THE RAF'S EXPERIENCE OF COMMAND AND CONTROL IN OPERATION TELIC, THE SECOND GULF WAR, 2003[1]

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Abstract: Operation Telic – the UK name for the US-led coalition intervention in Iraq in 2003 – was the Royal Air Force's largest single undertaking since the First Gulf War. It represented a marked departure from the air operations of the 1990s in that air power was deployed primarily in support of the Land Component's advance on Baghdad, and in the Counter-Theatre Ballistic Missile role alongside coalition Special Forces. Drawing on official sources, this article describes the RAF's experience of air command and control (C2) in Telic, highlighting some of the novel challenges involved in the exercise of air C2 and the means by which they were addressed in the context of the build-up to hostilities, the transition to war, and the operation itself. Finally, it offers a brief assessment of the air C2 lessons identified from Telic and their longer-term implications.

INTRODUCTION

This article surveys the Royal Air Force's experience of air command and control (C2) before and during Operation Telic – the UK name for the US-led coalition operation entitled Iraqi Freedom, also commonly referred to as the Second Gulf War. The aim of the article is to provide a clear, factual narrative of the subject in so far as this can be accomplished using official sources. It is also necessary to provide a limited amount of background information to place the key air C2 issues in context. In what follows, air C2 is initially considered in relation to preparatory planning for Telic. Subsequently, the focus shifts to the deployment phase of the operation, the transition from Operation Southern Watch No-Fly Zone (NFZ) operations to Telic, and air C2 during the operation itself.

Operation Telic was launched in March 2003; three weeks later, its primary aim was achieved as coalition troops entered Baghdad and precipitated the downfall of Saddam Hussein's regime. Telic was the RAF's largest single undertaking since the First Gulf War (UK Operation Granby) by a substantial margin. At peak, some 8,000 personnel were deployed in theatre along with 126 aircraft, comprising 67 fast jets and 59 other fixed and rotary wing platforms. Between 19 March and 15 April, the fixed-wing aircraft flew more than 2,500 sorties, and RAF combat aircraft released 919 munitions.

Yet if Telic was comparable to Granby in terms of forces committed, tempo sustained and effort expended, the two operations were very different in a number of important respects. Telic did not involve a drawn-out and pre-planned air offensive similar to the coalition campaign mounted in 1991. Instead, air power was predominantly used in support of the Land Component during its rapid advance from Kuwait to Baghdad and in Counter-Theatre Ballistic Missile (Counter-TBM) operations over Western Iraq in conjunction with coalition SF. Consequently, while air C2 in Operation Telic involved at least some obvious continuities, important new challenges had also to be confronted.

BACKGROUND, PLANNING AND COMMAND ARRANGEMENTS

The RAF's involvement in Operation Telic followed on from some 13 years of almost continuous UK air operations in the Persian Gulf. After Granby, the RAF was committed to the protracted task of patrolling the Southern and Northern Iraqi NFZs as part of another US-led coalition. Throughout, the coalition operation names were Southern Watch and Northern Watch; by 2002, the UK contribution to these two operations occurred under the operation names Resinate (South) and Resinate (North). The RAF maintained detachments of eight Tornado GR4s and six Tornado F3s in the south with air-to-air refuelling (AAR) support, while the northern commitment was assigned to four Jaguars. The coalition and UK Air Headquarters and the CAOC were located at Prince Sultan Air Base (PSAB), Al Kharj, in Saudi Arabia.

In March 2002, Headquarters Strike Command (HQSTC) received the first indirect intimations that the United States was preparing contingency plans for a major operation against Iraq. By May, contingency planning was also being conducted within the MOD. An assessment produced on the 22nd suggested that the UK might deploy some 88 fast jets and 38 supporting aircraft within a period of between three and four months for an operation of the scale of Granby.

At the beginning of July, the MOD confirmed to the Prime Minister that US military thinking on Iraq was 'quite well advanced', but that there was, as yet, no political authority to commit US forces. US contingency planning assumed that the objective of any prospective operation would be to overthrow Saddam Hussein's regime, destroy his weapons of mass destruction (WMD) capability and reduce the perceived threat that Iraq posed to surrounding countries and the US itself. Although US CENTCOM at first envisaged that only American forces would be involved, by July there was a *de facto* invitation to the UK and Australia to participate.

As a first step, the US invited a small number of British military personnel to join their planners at various levels of command. Consequently, the Secretary of State sanctioned the early dispatch of a six-man team to Tampa, on the strict understanding that this would not prejudge the outcome of any decision on UK participation in an operation. The UK was officially informed and briefed on US planning on 16 July, and the Permanent Joint Headquarters (PJHQ) was then tasked to make an assessment of the plan to inform ministers and to examine UK contingency options in a US-led operation against Iraq. The Contingency Planning staff at HQSTC also initiated work on the potential UK air contribution at this time.

A more detailed picture of American planning soon emerged. CENTCOM's basic operation plan (OPLAN), numbered 1003V, was designed to overwhelm the Iraqi regime through a co-ordinated multiplicity of threats applied across a number of lines of operation. These were:

1. Operational fires
2. Operational manoeuvre
3. SF operations
4. Unconventional warfare/support to other governments
5. Influence operations
6. Humanitarian assistance
7. Political-military engagement

The intention was to launch coalition forces into Iraq across both her southern and northern frontiers.

Within this very broad concept, the Combined Forces Air Component Commander (CFACC), Commander CENTAF, Lieutenant General TM 'Buzz' Moseley, was assigned five key offensive tasks.

1. Counter-air (airfields and IADS)
2. Counter-TBM in Western Iraq
3. Counter-land
4. Strategic attack against regime targets (seen as vital to early regime collapse)
5. Support to SF

Initially, however, air power would be employed primarily for effect and with the aim of achieving what was famously termed 'shock and awe'. Hostilities would be initiated by a massive bombing effort covering a very wide range of targets. The US believed that 'the initial "shock and awe" created by the synchronised opening of both air and ground operations' would 'lead to the rapid collapse of much of the potential opposition, enabling the coalition to seize control of up to two thirds of the country within days'.

Kuwait, although small and potentially vulnerable, could always be counted on for support and was to be the launching platform for the southern offensive. But the northern axis was dependent on Turkey's willingness to permit large numbers of coalition troops and aircraft to be based on her soil, and her government proved unwilling to enter into any such commitment. Nevertheless, in Washington, there was every confidence that these difficulties would be resolved, and planning proceeded on the assumption that the coalition would be able to operate from bases in Turkey. This would have profound implications for the UK because CENTCOM quickly assigned a key role to British land and air forces on the northern front.

