

THE DEMISE OF UK MILITARY AERONAUTICAL SEARCH AND RESCUE



How many times during your naval career did you look up from either sea or shore and see the bright yellow or red livery of an RAF or RN military Search and Rescue Helicopter. Certainly over the years I saw many such aircraft either within the UK landmass or when at sea, but never really gave any thought as to where they were being controlled from and by whom. I always assumed that the aircraft's base would be exercising Opcon and co-ordination of both the aircraft and the incident. During the latter part of a long naval career I gained a greater insight into such SAR operations when acting as FOSNI's Duty Staff Officer at MHQ Pitreavie where the naval Operations Room was co-located with the Northern Aeronautical Rescue Co-ordination Centre (ARCC). From 1941 until 1997 there were two UK ARCCs, ARCC North (Edinburgh Rescue) and ARCC South (Plymouth Rescue) located at MHQ Mount Wise. Post WWII the Northern Centre radio room was manned by MOD civilians and the Southern radio room was staffed by RAF communications operators. By 1996 technology had evolved and it was decided to centralise ARCC operations at one UK location. The RAF base at Kinloss was chosen for the new state of the art facility and accordingly Edinburgh and Plymouth Rescue centres were closed and operations commenced from Kinloss (Kinloss Rescue) in mid-1996. I had been offered a job at the new ARCC subject to success in the Recruitment Board and having sat and passed the Board, resigned from the RN and took up my new position at Kinloss in Nov 97. I was fortunate in that I had a very successful Board and as a consequence was awarded a higher starting initial salary as a Band D (EO) Grade. Worthy of mention is that the RO salary was enhanced by 34 percent (pensionable) in recognition of the unique role of the grade and the non-standard skill sets required.

A brief history

The Ministry of Defence, Air Force Department Radio Grade structure was formed toward the end of the Second World War, when it assumed responsibility for a variety of communications tasks being performed at establishments based throughout the UK. The Meteorological Office; an Air Ministry responsibility based at Dunstable, employed the greatest number of Radio grade personnel. Their duties involved a variety of radio-associated tasks, but primarily the operation of National and International Morse circuits. Telecommunications methods evolved, and with the advent of modern techniques, the Meteorological Office decided that their Headquarters should be moved (circa 1957) to Bracknell, and ultimately to Exeter which is the present location. Radio grades accompanied the move to Bracknell, whilst at the same time fulfilling telecommunication requirements for the Met Office sited at HQSTC, RAF High Wycombe. Radio grades coped and adapted with the ever changing technical advances of telecommunications, encompassing teletype, facsimile and computerisation. These methods gradually superseded the old 'Steam Radio'.

The remaining residual radio task, collecting observations from Ocean Weather Ships, ceased during 1981. The radio grades continued with the responsibility of providing Met Office telecommunications, but their local management decided against the viability of the grade in that particular task, which was disestablished in August 1991. The transfer of staff from Dunstable (circa 1957) coincided with the creation of new Radio Grade posts at RAF Pitreavie Castle during October 1957. This new task entailed manning the Maritime Air Radio Organisation (MARO) using Morse code as the primary communications medium. In 1973 the Maritime Air Telecommunications Organisation (MATELO) was established and manned by the RAF. The civilian radio staff was subsequently reduced and was employed on residual radio duties, primarily the provision of communications for Search and Rescue (SAR) Operations.

Command and Control by Radio

For many years the primary means of exercising Command and Control of airborne SAR assets, deployed Mountain Rescue Teams and co-operating national and international SAR assets was by HF radio. This was augmented as technology progressed by platforms such as Airwave, VHF (IMM), Cellular Telephones and Satcom telephone. However, all these systems although useful had their limitations. VHF has a relatively short range, Airwave has capacity problems, is prone to collapse during high intensity scenarios and is useless once into the UK littoral and deep sea regions. Satcom is compartmented *i.e.* only one user at a time, is prone to wooding in mountain areas and is expensive. Ideally a SAR aircraft will have the complete suite of communications media fitted in order to meet the communications requirement; for the last few years this has been the case with HF radio remaining the primary means of contact.

