on July 19th, 2001. The answer stated that nothing exists in the Luftwaffe archives on something abnormal, which could have happened to a German aircraft on that 24th March 1968.

On February 13th, and following the guideline given by the head of the French delegation at Cinceastlant, the same request was forwarded to Lord Robertson, General Secretary of the OTAN.

No answer was received despite a second letter sent on July 19th.

The same day, a letter was sent to the Chief Operating Officer at Aer Lingus (at the present time), requesting for a possible identification, and, if successful, a meeting with a mechanic who was observed working in the rear part of the St. Phelim, at Manchester, the day before the accident.

The Aer Lingus Chief Operating Officer answered that such identification was no more possible now.

The same request was then forwarded to the Chief Executive of Manchester Airport. A meeting was accepted to be held on April 9th 2001, during the Team's mission in UK, in case of any information could be made available. Unfortunately, nothing had been archived, and no identification was possible. The meeting was then cancelled.

Around end of March a new request to meet the Rolls-Royce and Lucas representatives was presented to the AAIB, together with an amended list of questions. A meeting was planned for April 10th. But again, this meeting was cancelled on April 9th by Rolls-Royce.

12. Mission in the UK from April 3, to April 10

- 12.1 The first aim of this mission was to meet the MOD representatives, and to visit the ranges of the Welsh Coast.

The meeting took place at the Foreign Affairs building on April 4th, 2001, with:-

- Mr. John Cato, Naval Historical Branch
- Mr. Chris Page, Naval Historical Branch
- Mr. Paul Beaven, Army Historical Branch
- Mr. J. Cox, RAF Historical Branch
- Mrs. Shuna Mayes, Sec., HSF, MOD
- Mr. Alan Smith, DERA
- Mr. D. Brett, FCO
- Mrs. C. Mayes accepted to work as focal point.....

All the questions, which were asked, have been answered: **refer Annex B** of this report where extracts of the official answers are presented.

The Team's experts then visited the Aberporth range, during the visit, the Llandbedr functioning were also presented.

At this occasion, the Head of Aberporth in 1968, had been convened.

All questions were answered, and the documents, which had been declassified, were presented. However, it is to noted that the procedure documents, which were established in 1968, are no longer existing, but similar procedures are now valid, and were commented.

- 12.2 The Team then paid a visit to (retired) Commander Sherman who was the Commanding Officer of the "Penelope". This Officer was involved only in the first part of the "Search and Rescue" phase. He confirmed what was stated in the various reports issued by the Royal Navy. He reported also that the UK weapons' involvement was not mentioned before the accident report be disclosed in 1970.

The Team Members intended also to meet Commander Messervy. Unfortunately, he died at the beginning of year 2001.

- 12.3 Another important interview was given by Mr. D.E. Glaser. He was the pilot who succeeded in recovering a Viscount from a spin. He described precisely this incident, which remained one of the key events in his life.

An observation of interest, in particular when it is made by a test pilot of such large experience, refers to the initial conditions of a spin: according to Mr. Glaser, when a spin is not initiated by a stall, a dysfunctioning of the engines/propellers is mandatory.

He highlighted also the very high degree of stresses suffered during the spin, in particular the transverse ones. The recovery needed to increase power, although descending almost vertically, in order to restore the airflow around the tailplanes.

- 12.4 The Team then visited the Brooklands Museum, where a Viscount is still displayed. The information reported by Mr. C. Torkington allowed him to prepare the visit. The identified weak points in the structure have been observed. The danger presented by flapping doors or separated doors could be better assessed.

- 12.5 The meeting with the Manchester Airport responsables aimed at identifying the mechanics that worked on the St. Phelim the day before the accident, was cancelled at the request of the Manchester airport authorities.

12.6 The meeting with Rolls-Royce and Lucas representatives was also cancelled at the request of Rolls-Royce. Further attempts to meet were all unsuccessful.

13. From April 10, to May 21, 2001

This period was dedicated to the follow-on of the UK visits, and to the preparation of the next interviews in Ireland.

With respect to the follow-on:-

- Providing all clarifications requested by the UK departments tasked to supply answers to the Team's questions;
- assessing on the cancellations of the meetings with Rolls-Royce and Manchester Airport.

With respect to the next interviews, it was considered mandatory to meet again some Aer Lingus representatives, in particular those Captains having experienced the Viscount.

Another point considered of importance was to try to get a cross-confirmation of the key statements, i.e. the first dive over Old Parish, the aircraft attitude between Old Parish and Tory Hill, the second dive over Kennedy Arboretum, and the aircraft attitude over Ballykally. The Team did not focus their effort on the flight reconstruction over Fethard and after since this was already worked on in depth by the 1968 Investigation Commission.

A written progress report was generated for the attention of the Assistant Secretary General- Aviation, on April 25th, 2001.

14. Mission in Ireland from May 22, to may 25, 2001

That mission was aimed at identifying and, when possible, interviewing new witnesses; at observing during a "replay flight", the possible reasons for which EI-AOM followed its track, and at an oral presentation and subsequent discussion about the progress of the study with the Assistant Secretary General- Aviation.

On May 22nd, the morning was totally dedicated to the examination of the documentation gathered by the Waterford deputy. As a consequence of this review, two "new" witnesses have been identified in the area of Tramore and Corbally More. These witnesses accepted to be interviewed on the 24th.

Two other possible witnesses were not identified but their existence was known and the Team asked to trace them. This was accepted.

The afternoon was dedicated to assess on the progress and the future of the study with the Assistant Secretary General, Aviation.

On May 23rd, the Team met:-

- An engineer who belonged to the Department of Transportation in 1968, for avionic matters. He reported on the problems which were identified on the auto-pilot
- The widow of the Captain of the St. Phelim, and her son
- The secretary of the Aer Lingus Committee of Inquiry in 1968

A part of the afternoon was dedicated to the reading of the Aer Lingus documentation related to the accident, which was archived in the Air Safety Department.

On May 24th, the Team flew to the South of Ireland. At the Crossroads of Corbally More, an eye-witness was interviewed, on the exact site from where he observed the Viscount in 1968.

At Tramore, his cousin was also interviewed.

During the afternoon, the Team Members went back to Dublin, via an exact “Replay Flight” from Old Parish to Tuskar. The aim of such a flight was to better understand, till which level the aircraft was controllable, and which opportunities for a ditching or a forced landing could have occurred between Old Parish and Tuskar.

After having assessed from a point of view from outside the Viscount, it was decided to make the same type of assessment from an outside point of view; was it possible for the key witnesses to see what they reported at the distance they were from the Viscount; what accuracy they had in the description of the Viscount track or their appreciation of its altitude. It was then decided to ask the Irish Air Corps for such a “simulation flight”.

The morning of May 25th, was dedicated to a complementary reading session of the Aer Lingus archives.

Since there was no answer from Rolls-Royce for a meeting with the Team, they decided to interview a consultant, ex-Rolls-Royce employee.

15. From May 25, to June 5, 2001

This period was dedicated to ask for further information on an accident presenting a high level of similarity with EI-AOM; the accident of the Viscount HK 105, from Aerolines TAO, of Columbia. Reports were requested from the Colombia AAIU and from the UK AAIB. This report was received some days later.

In the same time, a parallel action was conducted via the Irish AAIU and the UK AAIB to obtain a meeting with Rolls-Royce and Lucas representatives. An interview was requested and accepted from the engine (DART) expert, to take place at Glasgow on June 5th.

16. Mission to Glasgow on June 5th, 2001

The interview at Glasgow was of interest since the opinion of the Vicker's test pilot was confirmed by the engine expert.

Several questions had to be looked in more depth, but one point which could apply to the EI-AOM accident process could not be denied; the sensitivity of the engine/propeller system to the negative accelerations, even if these negative accelerations were applied for short periods (in the range of one to two seconds).

17. Mission to Ireland from June 8, to June 9, 2001

That short mission, of only one Team Member, (Mr. Pech), was aimed at obtaining more precise statements from the controller on duty until 10.55 (GMT) that Sunday March 24th 1968.

Indeed, the Team was facing a major inconsistency with respect to the Viscount positioning at minutes 10.51 and 10.57 minutes between what was reported by the witnesses and what was recorded on the Shannon radio-comms transcript.

The interview, which is described in the study report, could not suppress the inconsistency.

18. From June 9, to June 18, 2001

This period was dedicated to generating the first draft of the study report. The complete team met in Paris for a week and went in Ireland for presenting this work and attending the last "demonstration flight", performed by the Irish Air Corps, on a CASA aircraft, in the vicinity of Tory Hill, in the presence of an eye-witness in 1968.

19. Mission to Ireland from June 19, to June 21, 2001

Since it was mandatory for the validity of the test flight that the visibility be good, the meteo conditions were of prime importance. Indeed, the flight, which was planned to take place on June 19th, had to be postponed to June 21.

Consequently, the complete days of June 19th and 20th, were dedicated to presenting to the AAIU the major conclusions that the Team drew from their study. A former Aer Lingus captain, friend of Mr. B. O'Beirne, listened to the record of the distress message of EI-AOM, and considered it was the voice of the Captain who emitted the message.

The demo flight took place on June 21st. It was quite probate, and it was possible to conclude that:-

- Under visibility conditions which were not so good as on March 24th, 1968, and using an aircraft, the Casa, which was much smaller than the Viscount, the Casa was quite visible from Tramore to Brownstown Head, then disappeared for quite some time before re-appearing abeam Waterford. The track of EI-AOM could be reconstructed with great precision.

- The climbing phase was also very conclusive, since the aircraft remained quite visible during the entire climbing phase. At the end of the climbing phase, the aircraft was between 5,000 to 7000 feet altitude, in conformity with what was observed at the time by the young boy.
- When the aircraft (Casa) descended on our instruction, spiralling at high descent rate, it was quite easy to identify that it was spiralling by right turns. Consequently, the statements of the witnesses, even if the distances from which they had observed the Viscount seemed very far, could be considered as reliable enough to support a realistic flight reconstruction.

20. From June 22, to August 22, 2001

The period between June 22nd, and July 3rd, was dedicated to finalising the draft Nr. 1 report, which was delivered to the Assistant Secretary General- Aviation, on July 3rd, 2001.

The official answers from UK (with the exception of the Historical Branch of the Royal Navy) arrived on July 4th. Thus allowing for the generation of the second volume of the report, focussed on the British involvement.

The first batch of comments from the AAIU was discussed on July 18th, the Irish party requested that a single report be dedicated to “shed further light” on the global problem, not dissociating the UK involvement aspect from the other ones.

In addition, they requested that the Final Report be more detailed, in itself and not through annexes. In parallel, the extracts relevant to each of the manufacturers; BAe, Rolls-Royce, Lucas and Dowty were mailed to them for comments, to be provided to the Team before September 15th.

The cover letter addressed to Rolls-Royce and Lucas through the AAIB proposed that Rolls-Royce and Lucas meet the team at the occasion of these comments.

All addressees answered and sent their comments with the exception of Rolls-Royce who did not answer, nor accepted any meeting. The manufacturers, in conclusion of their comments requested to be provided with a complete study report- when available- for final comments.

In addition to working on these Irish comments, it appeared that some questions related to the P.R.O. functioning and archiving were not exhaustively answered. The Team asked for a meeting with the P.R.O. representatives. This was accepted and organised to take place on August 23rd, at Kew Gardens.

Since the AAIU transmitted to the Team a letter from a relative stating that he had reliable information about a “mid-air collision on the 24th March 1968”, the Team got in touch with him and a meeting was organised on August 24th, at Bristol Airport.

Since the study entered its final phase, the addressees to whom questions had been asked, and who did not answer, were questioned again; the NATO Secretary General, the Luftwaffe and the Royal Navy Historical Branch.

21. Mission in the UK on August 23rd, and 24th, 2001

On August 23rd, the Team members met Mr. Simpson, Director of Government Corporate Servicing Archiving at the P.R.O., and Mr. Twigg. All pending questions were then answered, and official written confirmations were promised. These documents were received on September 10th, 2001.

On August 24th, the Team Members met a relative and his aeronautical advisor, at the Bristol airport. A fruitful discussion took place, each one explaining to the other the reasons on which were based their conviction. It was not possible for the Team to disclose the full contents of their study, but reciprocal respect was obtained.

22. From August 25 to August 28, 2001

In this final stage, the Team had to deal with a difficult inconsistency, with respect to the position of the Viscount between 10.51 and 10.58. This inconsistency led to question the validity of the Shannon radio-comms transcript.

In order to better assessing on the aeronautical aspects of this matter, another series of interviews was decided, to be organised during a mission in Ireland from August 28th to August 30th.

In addition, some complementary information was requested from the Irish Air Corps to sustain the Team's assessment of one of the mid-air collision scenarios.

23. Mission in Ireland from August 28 to 30, 2001

On August 28th, the Team met a key responsible in the Investigation Commission in 1968. He could describe precisely which actions had been performed by the Commission with respect to the Shannon radio-comms transcript, and he confirmed that the information contained in this transcript had been used as the basis of the track reconstruction, and consequently, that all statements given by the witnesses located West of Waterford were ignored, since considered irrelevant.

On August 29th, the Team paid a visit to the Irish Aviation Authority. The problem was presented. The head of IAA confirmed in which high level of regard he held the controllers the Team had interviewed, and he stated that he had no useful comment helping to solve the problem, but that the Team had to feel free to conclude in every respect they thought wise.

On August 30th, the Team met one of the pilots of the Dove during the first SAR mission performed by the Irish Air Corps on March 24th, 1968. He answered the questions raised by the involved relatives.

On the same day, the Team met also an engineer, who belonged to the 1968 Investigation Commission. He made clearer the way the Commission worked with the manufacturers' representatives. He commented also on some of the conclusions of the 1970 Accident Report.

At last, The Team met Captain Reynolds, whose inputs were appreciated by the Team. He accepted that some of his contributions be included in the study report, as his identified contribution to the Team's work.

24. From August 31 to September 11, 2001

This period was used by the Team to organise and prepare the last interviews of the Shannon ATC Controllers on duty on March 24th, 1968, who were still alive.

