

COOPERATION AND INTEGRATION: THE AIRSPACE COORDINATION
CENTRE IN ITS LIAISON ROLE WITH OUTSIDE AGENCIES.

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BACKGROUND

From an army standpoint, the main objective of Airspace Control is “to maximise the effectiveness of military operations by promoting the ability of air, land, special operations, and maritime forces to operate in an efficient, integrated and flexible manner with minimum mutual interference and without undue restraint and risk to friendly forces and non-combatant airspace users.”¹ In order to meet this objective, a unique organization called the Airspace Coordination Centre (ASCC) was developed to provide excellent airspace awareness during operations in times of war, or training for war, at the brigade level and higher. The situational awareness that an ASCC can provide to a commander in an operational theatre can greatly facilitate his/her capacity to make important and well-informed decisions that can ultimately have a strategic impact.

Even though it is a manager of battlespace through sophisticated Data Link capabilities and various sensors, the ASCC is neither the only manager of battlespace, nor is it the primary controller of it. There are numerous stratified commands within the Canadian military, those in militaries of other nations, and those in external civilian teams and non-government organizations (NGOs), with which an ASCC needs to liaise. The challenges of working in a joint multi-national military setting or alongside a civilian organization are numerous. This is particularly true when many organizations – military or otherwise – start to work independently of one another, creating confusion in an otherwise stable Area of Operations (AO).

¹ NATO Standardization Agency (NSA), *Doctrine For Airspace Control In Times Of Crisis And War: ATP-40 (C)* (Brussels, Belgium: NATO Standardization Agency, 2001), p 1-1.

AIM

The aim of this dissertation is to outline the effectiveness of an ASCC in its coordination and liaison with other agencies: civilian and joint multi-national. More specifically, this essay will illustrate the strategic and tactical impact the ASCC had during OPERATION ATHENA and its first three rotations with the Kabul Multi-National Brigade (KMNB).² Cases that will be described in this essay include: 1) the sharing of airspace between manned and unmanned aircraft during Roto 0; 2) airspace deconfliction with Explosive Ordnance Disposal (EOD) teams during Rotos 0 and 1; 3) the reduction in size of several firing ranges in the Kabul AO during Roto 1; and 4) the shortlived Tactical Airspace Operations Cell (TASOC) stood up during Roto 2.

1) SHARING THE AIRSPACE WITH UAVs (ROTO 0)

In 2003, Canada would, for the first time, acquire and operate a Tactical Unmanned Aerial Vehicle (TUAV) known as Sperwer. There was considerable worry that it would be overly restricted in what is called "Class D airspace" which blanketed most of the International Security Assistance Force (ISAF) AO. The AO consisted of a 10nm (nautical mile) radius around the Kabul airport, plus a considerable amount of airspace both above the city of Kabul and outside of it. The Royal Canadian Artillery, concerned for Sperwer's disposition, decided to deploy its first operational ASCC in almost twenty years in order to facilitate the integration of this TUAV into Kabul's airspace.³

² The rotations are known internationally as KMNB IV, V, and VI; in Canada they are known as Rotations (Rotos) 0, 1 and 2 respectively.

³ M.F. Notaro (Maj), "Airspace Coordination In Afghanistan," *The Bulletin: For Soldiers By Soldiers*, vol 10, no. 6 (Nov 04), p 1.

The ASCC would have its work cut out for it, especially when it had to deconflict shared airspace above the Kabul airport for both civilian aircraft and Unmanned Aerial Vehicles (UAVs). At the beginning of the Sperwer deployment, a number of flying restrictions were in fact placed on the TUAV by the Senior Air Traffic Controller (SATCO) at Kabul Afghanistan International Airport (KAIA). However, these imposed UAV restrictions were based on previous ones for the "LUNA" (a German TUAV which had, at times, an unpredictable flying schedule).⁴ The SATCO felt that civilian aircraft coming into Kabul were being non-compliant with the city's already-established air regulations. Restricting the freedom of movement on the UAV seemed an easy way to ensure the safety of inbound and outbound civilian aircraft.⁵ It was discovered later on that amongst the un-cooperative aircraft flying over Kabul, four major non-compliers were determined:

1. Ariana Airlines. It is Afghanistan's national civilian airliner. Aircraft from this airline often gave incorrect position reports, especially on "final" (ie. the last leg of an airport circuit just before runway touchdown);
2. Special Forces. They would often not file a flight plan, as well as takeoff and land without prior notice;
3. Afghan Military Force (AMF). Helicopters took off and landed without coordination; and
4. Military transport aircraft from other nations. They did not always comply with direction from the tower for reasons they deemed were in the best interest of "aircraft safety."⁶

⁴ M.F. Murphy, (Maj), "Airspace Coordination In Operations," *The Bulletin: For Soldiers By Soldiers*, vol 11, no. 3 (Apr 05), p 5.