HQSTC's first outline plan for RAF participation appeared at the end of July, and reflected the increased exchange of information between the UK and the US, as well as CENTCOM's enthusiasm for UK involvement in Northern Iraq. The plan envisaged offensive air operations by Tornado GR4s from their existing base in Kuwait, Ali Al Salem, and from Akrotiri or Southeast Turkey, and air support to UK land forces by Harrier GR7s from Southeast Turkey. The F3s already located in Saudi Arabia would operate in the air defence role, while GR4s and Jaguars flew tactical reconnaissance missions from both the south and north. E-3Ds, PR9s and Nimrod R1s and MR2s were to operate from Cyprus or Oman. Twelve tankers would be deployed to Akrotiri and to Turkish and Gulf bases, along with in-theatre air transport and air support for SF.

The RAF's tasking, as then understood, was as follows:

a. Contribute offensive air assets to the US campaign against Iraq
b. Contribute additional 'niche' air capabilities that can add value to the US

campaign against Iraq
c. Support a UK land campaign inserting from Southern Turkey into Northern Iraq
d. Enable an Air Point of Departure (APOD) in Turkey for the deployment of UK Land Forces

HQ STC's plan emphasised the RAF's pronounced dependence on Turkish basing and overflight.

By the beginning of August, knowledge of OPLAN 1003V was being extended across key areas of the UK defence community, including the Front-Line Commands (FLCs). On the 5th, PJHQ formed a Crisis Planning Team, and the Defence Staff issued PJHQ with formal planning guidance four days later. PJHQ in turn presented a submission to the Defence Staff on UK contributions to the prospective operation on 13 September. During this period, the RAF was assigned the additional task of supporting Counter-TBM operations in Western Iraq primarily through the deployment of a detachment of GR7s, which were to collaborate with similarly committed USAF elements and coalition SF.

Between 19 and 22 August, the Chief of Staff, Joint Force Headquarters (JFHQ), visited CENTCOM to discuss command and control, and how the UK component could be integrated into a deployed CENTCOM forward headquarters. Although the nomenclature changed somewhat, the system that emerged differed little from that employed during Operation Granby. The Chief of Joint Operations (CJO) was to become Joint Commander for the operation, exercising his responsibilities through PJHQ to the National Contingent Commander (NCC) at his deployed headquarters in the Gulf. As Joint Commander, he would have operational command over all UK forces assigned to the operation, while the NCC exercised operational control of the three UK contingents – Air, Land and Maritime. In turn, the NCC delegated tactical command to the three Contingent Commanders; where the Air Contingent was concerned, Tactical Control was to pass to the coalition Air Commander (the CFACC) during the execution of agreed tasks on the Air Tasking Order (ATO).

The command structure was trialled in a five-phase exercise entitled 'Internal Look' during November and December and, as the NCC for an operation against Iraq had obviously to be involved in the exercise, it became necessary to settle his appointment before it began. Air Marshal Brian Burridge, the Deputy C-in-C at HQSTC, duly became NCC Designate at the beginning of October. During the exercise, Air Marshal Burridge, the staff of the JFHQ and augmentees from the three FLCs manned the National Contingent Headquarters (NCHQ). Phases 4 and 5 of Internal Look took place at CENTCOM's prospective forward headquarters in Qatar.

The exercise ended on 15 December 2002. It provided a clearer picture of the targeting delegations needed by the NCC, and highlighted a number of potential

areas of concern, such as the adequacy or otherwise of AAR provisions; many important lessons were apparently identified. Yet the exercise seems only to have been a partial success from the Air Contingent's perspective. According to one subsequent assessment,

> The 3 vignettes played out were insufficiently long to draw significant conclusions. The crucial first few days of the campaign were not covered, which failed to expose fully the problems of synchronisation between A and G days,[2] and the full air operations cycle was never achieved. In addition, many of the processes (ISR[3], BDA[4] and the capacity of the ASOCs[5] to manage the planned levels of KI/CAS[6]) that eventually proved [to be] key weaknesses were not highlighted.

As for the overall command and control structure, it probably represented the only logical framework for the UK to employ, given the established functions of the MOD, PJHQ and the FLCs. The advantage of the system was that it provided a single operational commander in theatre acting on behalf of all deployed UK forces – and thereby a single point of contact for Commander CENTCOM, while effectively integrating the three UK contingents into their respective coalition components. The one possible disadvantage had been highlighted during Operation Granby, 12 years before: arguably, with its PJHQ, deployed NCHQ and individual contingent headquarters, the UK command structure had too many layers. During Telic, a small minority questioned whether the NCHQ was necessary. Although both CDS and the Chiefs of Staff supported the NCHQ concept, CJO was unhappy to find that his influence waned within CENTCOM after the NCHQ arrived in the Gulf and CENTCOM itself deployed forward. To the UK Land Contingent Commander (UKLCC), the NCHQ seemed to represent an extra link in the command chain that caused inertia.

On the other hand, the NCHQ's abolition would have required elements of PJHQ to deploy to the Gulf in its place, if a single commander, positioned in theatre, was still to represent all three deployed UK contingents. It would then have been necessary for the (deployed) PJHQ to deal with each of the UK FLCs and the MOD from overseas. Clearly, the implications of such a change in UK command arrangements would have been far-reaching; where communications alone were concerned, the challenges would have been daunting. The approach employed in Granby and Telic did at least offer the advantage of a single chain between the deployed and UK headquarters, as well as, in PJHQ, a conduit in the UK linking the MOD and the FLCs with deployed forces. Interestingly, the UK Air Contingent Commander (UKACC), far from questioning the role of the NCHQ, argued that it had been empowered too late (20 February 2003) by CJO. In his view, this exerted an adverse effect on both the management of UK force deployments and the C2 of deployed forces.

DEPLOYMENT

When planning for the prospective operation in Iraq began, PJHQ believed that the US might commence hostilities as early as October 2002. However, primarily to ensure the participation of the UK and other countries in a coalition against Iraq, the US began a concerted diplomatic effort within the United Nations (UN) to bolster the case for military action. The decision to 'follow the UN route' postponed the start of any conflict to early 2003. This delay did provide both the US and the UK with valuable additional time to complete their preparations, but it introduced a second critical uncertainty into the process, adding to the difficulties caused by CENTCOM's determination to open a northern front.

