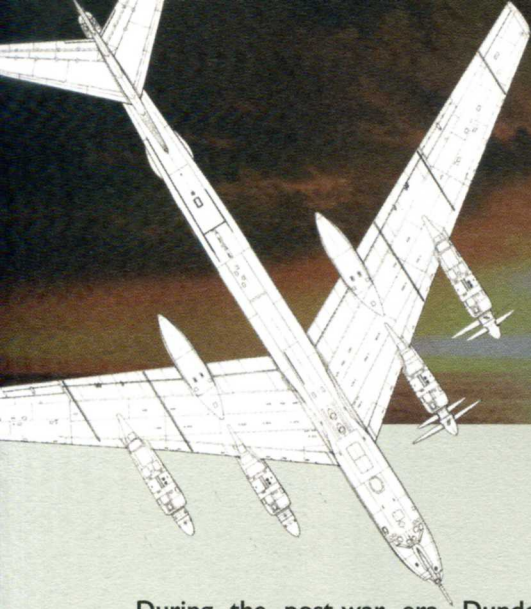


Dundee's Cold War -Royal Observer Corps

by Tony Jackson



During the post-war era, Dundee played a central role in the UK's preparations for coping with the threat of nuclear attack. Located in a large bunker at Craigiebarns on the fringes of Dundee and Angus College, the Caledonian sector control of the United Kingdom Warning and Monitoring Organisation (UKWMO) co-ordinated the nuclear attack warning and monitoring system for the whole of Scotland, operating as part of a nation-wide network with NATO links. It was opened in 1976, replacing a facility in Aberdeenshire.

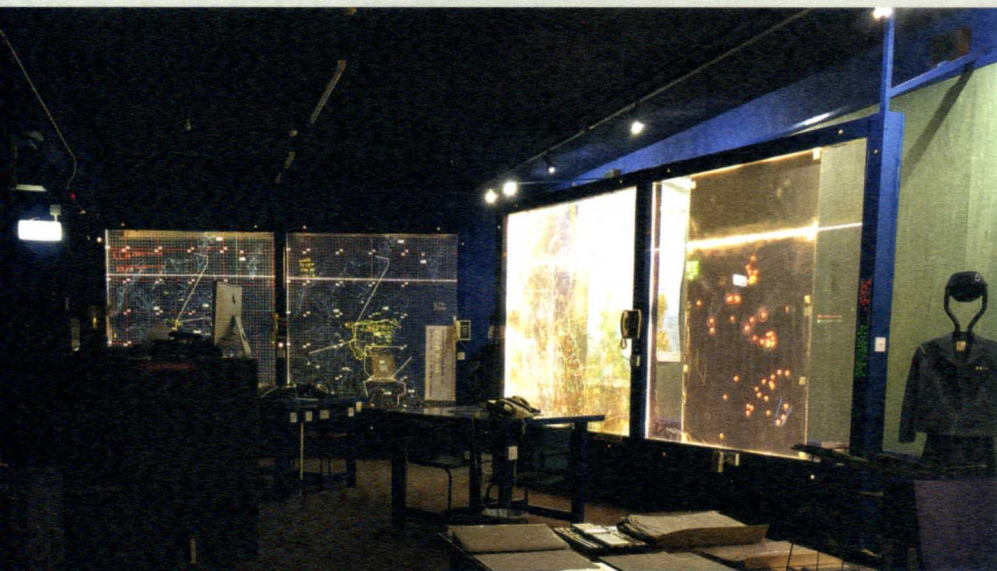
As one of the volunteers who helped run Craigiebarns, I retain fond memories of the camaraderie amongst those involved in discharging the vital tasks undertaken there.

In the 1930s Sir Robert Watson-Watt from the University of Dundee (then a part of the University of St. Andrews) pioneered the radar system which provided an early warning of impending attack by enemy aircraft during the Second World War. Supplementing the radar masts was a network of observation posts operated by the Royal Observer Corps (ROC), a body of volunteers granted the right to wear RAF grey uniforms when undertaking their tasks. Reports from the ROC together

with those from radar stations were sent to control centres, which used them to plot an ongoing picture of enemy air attacks that was quickly communicated to RAF Fighter Command. In 1957, the Government drew on these wartime arrangements to create a warning and monitoring system capable of addressing the threats posed by nuclear attack, linking this with its NATO counterparts. The UKWMO became one of the UK's early responses to the rising tensions of what became known as the Cold War.

