

**AEROSPACE SPACE**

# Military NDT is nearly 50!

P Edwards

It was in October 1999 – and with generous donations – that we were able to hold the 40<sup>th</sup> anniversary celebrations of NDT in the Royal Air Force. Nigel Thorpe (now with Technitest, Madrid) and I chose a hotel in Leicester to hold such a prestigious event. I was hoping to reach 2009 to be involved with the 50<sup>th</sup> anniversary milestone, however I have opted for redundancy from the RAF and have passed the reins of organisation to the Chief Instructor in the Tri-Service School of NDT at MoD St Athan – Chief Technician Doug Wylie.

Looking back, it was such a pleasure to welcome to the Leicester event three gentlemen who were on that very first NDT Technician Course held at RAF Swanton Morley: Mr Cheetham, Mr Cornwall and Mr Greenhaugh. These gentlemen volunteered (never recommended in the forces!) to go into the unknown with instructors (Bob Carr, George Walters and Frank Green), who were probably as much in the dark as to what was required! Apparently, Frank Green had been involved in the servicing of X-ray units in the RAF hospital in Akrotiri so he was an ‘obvious’ choice to be an instructor!

It is thanks to Ron Cornwall that we have notes on the events during those early NDT days.

Following the Comet crashes of the 1950s, the RAF powers had decided that NDT was required, so the seven volunteers arrived on the first Monday in January 1959 to attend the course titled: ‘The Radiography of Aircraft’.

The short course actually lasted until October – 10 months, compared to courses today which are 10 weeks and cover all major disciplines. A BIX Ltd, 120 kV X-ray set was purchased and the handling and safety factors of this unit were investigated with course notes being written as they went! One trial involved putting the set in the middle of the airfield and operating it at maximum power horizontally and finding where the beam in free air limit was. A ‘bright spark’ suggested when working on aircraft and in a hangar this beam would be attenuated!

First in-service shots were on Comets at RAF Lyneham, mostly around the window and door areas. The radiographs were returned to Swanton Morley for processing.



**Comet 2 XK699 guarding the gate at RAF Lyneham (apologies for poor quality)**

One set showed 6 inch nails and the team returned to Lyneham only to realise the aircraft wooden trestle had been included in the area of interest! Also at this time Vulcan riblets and rudder were also X-rayed and many cracks were discovered which ‘sold’ Bomber Command the world of NDT.

Ultrasonics were learned during 1959 and the team members all attended a two-week course at Harefield House and the first Ults sets were purchased from Ultrasonoscopes. Additionally, three J2 vans were converted to utilise as mobile darkrooms.

On return to their respective units the NDT technicians waited for the Vulcans to come into line with servicings and then the Canberras had oleo problems – they were starting to unscrew! The Canberra work involved a worldwide exercise to inspect all the undercarriage legs, including other nations’ aircraft, using a gamma Iridium192 source. Three months later, with the work complete, 80% of *all* Canberras were



**RAF Canberras bowing out at an Air Tattoo**

unservicable! Following this the Canberra required further work in the spar area and continued to keep NDT technicians busy right up to its retirement just last year.

The NDT School progressed at Swanton Morley together with the Technique Development and Equipment Evaluation sections up until the closure of Swanton Morley in 1995 and the subsequent move to St Athan. NDT is now a tri-Service organisation, amalgamating with the Army and Royal Navy and now, with the recent announcement of the new Defence Training Academy being located at St Athan, the future of NDT at this unit is yet to be decided.

It was great to get the technicians together at Leicester. We managed to have 65 courses represented and at that time without the widespread use of the internet. It would be marvellous to be able to at least double this amount in 2009 so contact addresses, telephone numbers, e-mail addresses are needed for those that would like to be involved and should be passed to Doug at St Athan (01446 797292). This is to set the ball rolling, so from now up to the yet-to-be-decided date in 2009 it is hoped that many of those technicians who have been trained by the RAF NDT School can be traced and will be able to get together, talk over old times and see how NDT has technically advanced since those early days of writing notes as you go!

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