Ultimately, the UN Security Council passed Resolution 1441 on 8 November 2002, declaring Iraq to be in 'material breach' of earlier disarmament resolutions, insisting on the provision of a full declaration of WMD holdings and demanding the resumption of weapons inspections. In December, Iraq produced what it claimed was an accurate and complete declaration of its WMD and weapons delivery programmes, but the UN Monitoring, Verification and Inspection Commission (UNMOVIC) reported on the 19th that that this declaration fell short of the full, final and complete disclosure required. Up to this point, it had been difficult for the UK to embark on open preparations for war, but a more visible build-up now began.

At the beginning of 2003, it became clear that Turkey would not provide basing in the event of hostilities with Iraq, and UK deployment plans were extensively revised. Alternative base facilities for eighteen GR4s at Al Udeid airfield were requested from Qatar, and PJHQ worked with CENTCOM to secure basing for the E-3D and VC10 detachments in Saudi Arabia, for more tankers in Bahrain, and for twelve GR7s in Kuwait. A planned and routine Operation Resinate deployment of four GR4s to Ali Al Salem on 27 January was used as a first step towards enlarging the detachment, and six GR4s engaged in pre-deployment training in Cyprus were held there pending movement to the Gulf. Ultimately, the larger GR4 detachment was established at Ali Al Salem and 12 aircraft were based at Al Udeid.

The objective was now to deploy the UK Air Contingent into theatre during the second and third weeks of February to reach full operating capability by 3 March. This was thought to be the earliest possible date for the start of the air campaign. However, to achieve this deadline, the UK needed to finalise the new basing plans, ground equipment had to be conveyed to the Gulf – largely by sea – and it was necessary to complete the protracted diplomatic clearance processes of the various Gulf states. By 31 January, Kuwait and Bahrain had agreed to provide base facilities. By 4 February, it was assessed that Qatar would accept the UK basing request, and reports from Washington suggested that a decision on military action would probably be delayed by US deployment hold-ups and international pressure to give UNMOVIC inspections more time. The original UK deployment timescales could therefore be extended.

In the meantime, from 20 January, a staff that combined elements of the Joint Forces Air Component Headquarters (JFACHQ), the standing Operation Resinate (South) Headquarters and additional augmentees established the UK Air Contingent Headquarters (UK ACHQ) for Operation Telic. The Air Officer Commanding 1 Group, Air Vice-Marshal Glenn Torpy, assumed his appointment as UKACC on 9 February. The ACHQ was structured as follows:

A1 - Personnel
A2 - Intelligence
A3 - Air Operations and Force Protection
A4 - Logistics and Infrastructure
A5 - Strategy and Plans
A6 - Communications and Information Systems
A8 - Contracts/Civil Secretariat

The A2, A3 and A5 cells comprised the operations section of the headquarters, while the A1, A4, A6 and A8 cells made up the support section. The headquarters ultimately numbered some 220 personnel, including support staff. Additionally, 55 personnel were fully embedded within the CAOC. Meeting this commitment drew heavily on the RAF's resources of trained C2 manpower, which were stretched to the limit. A problem repeatedly identified in earlier operations – the shortage of trained targeteers – was encountered once again.

Nevertheless, the ACHQ and embedded RAF CAOC staff are said to have exerted a considerable influence on the conduct of the air campaign at the operational and tactical levels. The CFACC was content to place UK officers in senior CAOC positions – a reflection not only of the credibility and experience of the officers concerned but also of the trust and respect that had built up between the RAF and the USAF on the basis of near-constant collaboration since 1990.

The Air Contingent deployment process was far from straightforward. The UKACC believed that the task of establishing his headquarters should have been completed well before the various force elements began to deploy, and subsequently maintained that too many decisions on the structure of his force had been taken in the UK. In his view, specific theatre requirements should have been more influential: there was 'too much "UK push" rather than theatre pull'. He also recorded that he had been unable to build up his forces as quickly as he had hoped due to the time involved in securing diplomatic clearances to bring personnel, equipment and aircraft into theatre.

Daunting logistical hurdles had also to be overcome. As one commentator remarked, 'the size of the task, together with fragile communications, has caused difficulty in maintaining visibility of exactly what equipment has been scheduled to arrive where and

when, whether moving by sea or air.' Seaborne equipment packages originally prepared for Turkish bases (and which, of necessity, left the UK before the Turkish option was ruled out) were inevitably not optimised for the revised basing arrangements. Deployed Operating Base (DOB) commanders complained that enabling equipment and personnel arrived in the wrong order and at short notice. Hub-and-spoke air transport operations centred on the UAE base at Fujarah (but originally planned for Akrotiri) did not begin as early as had been hoped. Difficulties securing diplomatic clearance then disrupted flying and led to the accumulation of a four-day backlog of freight movement. Shortages of weapons and ground support equipment (GSE) delayed the establishment of full operational capability at Al Udeid and PSAB, and required some redistribution from Ali Al Salem and Bahrain respectively; GSE sent to PSAB from the UK, which reached Bahrain by sea on 10 March, was not delivered until the 17th because of further diplomatic clearance problems. Nuclear Biological and Chemical (NBC) stores proved inadequate and were unevenly distributed between force elements.

The early stages of the deployment were also beset by chronic communications problems at ACHQ level – both forward to the DOBs and back from the headquarters to the UK. Communications bearers and gateways proved insufficiently robust, and difficulties also arose because a multitude of different communications and information systems (CIS) were employed across the UK defence community. Moreover, there was little interoperability with American systems. After Telic, the UKACC identified CIS as his gravest area of concern.

Of course, many early teething troubles in the communications sphere were ultimately resolved, but the more fundamental weaknesses within the UK CIS infrastructure could not be rectified in the middle of a major operation. The urgent need for a single robust defence-wide system was perhaps the most prominent lesson identified from the operation. By contrast, the other physical deployment obstacles were overcome in due course.