In 2006 UK Military HF communications were rationalised with the single service sites being incorporated into the new civilian operated Defence High Frequency Communications System (DHFCS) managed commercially by VT communications in partnership with DCSA. From a purely personal viewpoint I was apprehensive about this cultural change as I had found the RAF communications branch had been dominated by engineers, resulting in many an interesting argument over the phone regarding circuit management. For example, having asked the operator at a receiver site to switch in AGC at the receiver on the line in use, I was told he/she would have to get hold of a "techie". Despite telling them that this was an operator function and explaining exactly where on the receiver front panel the switch was located, I would still be told this was a job for a techie with the consequent wait until one could be located. There were many instances of such events where operators were very reluctant to touch a piece of equipment. I suspected similar problems with DHFCS but in the event my fears proved unfounded. We had been successful after some prolonged argument in being fitted with a tactical Chirpsounder and this device proved very helpful particularly at night in identifying the optimum frequency for use. However, shortly after being equipped with this kit I was told at a User Group meeting in Portsmouth that Chirpsounder was being withdrawn and that the UK military ionosondes were being dismantled. Despite some fairly passionate arguments from the SAR and the submarine world reps at the meeting, one look at the bean-counters told me that the decision has already been made and that further argument was futile. With the introduction of DHFCS we were informed that it would be a "managed service" and that all decisions would be made for us concerning frequency in use, aerial selection etc. by the NCS at Forest Moor. The new contract which had been agreed and signed without any consultation with the end users also limited our connectivity to just

one DHFCS site as their computer model had proved that this would meet the requirement. We knew based on years of empirical experience that in order to achieve satisfactory short, medium and long range HF communications within the UK Search and Rescue Region, an area of one million square miles, we required access to a range of geographically diverse transmitter and receiver sites within the UK. We were also well versed in the types of aerial variants required which we would tailor to meet a particular SAR scenario. There is a huge difference in performance between a NVIS aerial for use with for example an asset working in the mountains and the vectored support required for one operating at long range overwater. After much lobbying on our part, DHFCS agreed to send a team of execs and engineers to meet with the then Comms Manager and myself at Kinloss in order to assess our case for enhanced access to DHFCS sites and for us to be allowed to be responsible for our own circuit management and equipment/aerial selection. The meeting and site visit took up most of the day but resulted in DHFCS not only agreeing to all our requests but they also undertook to install additional line connectivity to enable access to all the UK transmitter and receiver sites. This was well in excess of what the MOD had contracted for and was at no additional expense to us. Relationships with DHFCS continued to improve with operating experience and right up until we ceased operations in 2016 and despite some relatively minor glitches; our working partnership was productive and successful.

The Aircraft

Dedicated SAR aircraft flights were located across the UK as follows: RAF Kinloss (Nimrod), Lossiemouth, Boulmer, Leconfield, Wattisham

, Chivenor and Valley. RN flights were located at Prestwick and Culdrose. With the exception of Kinloss the venerable Sea King was the tried and trusted workhorse of the SAR community. The military flights were augmented by Coastguard helicopters stationed at Shetland, Lewis, Lee and Portland. For many years the CG flights were under CG Opcon but in recent years control of all UK SAR aircraft was vested in the UKARCC. Mountain Rescue Teams also under ARCC Opcon were situated at strategic points throughout the UK. This geodiversity provided good cover of the entire country and enabled aircraft from contiguous areas to provide support in other regions as required.

The Radio Operators

Although the ARCC at Kinloss is manned by the RAF, the majority of the Radio Officer Grades employed therein were ex RN. Selection was made at a Recruitment Board where candidates were interviewed subject to passing a series of practical skills tests in touch typing (40WPM min), Morse transmission and reception (requirement ceased in 1998), voice operation vide ACP125 and a fairly demanding radio theory paper. Successful candidates were employed as Band D/EO (Lieutenant Equivalent) Civil Servants and became permanent CS after a 12 month probation period used to confirm suitability. In my first few years in the grade there could be up to fifty applicants at a time for any vacant positions. However, as the pool of skilled communicators began to shrink with the passage of time, and as the military requirement for radio operators underwent a radical change, we would be lucky if we managed to attract three or four applicants with the required skills and experience. The job lent itself towards the skills of the RN General Radio communicator but operating a busy voice circuit with the worst HF platform in the world (the helicopter) was no easy task and not all initially successful candidates actually managed to secure a permanent