In parallel, the Team requested also an interview from an Aer Lingus major responsible. Indeed, one of his friends at the University had answered to the call for witnesses emitted in September 2000, stating that this engineer had interesting views on technical aspects of the Viscount structure. When reviewing the documentation archived in the Flight Safety Department of Aer Lingus, the Team noted that this person had been appointed as "Engineering Controller", in the Committee of Inquiry. In addition, several documents dealing with maintenance procedures had been signed by him. At last, he was reported to the Team as being, at the time of the accident, the head of the Maintenance Department of Aer Lingus.

These were the reasons for which the Team requested to meet him, although they were informed that he did not wish to deal again with this matter. A first request, presented by phone was unsuccessful. The request was confirmed by letter dated, September 6th, 2001. In his answer, he re-oriented the Team for their interview, since, in 1968, he was not head of the Maintenance Department, but head of one of the two branches of the Air Lingus Engineering Department. The head of the Maintenance Department was now dead, but his second in command was still alive. Consequently, the Team requested to interview the second in command of the Maintenance Department.

25. Mission to Cork and Shannon on September 12, 2001

This mission was entirely focussed on the Shannon radio-comms problem. The controllers were again interviewed, and the maximum possible details were requested.

The Team very much appreciated their attitude, which could not have been better, despite the difficulty of some questions related to possible errors or deviations in the functioning of the service.

Some details have been identified, which may help in a further more global assessment, but when dealing only with aeronautical aspects the basic inconsistency between what was seen by the witnesses and what was transcribed from the tape could not be solved.

26. From September 13 to October 2, 2001

That period was fully dedicated to the generation of Draft 2 of the Study Report, describing in detail all aspects, including all possible UK involvements, in a single exhaustive report.

On September 20th, the Team visited the French P.R.O. at Fontainebleau, with the aim of identifying all technical aspects, which could complement the information on the systems of the Viscount.

Another point, was also matter of interest: in 1968, the French Company Air Inter, lost a Caravelle in the South of Nice. There was also a “rumour” that the aircraft could have collided with a missile fired from a navy test range located South of Toulon. The French investigators succeeded in recovering the most essential parts of the aircraft by more than 2,000 meters depth. Their conclusion was that the accident was caused by the power regulator on the water heater, which burnt in the toilets. The investigation methods were different from those used by the Irish Commission. However, no advantage can be obtained, today, from that comparison.

The Draft 2, was delivered to the Assistant Secretary General-Aviation, on September 29th, 2001. Since, at that time, the Assistant Secretary General-Aviation, was very busy with the consequences of the Terrorist attack on the World Trade Center, the mission to Dublin was postponed until October 3rd, 2001.

27. Mission to Dublin, October 3 and 4, 2001

This mission was dedicated to the presentation and subsequent comments of the Draft 2. In addition, the 1968 Maintenance second in command had accepted to meet the Team Members on the 3rd, end of the afternoon.

The Aer Lingus Maintenance organization, and the major problems encountered for the maintenance of the Viscount were exposed by him. The Team also received the relevant extract of the “Daily movement log”, of Baldonnel; this document is of interest to identify the IAC flights on that day (24/03/68), and the flights performed during the next month by the Provost damaged in June 1968.

28. From October 5 to October 22, 2001

The beginning of the period was dedicated to the finalization of the report, under Draft 3. This issue, before the definitive Final Report was delivered on October 22nd.

The readability and the understandability were checked by Irish experts, and their comments forwarded to the Team.

After new digging into their files, the AAIU could provide the Team with further documentation archived by the Investigation Commission, but nothing allowed to solve the inconsistency between the statements of the ground witnesses and the R/T transcripts.

The finalisation of the Study Report (Volume 1), its Appendices and Annexes (Volume II, Tome 1 and 2) and a Summary Report (Volume III) occupied the Team up to November 27th, 2001.

Annex B: Questions to and Answers from UK Authorities

Ba: Questions to and Answers from: UK CAA

4-OCT. '00 (WED) 10:53 CAA SAFETY DATA DEPARTMENT FAX:01293 573972 P.001

CIVIL AVIATION AUTHORITY
SAFETY REGULATION GROUP, AVIATION HOUSE, GATWICK



FACSIMILE COVER LETTER
FAX NO: 01293 573972

TO: Name: Mr M Pech & Mr Y Lemercier Position: Company: EXP' AIR Fax No:00 33 1 30 15 09 80	FROM: SAFETY DATA UNIT Name: Garry Bisshopp Telephone: 01293 - 573232 e-mail garry.bisshopp@srg.caa.co.uk Date: 4 October 2000	Total number of pages (including cover sheet)	4
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MESSAGE:

Following our meeting on Monday I have written up the questions that you asked. I have amended the wording in some of the questions and would be grateful if you would let me know if the reflect your intentions.

Regards

4 OCT. 2000

Summary of questions posed by Enquiry Team

1. What were the modifications made to the V700 which resulted in the V800?
2. What was the certification basis for the V803? (BCARs)
3. What was the certified envelope with relation to:
 - Speed
 - Altitude
 - Weight and balance
 - Load factors
 - Maximum take off weight authorised
 - Speed limits
 - Pressurisation limits (cabin pressure etc.)
4. What were the requirements at the time relating to flutter?
5. The loads on the controls are of interest;
 - What were the stick force requirements.
 - What were the maximum loads applied at the control column?
 - What was the state of the art at the time regarding the magnitude of the forces which could be coped with?
 - Effect of engine failure
6. Is it possible to control the aircraft with only half the elevators available, i.e. because one side of the aircraft had been damaged through an impact?
7. Was any calculation or specific test being performed regarding the effect of icing on the engine or tail?
8. Were any tests done in relation to bird strikes?
9. What was the role of the CAA's predecessor (the regulator at the time) in the follow up of the configuration of any aircraft, i.e. any modifications applied either in the factory or in service?
10. What was the certification basis for the following major modifications?
 - Forward pressure bulkhead
 - Catenary floor
 - Skin to frame joints
 - Strengthening the fuselage, tailplane and fin areas.
11. What was the exact configuration of the accident aircraft, i.e. the aircraft which left Scottish Ltd.,
 - when produced by the manufacturer
 - when purchased by Aer Lingus from KLM after having been subject to a special inspection for corrosion and fatigue in Scottish Aviation Ltd.

12. What was the UK CAA's (or its predecessor's) involvement with a UK manufacturer or a UK maintenance or repair organisation in which the aircraft was being worked on, i.e. who was responsible for the aircraft configuration when it left Scottish Aviation Ltd?
13. What relationship if any was there between the UK regulatory body and the receiving national regulatory body when the aircraft went to KLM? Would there have been any formal mechanism between national regulators for the exchange or sharing of information?
14. Was the CAA or its predecessor in discussion with Vickers in 1968 regarding the maintenance plan?
15. What was the process for reporting service difficulties prior to 1976 (introduction of MOR) particularly those noted during the first years of service of the aircraft? Were there any problems relating to design or maintenance? Was information from operators reported back to an office body in the UK or only to the manufacturer?
16. With reference to complaints by operators about problems with cracks, corrosion, fatigue, leakage around doors giving rise to pressure setting difficulties etc., what was the means of informing CAA of areas of concern? Were there any problems which would, if noted by the regulator, have put the airworthiness of the aircraft into question?
17. Is it possible that a 'relaxed' maintenance plan in the field might have been adopted by an operator which did not sufficiently cover the links between systems and flight controls/manoeuvrability? If the manufacturer's maintenance plan was amended, would change(s) have had to be approved? If so, by whom?
18. Did the CAA ever carry out or request to be carried out a design or certification review of the aircraft? If so was this to address particular problems?
19. What involvement did the CAA or its predecessors have in overseas accident investigations? What was the procedure for acting on safety recommendations in those days? Did reports contain recommendations and/or lists of possible causal factors? Would they have been notified to the national regulator?
20. Did the UK regulator have contact/relationship with the FAA with respect to the US Viscour accident?
21. As maintenance has been clearly indicated as an issue in the Irish Review, was the CAA or predecessor contacted with regard to the investigation in 1968 or the review in 1999? What questions were put to the certifying authority with regard to the airworthiness of the aircraft?
22. What checks would have been required after operations reaching Vmo?
23. What checks were performed before the aircraft flew on the day of the accident? What rules were in force at the time regarding checks to be carried out if there had been minor impacts etc? Was the aircraft delayed at Manchester for 2 hours while work was going on and why did it fly at a low level to Cork?
25. Are the following considered to be possible causal factors of the accident:
 - abnormal reaction to flight controls;
 - structural failure for some reason;
 - excessive engine drag for some reason?

SAFETY REGULATION OFFICE

26. Is it considered that the aircraft may have made a partial recovery?
27. With regard to the fuel system, there are references to refuelling and defuelling which are confusing - was the partially open valve (described as 'defuel valve') really defuel? Was it mixed refuelling/defuelling?
28. Could modifications made at Scottish Ltd have affected the foregoing system(s)?
29. Does the CAA have any record in any occurrences of a 'gelatinous white product' - described in the examination of the wreckage as being observed in the low pressure fuel pump and the No. 1 engine?
30. Has the CAA noted a significant correlation between a loss of control and engine throttle reduction in a change of configuration from climb to cruise and from cruise to descent?



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5 octobre 2000
DF218.00

Mr Garry Bisshopp
Civil Aviation Authority
Safety Regulation Group,
Aviation House,
Gatwick

Dear Garry,

Thank you for your fax dated October 4, 2000, listing all the questions raised during our meeting.

We agree with all of them.

For clarification, we would like to add the following :

Question 6 : after "...impact ?", add : "What is the relative efficiency of the A/C different attitude controls, including engines ?"

Question 11 : after "...special inspection", add : "in particular".

Question 12 : after "...Scottish Aviation Ltd", add : "and where such configuration data were archived ? Are they still existing ?"

Question 27 : after "... (described as 'de-fuel valve')", add : "only a de-fuel valve or a fuel/de-fuel valve ? Was the same material item including the de-fuel cock and the fuel/de-fuel valve, or not ?" and cancel "really de-fuel ? Was it a mixed re-fuelling/de-fuelling ?"

Question 29 : after "...low pressure pump", replace "and" by "of".

Many thanks to yourself and your staff for your efficient cooperation.

Best regards
Yves Lemerrier
Manuel Pech




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CIVIL AVIATION
AUTHORITY

Our Ref: 9/66/70/12

2 November 2000

Messrs Y Lemerrier and M Pech
EXP'AIR S.A.R.L.
Cabinet d' Expertise Aeronautique et Spatiale
36 Rue Alphonse Pallu
78110 Le Vesinet
FRANCE

Dear Sirs,

VISCOUNT EI-AOM ENQUIRY

We are able to answer some of your questions and our response is given in accordance with the terms of ICAO Annex 13:

1. The modifications that were introduced to the V700 to produce the V800 (802 actually) are detailed in Airworthiness Approval Note (AAN) 3243 (copy attached).
2. The type 803 was introduced for KLM under AAN 4182 (copy attached) and met the special requirements of the Dutch RLD. The original certification basis for the Viscount was '1951 British Civil Airworthiness Requirements' as noted in the AAN 3243. These were BCAR Section D issue 2; BCAR Section D was introduced in 1948. This AAN refers to Design Certificate Ref No CD/BS/1104 dated 12 December 1956.
3. The certified envelope with all limitations is defined in the Flight Manual for the Viscount Series 803 document reference VS.1.9.
4. The requirements relating to flutter are set out in BCAR Section D 3-9 dated 1 January 1948, which has never been superseded. BCAR D2-10 para 8 deals with handling aspects, but as this is currently dated 1981, further research would be necessary to determine the status of the requirements in 1951.
5. Control forces are dealt with in the following parts of BCAR Section D:
D2-6, paras 2, 3.3, and 3.6 dated 1971
D4-2 Appendix No 3 para 2 dated 1956

Further research would be necessary to determine the status of the requirements in 1951.

6. The possibility of controlling the aircraft with only half of the elevators available is best answered by the Design Authority, now BAE Systems. Theoretically, it may be possible to control the aircraft in pitch with only one elevator, but the ability to flare to land would be compromised.

7. Icing requirements are established in BCAR D4-7. This is currently dated 1971 and further research would be necessary to determine the status of the requirements in 1951. Paragraph 2.1.1 requires that 'it shall be shown that the stability and control balance characteristics of the aeroplane will not be critically affected by a moderate accretion of ice.' The propellers and engines (were certified) were certificated to the requirements applicable at that time. These did not include requirements applicable to icing and therefore no certification testing was required.
8. Bird strike protection is covered in BCAR D4-1 para 12 (and Appendix 3) and D4-2 para 3.2.2. These are dated 1976, and further research would be necessary to determine the status of the requirements in 1951. The propellers and engines were certificated to the requirements applicable at that time. These did not include requirements applicable to bird strikes and therefore no certification testing was required.
9. The predecessor of the CAA, the Air Registration Board (ARB), will have classified modifications and approved those modifications classified as 'Major' by AAN.
10. There do not appear to be any AANs approving the modifications listed. It is likely, however, that the certification basis for the modifications would have been the same as the original certification basis.
11. The aircraft would probably have been manufactured to a standard specified in AAN 4182. We have no record of the inspections carried out by Scottish Aviation Ltd on behalf of Aer Lingus.
12. The work on the aircraft would have been in accordance with the regulations appertaining at the time in the State of Registration. The aircraft was not on the UK register at the time and therefore the UK Authority would not have been involved unless specifically requested by the Irish Authority. We do not have any record of any such request being made. The Irish Authority would therefore have been responsible for the configuration of the aircraft at the time.
13. The original aircraft certification included special requirements of the Dutch RLD as detailed in AAN 4182. No separate validations of the engines or propellers were carried out by the Dutch RLD, both were accepted as part of the aircraft.
14. The UK Authority would have been involved with the UK operator or maintenance organisation in approving the maintenance plan and not necessarily with the manufacturer.
15. The Mandatory Occurrence Reporting scheme was introduced in 1976 to ensure that incidents endangering the safety of flight would be reported. Prior to this some 'voluntary' reports from airlines were sent to the then Board of Trade and defect reports were sent to the Air Registration Board. We do not have details of these reporting schemes.
16. See 15 above. Airworthiness problems would have resulted in the issue of Manufacturers Service Bulletins, amendments to the maintenance schedule or, for more serious problems, the issue of Airworthiness Directives.
17. The aircraft was on the Irish Register and this question should be directed to Aer Lingus and the Irish CAA.
18. A review of our 'office' files suggests that we have not conducted a post certification design review of the Viscount. We have numerous files in archive which have not been reviewed.
19. The procedure would have been detailed in the issue of ICAO Annex 13 of the time.