AIR C2 AND THE SOUTHERN NO-FLY ZONE

Against a background of mounting international tension, the second half of 2002 witnessed a marked increase in the intensity of air operations in the Iraqi NFZs. Sometimes described as 'spikes', they led Iraq to deploy more SAMs into the Southern NFZ, and there were increasingly frequent SAM launches against coalition aircraft, which duly gave rise to a growing number of so-called Response Options – coalition attacks on Iraqi targets. The increase was so pronounced that the more senior RAF officers in theatre began to suspect that a transition might be taking place from extended NFZ operations to shaping activity for a planned assault on Iraq. One UK observer noted in November that 'the UK position within the coalition ops had to be carefully guarded to remain within the Op RESINATE (S) remit and not stray into preparation for a possible action against Iraq.'

That US objectives now extended beyond the immediate parameters of Southern Watch was also apparently reflected in a new coalition CONOPS introduced in November. UK analysis of the so-called CONOPS 2003 concluded that it was chiefly concerned with the expansion and rationalisation of targeting delegations from Washington down to the Combined Joint Task Force Operation Southern Watch. CENTCOM was said to have no imminent plans for *expanding* the Southern Watch target set. Yet the new CONOPS did provide for strikes against 'targets from the CENTCOM-approved Response Option target list *or targets other than those on the CENTCOM-approved Response Option target list*.'[7]

Yet the reality seems largely to have been that the Response Options, while increasing in intensity, still struck the type of air defence sites that had been targeted almost continuously since 1998. Moreover, they remained confined to Southern Iraq. RAF assets in the Gulf continued to operate in accordance with an earlier CONOPS – CONOPS 2001 – and, by the end of the year, this had led to their exclusion from Response Options on just a few occasions.

However, during January, US timelines for the launch of OPLAN 1003V began to slip. At the end of 2002, US planning still envisaged that a short preliminary air campaign preceding a ground offensive into Iraq would be launched late in February, but the UK was advised on 15 January of 'a possible marginal shift to the right' for the American political decision to go to war. The delay was apparently required to give more time both for military preparations and the 'political process' – i.e., the presentation of a case for war based on UNMOVIC's expected failure. Furthermore, the gap between A-Day and G-Day had been compressed so that G-Day was now expected to commence five days after A-Day.

As the weapons inspection and UN processes ground on, the timetable slipped again. In mid-February, the UK Chiefs of Staff learnt that the Combined Forces Land Component Commander (CFLCC) was working towards a G-Day of 15-16 March, only slightly preceded by A-Day. This scenario was effectively confirmed on 22 February, when the US administration took the political decision to launch OPLAN 1003V in mid-March. Ultimately, citing the authority of UNSCR 1441, the Americans prepared an ultimatum demanding that Saddam Hussein leave Iraq within 48 hours or face military action. It was issued on 17 March, making the 19th D-Day for OPLAN 1003V.

The revised timetable confronted the CFACC with a fundamental problem. As the time allowed for the preliminary air campaign was compressed, he found himself facing the formidable challenge of discharging his five main tasks (see above) almost simultaneously. He was given hardly any time to shape the battlespace or dismantle Iraq's most capable array of ground-based air defences (GBAD) around Baghdad –

known as the Super-MEZ[8] – which was crucial if the Republican Guard divisions protecting the Iraqi capital were to be targeted effectively. It must have appeared eminently sensible in these circumstances to conduct at least some shaping operations under the auspices of the NFZ mission through the medium of Response Options. He therefore secured such authority as was necessary to extend the parameters of Southern Watch, and the number of Response Options duly increased, as did the coalition air presence in Southern Iraqi skies. By contrast, the UK targeting directive (TD) continued to impose tight restrictions on RAF participation in any activity extending beyond the basic NFZ tasks.

This placed the UKACC in an awkward position, and he eventually felt constrained to ask for his TD and ROE to be amended. His perspective is easy to understand, but the problem was viewed rather differently in London, predictably enough. The suggested changes in the directives would have been difficult to reconcile with the government's declared position that no decision had yet been taken to go to war, and with its determination to observe the weapons inspection and United Nations processes before committing the UK to hostilities. Moreover, at the time, the precise legal basis for taking military action to disarm Iraq was still under discussion. Although very seriously considered, therefore, the request was rejected. However, there was rather more flexibility where ISR activity was concerned, and the TD was altered to permit strikes against Iraqi forces deemed to be threatening the coalition build-up in the Gulf. The UKACC remained far from content with the situation, but the revised directive did more closely align the US and UK positions.

On 3 March, the MOD authorised aircraft deployed on Operation Telic to participate in Resinate (South), and most of the RAF detachments that formed the UK Air Contingent took full advantage of this changed situation when the CFACC introduced a new concept of operations the following day. This involved spreading a series of air 'packages' over each 24-hour period. However, apart from operating on a 24-hour basis, the coalition would maintain the established flying patterns as far as possible, avoiding any further increase in the number of Response Options and thus acclimatising the Iraqis to more intensive air activity. This would avoid confronting them with a sudden and dramatic air offensive that would obviously herald the launch of 1003V. At the same time, the CFACC reiterated that he attached the highest importance to maintaining coalition and international support, and that this should be reflected in the CAOC targeting process. His stance was welcomed at the UK ACHQ, as it promised to moderate at least some of the difficulties that had arisen in the preceding weeks.

In addition to the GR4s at Ali Al Salem and the F3s at PSAB, which were already involved in Resinate (South), several force elements deployed for Operation Telic were now included in the ATO, such as the Nimrod R1, VC10 and E-3D detachments. The Al Jaber GR7s began flying Resinate sorties on 12 March. Only the Ali Al Salem GR4s were

committed to Response Options, and no other RAF aircraft released weapons against Iraqi targets before the start of Operation Telic.

AIR C2 IN THE SECOND GULF WAR

By the second week of March, coalition planning had compressed A-Day and G-Day to such an extent that they were eventually scheduled to take place at the same time – on D+2. This was partly because the US administration desired the shortest possible period of live hostilities and believed extensive battlespace preparation was unnecessary, given the relative strengths of coalition and Iraqi forces. The CFLCC may also have considered that large-scale preliminary air strikes, while desirable to degrade enemy ground forces, might warn the Iraqis of the impending assault and give them an opportunity to sabotage the all-important oil fields before coalition forces began their advance. Equally, it was believed in some quarters that an air campaign designed to achieve shock and awe might undermine coalition Information Operations (IO) by causing civilian casualties and collateral damage, and that the destruction of Iraqi infrastructure might significantly complicate the task of post-war reconstruction.