⁵ Ibid.

⁶ Ibid.

With an ASCC finally established by ISAF, commencing on Roto 0 and continuing through Roto 1, the ASCC eventually was able to get both the AMF and Special Forces to report to the tower regularly. As well, the ASCC brought in the Ministry of Communications and Transportation to help ensure that the Ariana aircraft followed more stringent aerodrome procedures. Once all ISAF airspace requirements were included in the Airspace Control Orders (ACOs), military aircraft from other nations were now informed of possible UAV traffic around KAIA. This helped further underline the fact that compliance with ATC direction is paramount in increasingly busy Kabul airspace.⁷

The ASCC was also the point of contact between the UAVs and international air forces. When unsafe actions were observed, the ASCC was able to establish who was at fault and then take corrective action to prevent any sort of re-occurrence. It was a “neutral party,” or an arbitrator of facts when investigating a flight safety incident.⁸ Without this kind of collective approach in bringing together these nations to sort out airspace conflicts around KAIA, mission-compromising flight incidents may have occurred.

2) AIRSPACE DECONFLICTION WITH EXPLOSIVE ORDINANCE DISPOSAL

Another important service that the ASCC could provide in order to reduce flight incidents was the warning of EOD detonation areas. Several NGOs were routinely conducting EOD operations without any prior coordination.⁹ In a location like Afghanistan, arguably the most heavily-mined country in the world, the chances are high for aircraft of any kind to potentially fly into debris thrown up thousands of feet into the air due EOD operations in populated areas.

⁷ Murphy, “Airspace Coordination In Operations,” *The Bulletin*, vol 11, no. 3, p 6.

⁸ R.N.W. Little (Capt), *The ASCC and Surveillance and Target Acquisition on Operations* (PowerPoint presentation, content created 27 Oct 04, updated 30 May 07), slides 28, 30 & 31.

⁹ Notaro, “Airspace Coordination In Afghanistan,” *The Bulletin*, vol 10, no. 6, p 7.

Thus there was a need for someone (or some over-arching authority) to coordinate with over forty de-mining organizations working in the Kabul area alone.¹⁰ The Engineer Support Coordination Centre (ESCC) ultimately became the coordinator of these detonations set off by these numerous de-mining groups.

It must be known that EOD organizations are airspace users as well, but in an indirect sense: for example, plumes of phosphorus smoke from an EOD blast may reach altitudes of 1000ft above ground level (AGL). When particles are launched that high into the air, low flying aircraft are forced to avoid that area for a time or otherwise risk fouling their air intakes which can, in turn, compromise aircraft flight performance and lead to a flight incident. A general policy that was implemented during Roto 0 with regards to EOD was that all of these NGOs were to recover and transport their discovered ordnance to one of two sanctioned EOD ranges used by the military and civilian EOD teams alike. If this was not possible, ie. the round could not be moved, then the ESCC would then send a request to the ASCC for a temporary Restricted Operating Zone (ROZ) to be established on behalf of the NGO working in that area.¹¹

During Roto 1 especially, the ASCC worked very closely with the ESCC and EOD personnel alike to ensure that all aircraft in the vicinity were notified of danger areas created by these EOD operations. The location of the detonation would be confirmed and boundaries would be established to cordon the location both on the ground and in the air by means of an ROZ. UAV operators would be informed of these areas and avoid them. In a similar fashion, the locations of friendly ranges would also be determined, allowing for radars to locate firing or similar activity. The ASCC would then demarcate "No-Fly Zones" for the UAVs.¹²

¹⁰ Notaro, "Airspace Coordination In Afghanistan," *The Bulletin*, vol 10, no. 6, p 7.

¹¹ Ibid.

¹² Little, *The ASCC and Surveillance and Target Acquisition on Operations*, slides 40 & 42.