20. Contact was maintained as necessary with the FAA to satisfy our continued airworthiness responsibilities as a State of Design in accordance with ICAO Annex 8.
21. The CAA was not contacted during the review in 1999. There is no documentary evidence to hand to answer about 1968.
22. As detailed in the maintenance manual.
23. We have no details on the maintenance carried out to the aircraft whilst at Manchester. The aircraft was operating on the Irish register at the time and would have been maintained to Irish regulations.
24. No Q 24
25. We have no evidence to support any particular causal factor. All are possible.
26. We have no evidence to support such a suggestion.
27. This question best directed at BAE Systems.
28. We have no details of the work carried out by Scottish Aviation.
29. We have three occurrences on the CAA Occurrence Database; one involving jet fuel and two AVGAS. (Copies attached).

Fuel Filter clogging occurred on a number of Viscount aircraft operating out of Luton airport in 1959. This coincided with a change to the fuel supplies, the supply changing from fuel produced with acid treatment to fuel produced by copper sweetening. Shortfalls in the process could result in copper carryover and Metal Deactivator Additive was added to passivate any residual copper.

MDAs used at that time were ethane diamine or propane diamine. Analysis of the filter deposits revealed them to be a copper chelate compound of the ethylene diamine deactivator. This reacts with copper based alloys (which results in a black sticky substance) and carbon dioxide (which results in a clear to white coloured sticky substance). The solution was to withdraw use of ethane diamine and to limit the copper content carryover from the copper sweetening process. This was resolved well before 1968.

A similar problem emerged recently in Australia with Avgas.

Yours sincerely



Garry Bisshopp
Safety Data Unit

Annex Bb: Questions to and Answers from DERA

Note: It is of interest to compare the aspect of the damages caused by the military load of a missile warhead (pages 10, 11,12 and 13) with the aspect of the fin of EI-AOM after its recovery.

Aer Lingus Viscount – Response to French Questions from DERA

1. Introduction

1.1 On the 5th April 2001 DERA had a meeting with the French Investigation Team at DERA Aberporth. At this meeting LeMercier asked for responses to their questions within one month but also indicated that the original questions would need to be clarified/changed and implied that this would be done before the end of the following week. A new list of questions was raised and sent to MoD, fax dated 18th April 2001. MoD replied that the questions were still not targeted or specific enough and that the standard of English still made it difficult to interpret. The reply, fax dated 15th May 2001, still left some questions unclear and open to interpretation. We have therefore, tried to answer the new questions plus any clarification, as best we could.

1.2 At this position, DERA must make the following points:

- From DERA's point of view anything which took place at Aberporth after 24th March 1968, is irrelevant in the Aer Lingus Viscount context, although we have answered the 2question to the best of our knowledge. This event is now over 33 years, old and all information has to be obtained from limited records.
- In fact we would claim that only things which happened on the day, 24th March 1968, have any significance and Aberporth and Llanbedr were closed on that day. There were no trials.
- The Information contained here is limited to Aberporth, Llanbedr and, because of its use of Llanbedr- based targets, Tycroes only. It is believed that with the exception of blowpipe and its derivatives, all anti-aircraft weapons in development and/or service in the UK during the period 1965-70 are covered.
- Some of the questions have obviously lost something in the translation, which is why clarifications were desirable. Where we had difficulty in interpreting the question, we have drawn attention to the question in the following paragraphs.

2. Question 1 and Answers

1. **In order to identify manned/unmanned aircraft which could be flying over Tuskar Rock on Sunday 24th March 1968:**
 - 1.1 **Please provide a table giving type, mission and quantified short and medium range of Air to Air and Surface to Air missiles, which were in development or in operation during the period 1965-1970. “Quantified” is to be understood as: Ranges given in a numeric form.**
 - 1.2 **Provide the type of units (aircraft, ship) that were fitted with those operational missiles.**
 - 1.3 **Provide the key dates of the development process, in particular development testing, of those missiles/drones being in development or in major modification process in the beginning of 1968 (in particular, the Stiletto program). Clarification: “Beginning of 1968” means: From January 1st. 1968 to end of April 1968.**
 - 1.4 **Are there any records in UK about a possible presence in the Irish Sea of a Soviet surveillance aircraft, by March 24th 1968?**

2.1 With reference to questions Q 1.1: **“Please provide a table giving type, mission and quantified short and medium range of Air to Air and Surface to Air missiles which were in development or in operation during the period 1965-1970”.** Clarification: *“Quantified” is to be understood as: Ranges given in a numeric form”.*

We do not understand the meaning of *“mission”* in this question. We also have a problem in dividing the missile types into the requested medium and short-range categories.

This would be a very subjective decision and anyway it is all relative. The answers below have therefore not been divided into these range categories and leave the reader to decide the categories. If the French Investigators are after the weapon’s maximum range then, as we are not experts in this field, we are not in a position to quote this information and can only suggest “Janes” as a normally good source for this sort of information.

AA = Air to Air / SA = Surface to Air

2.1.1 Missiles in operational status were:-

AA	Firestreak	1965-1970
	Red Top	1967-1970
	Sidewinder	1968-1970
	Sparrow	1968-1970
SA	Bloodhound 2	1966-1970
	Seacat	1965-1970
	Seaslug 1	1965-1970
	Seaslug 2	1967-1970
	Tigercat	1967-1970
	Thunderbird 2	1965-1970

2.1.2 **Missiles in development were:-**

AA	Red Top	1965-1967
SA	Bloodhound 2	1965-1967
	ET316/Rapier/DN181	1965-1970
	Seacat	1965-1967
	SeaDart	1965-1970
	Seaslug 2	1965-1968
	Seawolf	1970

All the above were being developed for UK forces.

2.2 With Reference to question Q1.2: **“Provide the type of units (aircraft, ship) that were fitted with those operational missiles”**. DERA’s answer is:-

Royal Navy

AA	Firestreak & Red Top	- Sea Vixen squadrons of Fleet Air Arm
	Sidewinder & Sparrow	- Phantom squadrons of the Fleet Air Arm
SA	Seacat	- Several Frigate and Destroyer classes
	Seaslug 1	- 4 DLG (Devonshire, Hampshire, Kent and London)
	Seaslug 2	2 DLG (Glamorgan and Fife)

RAF

AA	Firestreak & Red Top	- Lightning squadrons of Fighter Command
SA	Bloodhound 2	- squadrons of Fighter Command
	Tigercat	- squadrons of RAF Regiment

Army

SA	Thunderbird 2	- Heavy Air Defence Regiment of Royal Artillery
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2.3 With reference to Q1.3 **“Provide the key-dates of the development process, in particular development testing, of those missiles/drones being in development or in major modification process in the beginning of 1968 (in particular, the Stiletto program). Clarification: “Beginning of 1968” means: From January 1st, 1968 to end of April 1968”**.

We are not sure what is meant of “key-dates” (hopefully this information is given in the answer to Q1.1). The answer with respect to missiles has been restricted to Surface to Air and Air to Air, as in Q1.1. The dates are also restricted to cover the period 1965-1970, as in Q1.1.

Other missile systems and periods are not considered relevant to the Aer Lingus Investigation. The answer is:-

Aberporth – Development firings of Missiles

- Rapier (1965-70)
- Seadart (1965-70)
- Seaslug 2 (1965-68)

Llanbedr – Development flights of Drones/Targets

Jindivik (1965-70), International programme Australia/UK

Stiletto (from July 68-70), basically the US AQM-37A modified to Stiletto standard by Shorts, Belfast to suit/fit Cardigan Bay operations. Details on the important dates were given to document “STILETTO including identification Findings on Target Wing held by the Irish AAIU, June 1999” (File reference: DERA/RANGES/AIR[ABH]/4/1/06 and dated Wednesday, 25 June 1999). In this document the following significant dates, for the Stiletto programme, were established:

(a) 28th June 1968 – First air-carry

(b) 30th July 1968 – First (and in the event, only)

INERT drop – no motor fitted

(c) 2nd August 1968-First drop/firing of live, full standard/functioning

Stiletto using vehicle KC2

2.4 With reference to Q1.4 “Are there any records in UK about a possible presence in the Irish sea of a Soviet surveillance aircraft, by March 24th, 1968?”

DERA has not information or knowledge of this subject.

3. Question 2 and Answers

2. **In order to identify those sites or ships located, at that date, within the range of the previously identified aircraft centred on Tuskar Rock:**
- 2.1 **Provide a map of the sites, together with their main mission, which were operative in March 1968.** *Clarification: The question relates to those sites from which can be launched missiles or drones or any A/C carrying air to air missiles or drones whose range is large enough to attain Tuskar Rock area.*
- 2.2 **What were the “Standing Operating Procedures”, internal to Aberporth, internal to Llanbedr, and for co-ordination between both?** *Clarification: (1) “Standard Operating Procedures is to be understood with the same meaning as this sentence is used in Aberporth, as they were presented and commented during the visit. (2) “Co-ordination” refers to how the sites ensure that each was aware of the other’s activities, but also are able to contribute each one for its tasks, to the global success of the mission.*
- 2.3 **Are there records of events (provide the definition of events by rank of seriousness, showing missiles/drones escaping out of the shooter’s/launcher’s control?** *Clarification: This question is asked in order to get a written definition of what is considered as an “event” by the MoD, and, under this definition, which were the “events” experienced in the Welsh sites between 1.1.1967 and 1.12.1968.*
- 2.4 **Provide the Forces’ program of operational and training activities in the air space of Irish Sea, by end of March 1968, (in particular German Air Forces’ activities).**
- 2.5 **What were the current procedures on those military airfields or squadrons, when aircraft fired weapons out of positively controlled air zones?** *Clarification: Question Q2.5 has no geographical boundaries. Which airfields and squadrons are they referring to? Do they mean all those who were undertaking activities in the Irish Sea at the end of March 1968 as mentioned in question 2.4? Answer: Yes, question 2.5 is the complement of question 2.4 and refers to the same geographical area.*
- 2.6 **Are there records of events, in particular aircraft coming back from a mission, with damaged parts on the aircraft resulting from an in-flight collision, by March 24th?** *Clarification: Question Do they mean across the whole of the UK, or just those flying in and around the Irish Sea? Answer: The question refers to all fields or squadrons operating aircraft capable of flying near Tuskar Rock by Sunday 24th March, 1968.*
- 2.7 **How was organised, in March 1968, the co-ordination between civilian and military activities in the air space of the Irish Sea?** *Clarification: The question refers to the presentation and the discussion, which took place in Aberporth with the civil air controller and the previous head of the site, during the visit.*
- 2.8 **Which were the surveillance means operated by civilian, by military, or by both personals?** *Clarification: The question refers to the presentation and the discussion, which took place in Aberporth with the civil air controller and the previous head of the site, during the visit.*
- 2.9 **What were the NOTAMs (class I and II) issue and dissemination procedure?** *Clarification: The question refers to NOTAMs issued for activities in the dangerous zones in the English part of the Irish sea, by end of March 1968.*
- 2.10 **What were the procedures for the military authorities to inform the neighbouring countries about relevant incidents occurring in their air space along their FIR common boundary?**

- 3.1 With reference to Q2.1 **“Provide a map of the sites, together with their main mission, which were operative in March 1968.** Clarification: *The question relates to those sites from which can be launched missiles or drones or any A/C carrying air to air missiles or drones whose range is large enough to attain Tuskar Rock area.*” DERA’s part of the answer is:-

Aberporth - Testing of all missiles and drones listed above in answer to Q1.1

Llanbedr - Base for target operations (Jindivik, Meteor and Canberra/Stiletto)

Tycroes - Thunderbird 2 only, using targets flown from Llanbedr.

- 3.2 With reference to Q2.2 **“What were the “Standing Operating Procedures”, internal to Aberporth, internal to Llanbedr, and for co-ordination between both?** Clarification: *(1) “Standard Operating Procedures is to be understood with the same meaning as this sentence is used in Aberporth, as they were presented and commented during the visit. (2) “Co-ordination” refers to how the sites ensure that each was aware of the other’s activities, but also are able to contribute each one for its tasks, to the global success of the mission?” the answer is:-*

DERA has been unable to locate the orders that existed in 1968 as we would destroy old orders as they are replaced to ensure that everyone was using the current version. However, extant procedures ensure that Llanbedr do not fly unmanned targets in any area of the Aberporth Range without prior approval from Aberporth, and we believe that this was the position in 1968.

- 3.3 With reference to Q2.3 **“Are there records of events (provide the definition of events by rank of seriousness, showing missiles/drones escaping out of the shooter’s/launcher’s control?** Clarification: *This question is asked in order to get a written definition of what is considered as an “event” by the MoD, and, under this definition, which were the “events” experienced in the Welsh sites between 1.1.1967 and 1.12.1968.*” the answer is:-

Very similar questions have been answered before. The rewording has not made it any more sensible as many missiles are never in the control of the shooter/launcher once fired.

The main purpose of a Weapons Test Range is to test missiles and/or targets to ensure that they perform to their design. During test, weapon systems do not always perform to plan, but then the Range’s main role is to provide a safe environment for these tests. It is only when a situation arises where the provision of the safe environment is compromised is there a potential problem. We have therefore interpreted the “escaping out of...control” to mean, an incident where a missile, target or any resulting debris impacted on land/outside of the Range Danger Area.

Using the above definition the answer to the question is:-

“Escaping out of...control” incidents were and still are rare and therefore no records of events (number, circumstances,...) are or were ever maintained, except for the individual incident reports themselves.

Over the 2-year period, 1.1.1967 and 1.12.1968 only one “event” occurred and this was approximately 6 months after the Aer Lingus crash date. During this period over 2000 trials were attempted (completed or aborted once started). This particular incident occurred near to the Rangehead (Main Aberporth site).