At the ACHQ, the days preceding the outbreak of hostilities were dominated by last-minute planning for the opening phase of operations. Work on clearing OPLAN 1003V targets started on 9 March and the UKACC also instituted table-top targeting exercises to ensure that robust targeting and clearance procedures were in place. He himself participated in a CENTCOM VTC table-top exercise on 12 March intended to 'war-game' the early days of the campaign. At the same time, ATOs were prepared covering D-2 to D+4. This proved extremely difficult because of the prevailing uncertainty about how 1003V would actually begin – how the political and military processes would be synchronised, how A-Day would be co-ordinated with D-Day and how the end of Southern Watch would lead into the beginning of OPLAN 1003V. A Master Attack Plan for the A-Day ATO was finally briefed to the CFACC on 13 March, but changes were being introduced into some of the other ATOs for this critical period as late as the 18th. Ultimately, it was necessary for the UK ACHQ to prepare a variety of Air Operations Directives to cover a broad range of circumstances in which hostilities might start. Much of this planning effort inevitably proved to be nugatory.

The UKACC duly adopted the Operation Telic ROE on 19 March at 1800Z – the same time as the Americans switched to the ROE for OPLAN 1003V. However, air planning was again in a state of flux by that time. If 19 March was D-Day, the original plan had envisaged launching the ground and air operations on D+2 – the 21st. But Commander CENTCOM then decided that the ground offensive should begin on D+1 – the 20th – apparently in anticipation of the early collapse of resistance in Southern Iraq. In other words, he now envisaged that G-Day would actually *precede* A-Day. As some unknown comedian in the CAOC put it, 'A before G, except after D.'

This had profound implications for A-Day: a Master Attack Plan designed to contribute independently to the achievement of shock and awe could hardly be appropriate to a situation in which large-scale ground operations had been in progress for more than 24 hours. Ultimately, numerous missions scheduled for the opening stages of Telic were cancelled altogether, and much of the targeting associated with shock and awe was abandoned. Similarly, the Baghdad Super-MEZ was left intact and was not systematically targeted for several days – a striking reversal of the order of events normally associated with air campaign planning.

In the initial coalition offensive, the US Army's V Corps drove north-west along the western bank of the Euphrates, while the Marine Expeditionary Force (1 MEF) and 1 UK Armoured Division concentrated on securing southern areas of Iraq, including the port of Umm Qasr, the Rumaylah oilfields, the Al Faw Peninsula and Basra. Responsibility for this area then passed to 1 UK Armoured Division, freeing the bulk of 1 MEF to follow V Corps as far as Nasiriyah, where they crossed the Euphrates and advanced north. The campaign then developed into a headlong rush for Baghdad.

For the deployed RAF units, the revision of coalition planning in this period overturned a number of earlier assumptions. The GR4 and GR7 detachments arrived in the Gulf expecting to fulfil a variety of roles, including attack, interdiction and CAS. In the event, they received – at most – two or three days of pre-planned tasking before being switched to CAS or, to be more precise, KI/CAS. KI/CAS (standing for Kill-Box Interdiction/Close Air Support) was a US Marine Corps (USMC) concept, which was adopted by the CFACC for the operation. The whole of Iraq was divided into kill-boxes and each box was then subdivided into nine equal squares, so that it resembled a telephone keypad. Operations were planned into individual kill-boxes with set rules for entry and exit.

Outside a Fire Support Coordination Line (FSCL), some distance beyond the Forward Line of Own Troops (FLOT), aircraft were cleared to attack any targets they could find in their assigned kill-boxes – assuming they had been declared 'open'. If they were 'closed', aircraft could only attack under positive direct control, normally from a Forward Air Controller (FAC). Inside the FSCL, kill-boxes were automatically closed unless opened with the agreement of the CFLCC. In the absence of such agreement, they were subject to three types of CAS, all of which necessitated positive direct control of the aircraft. Type 1 required the terminal controller to have sight of both the aircraft and the target – a rare occurrence during the campaign; Type 2 required the terminal controller to have sight of either the aircraft or the target, while Type 3 enabled air strikes to take place when the terminal controller could see neither aircraft nor target. This typically occurred when a forward ground unit reported the location of a target to a terminal controller in radio contact but not visual contact with both the ground unit and the attacking aircraft.

For the GR7s committed to Counter-TBM, a slightly different system was employed. Western Iraq was divided into four Areas of Operation (AOs), each being assigned to specific SF elements. Each AO included a number of Joint Special Operations Areas (JSOAs), which corresponded with the kill-box grid system employed by coalition air forces. SF within the JSOAs were responsible for searching them for Scud activity and were also protected by strict fire support control measures – a vital safeguard against fratricide. Outside the JSOAs, it was unnecessary for fire support control to be quite so rigid, and air assets were responsible for the Scud hunt.

The contrast with the RAF's experience in Granby and post-Granby operations in the Gulf could hardly have been sharper. For more than a decade, crews had been accustomed to extensive mission planning and pre-briefing on their targets, as well as target folders containing up-to-date photographs, intelligence and other mission-specific information. In the KI/CAS role, on the other hand, aircraft were simply dispatched to a kill-box to await any tasking that became necessary. The GR7s committed to Counter-TBM were sent out to observe potential Scud hide sites. Detailed targeting information normally emerged only during transit to the target area.

Other functions associated with pre-planned targets, such as the application of the TD and the selection of weapons – previously undertaken by the CAOC – were delegated to the cockpit during KI/CAS missions, and this was in addition to more familiar aircrew responsibilities, such as the location and positive identification of the target. Moreover, the critical tactical control function of assigning aircraft to targets was handed off to 1 MEF's Tactical Air Operations Centre (TAOC), the US Army's V Corps Air Support Operations Centre (ASOC), and, for Counter-TBM, the Special Operations Task Force's Joint Fires Element.

This sudden, large-scale and high-intensity transition from pre-planned to dynamic tasking raised acute difficulties; the fact that small, mobile, tactical targets were involved – often in dispersed, concealed or urban locations – complicated matters further. The search for solutions was not helped by poor liaison between the different components. Intelligence was a particularly vital commodity in a campaign of this nature, yet the analysis and exploitation processes took far too long. Although the US maintained an enormous ISR collection capability, the fusion of intelligence products could not keep pace with operational requirements, and BDA was rarely made available in time to influence planning or targeting decisions.

Ultimately, significant numbers of coalition combat aircraft were left untasked or were unable to attack assigned targets for other reasons and returned to base with their weapons. This quickly became a source of concern at higher levels of the command chain. The V Corps ASOC appeared unable to control the air support assigned to it, and aircrew soon discovered that they were more likely to be allocated targets by 1 MEF.