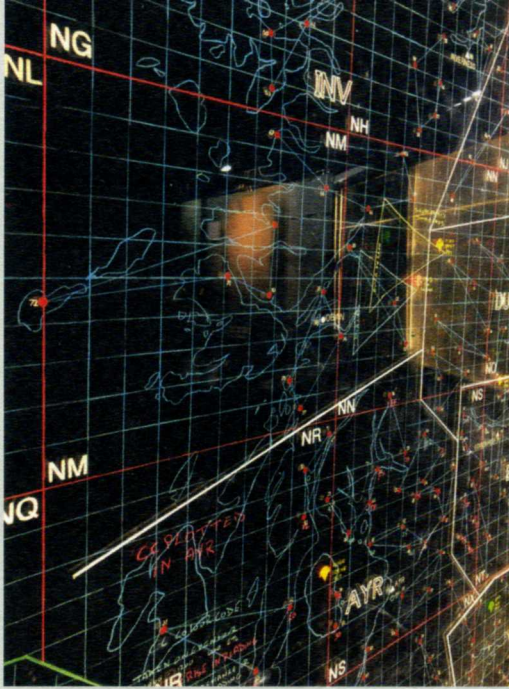
The new system was given five main functions: to warn the public of any air attack; to provide confirmation of a nuclear strike; to warn the public of the approach of radioactive fallout; to supply the UK's military and civilian authorities and neighbouring NATO countries with details of nuclear bursts and with a scientific assessment of the path and intensity of fallout; and to provide a post-attack meteorological service. Warning of an impending air attack would come from the Ballistic Missile Early Warning System at Fylingdales on the Yorkshire coast, backed up perhaps by further information from other points of the NATO system in Alaska and Greenland. Home Office staff stationed at the UK Regional Air Operations Centre (UK RAOC) would then determine whether to activate the national warning of attack arrangements. The UKWMO network

was linked to 250 carrier control points located at major police stations throughout the UK. These could activate 7,000 power-operated sirens in urban areas, supplemented by another 11,000 sirens in rural locations such as local police and coastguard stations, and a range of other suitable establishments. Each warning point operator could sound the alarm by operating a hand siren, and warnings could also be broadcast through television and radio channels.



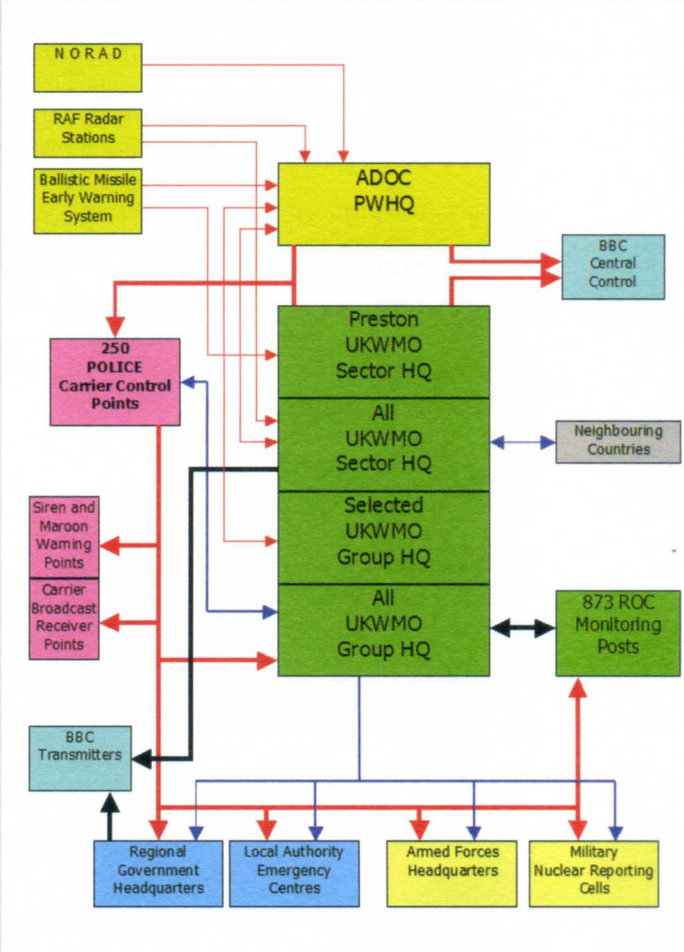
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Group Observed (SCIO)