Weeks are normally Monday to Friday, as indicated above. Where trials are started on one day and completed the early hours of the next, they are regarded as trials on the day they were started. Weeks which are different to the standard Monday to Friday are:-

- Week 6 includes the weekend of the 10th & 11th of February 1968
- Week 7 includes the weekend of the 17th & 18th of February 1968
- Week 15 excludes Good Friday (12th April 1968)
- Week 16 excludes Easter Monday (15th April 1968)

With reference to German activities, the following documents appeared to have covered them:

- A Memorandum of Understanding dated 19th April 1968, covered the use of the Ministry of Technology Ranges, specifically listed were Aberporth, Llanbedr, Larkhill and West Freugh.
- The 1968 trials of Seacat appear to have been undertaken against a single page agreement produced in September 1967.
- The Seacat programme of 1965 and the AS20 programme of 1967 were conducted as single, one off, exercises, which led to the production of the agreements noted above.

The only German trials involving an aircraft and using the Aberporth/Llanbedr Range during the period (1965-1970) were of the air-to-surface AS20 in 1967. These trials are therefore not included in the anti-aircraft list of weapons. The aircraft for these trials (Fiat G91s of the Luftwaffe) operated from RNAS Brawdy.

3.5 With reference to Q2.5 **“What were the current procedures on those military airfields or squadrons, when aircraft fired weapons out of positively controlled air zones?”**

Clarification: Question Q2.5 has no geographical boundaries. Which airfields and squadrons are they referring to? Do they mean all those who were undertaking activities in the Irish Sea at the end of March 1968 as mentioned in question 2.4? Answer: Yes, question 2.5 is the complement of question 2.4 and refers to the same geographical area.” DERA’s answer is:-

The only issues of DERA are potentially the civilian run airfields at Aberporth and Llanbedr, which were Ministry of Technology airfields at the time, and not military airfields. Even today they are civilian run MoD(PE) airfields. Note: Aberporth airfield is/was a small communication airfield and aircraft using that airfield were never loaded with weapons.

Trials using the Aberporth Llanbedr Danger Area(s) are in “positively controlled air zones”. The Aberporth Range authorities did not undertake weapon trials outside of its Danger Area(s) and would never allow the trial to be started, let alone the weapons to be launched, if there is/was a conceivable possibility of the weapon/target or its debris leaving the Danger Area. Therefore we never had or needed procedures to cover aircraft firing weapons out of positively controlled air zones.

3.6 With reference to Q2.6 **“Are there records of events, in particular aircraft coming back from a mission, with damaged parts on the aircraft resulting from an in-flight collision, by March 24th?”**

Clarification: Question Do they mean across the whole of the UK, or just those flying in and around the Irish Sea? Answer: The question refers to all fields or squadrons operating aircraft capable of flying near Tuskar Rock by Sunday 24th March, 1968.” DERA’s part of the answer is:

Both Aberporth and Llanbedr sites were closed on the 24th March 1968. Records confirm no flight movements of aircraft/drones/missiles etc.. on that day and therefore we have no records of the nature requested.

- 3.7 With reference to Q2.7 **“How was organised, in March 1968, the co-ordination between civilian and military activities in the air space of the Irish Sea?”** *Clarification: The question refers to the presentation and the discussion which took place in Aberporth with the civil air controller and the previous head of the site, during the visit.” the answer is:*

There are two comments DERA wish to make on the actual question:

- We can only discuss that bit of the Irish Sea Airspace that was allocated for our use, i.e. D201 et al and the airways that bounded it – GREEN 1/RED 14 and BLUE 1.
- It is worth commenting on the use of the terms ‘civil’ and ‘military’. It would appear that the French team see Aberporth’s activities as military (even though we are/were civilian manned and employed civilian air controllers). In 1968, Aberporth/Llanbedr was part of the Minister of Technology and only became part of the civilian side (Procurement Executive) of the Ministry of Defence in 1971. The co-ordination referred to has been assumed to be that between the Range and the Air Traffic Centre responsible for the airways listed above. The Air Controllers, employed at Aberporth, at the time were also Civil Servants (civilian) employed by the Board of Trade but seconded to the Ministry of Technology.

The Aberporth Range was promulgated as a ‘Permanent Danger Area, 0600-2300 hours local, Monday to Friday inclusive. Range Air Control have/had a direct line/link to the relevant sector/suite at LATCC, which had responsibility for those parts of the airways that bounded D201 etc..

It is possible that when the Range was closed, the LATCC Controllers allowed aircraft to take short cuts, route directly etc. but when the Range was active, they stuck to the air lanes and we stayed within our confines.

It is worth noting that the Aberporth Range Air Controllers are still civilian, supplied by CAA {NATS/NATCS} under contract.

- 3.8 With reference to Q2.8 **“Which were the surveillance means operated by civilian, by military, or by both personals?”** *Clarification: The question refers to the presentation and the discussion which took place in Aberporth with the civil air controller and the previous head of the site, during the visit.” the answer is:-*

As for the previous question, it is assumed that the military referred to here are the Range Air Controllers, who were, as stated, civilians, and the civilians referred to are those controlling civil air traffic.

The Range’s air surveillance asset at that time was a large, long range Marconi S300 radar. It is believed that this radar had a range of something like 200 miles radius (no known records exist with details). It was a Primary radar with no Secondary capability.

Initially, at least, the S300 was obtained for the exclusive use of the Range and it did not provide any data to the ‘civil’ NATS network that had their own radar chain and used procedural methods supported by radar.

The radar’s coverage/performance did however bring it to the attention of the ‘military’ air traffic community at large. This led to the presence of lodger units at Aberporth, firstly a sub-ATCRU of RNAS Brawdy and, by 1968, the establishment of RAF Western Radar. This was an RAF-manned unit with their own cell (separated physically from Range Air Control) with their own communications/displays and they presumably controlled/monitored the activities of RAF/RN aircraft operating within their coverage but they played NO part in the Range activities. It is believed that Western Radar had one civilian ATCO (but not one of the Aberporth Range Air Controllers) on strength, but no details are available on what his duties were.

The S300 radar was only operational when the Range was open. On Sunday the 24th March 1968, the Range was closed and therefore the radar would have been a non-operational with no operational staff present. It is always possible, but unlikely, that maintenance staff were present at the radar site on that day but after 33 years there are no known records to confirm or refute this.

- 3.9 With reference to Q2.9 **2What were the NOTAMs (class I and II) issue and dissemination procedure?** Clarification: *The question refers to NOTAMs issued for activities in the dangerous zones in the English part of the Irish sea, by end of March 1968.* the answer is:-

RAE Aberporth was listed as a “Permanent Danger Area”, with the following entry in the UK Air Pilot:- “Active 0600 to 2300 hours local, Monday to Friday inclusive with occasional notification by NOTAM outside these times”.

There were two types of NOTAMs – Class I & II

- NOTAM I – these were of a short term nature requiring a minimum of 24 hrs notice e.g. to NOTAM the Range active and were sent by teleprinter.
- NOTAM II – These were of a longer term nature and issued on a monthly basis. They no longer exist, and are now issued as supplements to the UK AIP. Individual units, like Aberporth, could not issue class II NOTAMs.

It follows that in this context, the Range only issued class I NOTAMs in respect of night (2300 to 0600 hours local) and weekend working. TELEXES were the usual mode of notification and these were sent to the Aeronautic Information Service at Heathrow, who distributed the notification to those affected using a pre-planned list.

There was and still is no need for the Range to keep copies of NOTAM notifications, therefore there are no known records of NOTAM notifications over the first 4 months of 1968. Aberporth can only deduce from the trails programme when a NTOAM must have been issued. This is not necessarily the same as when NOTAM may have been notified.

- 3.10 With reference to Q2.10 **“What were the procedures for the military authorities to inform the neighbouring countries about relevant incidents occurring in their air space along their FIR common boundary?”** DERA’s answer is:-

There were no procedures that we are aware of and none have ever been required because no incidents involving trials on the Aberporth/Llanbedr Range have occurred outside of UK air space

4 Question 3 and Answers

3 In order to answer specific questions raised by the Irish:

4.1 Among the missiles being shot in 1968, were there missiles equipped with fragmentation warheads? Are there pictures showing the effects of impacts of separated particles on a surface representative of an aircraft?

4.2 What are the rules, which allow for the presence in the official records (PRO) of reports related to every event?

4.3 How these rules applied to the Tuskar Rock event?

4.1 With reference to question 3.1, part 1 **“Among the missiles being shot in 1968, were there missiles equipped with fragmentation warheads?”** the answer is:

DERA Aberporth staff are not experts on warhead types and therefore do not know what is the definition of a fragmentation warhead. We have, therefore, only provided what information we know on this subject.

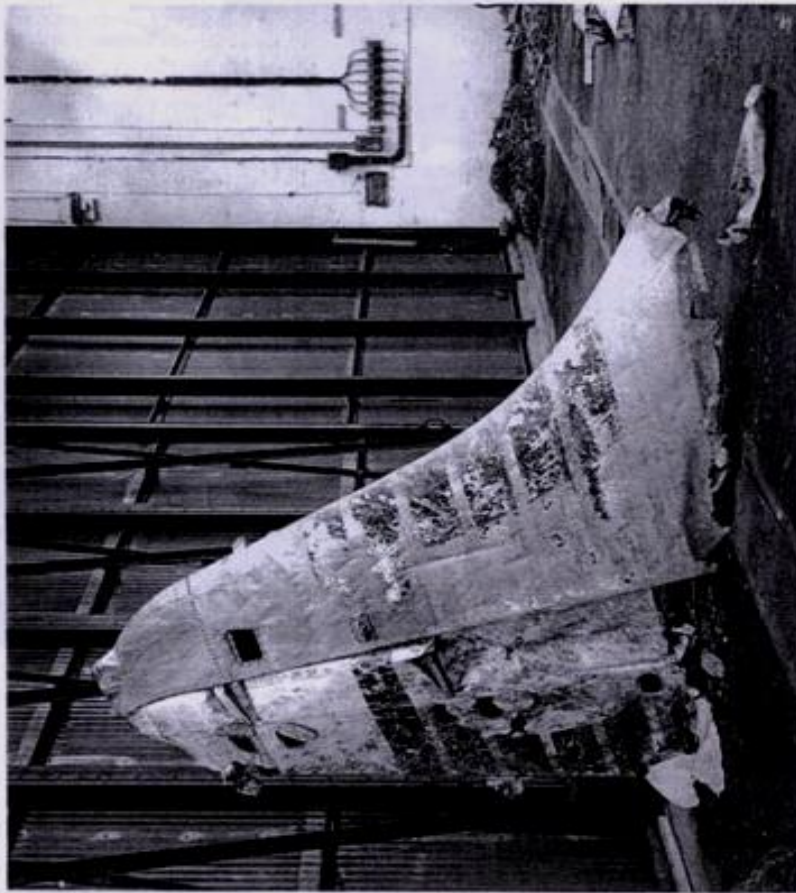
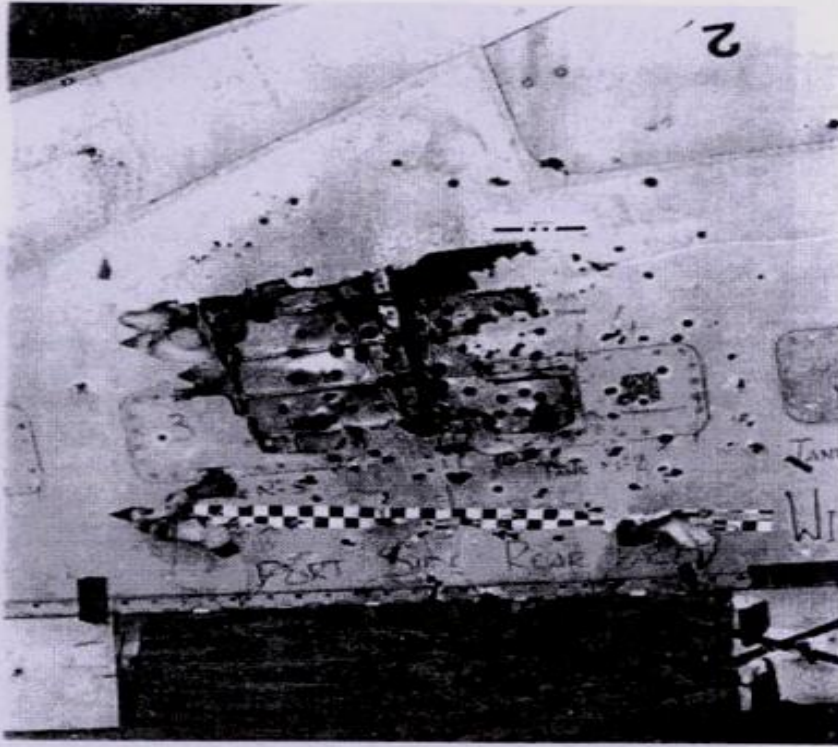
All of the operational missiles listed in the answer to question Q1.1 would, by definition, have a warhead fit. However, most of the missiles fired on the Range would have had a telemetry, ballast or flash (spotting charge) head. On occasion, the requirements of the trial required a fully functioning warhead to be fitted. Records show that in 1968, some of the firings of the following missiles did include warhead fit and operation – Bloodhound 2, Firestreak, Red Top & Seaslug 1&2.

It is also possible to categorically state that the 1968 firings of Rapier did not involve warheads.

This leaves Seacat, Seadart, Sidewinder, Sparrow and Tigercat – the information available today does not allow confirmation of the use of warheads or not.