The ASCC would pass these ROZs and No-Fly Zones to Kabul Tower. Tower would then relay this information to all aircraft within 10nm of the centre of the Kabul airport runway. The ASCC would also inform friendly ground forces of any EOD-controlled explosions. This passage of information eliminated any confusion from these ground forces as to the nature of the explosion.¹³ This kind of liaison between different military and civilian agencies, especially when dealing with groups that specialized in de-mining, significantly reduced the danger of airspace conflicts and ensured the safety of air assets and soldiers on the ground.

3) REDUCTION OF RANGE SIZES IN THE KABUL AO

In addition to EOD operations, various firing ranges inside of the ISAF AO were another important matter of deconfliction on the ground. It became more apparent throughout Roto 1 that KAIA would become the permanent airport for Kabul “for the foreseeable future.”¹⁴ As a result, existing firing ranges inside of the Kabul AO had to be reduced in size to allow for the implementation of a more accurate aircraft runway landing system called the Instrument Landing System (ILS). As well, the reduction of the ranges allowed more freedom of movement to aircraft departing and arriving into Kabul, especially for emergencies.¹⁵

The KMNB ASCC at this time formally reviewed all of the friendly ranges within the ISAF’s AO. The ASCC, along with the input from other range users, made recommendations that ultimately reduced the size of the ROZs on some ranges, and caused the closure of others. Some ranges had to reduce the size of weapon that could be fired within that area in order to accommodate to the changes. However in the end, more airspace was available and more freedom of movement was possible for the air assets of the KMNB. This happened at just the

¹³ Murphy, “Airspace Coordination In Operations,” *The Bulletin*, vol 11, no. 3, p 5.

¹⁴ *Ibid*, p 4.

¹⁵ *Ibid*.

right time as threat levels continued to rise throughout the tour, which caused an increased need and use of air assets in the AO.¹⁶

In this particular case, the ASCC was accommodating to what was perceived as an increasingly cluttered airspace plan in and around the KAIA. As suspected, it was to the expense of some friendly firing ranges in the Kabul AO. In the long term, the move to re-evaluate these ROZs would prove beneficial to all future ISAF operations. The ASCC had a direct involvement of granting a larger area of manoeuvre in the skies above Kabul, and allowed the ISAF Commander and his staff greater flexibility in employing air assets.

4) THE TACTICAL AIRSPACE OPERATIONS CELL

As important as it was to create cohesion with other military units and civilian agencies outside of ISAF, as previously described in this essay, there was there was a pressing need for a seamless integration amongst various organizations within the ISAF Brigade Headquarters (Bde HQ) itself. An attempt was made by the ASCC during Roto 2 to better integrate itself into a larger operations cell while still maintaining a tactical capability to manage airspace in the Kabul AO. A tactical ASCC capability to coordinate airspace was required during the time of Afghanistan's developing asymmetrical war in 2004. Generally speaking, it is in the dimension of airspace "where tactical level operations can most quickly affect multiple environments and most dramatically threaten strategic political legitimacy."¹⁷ However, airspace measures still had to be oriented around international and civil standards while still allowing measures for military operations to be included.¹⁸ This was also the case for the ASCCs of KMNB IV and V,

¹⁶ Murphy, "Airspace Coordination In Operations," *The Bulletin*, vol 11, no. 3, p 4.

¹⁷ L.A. Schrum (Capt), "Lessons Not Yet Learned – Tactical Airspace Operations In Afghanistan," *The Bulletin: For Soldiers By Soldiers*, vol 11, no. 8 (Dec 05), p 2.

¹⁸ *Ibid*, p 5.

but it was observed that even during those periods, Westernized approaches to that dilemma were at times less accommodating to the current Afghan situation and its complexities. The airspace conditions during KMNB VI dramatically changed as strategic goals to “civilianize” airspace control fronted the tactical-level security tasks of the ISAF Commander.