As V Corps drove rapidly north towards Baghdad, some aircraft also found themselves operating beyond the effective range of the ASOC's communications. However, work was soon ongoing to improve KI/CAS procedures, and provision was also made for aircraft to attack pre-planned or alternate targets. These tended to be fixed targets with predetermined GPS co-ordinates, such as headquarters, barracks and depots to which troops or equipment might have been dispersed. So-called 'bomber boxes' were also introduced, where aircraft could release unguided weapons against low collateral damage targets.

Meanwhile, the V Corps ASOC was asked to review its CAS procedures in an attempt to reduce the number of aircraft left untasked, and some improvement in its performance was subsequently noted. In due course, it was moved north to Tallil, in Southern Iraq, to improve communications with forward areas. At the same time, ISR and AAR assets that had been held south of the Iraqi frontier for their own safety were permitted to orbit over the border area to improve intelligence supply and on-station time for KI/CAS assets. Subsequently, some of these aircraft began operating inside Iraqi airspace despite the risks involved.

Nevertheless, notwithstanding what were referred to as 'process improvements in KI/CAS', the situation remained far from satisfactory. When the UKACC visited Ali Al Salem, Al Jaber and Al Udeid at the end of March, he noted considerable frustration among the GR4 and GR7 crews. He subsequently convened an operations/tactics seminar on KI/CAS at the UK ACHQ, which identified four key areas of concern. These were communications, the V Corps ASOC's performance, the non-availability of Kill Box imagery, and the prioritisation and flow of aircraft between the two control centres and individual Kill Boxes. It was also suggested that imagery from the GR4's RAPTOR reconnaissance pod and from the PR9s could be employed far more effectively to support 'time-sensitive' targeting.

In the end, at least some of these issues were addressed through tactical-level initiatives. For example, some direct transfer of RAPTOR and PR9 imagery occurred to both UK and US force elements to permit more rapid analysis and exploitation. Harrier Force South succeeded in obtaining more alternate targets and these were regularly attacked if no dynamic KI/CAS tasking was available. They were identified through the combined efforts of their Mission Support Cell (MSC) and the DOB Intelligence Cell. This involved careful study of future ATOs to establish the location of assigned kill-boxes, and close liaison with the 1 MEF Deep Strike Cell – also conveniently based at Al Jaber. If the location of possible targets was confirmed by the Deep Strike Cell, the MSC's commanding officer (who was also the 4 Squadron Ground Liaison Officer) would attempt to match the information with any available imagery of the areas covered. If the secondary targets were fixed, he could also clear the Collateral Damage Estimate (CDE) with the CAOC and relieve the pilots of this responsibility. Alternate targets were also identified by the Air Cell within 1 (UK) Armoured Division.

On the ground, progress slowed during the last week of March. Commander CENTCOM subsequently felt that V Corps and 1 MEF had focused too much attention on seizing ground rather than destroying enemy forces. It became clear that their extended lines of communication were vulnerable to attack, and that measures had to be taken to ensure their security. Iraq's best Republican Guard divisions were also known to be defending the southern approaches to Baghdad, and it would have been unwise of the CFLCC to launch a major ground assault against them while his supply lines were threatened. Neither corps was at first strong enough to execute such a task. The weather also turned against the coalition, Central and Southern Iraq being hit by violent and prolonged sandstorms between 24 and 26 March. By the 28th, a more-or-less formal pause in the ground offensive had been called. Plans to move against the Republican Guard divisions were postponed from the 29th to 2 April to allow V Corps and 1 MEF to marshal their resources for the forthcoming 'Battle of Baghdad'.

The Air Component was thus handed an unexpected but welcome opportunity. During this period, strikes on the so-called Super-MEZ substantially degraded Iraqi air defences around Baghdad, although the CFACC began to suspect that their capability had been overestimated by coalition intelligence earlier in the operation. They rarely presented much direct threat to coalition aircraft. By 31 March, he was referring to Baghdad and its environs as a 'threat area' rather than a MEZ. Over the following days, Iraqi early warning cover began to disintegrate and the number of SAM launches steadily declined.

Meanwhile, coalition air power continuously targeted the Republican Guard. The Baghdad Division was reduced to an estimated combat effectiveness of just 10 per cent, while for the Medina Division the estimated combat effectiveness was on 25 per cent. For the Adnan and Hammurabi Divisions, the figure was 55 per cent, while for the Nebuchadnezzar and Al Nida Divisions it was 70 per cent. The divisions that suffered least apparently reduced their vulnerability to air attack by employing such far-reaching dispersal and concealment measures that their combat capability was also substantially undermined. Thus the Republican Guard and other formations south of Baghdad were rendered incapable of effective resistance – a fact that became all too clear when the ground offensive resumed. The anticipated set-piece battle for the Iraqi capital simply failed to materialise.

As V Corps and 1 MEF closed on Baghdad and Iraqi resistance crumbled, coalition air forces were confronted with the prospect of the FSCL being extended north of the Iraqi capital and with virtually all fires short of this line having to be co-ordinated and controlled. Baghdad was carefully mapped and divided into zones; each zone was then subdivided into sectors, and GPS co-ordinates were produced for every building. The tactics appropriate for Urban CAS over Baghdad now became the focus of attention at the UK ACHQ and detachment level.

At the same time, the UKACC became concerned that the procedures formulated to manage the flow of aircraft into the restricted battlespace would not sufficiently address the increased risk of blue-on-blue engagements, mid-air collisions and collateral damage. This latter problem was particularly worrying because the smallest precision-guided munition (PGM) in the UK inventory was the 1,000lb Paveway/Enhanced Paveway 2.[9] Paveway 2 could be very accurately directed at a single building, but its explosive force often threatened to cause at least some damage beyond the immediate boundaries of the target. In short, it was not especially suitable for employment in an urban environment. In an attempt to find a rapid solution, proposals emerged for using inert Paveway 2 bombs, and the UK ACHQ submitted a request for their dispatch to the Gulf as a matter of the highest priority on 3 April. However, in practice, it was found that troops on the ground requesting air support preferred the effect of conventional explosive, and would assign any available tasking to US aircraft if the RAF could only offer them inert weapons.