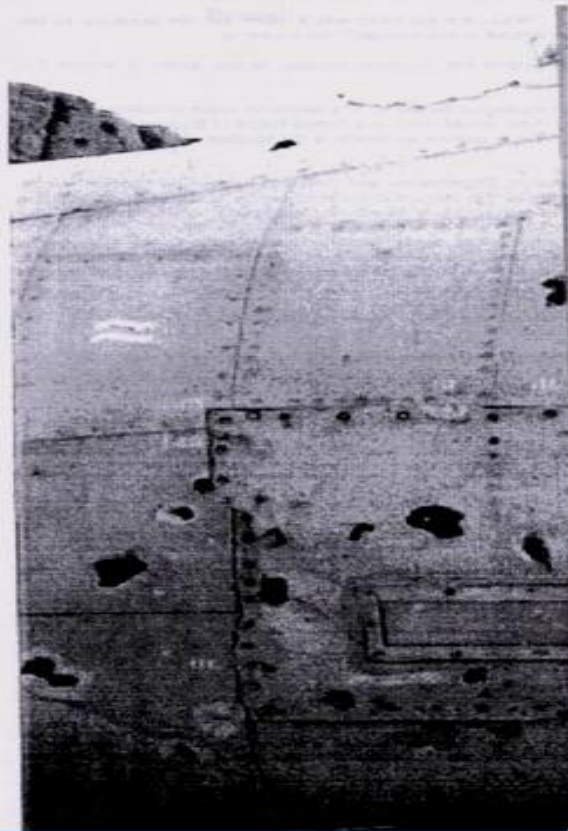
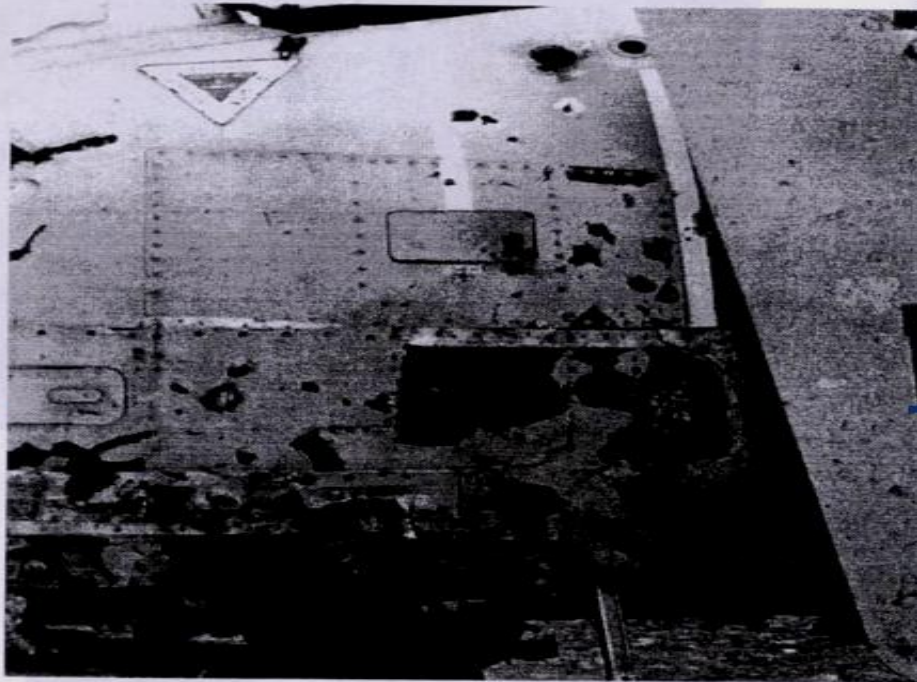
4.2 With reference to question 3.1, part 2 **“Are there pictures showing the effects of impacts of separated particles on a surface representative of an aircraft?”**

See pictures below.



View 1.

page 10 bis.



[Faint, illegible text, likely bleed-through from the reverse side of the page]

- 4.3 With reference to question 3.2 “**What are the rules, which allow for the presence in the official records (PRO) of reports related to every event?**” the answer is:-

It is assumed that events in this context has the same meaning as that given in section 3.3, response to Q2.3.

It is confirmed that an event, which resulted in the impact of a missile or target or debris therefrom on land/ outside the Range Danger Area, would result in a formal Board of Enquiry. It would also warrant the opening of a Registry file to contain all details of the incident, the Enquiry and any follow on.

In common with all UK Government Departments and their sub-formations (establishments, agencies etc), RAE Aberporth forwards files that are considered worthy of retention beyond five years to Defence Records (current repository is at Hayes, Middlesex). It is understood that Defence Records undertake periodic reviews of archived files and those worthy of ‘permanent’ retention are selected by Defence Records and sent to the PRO (but only after the last enclosure on the file has reached its 30th birthday). Individual establishments have no control of what is sent to the PRO. Neither is there any feedback from Defence Records to the originating establishment of what files they have forwarded.

Files are not sent to Defence Records exactly after 5 years, and can be retained longer, particularly, if they contain information, which is still being used.

‘Event’ files were deemed important enough to be retained/forwarded to Defence Records under the system described above. The overall procedure is described in JSP441. Further information if required can be obtained from the Defence Records HQ at Great Scotland Yard.

- 4.4 With reference to question 3.3 “**How these rules applied to the Tuskar Rock event?**”

There is/was no Aberporth or Llanbedr ‘Incident/Event’ file for the Aer Lingus Viscount crash because both Aberporth and Llanbedr were closed on that day and could not have been involved in the incident in anyway.

One file is being retained at Aberporth to assist in answering questions on the Aer Lingus Viscount Crash in 1968. This file was opened in 1968 and closed in 1974, i.e. it is not yet 30 years old in the PRO context. Had this file gone to Defence Records, we doubt that it would have been kept for this long, as it is unlikely to be deemed worthy of being sent to the PRO.

It should be noted that this file is almost exclusively devoted to the subject of identification of bits of wreckage trawled up, either during the search for the Viscount or several years later. The ‘connection’ with Aberporth being that a number of those bits included parts of several target aircraft.

Annex Bc: Question to and Answers from the Army Historical Branch

(Extract re-typed)

Army Historical Branch

LOOSE MINUTE

HB(A)/6/3

31 May 01

Sec (HSF) 1b

Copy to

DERA (BD) – Allen Smith

Hd NHB

Hd AHB (RAF)

AER LINGUS CRASH (TUSKAR ROCK) MARCH 1968: ARMY ASPECTS

References:

- A. D/Sec (HSF)/2/8 dated 18 May 01
 - B. Your LMD/Sec(HSF)/2/8 dated 20 Apr 01
 - C. Your letter D/Sec(HSF)/2/8 dated 20 Apr 01
 - D. Meeting at FCO on 4 Apr 01
1. Reference B encloses Adm Lemercier's considered questions following both the 4 April meeting (when the draft issues were gone through), and the visit of his team to Aberporth. Reference A contains some clarification.
 2. The list of questions is subtly different from the list of actions with which HB(A) came away from the meeting. Nevertheless, we are committed to providing a response related to the British Army on the following questions (the *italicised reference* relate to Adm Lemercier's questions contained in his 12 Apr letter (attached to Ref B)):-

Questions 1.1, 1.2, 2.1, 2.4, 3.2 and 3.3. The remaining questions do not relate to the Army.

Questions 1.1, 1.2 and 2.4 require a combined response (from all 3HBs plus DERA)

3. **Question 3.3.** I understand that the question of whether there were any relevant records still with MOD was addressed by Defence Records staff in 1998. However, your attention needs to be drawn to the PRO's website which is where the PRO catalogue/full index of documents is posted. The catalogue contains a reference to a collection of "registered files from RAE Aberporth" (reference **AVIA 71**). I have discussed this with MOD's Deputy Departmental Record Officer who explained that this entry in the Catalogue is misleading. It should not be there because there are no registered files from RAE Aberporth with MOD awaiting transfer to the PRO, and that reference itself is empty (i.e. it contains no files).

He explained that the reference, **AVIA 71**(and the description), was created some years ago by a previous PRO Inspecting Officer (i.e. the senior PRO official charged with liaising with MOD on the question of its records and their transfer to the PRO) in anticipation – rather than his actual knowledge or expectation – that there would be, in the fullness of time records originating with RAE Aberporth worthy or preservation at Kew, because of that was his particular method of working. There have been a number of other such "empty" references.

I mention this in the event that the existence of **AVIA 71** is brought up and it is mistakenly assumed that these "records" do actually exist. They do not. Presumably any material originating in Aberporth will either still be at the establishment or in DERA archives, which Sec(HSF) will undoubtedly have explored in the early stages of this investigation (1997/98).

4. Please let us know if you have any questions.

<signed>

P BEAVEN

Info (Exp) Analysis Branch

(formerly HB(A))

GSY401 85279MB

CHOTs:Info(Exp)-Analysis 3

(Extract ended)

ANSWERS TO ADMIRAL LEMERCIER'S QUESTIONS:
RESPONSE BY ARMY HISTORICAL BRANCH

Q1.1 To produce a list of missiles with which the British Army was equipped (including those under development) 1965-70

Historical Branches did express some reservations about this time period and said that it would be more practical to produce a list of more finely tuned to 1968 itself. I attach at Annex B, a list of those missiles, which were in service (or close to) with the British Army in the late 1960s.

Q1.2 To produce a list of the British Army units equipped with missiles in 1968.

This is attached at Annex C. I have included Light Air Defence regiments (i.e. light anti aircraft regiments) equipped with the *Bofors* anti-aircraft gun because, although not equipped with missiles per se, it is as well to be aware of this and, indeed, the *Bofors* had been previously raised in this context in view of their Anti-Aircraft role. I have also included, for completeness the very small number of relatively short range *surface to surface* missiles then coming into service with the Infantry and Royal Armoured Corps. Copies of each of the Unit Historical Records for the year 1967/68 are attached (to the hard copy of this Minute) for Adm Lemercier – *36th Heavy Air Defence Regiment, 37th Heavy Air Defence Regiment, 22nd Light Air Defence Regiment*. They are all in the public domain at the PRO, Kew. 'Air defence' artillery is anti aircraft artillery.

Q2.1 To produce a map of western Britain, from Cornwall to southern Scotland (i.e. Dumfries and Galloway) showing Army/Procurement Executive (PE) ranges/establishments in existence in March 1968.

I attach a rough location map of the ranges along the west coast of Great Britain from Kirkcudbright (Dumfries and Galloway, Scotland) down to Cornwall (inclusive). I do not know of a more professionally produced map, which shows this information. I hope that this is satisfactory. I have ignored small arms ranges, which might have been located at or near these coasts.

Q2.4 To provide the Forces' programme of operational and training activities in the air space of the Irish Sea, by the end of March 1968, (in particular the German Air Forces' activities)

As far as the British Army is concerned this effectively relates to the activities of the Trials Experimental Establishment Royal Artillery (TERA) at Ty Croes, Anglesey (North Wales), where, principally, the Army's *Thunderbird* regiment carried out its trials of that weapon.

I attach a copy of TERA's Unit Historical Record (UHR) for the year April 1967 to March 1968 (inclusive), which is wholly in the public domain at the PRO, Kew, and which may be passed to Adm Lemercier for use at his direction.

Both Annexes B and C draw on the information contained in that UHR. I am not aware of any other surviving records from TERA.

Q3.2 *To provide advice on the Public Record Office; & on MOD's records selection policy.*

I attach to the hard of this minute a note on the functions, responsibilities and legal framework of the Public Record Office, which is the national archive for the United Kingdom. It is taken from the PRO's own internet website, so is authoritative. I attach a note (Annex D) on MOD's policy with regard to the selection of records.

Q3.3 *To provide advice on how MOD's records policy related to the Tuskar Rock incident.*

As far as the British Army is concerned, this relates to the activities of the Royal Artillery air defence (i.e. Anti-Aircraft) regiments equipped with missiles (guided weapons), and the Army establishments (including ranges) on the western coasts of Great Britain, which, in 1968, were using such weapons.

Their activities in March 1968, are recorded in their respective Unit Historical Records (UHR) which every unit and establishment of the British Army is required to produce when not involved on actual military operations. The records of the regiments listed in Annex C are in the public domain at the PRO, Kew. I have re-examined them all and the results are summarised in that Annex.

Only one *Thunderbird*- equipped operational artillery regiment existed in the British Army's Order of Battle in March 1968. This was 36th Heavy Air Defence Regiment RA. This spent that month in the complicated and time consuming arrangements associated with both its move from Germany to the UK and the amalgamation with its sister regiment – 37th Heavy Air Defence Regiment, which itself was in the process of disappearing from the RA Order of Battle. 37th Regiment was effectively non-operational at this time. 36th Regiment did not fire any Thunderbirds in March 1968, as has been previously advised.

Of the 4 light air defence regiments RA then in existence, only 1 was based anywhere near the west coast of Wales (22nd Light Air Defence Regiment), and that did not fire its weapons, which were *Bofors* guns, which did not have long enough range (see Annex B). It is extremely unlikely that those regiments based in BAOR (i.e. in Germany), were brought back to the UK to practise fire and train, especially when they were perfectly adequate range facilities then in Germany.

The 3 nuclear artillery regiments (equipped with a mixture of *Honest John* Free Flight Rockets and 8 inch howitzers (i.e. guns not missiles)) were all located in Germany. None of them fired, practised or trained in the UK in March 1968.

4. I can confirm that the Government Department responsible for Aberporth in 1968, was the short lived Ministry of Technology (Mintech) (1967 to 1970). The surviving records of that Ministry are at the PRO, Kew. I have conducted a brief examination of the lists of these records. They appear to be non-military in nature, reflecting the essentially civil role of that Ministry. There appear to be no records in the Mintech papers at the PRO related to that part of it which was responsible for the design and development of military equipment (in other words, that part of Mintech which was responsible for Aberporth and similar establishments). This is not surprising, as I would expect any departmental records relating to this activity to have been transferred to the MOD when Mintech was abolished and, therefore, to have come into the MOD's own records system. Any which have survived, given that they would relate to a period which is over 30 years old, should be at the PRO in relevant MoD- related papers. As has been previously advised, I do not believe that any have survived.