position within the grade. You could be an excellent Comms SNCO but a less than satisfactory SAR HF voice operator. We did not enable squelch on the circuits as quite often the Noise to Signal Ratio was far in excess of the Signal to Noise Ratio and had squelch been in then some calls would have been suppressed and missed. We did however have access to a first class computerised Rescue Co-ordination System, coupled with an Integrated Communications Control system and excellent mapping facilities. The RO acted as the link between the Operations Room and the SAR aircraft, co-operating ships or MRTs and on a large scale incident would handle hundreds of voice transactions to and from multiple SAR platforms. Many of the messages were of a fairly esoteric medical nature and the RO had to learn a fair amount of medical terminology. Aircrew do not want to be asked for repetitions. They are busy on other tasking within the aircraft and do not usually write down their outgoing messages but send them *extempore*. Hence if you ask for a repetition you might end up with a significantly different text to the original transmission. Our aircraft operated day and night and carried out many critical missions which attracted little or no media publicity but which were responsible over the years for the saving of many thousands of lives. The bulk of our tasking involved civilian rather than military lifesaving missions. This had its rewards and frustrations. On more than one occasion one of our aircraft would lift off a Spanish or Portuguese fisherman who we had been told was critically ill and who must be removed from the vessel only to have him head for the Airport departure lounge on landing. If a doctor in Madrid or Lisbon advises us that the casualty must be evacuated then we are mandated to carry out the rescue irrespective of the fact that we suspect the man just wanted to go home. On the plus side genuine rescues lead to a great deal of satisfaction. Boscastle and the North East floods come to mind as good examples plus hundreds of minor but critical incidents such as baby vacs, RTAs etc. I have at times been sat with my headphones on, waiting with bated breath as the RN Prestwick Helo flies **under** the Erskine Bridge in Glasgow in thick fog, while using the river Clyde as a Navaid to lead him to the Landing Site. The decision to fly is always the prerogative of the aircraft Captain and if he decides the risk is too great then he does not fly. However, in my twenty years at the centre, I cannot recollect any military pilot turning down a mission as they were always willing to push the envelope no matter how difficult the conditions.

The End

In 2011 the UK Government announced that in view of the bulk of Aeronautical SAR being of a civilian rather than a military nature, responsibility for UK Aero SAR was to be transferred to the UK Maritime Coastguard Agency (MCA) and that work on the transition was to commence almost straight away. The project encountered many setbacks and delays throughout the transition period and many deadlines were missed, usually due to problems with software development for the equipment being installed at the new UK National Maritime Operations Centre (NMOC) located at Fareham in Hampshire. There was the inevitable culture clash between two organisations who, although working towards a common objective, had at times very different methods and operating practices. However, it had to be made to work and throughout 2016 a team of subject matter experts from the ARCC were deployed to the NMOC on a rotating basis to offer assistance and advice. Recruiting for the new MCA Aero Team had attracted a number of good quality candidates and slowly but surely their levels of expertise began to increase. On 31 Mar 2016, responsibility for UK Aeronautical SAR was transferred in full to the UK MCA and the ARCC adopted a short term supporting role by continuing to provide onsite support and advice for a

further year. At first the MCA encountered problems with the operation of HF as they had not recruited specialist Radio Officers for the role. These problems did not come as a surprise as the MCA operators all started from the same baseline and at the same time having taken over from a long established and very experienced team of specialists at Kinloss. This would have made the tasking for the new operators somewhat daunting and whilst listening in at the ARCC we would sometimes hear a helo being told to chop to Airwave as HF was “unreadable” whereas in fact circuit conditions were good. Problems were exacerbated by the fact that NMOC access to the DHFCS is, for technical reasons, currently enabled via RAF Kinloss and this will remain in place until the capability can be integrated within the MCA control system. Line access and patch panels from early 2017 will be located in an unmanned building at Kinloss which will do nothing to improve the maintenance task. In an attempt to help the MCA operators bed in we detached ex CRS Jim Nock to Fareham for a week. The feedback I got from the NMOC was that his advice and expertise had been very useful and much appreciated. The way the MCA will use HF as a C2 medium will, I suspect, be different from that in use at the erstwhile military facility with more reliance being placed on LOS rather than BLOS circuits. However, when the chips are down and your SAR platform is operating in a region with no other communications outlet available, HF comes into its own and I hope that once the MCA operators become more experienced and familiar with its advantages, they will be happier to use it as a primary and invaluable communications channel.

On 30th Sep 2016, those MOD ROs who had not sought other employment were made redundant and entered into a state of blissful retirement. I have thoroughly enjoyed my 20 years since leaving the RN by serving both as a Radio Officer and then as the Communications and IT Manager at the UK ARCC Kinloss. It was the perfect job for anyone leaving long term employment with HM Forces as the work ethic; culture and ethos were very similar to those encountered in Service life. I know I speak for us all when I wish our successors at the MCA NMOC and their fleet of new, state of the art helicopters, all the very best for the future. We can rest assured that the ongoing conduct and operation of UK Aeronautical SAR is in very capable hands

ARCC KINLOSS RADIO OFFICER TEAM AT ENDEX



Back row L to R: Graham Topping (ex RS), John Berry (ex WO RSSM), Trev Killen (ex RSSM), Jim Nock (ex CRS)

Front row L to R: Brian Ellis (ex Marconi Marine), Roger Sudworth (ex LRO (G) & former Comms & IT Mgr), John Wright Comms & IT Mgr (ex WO RS)