The nature of the threats posed by nuclear weapons called for a far more complex set of arrangements than those needed in wartime, since the fallout from weapons targeted at any member of NATO would add additional hazards to those posed by direct nuclear strikes on the UK itself. To keep track of these effects required a network of 870 hardened monitoring posts equipped with specially-designed warning and monitoring instruments. These fed information into to a set of protected group and sector controls, able to analyse the data and report to the UK Government's hardened bunkers and other NATO warning and monitoring systems. Each control was purpose-built to withstand a certain amount of blast and give protection against radioactive fall-out. Each had its own stand-by services, including power, sanitation, ventilation and decontamination facilities, as well as emergency food and water supplies, and was linked to the other controls across the country by radio, telephone and teleprinter.



To make these arrangements operational required a trained field force. During their training sessions and regular exercises, ROC volunteers operated from a web of observer posts scattered across the country, equipped with instruments for triangulating blasts, measuring their magnitude and monitoring fallout. Two of these were placed in removable housings above the monitoring post. One contained the ionisation chamber of the fixed survey meter for measuring radiation levels. The other encased four pin-hole cameras so arranged that a nuclear burst in any direction from the post would record a mark indicating the bearing and elevation of the burst, termed a 'ground zero indicator'. Six metres below ground, reached by a ladder running down a concrete shaft, three observers worked and lived in a concrete chamber two metres high and wide and five metres long, linked by radio and telephone to their group control, operating a 'bomb power indicator' to record the blast peak over-pressure of an explosion. Each post had its own source of power independent of the mains supply, sanitation facilities, bunks and supplies of food and water.

At group control another cohort of 40 observers would plot the data received from these posts on three recording facilities: a series of log-charts related to fallout readings from posts, a range of noticeboards running along the upper tier of the operations room summarising data received from each observer post, and a set of large Perspex screens that ran across the centre of the operations room, displaying maps marked with observer posts. Group controls employed a team of 10 warning and monitoring officers, volunteers recruited directly by the UKWMO, to interpret this data, working with the log-charts, noticeboards and data written by observers on the back of the screens to construct damage rings and fallout plumes on the screen fronts, producing a picture of the ongoing effects of a nuclear attack which could be passed to relevant bodies. As the UKWMO communications network map illustrates, group controls were linked for these purposes to their own sector control, Regional Government HQ, Local Authority Emergency Centres, Armed Forces HQ and Military Nuclear Reporting Cells. Group controls would be responsible for issuing public fallout warnings. Drawing on meteorological information provided by sector controls, the group control would send the fallout warnings to carrier control points, which could relay the warnings to the various warning points over the carrier line broadcast system. The fall-out warning procedure was based on a pattern of warning districts, 750 in total across the United Kingdom, each with a coverage of about 100 square miles.



At Craigiebarns, the Caledonian sector control doubled as a group control as well as supervising the activities of the other four Scottish group controls. In addition to its ROC personnel and UKWMO warning and monitoring officers, Craigiebarns provided the headquarters for the full-time Sector Controller and Assistant Sector Controller, both appointed by the Scottish Department for Home and Health. They were charged with overseeing the system across the whole of Scotland, operating with the assistance of three volunteer meteorologists and three volunteer Sector Scientific Advisers, all trained in analysing the data received. A sector control would normally house 80 personnel. During the annual overnight international exercise, Craigiebarns and the other four sector controls across the rest of the UK would activate their direct links with NATO partners (for Craigiebarns this was Norway).