Dated 31 May 01

BRITISH ARMY ARTILLERY GUIDED WEAPONS c 1960-68**i) Surface to Air**

<i>Guided Weapon</i>	<i>Dates in Service</i>	<i>Technical Details</i>	<i>Remarks</i>
<i>Thunderbird</i>	In service with British Army (artillery) service since 1958.	Thunderbird had a slant range of 40,000 to 50,000 yds. for Mk I and 81,000 yds. for MK II (=46.6 miles/75km). However, previous classified contemporary records indicate that the maximum impact range was c 25 miles/40kms for Mk II.	Surface to Air missile
<i>Rapier</i>	Not in service in 1968	From 27 Nov '67 to March 1968 the <i>Rapier</i> system was still in the pre-evaluation stage. Evaluation trial began Sep '68 at TERA Ty Croes. 21 st Joint Services Trials Evaluation Unit (JSTU) completed their training at TERA and at BAC Stevenage and Filton (both BAC sites are in southern England), in July 1967. Then moved to Australia to carry out firing trials. The 1 st firing of <i>Rapier</i> took place in Australia on 27 Nov 1967. MOD User trial started at TERA Ty Croes Nov '68.	Surface to Air missile
<i>Blowpipe</i>	Not in service in 1968	Blowpipe cell formed at TERA Ty Croes in early 1968. Fly over trial (of <i>Blowpipe</i>) took place May 1968	Surface to Air missile

ii) Surface to Surface

<i>Guided Weapon</i>	<i>Dates in Service</i>	<i>Technical Details</i>	<i>Remarks</i>
<i>Honest John</i>	British Army artillery regiments operational in 1960/61.	Nuclear artillery, which did not train, practise or fire in the UK. Range - 15 miles.	Surface to surface missile
<i>Corporal</i>	A nuclear missile, which had gone out of service in the British Army in the mid 1960s. Not in service in 1968.	When in operational service in British Army, comprised 2-guided weapons regiments based in Germany. Fired providing rounds at South Uist, Hebrides range off coast of western Scotland. Range – 75 miles.	Surface to surface missile
<i>Malkara</i>	In service with British Army 1962.	Anti-tank missile developed in Australia. Range – 2,500 yds. Deployed to RAC (i.e. armoured) regts of the British Army.	Surface to surface missile. Regimental training with this in-service guided weapon would have taken place on the Royal Armoured Corps ranges at Lulworth (Dorset) on the English Channel coast, and/or at Kirkcudbright, southern Scotland.
<i>Swingfire</i>	Entered British Army operational service in 1969 to replace <i>Malkara</i> .	Wire guided manually controlled anti-tank missile for the Royal Armoured Corps (RAC). Range – 500 to 13,125 ft. (max range – 4,000m).	Surface to surface missile. Evaluation trials of Swingfire took place at RAC ranges, Lulworth, Kirkcudbright, Germany and Australia late 1968-69.
<i>Vigilant</i>	Entered service with British Army mid 1960s.	An infantry portable anti-tank guided weapon. Range – 1,500 yds.	Surface to surface missile. Training on this missile would have taken place probably on Salisbury Plain.

Dated 31 May 01

BRITISH ARMY ARTILLERY REGIMENTS EQUIPPED WITH GUIDED WEAPONS IN MARCH 1968

-

(Including for completeness, Light Anti Aircraft Regiments equipped with *Bofors* guns and 94th Locating Regiment, which had drones.)

<i>Regiment</i>	<i>Location in March 1968</i>	<i>Equipment (where known)</i>	<i>Remarks</i>
12 th Light Air Defence Regiment (12 Lt AD Regt)	Germany	Bofors 40/70	Troop exercises in the Haltern area (Germany) in March 1968.
16 Lt AD Regt	Barton Stacey, Wiltshire	Bofors 40/70	32 nd Light AD Battery (a sub unit of this Regiment) carried out a short practise camp at Army's School of Artillery (SoA) at Manorbier (south Pembrokeshire) in March 1968. They appear to have done this battery by battery on an annual basis.
22 Lt AD Regt	Tonfanau, west Wales – HQ + 53 Btys (42 Bty was in Singapore)	Bofors 40/70	Regiment did no firing at Tonfanau – it carried out basic training, infantry training (at Sennybridge, much further inland) and helping the local community. Whilst in the UK it operated on a 5-day week (Monday to Friday)
34 Lt AD Regt	Germany	Bofors 40/70	In March 1968 this regt was preparing to move, and actually moving from one location to another in BAOR.
The <i>Bofors</i> light AA gun had a maximum, theoretical, vertical firing height of 14,000 yds. However, they were fired with a tracer round and self-destruct, which meant that in practise the round would self-destruct at about 7,000 yds.			

<i>Regiment</i>	<i>Location in March 1968</i>	<i>Equipment (where known)</i>	<i>Remarks</i>
36 th Heavy Air Defence Regiment (36 Hvy AD Regt)	Dortmund (Germany)	<i>Thunderbird Mk II</i>	<p>September 1967 Regiment arrived at TERA* Ty Croes for practise camp. Fired 1st missile 15 Sep 67. Regt appears to have fired only 2 whilst at Ty Croes.</p> <p>On 25 Sep Regt went back to Dortmund (less 1 tp to Dover on KAPE** duties).</p> <p>Rest of period, Sep '67 to Mar '68 was taken up with extensive preparations for the move from Germany to Shoeburyness (Essex, eastern England) and amalgamation with 37 Hvy AD Regt.</p> <p>Moved back to UK 27 Feb – 9 Mar '68. Amalgamation took effect on 1 Apr '68.</p> <p>Thereafter, Regt did not return to Ty Croes until Sep/Oct '68 for practise camp.</p> <p>*TERA = Trials Establishment, Royal Artillery.</p> <p>** KAPE = Keeping the Army in the Public Eye (i.e. public relations duties).</p>
37 Hvy AD Regt	<p>Llanion Barracks, Pembroke Dock (west Wales).</p> <p>Feb '67 – 10th Bty moved to Shoeburyness.</p> <p>111th Bty reduced to HQ only for most of period Apr '67 – Mar '68 in preparation for amalg with 36 Hvy AD Regt Throughout March 1968 what was left of this Regt was busily amalgamating.</p>	<p><i>Thunderbird</i> (10th Bty only)</p> <p>111th Bty had 40/70 Bofors.</p>	<p>Support to Army SofA***Manorbier (south Pembrokeshire, Wales).</p> <p>Sep '67 Regt (10 (<i>Thunderbird</i>) + 111 (<i>Bofors</i>) Btys) to Ty Croes for firing camp.</p> <p>1st missile fired 12 Oct '67 – a misfire. Bad weather prevented any further msl firings + the Regt left Ty Croes on 14 Oct '67. Did not return or fire any more missiles.</p> <p>***SofA = School of Artillery.</p>
24 th Missile Regt (24 Msl Regt)	Germany	<i>Honest John</i> and 8 inch howitzers	Practise camps + NATO tests in Germany – e.g. Hohne, Munsterlager ranges. Did not serve, practise or train at Ty Croes.
39 Msl Regt	Germany	<i>Honest John</i> and 8 inch. howitzers	Practise camps + NATO tests in Germany – e.g. Grafenwohr (US range). Did not serve, practise or train at Ty Croes.

<i>Regiment</i>	<i>Location in March 1968</i>	<i>Equipment (where known)</i>	<i>Remarks</i>
50 Msl Regt	Germany	<i>Honest John</i> and 8 inch howitzers.	Practise camps + NATO tests in Germany – e.g. Hohne/Munsterlager ranges. Missile btys (x2) fired at Hohne ranges 26 Feb to 1 Mar '68; 8 inch how btys (x2) fired at Munsterlager ranges 29 Mar to 10 Apr '68. Did not serve, train or practise at Ty Croes.
94 th Locating Regt (94 Loc Regt)	Germany		<p>No surviving UHR**** record for period 1 Apr '67 to 31 Mar '69. Previous UHRs (for 1966/67 for example) indicates it carried out training + practise in Germany with occasional training/exercises on the continent of Europe/Malta. Advice from the Royal Artillery is that they cannot envisage any circumstances in which the drones of this Regiment would have been flown from establishments on the west coast of UK. Training in the flying of drones took place at the School of Artillery at Larkhill, Salsbury Plain.</p> <p>A locating regiment, RA (94th was the only one in the British Army) comprised, <i>inter alia</i>, a Drone Troop, comprising 12 drones. The bulk of the regiment would have been equipped with radars and sound ranging equipment.</p> <p>****UHRs = Unit Historical Records, generally speaking in the Public Record Office.</p>
School of Artillery, Manorbier	Manorbier, near Tenby, Pembrokeshire		<p>Comprised – Tactical employment wing; light wing battery, heavy wing battery, HW battery + REME wing. Heavy Wing Bty fired <i>Thunderbird II</i> at Ty Croes Apr '67. UHR contains no other references to the SoA firing <i>Thunderbirds</i>.</p> <p>Royal Artillery advice given previously was that <i>Thunderbird II</i> could not have been fired at Manorbier because that place was not cleared for their firing.</p> <p><i>Rapier</i> was not fired at Manorbier (but at the Hebrides range in the north west of Scotland). It appears that the principal artillery weapon that was fired at Manorbier was the Bofors gun.</p>
Trials Establishment RA, Ty Croes	Ty Croes Anglesey		RA units of the Army carried out regular practise camps at this trials establishment. The last such camp at Ty Croes, in year, from April 1967 to March 1968 (inclusive) was between 22 and 26 January 1968.

A NOTE ON MOD RECORDS SELECTION POLICY

The *Public Records Acts of 1958 and 1967* govern the process by which documentary material generated in British government departments (including the Armed Forces) should be transferred to the Public Record Office (PRO) at Kew. The PRO is the national archive of the United Kingdom. It permanently preserves this material and, in due course, makes it available to the public at the points set out in the Acts. Since 1967, this last date has been generally 1 January of the year after which 30 years have passed since the last date of entry in the files. This is what is known colloquially as “*the 30 year rule*”.

The *Public Records Acts* place requirements upon all government departments with regard to the consideration of material for transfer to the PRO, within the timeframe and subject to other conditions set out in the Acts. The requirements of the Acts are reflected in internal Ministry of Defence administrative regulations.

The operation of the *Public Records Acts* is overseen by the PRO on behalf of the Lord Chancellor’s Department (a government department), which works with the Departmental Record Officer and his staff of each government department.

The *Public Records Acts* themselves do not prescribe precisely what material should be transferred to the PRO.

Documents generated by each government department can be selected by the officials (civil servants) who originated them for retention, because they are in active use, or for transfer to an inactive archive in the Ministry of Defence. This decision would be dependent upon the value of the information to current and likely future operations or policy making. Whether a document merited archiving at all depended primarily on a decision as to whether the information it contained, although not required instantly to hand, was, nevertheless, likely to be of future value to the work of the particular part of the department. If the material was not felt to be of further use by the branch, it could be destroyed locally.

Files no longer in use, and not destroyed locally, would be sent to MOD’s own archives where they would be stored until a decision was taken, after the material was reviewed, on their possible permanent retention or destruction. The review process in operation in 1968, still operates, and, when introduced in the 1950s, was intended as a means of preserving papers of value to the originating government departments, as well as those of potential value to members of the public using the PRO. In addition, one of the fundamental aims of the review process was the reduction in the quantity of papers held in departmental archives, thus producing economies.

This Review process envisaged 2 stages. First Review was to be carried out 5 years after the last recorded entry on the file. At this point an assessment was made by the department’s reviewers, who were usually retired senior or middle ranking civil

servants (from that department) as to the file's continuing administrative value to the department. The final decision lay with the reviewers.

Files which were deemed to have no further administrative value, were generally destroyed immediately at this point. If files had some continuing administrative value to the department an advance destruction date of some 10-20 years was assigned.

A document deemed at the First Review point to have high historical value was marked for the further review at the 25 point, that is 2nd Review. At that point those documents are reviewed and, those files deemed not worthy of permanent preservation, are destroyed and the remainder transferred to the PRO where, at the 30-year point, they generally come into the public domain. Only a small percentage – approximately 3% to 4% in linear terms – of MOD's records survives to be transferred for permanent preservation at the PRO. This selection procedure is intended to ensure that only the more important historical documents are amongst this material.

There was (and is) no central index to the records created within the MoD, Army or its outstations and establishments.

Material which is selected for permanent preservation at the PRO is listed and transferred to that establishment. The lists, which are created once this material is selected for permanent preservation, come into the public domain immediately. Under the terms of the Public Records Acts it is possible for documents containing material, which fits certain criteria to be the subject of "extended closure" periods, or for them to be "retained in department". All such cases have to be submitted to the Lord Chancellor for his approval of such action. That decision lies entirely with the Lord Chancellor. However, it should be noted that documents of this status are incorporated on the list of MOD files selected for transfer to the PRO so that a record of their existence and their general title is in the public domain.

Annex Bd: Question to and Answers from the Royal Navy Historical Branch

(Extract re-typed)

From the Head of British Embassy

Press and Public Affairs

Dublin

Chancery

17 September 2001

Admiral Yves Lemerancier

29 Merrion Road

EXP' AIR S.A.R.L.

Dublin 4.

36 Rue Alphonse Pallu

Telephone 205-3716

78110 LE VESINET

Facsimile 205-3731

France

Mobile 087 8381406

Email:andy pyke@dublin.mail.fco.gov.uk

By fax

Website: www.britishembassy.ie

Dear Admiral Lemerancier(hand written)

Thank you for your recent letter requesting some additional information following your meetings with UK MOD representatives.

The locations of the other vessels in question were as follows:

HMS Devonshire - Singapore

HMS Hampshire - Portland area, 15 March – 5 April

HMS Kent - refit, Chatham. Completed 10 April

HMS London - Portsmouth, sailed for Brest 25 March

HMS Glamorgan - Portsmouth for repairs until 31 March

HMS Fife - Portsmouth (dock)

In answer to your other question, the MOD have answered as follows:-

“The only two Royal Navy vessels in the vicinity were Penelope and Hardy. The former was 130nm, and the later 120nm, from Tuskar Rock. Neither was fitted with any SAMs. There were no exercises involving RN vessels in the Irish Sea on 23 or 24 March 1968. The Royal Naval Air Station at Brawdy, HMS Goldcrest, was closed and working their Sunday routine until it re-opened to participate in the search and rescue operation following the loss of the St. Phelim”.

I trust this is sufficient for your purposes. Please let me know if you require further information.

Yours sincerely.

[Original Signed]

A.K. Pike

(Extract ended)

Annex Be: Questions to and Answers from the Royal Air Force Historical Branch

LOOSE MINUTE

D/AHB(RAF)8/59

4 Jun 01

Sec(HSF)1b

Copy to:

Hd of NHB

Inf Exp (HA) 3

DERA – Allen Smith

LOSS OF AER LINGUS VISCOUNT ST. PHELM – 24 MARCH 1968

References:

A: D/Sec(HSF)2/8 LM dated 20 Apr 01

B: D/Sec(HSF)2/8 LM dated 18 May 01

C: D/HB (A)6/3 LM dated 31 May 01

D: AP 3040 2nd Ed (Oct 1963)

1. You sought at Refs A and B further information for your response to Admiral Lemercier's questions. We have, so far as possible, co-ordinated our response with DERA Aberporth's, though, as with all other addressees, it is sometimes difficult to discern exactly what information the Admiral was seeking. Furthermore, the detailed records to provide truly comprehensive answers to some of the questions do not exist, and in some cases probably never did.
2. Within these limitations the answers to Question 1.1 and 1.2 are tabulated at Annex A, and the answers to the remaining questions for which we have information are at Annex B.
3. RAF Form 540 Operational Record Books compiled in accordance with Ref D would normally record operational sorties, but NOT "routine training flights". However, the Form 540 compiler would be expected to record exceptional or unusual occurrences on routine training flights, and any mid-air collision or instance of a unit's aircraft suffering significant damage in flight would clearly be included. We are, of course, faced with the perennial problem that records are not compiled with a view to proving a negative, i.e. in this case the non-involvement of UK forces in the incident, and I think it worth making this point in our response to the French.

