

## **Pembroke Dock Connection re: Cecil Baker.**

Letter dated 8<sup>th</sup> April 1987.

Written by Cecil Baker to Ken Williams of Pembrokeshire Historical Society.

Dear Sir,

I enclose a note about a little known contribution of Pembrokeshire to aeronautical research and development, because of the transfer of engineering and design staff from Pembroke Dock to Cardington in, I think, 1926, when the Dockyard was closed.

Cecil Baker

## ***Aviation: a Pembrokeshire Contribution***

**Written by Cecil Baker. Retired Principal Scientific Officer in the Ministry of Aviation.**

This note is being written to record the efforts of three men who originated in Pembroke Dock in their careers in aviation. The writer is not a Pembrokeshire man other than by residence, but was closely connected with two of the men concerned and knew the third quite well because of technical discussions concerned with our work.

A story first which awakened me to the strangeness of one career and how it might never have been. In 1945 my immediate boss in the Ministry of Aircraft Production (or was it the Ministry of Supply then? Our name changed so often) was a Mr. T.S.D. Collins, who was then I think 52 years of age. He died in 1985 at the age of 92, so I must be almost correct.

I was then 30 and Mr. Collins (Stanley to his friends) was a real gentleman, a charming boss, and over all a man who never worried. In all branches of the Civil Service and I am sure in most jobs there are on occasions needless panics and uproars which are almost certain to come to nothing in the end but are an awful worry to most people at the time. But not Mr. Collins. They never worried him and he would sit through them calmly occasionally smiling and making the odd useful remark but seemingly not caring! One day when the whole Ministry seemed to be about our ears I said to him 'Boss! It is all very well for you, you don't give a damn about anything.' My remark might well have been worse than that, but he said very calmly 'Don't worry, Baker. Sit down and I will tell you a story.'

The story he told me was that some 15 years before he had been the Chief Stress man on the R101, the ill-fated airship. I knew that he had worked on her but I did not know what he had done. 'And I flew on every flight but one, the last one to India. And there I was on her for the last flight when the Director came on board and told us there was another of those political people turned up to go. He looked around, caught sight of me and told me to get my bag and get off. So I was the last man off her. And I was so furious as I walked off the gangway with my luggage that I never even said goodbye to my friends. But I have never worried since.'

His words took effect: I realized that there were worse things than panics, but I determined to look a little more closely into the R101. I found that he had been the most senior survivor, he had been the Chief Mourner at the funeral procession through London and been the chief witness at the Public Enquiry that had been held and which had signed the death warrant of Airships, for a long time anyway.

My colleague at that time, oddly enough, junior to me in rank but older in years, was another Pembroke Dock man who had also worked on the R101 as an Engineering Inspector. He had never flown on her and his best story of his job is of when he was told by his Inspection Boss to inspect a joint at the top of the Airship at somewhere near its greatest diameter. "But how do I get up there Mr. Uren?" And Uren replied 'I don't know, but that is the technical part of your job.'

In addition to T.S.D. Collins there was his brother Mr. A.R. Collins, whom I knew, but not as well as T.S.D. So partly because I knew them and partly because I was interested in the history I looked into their pasts.

The two Collins brothers and George Barnes had all started life at Pembroke Dock, in the Dockyard, as apprentices. The Collins brothers because of their mental ability had come out of their apprenticeships as Shipwrights, which was a dockyard rank in those days, and George Barnes, a competent engineer, had become an Inspector, an Engineering Inspector of course. In 1926, the Dockyard was closed by the government. Many of the staff employed there were established Civil Servants and it was apparently agreed that they should be transferred to parts of the Civil Service where their abilities and training would

be of value. And where other than to work on the other kind of ship that was foreseen as a transport of the future, than the Airship - so to Cardington they went.

T.S.D. Collins was a shipwright and a stress man that was the job he transferred to. A.R. Collins worked on ships' propellers so where could he go other than to work on Airships' propellers? George Barnes, a practical man, moved straight across to Inspection in what I suppose was the forerunner of the A.I.D.

And so on to the awful day when the R101 crashed in France. As I said earlier, T.S.D. Collins should have flown on her, so he must have been of some seniority and also of ability. Among his staff in those days were H. Roxbee Cox (later Lord Kingsnorton) and A.G. Pugsley (later Sir Alfred Pugsley) both of whom were real names in the aircraft world of the 1939 - 1945 war and later.

After the R101 crisis, I am not quite clear what happened to the Collins brothers in detail other than that they continued work in the Air Ministry. George Barnes became a draughtsman in the Royal Aircraft Establishment Drawing Office. When the war was approaching, in 1938, T.S.D. Collins was also at R.A.E. as the deputy head of a department called Air Defence and he was responsible for the research work on Barrage balloons which provided some of London's defences in the early days of the war. (I should add here that there was no operational research as we know it today).

After the war he moved up to H.Q. where he was the senior officer in the directorate of Civil Aircraft R & D who were concerned with structural problems. A.R. Collins continued in the post he had had throughout the war, responsible for the headquarters aspects of the R & D on propellers. I knew him during this period for his work on propeller efficiencies.

In 1945 Research and Development work was going on, at what then seemed to be great expense on no less than five Brabazon types. The name Brabazon has stuck in public mind as the 'Brab', but it should be remembered that the Comet strictly speaking was the Brabazon IV, although at this late date the Dehavilland firm would probably deny it. Certainly the forms of contract for the Brab IV were different to those for the other Brabazon types. The Brabazon Committee sat through the latter days of the war and as a matter of interest Moore-Brabazon (later Lord Brabazon) was a leading member of the committee which produced the requirement for the R101!

T.S.D. Collins then was a principal Scientific Officer responsible for advice to other technical administrative staff on structural problems (making use of his long experience on structural matters) and he was also the P.S.O responsible for the technical administration of R & D on the other Brabazon types, which included Ambassador and Viscount.

Later he moved over to the military side, with a promotion, as an Assistant Director, in charge of the co-ordination and administration of R & D on the bombers then under development, which of course included Canberra, Valiant, Victor and Vulcan.

A.R. Collins (Albert) continued with his work on propellers and George Barnes with the work on civil aircraft until their retirements. George Barnes died in, I think, 1965, at the age of 70.

I think that the real interest in this is the transfer of technical staff from the closed Pembroke Dockyard to the aviation business, such as it was in those days' thereby producing contributions which might never have been.

It is easy in this day and age to belittle the R101 and the Brabazon but in their day they were the products of the best technical minds of the day in spite of Moore-Brabazon himself, who was in part responsible for both. The R101 was not the only airship failure of the day. Both the Americans and the Germans had their problems. For the Brabazon it was too big and slow and too long in development; people wanted to get there quickly and the development of the jet engine was much quicker than everybody thought, as was that of the pressure cabin which was essential to its use. But without the

Brabazon and the Brabazon Mk II (yes there were two, the second of which was to have had turboprop's, this led to the Britannia), the basic research on the Stressed Skin problem which enabled the building of a pressure cabin successfully (in spite of the Comet which had a fatigue problem) would not have been done for many of the later aircraft, and of course the Chief Designer of the Brabazon later became the Chief Designer of the Concorde.

I feel that there is nothing in the above which may be described as 'classified', but would ask that there should be no reference to T.S.D. Collins career subsequent to the Brabazon certainly in anything which might get to the Press other than to say that he continued his career in Military R & D until retirement. The report of the Public Enquiry into the R101 disaster was of course published and I think it included what I suppose were the inquest reports, again attended by T.S.D. Collins.