Coalition forces took control of Baghdad over the following days, and air tasking over the Iraqi capital then declined considerably, but there was some intensification of operations in Northern Iraq. Airborne troops had landed at Bashur Airfield on 26 March, and coalition SF were also infiltrated. The aim was to safeguard Iraq's oil fields around Kirkuk, uphold her territorial integrity and further her military defeat by preventing forces in Northern Iraq from reinforcing Baghdad. As the airborne and SF units lacked heavy weapons, they were largely dependent on air power for fire support. The CFACC also decided to target Tikrit from the air independently. As the city was Saddam Hussein's spiritual home and a base for other members of his government, he believed this would signify to the Iraqi people and to members of the armed forces the coalition's determination to remove the regime. Hence, as air tasking in support of V Corps and 1 MEF began to slacken, operations over Northern Iraq gathered momentum. Approximately 29 per cent of the air effort in the 5 April ATO was assigned to the north. This change of emphasis produced a limited amount of additional tasking for the RAF detachments, although the NCC ruled, on the basis of his TD, that they should not strike targets in the Tikrit area that were merely regime symbols. Ultimately, the fall of Saddam Hussein's regime during the second week of the month brought hostilities to an end.

From an air perspective, Telic will always be associated above all else with the trials and tribulations of KI/CAS. To many, the high weapon bring-back rate and the difficulties experienced by the various tactical C2 agencies were extremely troubling. The coalition air forces appeared poorly prepared for the KI/CAS task, whereas the USMC, with their organic air capability, seemed far more proficient. On this basis, the continued efficacy of centralised air C2 was challenged in some quarters after the conflict. At its worst, this critique involved a fundamental misrepresentation of the ATO system which, it was claimed, rigidly tied aircraft to specific duties three days in advance.

In actual fact, the vast majority of combat aircraft were assigned by the ATO to dynamic tasking in support of the Land Component and not to specific pre-planned attacks. Moreover, there is a case for arguing that tangible gains might have resulted from more rather than fewer pre-planned air strikes. As we have seen, the lack of tasking for aircraft assigned to KI/CAS ultimately resulted in numerous *ad hoc* attacks on secondary targets. Many of these were fixed facilities and could have been targeted far more economically and effectively by a conventional planned air campaign; at least some had in fact been removed from the A-Day ATO following the launch of the coalition ground offensive. Had such targets as headquarters buildings and barracks been attacked during the opening days of Operation Telic, it is also far more likely that they would have been occupied. In the event, by the time they were finally struck, most would probably have been empty.

Historically, the accomplishments of the USMC have undoubtedly been impressive where CAS is concerned, yet it is all too easily forgotten that they lack much air capability beyond the basic CAS role. While they may often benefit from very effective CAS, their organic air support provides little else. Moreover, the distribution of air assets on organic lines is always open to objection on resource-allocation grounds. Organic air assets that are not immediately required by the ground formation to which they are attached can be difficult to transfer to the support of other formations that have an immediate and pressing need for them. By contrast, via centralised command, available air assets can easily be apportioned in accordance with rapidly changing operational priorities.

The Counter-TBM story provides an illustration. Although, on paper, the air assets assigned to Western Iraq were under the command of the CFACC, they were to all intents and purposes locked into the Counter-TBM/SF-support task. As their role was so clearly defined before the onset of hostilities, they could train and prepare for it very thoroughly. However, when the anticipated Scud threat did not materialise – and as the requirement for SF support began to decline – it was difficult to reassign them elsewhere. In any case, coalition commanders were unwilling to reduce the Counter-TBM air effort while the Iraqis retained their hold on particular areas that had long been linked to Scud-related activity, such as the border town of Al Qa'im. Consequently, while the RAF and USAF combat air detachments played a vital role in operations in the west, their strike rate was low even by the standards of Operation Telic.

This is not necessarily a criticism of the whole concept of organic air power; it is simply a reminder that it can often involve the commitment of very substantial resources to quite limited and specialised tasks. In short, organic air support is not cheap. The RAF's participation in Counter-TBM operations involved the permanent allocation of some 32 fixed-wing and rotary-wing aircraft as well as tankers and RAF Regiment personnel; Tornado GR4s based at Ali Al Salem also participated intermittently. USAF operations were mounted on a very much larger scale.

It is also revealing to draw comparisons between GR7 operations flown in support of the Counter-TBM mission and those mounted by Harrier Force South from Al Jaber. Between 19 March and 14 April 2003, 3 Squadron flew 142 Counter-TBM missions for 290 sorties. Some 32 sorties released weapons and 73 weapons were dropped in all. Harrier Force South, between 21 March and 14 April, flew 179 offensive missions involving 367 offensive sorties (i.e., excluding reconnaissance missions with the Joint Reconnaissance Pod), 117 of which released a total of 265 weapons. In other words, 11 per cent of the Counter-TBM sorties released munitions compared with 32 per cent of sorties flown from Al Jaber; 3 Squadron had to fly nine sorties per weapon release, whereas Harrier Force South had only to fly three.

These figures partly reflect the fundamental difference between the two detachments' respective tasks. While 3 Squadron aircraft took off each day to perform both the 'non-traditional' ISR (NTISR) and attack roles, a large part of the NTISR task was focused on one specific object – the Scud missile – which was not in fact deployed in Western Iraq. By contrast, Harrier Force South's reconnaissance role was entirely separate from their attack role, and offensive missions were tasked to destroy virtually any legitimate Iraqi target that could be found. They also flew occasional pre-planned missions and benefited from the availability of more secondary targets than were allocated to 3 Squadron. Consequently, Harrier Force South aircraft were far more likely to be tasked against targets. However, their offensive capability was critically dependent on the availability of TIALD-capable aircraft and pods, and yet the over-riding priority attached to Counter-TBM compelled them to manage throughout the campaign with half the number of TIALD aircraft that was made available to 3 Squadron (four compared with eight), and with the same number of pods (five – initially four at Al Jaber). They faced a constant struggle to maintain these mission-critical resources.

Similar arguments could be applied where the PR9 detachment was concerned. Locked into an endless and unproductive search of potential Scud hide sites, 39 Squadron began pressing for alternative tasking, collecting much-needed imagery over Tikrit, Baghdad, Ramadi or Mosul. However, the CAOC ISR collections staff responded with strong counter-arguments, emphasising the continued importance of the Scud hunt and the fact that both Commander CENTCOM and the CFACC still believed the Iraqis might attempt Scud launches against Israel if the coalition dropped its guard.