[original signed]

J S Cox

Hd of AHB (RAF)

Annex A to D/AHB(RAF)8/59 4 Jun 01 – Questions from Admiral Lemerancier re St. Phelim

Questions 1.1 and 1.2

Air-to-Air Missiles – Royal Air Force, 1965-1970

Name	Status as at March 1968	Guidance	Range	Carried by
BAC (HSD) Firestreak	In service	Infra-red	0.75 – 5 miles (1.2 – 8 km)	BAC Lightning (Royal Air Force) Hawker Siddeley Sea Vixen (RN Fleet Air Arm)
BAC (HSD) Red Top	In service	Infra-red	7 miles (11 km)	BAC Lightning (Royal Air Force) Hawker Siddeley Sea Vixen (RN Fleet Air Arm)
Ford-Raytheon AIM-9D Sidewinder	Not in service	Infra-red	Over 3 miles (3.35 km)	McDonnell Douglas Phantom FGI (Royal Air Force/RN Fleet Air Arm) McDonnell Douglas Phantom FGR2 (Royal Air Force)
Raytheon AIM-7E Sparrow	Not in service	Semi-active radar homing	14 miles (22 km)	McDonnell Douglas Phantom FGI (Royal Air Force/RN Fleet Air Arm) McDonnell Douglas Phantom FGR2 (Royal Air Force)

Surface-to-Air Missiles – Royal Air Force, 1965-1970

Name	Status as at March 1968	Guidance	Range (min-max)
BAC Bloodhound	In service	Semi-active radar homing	5 km – 160 km
BAC Rapier	Under development	Visual	500 m – 7 km
Shorts Tigercat	Entering service	Visual	300 m – 5.5 km

Source: *Jane's All the World's Aircraft*. Range data as published; the Air Historical Branch has been unable to verify the figures quoted from any official source.

Annex B to D/AHB(RAF)8/59 4 Jun 01 – Questions from Admiral Lemerancier re St. Phelim

Loss of Aer Lingus Flight LIN 712 (Vickers Viscount EI-AOM *St Phelim*), Sunday 24 March 1968: Questions posed by French Investigation Team (Numbering as in original)

1.1 & 1.2 See Annex A

1.4 Detection of any unidentified aircraft (including aircraft subsequently identified as belonging to the Soviet Air Force or Navy), entering the UK Air Defence Region (UKADR), would have resulted in the scrambling of one or more Royal Air Force fighters on Quick Reaction Alert (QRA) to intercept the intruder. Nos 5 and 23 Squadrons (BAC Lightning) were responsible for maintaining the Southern and Northern QRA during the periods 15-31 March and 1-31 March respectively; no reference to aircraft from either squadron being scrambled on the date in question is contained in their RAF Form 540 Operations Record Books.

2.4 The Air Historical Branch (RAF) has been unable to locate a consolidated programme of flying training over the Irish Sea for any period. However, given the presence of the Aberporth range, this area is generally unavailable for flying training. A review of the Operations Record Books compiled by the headquarters of RAF Fighter, Bomber, Coastal, Air Support, Signals and Flying Training Commands and RAF Germany for the month of March 1968, would appear to confirm that no flying training was undertaken in this area on 24 March, which was, of course, a Sunday. Only one exercise was underway in UK airspace on the day in question; Exercise FALCADE, a detachment of four Hunters belonging to No. 724 Squadron Royal Danish Air Force to RAF Wattisham, Suffolk, which took place between 22-25 March 1968.

The missile range facilities at Aberporth were used by RAF fighter squadrons on detachment to the Fighter Command Missile Practice Camp, RAF Valley. Although this organisation did not submit an Operations Record Book during the period in question, entries relating to the unit are contained in that of No. 4 Flying Training School – the primary resident unit at RAF Valley. According to this source, No. 29 Squadron completed their detachment to the Fighter Command Missile Practice Camp ‘during the first two weeks in March’; no further detachments took place during March 1968.

Archive material in the Public Record Office indicates that no German Air Force training activities were conducted in UK airspace during March 1968. The possible use of flying training facilities by the German Air Force (GAF) and German Navy was considered by the UK Ministry of Defence and the Foreign Office in 1968-69. However, as the bulk of GAF flying training at that time was conducted in the USA, UK airspace was not required for basic and intermediate flying training; current and projected RAF, RN Fleet Air Arm and USAF requirements also precluded the use of UK medium and low-level training routes and range facilities by the GAF.

Proposals for the GAF to train in the UK were therefore not pursued.

German Air Force activities in UK airspace during 1968 were therefore limited to exchange visits. A schedule of GAF visits to the United Kingdom under the NATO Squadron Exchange Scheme confirms that no such visits to RAF or USAFE stations in the UK took place during March 1968. Additionally, maritime aircraft belonging to the German Navy did visit Northern Ireland on an annual basis to participate in a course at the Joint Anti-Submarine School (JASS). No indication of such a course being conducted is contained in the HQ RAF Coastal Command Operations Record Book for March 1968.

- 2.5 RAF air-to-air missile launches took place under the auspices of the Fighter Command Missile Practice Camp, RAF Valley, utilising the Aberporth range facilities. Launches were therefore conducted in accordance with the range procedures laid down by the Aberporth range authorities.
- 2.6 Accident records held by the Air Historical Branch do not refer to any Royal Air Force aircraft being damaged on 24 March 1968, as the result of a mid-air collision.

Annex Bf: Questions to and Answers from the Public Record Office

(Extract re-typed)

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The Public Records System

As the national archive for England, Wales and the United Kingdom, the Public Record Office (PRO) houses records from across the UK central government and, in smaller numbers, from the central courts. The Public Records Act 1958 places responsibility for the management of public records on departments. Each appoints a Departmental Record Officer who is responsible for the care of all its records (including electronic records). The Departmental Record Officer's work on public records is carried out under the guidance and supervision of the PRO through the staff of the Records Management Department. Staff of this department work with Departmental Record Officers and their staff to select records for permanent preservation at the PRO, to create finding aids to the records, and to ensure that the records are prepared and transferred to the correct archival standard. The Records Management Department advises other government departments on good record keeping, and promotes the effective and efficient management of records across government.

Selection of public records takes place in two stages. The first, when the records have passed out of active use, usually takes place 5 years after a record has been created. At this point, records, which are obviously worthless, are destroyed, and those which have been identified as valuable for the future administrative need, or future research are kept for further review at a later date. This process, known as second review takes place when the record is 15 to 25 years old. The lapse of time gives perspective to the judgement of which of these records are worthy of permanent preservation.

The Public Records act also provides for the deposit of records in places other than the PRO, at the discretion of the Lord Chancellor. Examples of such records include certain courts, and semi-independent local bodies, which are of local interest, films and sound recordings, and certain records of the national and museums and galleries.

Separate national record offices exist for Scotland and Northern Ireland. The National Archives of Scotland (formerly the Scottish Record Office) holds records of departments, which are wholly or mainly concerned with Scottish affairs, the Scottish courts and of private individuals and organisations. The Public Record Office of Northern Ireland (PRONI) was established in 1923 as the archive for the province, and contains records of the Northern Ireland courts and departments, local government records, and some private and business records.

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Access to the Public Records

Access to public records is governed by statute, namely the Public Records Act, 1958 and the Public Records Act, 1967.

When are records made available to the public?

The vast majority of records selected for permanent preservation are made available to the public when they are 30 years old. This is commonly referred to as the thirty year rule and was established by the Public Records Act of 1967. Records are opened in the January 30 years after the date of the last paper or entry in a record, plus 1 extra year, to ensure that all papers on the file are 30 years old. Records are opened en bloc at the start of each year. Thus records bearing a last date of 1971 will be released into the public domain on the 1st January 2002. This process is known as the New Year's Openings and generates much public interest and press coverage each year.

Why are some records held back beyond 30 years, and not released?

Records may be closed for periods longer than 30 years, this is known as extended closure. There are various reasons for this; some may contain distressing personal information about people and events; or the release of other types of information may damage national security or international relations; or may have been supplied subject to certain confidential undertakings. The release of other types of information may be barred under legislation, which overrides the provisions of the Public Records Acts. Typical extended closure periods are 50 years, 75 years and 100 years. An example of an extended closure record are census returns, which are always closed for 100 years.

Some records are retained by Government departments. Retention means that a department requests the right to hold a record that is over 30 years old. The approval to retain is given by the Lord Chancellor, and normally lasts for 5 years, after which time a new request must be made. It is usually granted on the basis of a continuing administrative need by the department to consult the record. Examples of retentions include maps and plans of mineworkings, which are retained by the Coal Authority.

Are records available earlier than 30 years?

Some records are available without restriction from their date of transfer. Examples of such records include annual reports and published material. Many other records are opened earlier than 30 years. We encourage this as much as possible and work with government departments to identify records that may be released early, a process known as accelerated opening. Departments have discretion to allow members of the

public privileged access to records still held in the department, records retained or records that are closed.

Members of the public may write to Departmental Record Officers requesting such access. Some classes of closed records are available to researchers provided that certain undertakings not to divulge information are given.

The Open Government initiative, which was launched in 1992, required all government departments to examine their record holdings to determine blocks of previously closed or retained records that could be released early. Examples of documents released include Ministry of Defence war diaries, and certain records of the Prime Minister's Office and the Foreign and Commonwealth Office.

Who agrees what should be closed or retained?

The Lord Chancellor has to approve all variations to the 30 year rule. Departmental Record Officers make such requests, which are assessed in the first instance by members of the Records Management Department. They are then considered by the Advisory Council on Public Records, which is chaired by the Master of the Rolls, and composed of MPs, academics and researchers. The Advisory Council scrutinises the applications, and those with which it agrees are passed to the Lord Chancellor for final approval.

What effect will the proposed Freedom of Information legislation have on access to public records?

The Government wishes to make government more open to the public. It has made proposals for a Freedom of Information Act in a White Paper called "Your Right to Know". It proposes that any member of the public will be able to apply to see information held by a public authority. The authority may refuse if the information is excluded from the act or if it is protected by an exemption. The applicant will have the right to take his/her case to an Information Commissioner. The government proposes that the two systems – Freedom of Information for current records and Public Records for historical records should complement each other to give a unified approach to openness. It is proposed that the rules relating to access to historical records be aligned with the new freedom of information right.

How can I find out more information?

Details of the closure status of individual records is usually given in the class list and finding aids for the particular record. Contact the Enquiry Service for advice on how to contact Departmental Record Officers of government departments or of how to apply for undertakings to see certain record classes.

(Extract ended)

Sep 01(WED) 12:40 KEEPER OF P.R.O. TEL: 020 8392 5221

Response of the Public Record Office to questions put forward by the Celtic League concerning the loss of Aer Lingus Airliner EI-712

Question: I understand that the Public Record Office (PRO) contains CAA files holding information and analysis of domestic air accidents, going back to the 1950s. However, nothing on the 1968 Tuskar crash is recorded.

Response: The PRO selects records for permanent preservation based on a number of criteria. In relation to air accidents, the primary criteria for selection are as follows:

- was the aircraft registered in the UK
- where did the accident take place
- which country led the investigation

In the case of Aer Lingus EI-712, the investigation was led by the Irish authorities. It is a matter of standard practice that the PRO does not preserve files relating to investigations in which the UK did not take the lead role. The CAA record of the investigation, containing copies of information, which had been passed on to the Irish authorities, was therefore not selected for preservation. A file note detailing the destruction of Air Accident Investigation Board (AAIB) file EW/B/038 has been passed by PRO to the investigation team.

Question: The PRO contains information on various world-wide air tragedies being accidents not investigated primarily by the UK but by other countries and obviously obtained for research purposes. Again there is no mention of the Tuskar crash.

Response: In addition to CAA records, the PRO selects files on air accidents from a variety of different departments including the Foreign and Commonwealth Office and Ministry of Defence. In most cases, the files are selected as they highlight significant British diplomatic or military involvement.

Question: I also understand that sections of navy files contain no reference to the St. Phelim.

Response: It is the policy of the PRO to select for preservation all copies of ships logbooks. It is often the case that a full set of logbooks for each ship does not exist. Questions relating on the storage of ships logbooks prior to their transfer to the PRO should be directed to the Ministry of Defence, Naval Historical Branch.

Question: There are no files relating to the Aberporth missile range in March 1968.

Response: Records relating to the operation and management of RAF Aberporth exist for March 1968 (AIR 28/1710). Authenticated copies have been passed by PRO to the investigation team.

Question: The UK did not have the capability to launch the US AQM-37A target drone before July 1968.

Response: A record relating to the use of air targets at RAE Aberporth in 1968 (AVIA 6/23916) has been passed by PRO to the investigation team.