When NATO took the lead for ISAF in 2004, there was still a limited capacity of coordinating and controlling airspace in the ISAF AO even after the efforts of the previous two ASCC rotations. There was also a lack of understanding at a higher ISAF HQ level, within the Theatre Air Operations Centre (TAOC),¹⁹ as to what was occurring tactically within the Kabul AO concerning ground operations. There was definite need to have a joint cell which dealt specifically with airspace operations in the Kabul area for activities below 2000 ft AGL.²⁰

Jointness was enhanced in KMNB VI by merging the ASCC with the aviation and air cells while integrating airspace operational control directly into the KMNB Joint Operations Centre (JOC). The JOC was an authority established within ISAF HQ that dealt primarily with current and future operations. The ASCC had to work closely alongside this JOC in order to ensure safety of troops and airspace users, as well as ensure the smooth conduct of operations. A section was set up within the JOC to control operations related to airspace use: G3 Aviation (Avn), G3 Air, and Liaison Officers (LOs) integrated with the ASCC to form one unified section for current operations and planning functions. Within this newly-formed team, later named the

¹⁹ The TAOC was originally stood up in during the KMNB V rotation and was primarily responsible for the control of ISAF airspace at the time. The TAOC was often implicated in the overall strategic goals of the ISAF Commander, at the expense of sometimes sacrificing tactical control of the airspace it was responsible for. The erstwhile TASOC was stood up within the Joint Operations Centre (JOC) to help alleviate this problem.

²⁰ Schrum, “Lessons Not Yet Learned – Tactical Airspace Operations In Afghanistan,” *The Bulletin*, vol 11, no. 8, p 5.

Tactical Airspace Operations Cell (TASOC), significant freedoms were now allowed by the G3.²¹

Force protection and freedom of movement relied to a certain extent on the JOC's ability to control the many air assets and known users of airspace, and so TASOC adopted a tactical posture in its dealings with operations. Its intent was "to improve airspace operations, integrate the airspace functions and enhance jointness overall in KMNB."²² Various staff from TASOC were deployed for the purposes of coordination and liaison, and also served as operational controllers during unique operations such as inaugurations and elections. Some were also deployed on exercises with Joint Forward Air Controllers (JFACs) in order to analyze their tactics, techniques and procedures (TTPs).²³

However, the jointness of the TASOC did not last very long. Soon after the Afghan parliamentary elections on 18 Sept 05, a German Lieutenant Colonel assumed the Chief position over all the associated cells (ie. ASCC, G3 Air and G3 Avn). Jointness was lost with the incumbent Chief, with the changing capability of TASOC itself, and through the rotations of the remaining command and staff personnel. No doctrine was developed in order to support the continued integration of the TASOC, and so the new organization could not last.²⁴ Moreover, Standard Operating Procedures (SOPs), revised during the tour of KMNB VI and that were established to enhance joint capability amongst cells in the ISAF Bde HQ, unfortunately had to be reverted to more conventional SOPs.²⁵ In order to compensate for the decreased capacity in

²¹ Schrum, "Lessons Not Yet Learned – Tactical Airspace Operations In Afghanistan," *The Bulletin*, vol 11, no. 8, p 6.

²² Ibid.

²³ Ibid.

²⁴ Ibid, p 7.

²⁵ Ibid.

the KMNB VII ASCC, many of the complex airspace tasks were pushed up to the Air Task Force (ATF) Theatre Air Operations Centre (TAOC) just prior to KMNB VII taking over.

It can be observed here that the ASCC was not very effective on its own. In KMNB VI, cohesion amongst the various General Staffs, liaison staff and the ASCC achieved much more together than was possible separately. The erstwhile TASOC, although an imperfect organization, effectively retained tactical airspace control and still was able to regularly coordinate with the KMNB JOC and the TAOC.

CONCLUSION

If asymmetrical warfare continues to be a prevalent method of conflict, then the employment of various air assets is essential to acquire flexible observation of developments on the ground as they occur. A reliable air picture will provide greater situational awareness to any commander, along with continued surveillance and direct fire support if need be. In order to utilize air assets to their fullest capacity, they must first be able to operate in airspace that maximizes their freedom to manoeuvre, thus allowing the greatest support in any given operation. The ASCC, in this sense, is such a “maximizer.”

However, the success of a well-employed ASCC is certainly not possible without the cooperation of many different moving parts of an overall joint-operation. A deployable ASCC – with assistance and cooperation from the many agencies that an ASCC deals with – will request, manage, monitor and effectively deconflict airspace to provide the kind of airspace support and situational awareness needed by a brigade commander. From recounting past instances of initial airspace deconfliction with manned aircraft, unmanned aircraft and EOD teams, the reduction of range sizes in the Kabul AO and the successes of the TASOC, it can be observed that the ASCC

has credible influence and capability when working in conjunction with numerous organizations – military or civilian, national or international – to effectively deliver strategic and tactical control of airspace within an AO.

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