Beyond offering such insights into the advantages and limitations of organic air power, Operation Telic also demonstrated once again the value of forward basing. When the Turkish option collapsed in January 2003, alternative basing arrangements had to be organised at very short notice. It was fortunate that Al Udeid could accommodate the second Tornado GR4 detachment in these circumstances. Nevertheless, the Al Udeid Wing faced a transit of about 900km to Southern Iraq –

six times the distance that confronted the Combat Air Wing flying from Ali Al Salem – and this was a significant handicap.

Excluding reconnaissance missions with RAPTOR, Counter-TBM, Storm Shadow and ALARM tasking, the Ali Al Salem Combat Air Wing planned 324 sorties between 20 March and 15 April 2003; 309 sorties were flown. The 309 sorties resulted in 148 weapon releases (48 per cent). By contrast, the 268 sorties flown by the Al Udeid Wing led to just 87 weapon releases – 32.5 per cent. If the data are confined to KI/CAS against fielded Iraqi forces before the virtual cessation of hostilities on 12 April, the results for the Al Udeid Wing would be based on 200 sorties, of which only 47 – 23.5 per cent – released weapons. Al Udeid's distance from Iraq provides the chief explanation for their lower strike rate. More unserviceabilities were experienced during the long transit north[10] and they were far more dependent than the Ali Al Salem GR4s on AAR to hold over Iraq while awaiting tasking. If they were tasked, the subsequent processes of target location, positive identification and clearance also took time, with inevitable consequences in terms of fuel consumption. If AAR was unavailable, there was no alternative but to return to base.

Well before hostilities actually began, the drawbacks of operating from so far south were well understood. To an extent, they had to be accepted, but the original basing plan was reversed, as we have seen, to position the larger GR4 detachment at Ali Al Salem.

The ROE and TD employed during Telic were only finalised the day before D-Day (although drafts were available earlier), a process described by one report as 'long and tortuous'. Nevertheless, both ministers and legal advisers were made aware of the realities of high-tempo, high-manoeuvre warfare while the TD was being prepared, and thus agreed to accept that rigid control over targeting from London was unrealistic. The NCC received more extensive delegations than the UK Air Commander had been granted during Operation Allied Force, four years before.

Delegations to contingent level were based on a CDE system that incorporated civilian casualty estimates and four tiers that reflected the proximity of civilian objects to coalition aiming points. Individual target categories were delegated up to specified tier and civilian casualty estimate levels. If the delegated civilian casualty or tier analysis criteria could not be satisfied at the appropriate level of command, the target would have to be referred upwards – for example from the NCHQ back to the UK targeting authorities. However, in practice, nearly all target approval decisions were taken in theatre.

US forces operated in accordance with somewhat different ROE and CDE procedures. Such divergences had become a familiar part of coalition operations since the end of the Cold War, and the friction they could sometimes generate came as little surprise.

The requirements of the UK TD were fully briefed to the responsible American staffs and it was very rare for RAF aircraft to be allocated targets that they were not allowed to attack. Moreover, through continuous discussion, it was often possible to identify and address potential problems well in advance. Then, if it was established that a target could not be assigned to UK aircraft or American aircraft flying from the UK or UK sovereign territory, it might be reassigned to an American aircraft flying from a non-UK base. The UK red card was only produced on a handful of occasions – usually when there had been no opportunity for preliminary Anglo-US discussions.

CONCLUSION

Lessons studies conducted after Operation Telic drew attention to several C2 issues raised in earlier after-action reports, such as those produced following Granby and the Kosovo conflict of 1999. There was concern about the weakness of the RAF's CIS infrastructure, and about the CAOC's shortcomings where intelligence exploitation and BDA were concerned. Nevertheless, the majority of assessments were broadly positive. C2 arrangements had benefited from the fact that there had been ample lead time for planning and preparation. Relatively few countries had participated in the coalition, and it had been dominated by the US and the UK, which had for long been operating together in the Gulf. When problems arose, they could often be dealt with informally and bilaterally. The laborious multinational processes that caused so many difficulties during the Kosovo operation were notably absent, and there was far less political interference and considerably more delegation to commanders in theatre. Although human resources were certainly stretched, the RAF successfully manned the UK ACHQ with trained JFACHQ personnel as well as augmentees and other staff who had gained C2 experience from operations over Iraq and the Former Yugoslavia since 1990, and filled influential embedded positions in the CAOC.

Yet while several past problems were addressed, the coalition was confronted by many new air C2 challenges. Some of these arose during the transition from Resinate to Telic; others were encountered during the operation. For example, after the outbreak of hostilities, the USAF quickly demonstrated a number of impressive advances in the field of time-sensitive targeting, and this prompted recommendations for the RAF to review its targeting procedures and implement measures to accelerate approval processes when fleeting high-priority targets were involved.

But the most problematic issue for coalition air commanders was the move away from deliberate or pre-planned operations, which had been central to UK air doctrine in the 1990s, towards dynamic tasking, chiefly in the form of KI/CAS. This required the delegation of some C2 functions to the V Corps ASOC and 1 MEF TAOC. The many and varied difficulties involved were reflected in the fact that numerous combat aircraft were left untasked by these agencies – something that led to the development of secondary targeting of a more deliberate character. Furthermore, the coalition air forces

were no longer cast in the lead role they had played in Granby, and over Bosnia and Kosovo. Instead, they found themselves supporting what was essentially a ground plan in which the direct effect of air power appeared considerably less important than the volume of support provided to the land component. In this context, it was easy for both air and land to underestimate the importance of truly integrated planning based on the achievement of operational effect.

NOTES

[1] Unless otherwise stated, this chapter is based on the unpublished Air Historical Branch narrative *The Royal Air Force in Operation Telic*.
[2] 'A' day was the first day of the air campaign while 'G' day was the first day of the ground campaign.
[3] ISR – Intelligence, Surveillance and Reconnaissance.
[4] BDA – Battle Damage Assessment.
[5] ASOC – Air Support Operations Centre.
[6] KI/CAS – Kill-Box Interdiction/Close Air Support.
[7] Author's italics.
[8] MEZ – Missile Engagement Zone.
[9] Enhanced Paveway 2 incorporated GPS guidance as well as Paveway 2's conventional laser guidance.
[10] Lower serviceability was exacerbated by a lack of prepared base facilities at Al Udeid, including aircraft sunshades.