(Extract re-typed)

Original in landscape

SECRET

XXXXXX

RAF FORM 500

(Revised May, 1965)

SECURITY CLASSIFICATION _____

OPERATIONS RECORD BOOK OF (Unit of Information) RAF ABERPORTH

Instruction for XXX of this Form are contained in

PAGE NO. 1

CR 2137 and 2138: and AP5040

FOR PERIOD MARCH, 1968

of 4 PAGES

PLACE	DATE	LOCAL TIME	SUMMARY OF EVENTS	COMMANDING OFFICER <u>Sqn Ldr F.J. Trusman, DFC</u>	Ref to Annexes and Files
RAF ABERPORTH	March	1968	1. Officer Commanding, Wing Commander A.C. Richards, DFC		
			<u>OPERATORS</u>		
			<u>Red Top</u>		
	3 - 12		2. No. 29 Squadron attended Fighter Command Missile Practice Camp from 3 rd to 12 th March and fired a total of four missiles as follows:		
	5		a. Three missiles fired – all classified as failure		
	12		b. One missile fired – classified as failure		
			<u>Bloodhound Mk II</u>		
			3. Reports		
	12		a. Final Report No. 23 (Missile No.2185) was issued on 12 th March		
	25		b. Final Report No. 21 (Missile No.3480) was issued on 25 th March		
	4		4. <u>Firings</u> . On the 4 th March the first firing of an Instrumented Warhead Round (Missile No. 4826) took place. This was provisionally classified as a failure.		
			5. After the above firing no further missiles were fired owing to modification programmes and servicing in the various sections of the Bloodhound Firing Unit.		
			6. <u>Radar Type 86</u> . The section was operationally closed down for one month to allow embodiment of approximately 100 1 ₀ and 1 ₁ modification. The modification work has proceeded quickly and it is expected that the equipment will be at the 1 ₁ state of modification by the 1 st April 1968.		
			7. <u>Radar Type 87</u> . The final Boost Blest Trial took place on the rear site during the firing of missile 3476 at the end of February. Satisfactory data for analysis was obtained. The decision has been made to fire a missile from this section and at present the equipment is being brought up to the standard required for this task.		

AIR 28/1710

SECURITY CLASSIFICATION **SECRET**

SECRET

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RAF FORM 500

(Revised May, 1965)

SECURITY CLASSIFICATION _____

OPERATIONS RECORD BOOK OF (Unit of Information) RAF ABERPORTH

Instruction for XXX of this Form are contained in

PAGE NO. 2

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PAGES

of 4

PLACE	DATE	LOCAL TIME	SUMMARY OF EVENTS	COMMANDING OFFICER _____	Ref to Annexes and Files
			8. Test Equipment. The Calibration and Quarterly Servicing of the Missile Overall		
			Test Equipment and the Fuse Test Equipment took place during the month.		
			9. Launchers. Launcher 1 Serial No. 7340 was removed from the launch area for use		
			In Boost Efflux Trials and subsequently a major inspection. It was replace in the		
			Launch area by Launcher Serial No. 7343.		
			10BH2 ControllersCourse. Members of No.12 BH2 Controllers Course from RAF		
			Northcoates visited the Bloodhound Firing Unit on the 6 th March. Lectures and		
			demonstrations were given by OC 'B' Squadron, the Engagement Controller, and the		
			staff of Missile Support Flight, Missile Firing Flight and Trials Planning and		
			Analysis Section.		
			<u>ADMINISTRATION</u>		
			<u>Health</u>		
			11. This continued good.		
			<u>Visitors</u>		
	1		12. Air Cdr. E.W. Tacon } Sqn Ldr Kent } NATO Sqn Ldr Kempsley }		
	5		Mesers Burnett, Goaling and Sargent BAC		
	6		Sqn Ldr McKay XXXXX		
	6		Sqn Ldr Blakeley } No. 12 BH2 Sqn Ldr Love } Controllers Course		
			Sqn Ldr Diack } from Northcoates Sqn Ldr Waterton }		
			Flt Lt McGory Flt Lt Higgins		
	11		Mr. L.S. Pears MOD (Welfare Officer)		
	11		Mr. Louch Rank Bush Murphy		
	13		Sqn Ldr Robinson HQ FC		

AIR 28/1710

SECURITY CLASSIFICATION **SECRET**

(Extract re-typed)

Original in landscape

SECRET

XXXXXX

RAF FORM 500

(Revised May, 1965)

SECURITY CLASSIFICATION _____

OPERATIONS RECORD BOOK OF (Unit of Information) RAF ABERPORTH

Instruction for XXX of this Form are contained in

PAGE NO. 3

CR 2137 and 2138: and AP5040

FOR PERIOD MARCH, 1968

of 4 PAGES

PLACE	DATE	LOCAL TIME	SUMMARY OF EVENTS	COMMANDING OFFICER _____	Ref to Annexes and Files
RAF ABERPORTH	March	1968			
	15		Mr. T.D. Ball	National Cash Register Co.	
	19		Messers Haalem and Louch	Rank Bush Murphy	
	19		Mr. L.G. Roberts	MOD	
	20		Messers Lupton, Ashley	Ferranti (Wythenshawe)	
	20		And Salt Reverend		
	21		Gp Capt Wallace Mr. J. Efford	HQ FC BAC	
	26		Mr. Haslop	Rank Bush Murphy	
	27-28		Mr. D. Dicks	AID RAF Chilmark	
	28-29		Mr. Raymond	E.M.I.	
	29		Sqn Ldr. D.A. Cowley	MOD OR19b.	
	29		Flt Lt R.H. Taylor } Flt Lt M.J. Williams }	FCMPC	
			13. Visits		
	25-27		Sqn Ldt D.C. Thorpe } Fg Off J.Muir and }	Northcoates and	Visit to 25 and 41
			Fg off R. Bates }	West Raynhem	Squadrons
			14. Postings-In Officers		
			NIL		
			15. Postings-Out Officer		
	1		Flt Lt K.H. Boxey (167507) GD/NAV posted to Western Communication Squadron, RAF Andover w.e.f. 1 Mar 68		

AIR 28/1710

SECURITY CLASSIFICATION SECRET

Mr. V Blandford

Department of the Environment, Transport and the Regions

F/13 Ashdown House

St Leonards-on-Sea

East Sussex

TN37 7GA

Dear Vic

File Note on the Destruction of Air Accident Investigation Board (AAIB) File
EW/B/038, Relating to Accident to Aer Lingus Viscount 803 EI-AOM in St George's
Channel 24 March 1968

Please find enclosed a copy of the file note which I said I would send to you for
reference purposes should there be any further enquiries as to the reasons for the
destruction of this file. A copy will also be place on the appropriate PRO files.

Please do not hesitate to contact me if you have any further questions about this
matter.

Yours sincerely

Susan Graham

Enc

**File Note on the Destruction of Air Accident Investigation Board (AAIB)
File EW/B/038, Relating to Accident to Aer Lingus Viscount 803 EI-AOM in St
George's Channel 24 March 1968**

This file was marked by the Air Accident Investigation Board (AAIB) as requiring second review, that is, for an assessment to be made of its potential historical significance once it reaches twenty-five years old. This is common practice with AAIB files. In the Department of Transport approximately 80% of files, which received a second review, are not selected for permanent preservation.

The file came up for review in 1993/94, when it was examined by a member of the then Department of Transport's Records Review Unit. They recommended that the file be selected for permanent preservation on the grounds that it was a major accident.

In September 1994, I checked the review of air accident files, which included the file EW/B/034, as part of my duties as the PRO's Inspection and Documentation Officer responsible for relations with the Department of Transport. At this distance in time I cannot recall the full details of the particular papers on the file. However, I can remember that I gave the file careful consideration before recommending that the file should be destroyed. I attach a copy of the Department of Transport review sheet annotated with my comments, which were intended to give the relevant staff member an explanation as to why their decision had been altered. The comments are in shorthand which, when taken in conjunction with the file itself, would have been readily comprehensible at the time. It is not unusual for PRO staff to revise earlier judgements in this way, it part of the standard quality assurance process.

My knowledge of the AAIB files and the selection criteria we ordinarily apply to these files suggest the following to me:-

- It is a matter of standard practice that we do not permanently preserve files relating to investigations in which the AAIB did not take the lead part, unless they contain substantial papers, which would not have been passed on to the lead investigating country or unless they give an example of AAIB procedures. It seems probable that the information contained on these files showed that all salient information had been passed to the Irish authorities. Thus, although the file was ostensibly about an important subject, the AAIB content in the files appeared routine: administration, copies of Irish papers and information which had been passed to the Irish authorities.

I am not clear on the details but I seem to recall that the ministerial correspondence on this file related to whether the Board of Trade or the Navy would pay to recover the wreckage. I am confident that I would not have recommended the destruction of this file if its contents were in any way revealing of the nature and cause of the crash.

Susan Graham

February 1999

(Extract re-typed)

Original hand-written
1968

RECORD OF FILES REVIEWED		Series <u>EW/B</u>	P.R.O. Class	Date Completed.....	
Reviewer <u>Margaret</u>					
File Reference	Part	'K' or 'D'	Description	Comment	
				Reviewer	Insp. Officer
038		K	Aer Lingus Viscount 803 EI-AOM in sea (St. George's Channel) en-route to Cork-London, 24 th March 1968. Investigation by Irish authorities	Major accident: exhaustive inquiry(with AIB assistance) – cause remaining a mystery	}
					}
					} D-
					} Raveine
Ditto	TJ3	K	Ditto: Salvage operation, ministerial correspondence on funding	Ditto	}
+ folders (technical data, Maps, statements, Irish report, press cuttings)					
039		D	Cessna 411 N4952T (U.S.) near Corinth, Greece, 18 th April 1968: Query from Greek authorities on pilots Flying history.	C/E/NP	√
040		K	Sabena Boeing 707 OO-SJK on approach to Ikeja Airport, Lagos, Nigeria 13 th July 1968: Investigation by Nigerian authorities and A.I.B. assistance	Arguably NP, but a particularly full & interesting example of the way AIB involved in investigations Sponsored by Foreign Governments (also Biafran war aspects, & plane was carrying armaments	√
+ folders, (draft reports Technical data etc.)					
					aspects, &
					Plane was
					Carrying
					armaments

Search Results

[help](#)

You ran a basic search on “viscount” restricted to reference(s): DR

There were **31** hits within catalogue entry details. Hits **1** to **20** are shown below sorted by catalogue reference..

PRO Reference	Title/Scope and Content	Covering Dates
DR 1/562	<u>Vickers Armstrong (Aircraft) Ltd: Viscount 700 series: strength statement</u>	1960
DR 1/563	<u>Vickers Armstrong (Aircraft) Ltd: Viscount Type 745 (Capital Airline); Marshalls' Flying School Ltd; technical appraisal</u>	1962
DR 1/564	<u>Vickers Armstrong (Aircraft) Ltd: Viscount Type 701 (Cambrian Airways); Marshall of Cambridge (Engineering) Ltd; modifications to flight data recorder and AC supplies</u>	1965
DR 1/565	<u>Vickers Armstrong (Aircraft) Ltd: Viscount type 701 (Cambrian Airways); Marshall of Cambridge (Engineering) Ltd; modification to battery power and essential circuits under emergency conditions</u>	1969
DR 1/251	<u>Introduction of a freight door on Viscount aircraft type 806 type record</u>	1962-1967
DR 6/3	<u>Viscount 707 VS.1.4: technical folder 1</u>	1952 May-1960 Dec
DR 6/6	<u>Viscount VS.1.9: technical folder</u>	1954 Feb-1960 Mar
DR 6/14	<u>Viscount VS.1.12: technical folder 1</u>	1958 June-1961 Apr
DR 6/38	<u>Viscount aircraft: flight manual amendments; administration and technical folder</u>	1958 Feb-1979 May
DR 6/39	<u>Viscount Aircraft: technical folder</u>	1961 Jan-1981 July
DR6/40	<u>Viscount aircraft: technical folder</u>	1959 Sept-1981 July
DR 10/31	<u>The Boeing rain repellent system developed by Field Aircraft Services Ltd for the Viscount aircraft</u>	1964

DR 11/40	<u>Viscount 701 G-AMOL accident near eastern boundary of Liverpool Airport, 20 July 1965</u>	1965 July-1967 July
DR 11/50	<u>Viscount 808 EI-AKK accident at Lulsgate, Bristol, 21 September 1967</u>	1967 Sept-1969 Mar
DR 11/55	<u>British Eagle International Airways Vickers Viscount G-AFTN accident at Langenbruch, Bavaria, 9 August 1968</u>	1968 Aug-1971 Nov
DR 11/56	<u>British Eagle International Airways Vickers Viscount G-AFTN accident at Langenbruch, Bavaria, 9 August 1968</u>	1969 Mar-1970 July
DR 11/58	<u>Viscount 815 G-AVJA accident at Ringway Airport, Manchester, 20 March 1969</u>	1969 Mar – Oct
DR 11/96	<u>Viscount 802 aircraft G-AOHI accident at Benmore, Perthshire, 19 January 1973</u>	1973 Jan-1975 June
DR 11/98	<u>Viscount 814 aircraft G-BAPG accident at East Midlands Airport, Castle Donington, Derby, 8 June 1973</u>	1973 June - July
DR 11/106	<u>Accident to Viscount 802 G-AOHI near top of Ben More, Perthshire on 19 January 1973</u>	1973 Jan-1974 May

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<http://pro21/Reader/Search> WithinHits.asp?fldLettercodeRef=DR&fldDivisionRef=&fldClassRef=&fld

23/08/2001

Search Results

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You ran a basic search on “viscount” restricted to reference(s): DR

There were **31** hits within catalogue entry details. Hits **1** to **20** are shown below sorted by catalogue reference..

PRO Reference	Title/Scope and Content	Covering Dates
DR 16/306	<u>739 Viscount: G-ATFN</u>	1958-1967
DR 16/307	<u>755 Viscount: G-AOCB</u>	1955-1968
DR 16/308	<u>802 Viscount: G-AOHI</u>	1956-1972
DR 16/310	<u>815 Viscount: G-AVJA</u>	1958-1969
DR 16/311	<u>833 Viscount: G-APTB</u>	1959-1969
DR 26/222	<u>Viscount 708 G-APTB</u>	1963-1985
DR 33/509	<u>Vickers Viscount: miscellaneous papers</u>	1967 Jan-1980 July
DR 33/590	<u>Vickers-Armstrong Aircraft Ltd: Viscount 800; power plant and fire precaution; folder 1/04</u>	1953 July-1976 June
DR33/661	<u>Viscount 700 series: fuselage and pressure cabins; reports and correspondence; folder 1</u>	1948 Feb-1980 May
DR33/662	<u>Viscount 700 series: flight control systems; reports and correspondence; folder 1</u>	1953 Mar-1970 June
DR33/665	<u>General correspondence including correspondence concerning an accident to Viscount G-APTD at Jersey Airport and type record; folder 1</u>	1953 Oct-1968 Aug

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Annex C: Comments to the Study Report

- **No Content. Go to TOME 3**

Annex D: List of Documents Delivered by the International Team to the AAIU

- **No Content to date**