The vast majority of the 4,500 personnel recruited for these tasks were volunteers, given regular training and exercises to practice their skills. At Craigiebarns, the UKWMO warning officers and sector scientific advisers met every fortnight for a two-hour evening training session supervised by their Sector Controller, while the ROC organised training sessions for their own observers separately. National exercises were run each year over several days for all the UKWMO and ROC personnel in each sector and group control with data fed into the system from UKWMO's Oxford-based HQ. An annual international overnight exercise was also held, involving liaison with volunteers from other NATO countries. On top of this, the Civil Defence College at Easingwold Yorkshire (now renamed the Emergency Planning College) offered UKWMO officers a regular opportunity to spend a week honing their skills with fellow team members from other parts of the UK on a range of training courses. The College also provided facilities for sector scientific advisers from across the UK to meet each other and run seminars for exploring issues together, drawing on scientific experts from Government Departments and the universities.

The Government operated the UKWMO on a financial shoestring: in 1979 total annual running costs amounted to £4.6 million. This included the salaries of established full-time Government personnel. Volunteers each received a small attendance allowance plus travel expenses. The motivation that ensured the UKWMO had a large proportion of long-serving volunteers could be found in a combination of personal satisfaction in discharging duties which provided an essential insurance against attack on the country in the face of Cold War threats, together with the team spirit engendered by training and exercising on a regular basis with colleagues from different walks of life. However, public reactions to those who volunteered for this task were mixed. Even those who supported the concept of having a system capable of warning the country of a nuclear attack and monitoring the effects of such a strike found this difficult to square with the apparent neglect of civil defence arrangements for the population at large. Several films such as *The War Game* and *When the Wind Blows* demonstrated the limitations of these arrangements.

The explanation for this dichotomy could be found in the evolution of nuclear strategy during the 1960s and 1970s. As the nuclear arsenals of NATO and the Warsaw Pact grew steadily

more sophisticated and powerful, the idea of surviving a nuclear exchange and continuing to fight thereafter appeared increasingly infeasible. Most of our NATO allies adopted similar policies towards civil defence, allowing their preparations to dwindle. Only neutral countries such as Switzerland made concerted efforts to enable their populations to survive a nuclear war. The focus amongst NATO allies prepared to use nuclear weapons in their defence switched to implementing a strategy which became known as 'mutually assured destruction' (MAD), first developed in 1962 by the Hudson Institute in the United States. This argued that since a nuclear

exchange would prove catastrophic regardless of any attempts to protect the civilian population, effective deterrence required the assurance that a first strike would trigger automatic retaliation.

Operating a nuclear strategy based on the concept of MAD meant that efforts to protect the civilian population against nuclear strikes or to develop missile defence systems would prove destabilising. What was required as part of this strategy of deterrence was a system capable of ensuring that any nuclear strike on a NATO ally could immediately be detected and trigger a massive response. The UKWMO received adequate funding to maintain and upgrade its equipment and train its personnel to deliver the requisite level of assurance that any nuclear first strike against the UK or a NATO ally could be detected, confirmed and initiate a retaliatory strike. In this way, volunteers recruited by the UKWMO and ROC formed part of the system of deterrence. As one of the Sector Scientific Advisers working in a voluntary capacity at Craigiebarns, I accepted the uncomfortable logic of this strategy. Yet on my frequent visits to the Civil Defence College I never encountered anyone from the Ministry of Defence or any other arm of Government who was prepared to offer this doctrine as an explanation for the apparent neglect of civil defence arrangements.

Following the demise of the Soviet Union, the need for a warning and monitoring system to bolster a nuclear strategy based on deterrence disappeared, and the closure of the UKWMO was announced in Parliament in November 1992. Craigiebarns was left empty - the UKWMO officers and sector scientific advisers were left to find other outlets for their spare-time activities. However a group of former ROC personnel took on the task of ensuring it remained in good condition. The esprit-de-corps of the uniformed body of volunteers that formed the ROC, and the family links that went back across two World Wars, ensured that despite its official disbandment former Dundee ROC members have maintained an ongoing social presence.

Private tours can be arranged by 28 Group Observed (SCIO) the charity that manages the site. Contact through:
email: gavin@28group.org.uk

An article by a former Sector Controller will be published in the next issue.