Archived Content

Information identified as archived on the Web is for reference, research or record-keeping purposes. It has not been altered or updated after the date of archiving. Web pages that are archived on the Web are not subject to the Government of Canada Web Standards.

As per the Communications Policy of the Government of Canada, you can request alternate formats on the "Contact Us" page.

Information archivée dans le Web

Information archivée dans le Web à des fins de consultation, de recherche ou de tenue de documents. Cette dernière n'a aucunement été modifiée ni mise à jour depuis sa date de mise en archive. Les pages archivées dans le Web ne sont pas assujetties aux normes qui s'appliquent aux sites Web du gouvernement du Canada.

Conformément à la Politique de communication du gouvernement du Canada, vous pouvez demander de recevoir cette information dans tout autre format de rechange à la page « Contactez-nous ».

CANADIAN FORCES COLLEGE / COLLÈGE DES FORCES CANADIENNES
CSC 31 / CCEM 31

EXERCISE/EXERCICE: **NEW HORISONS**

TITLE/TITRE:

AIR POLICING IN THE NEW EPOCH: THE CHALLENGE FOR THE BULGARIAN AIR FORCES

By Major Svetlan Stoyanov

In the last decade of the twentieth century, with the end of Cold War, the bipolar model of the foreign affairs ended. This model was marked by its clearly defined roles, risks and threats. A transition to globalization in all spheres of public and political life was accomplished. The positive trends in this process dominated. The world entered the new epoch characterized by democratization, partnership and cooperation. All this increased the global stability and the security of the countries; there is no threat of global conflict now.

Nevertheless these positive trends, the risk of inner crises and conflicts in some regions and countries increased. New dangers and asymmetric threats came up. Terrorism created a new military-strategic environment. The terrorist attacks in the USA, Russia, Indonesia, Japan, Spain, Israel, and many other countries made the fight against terrorism a priority for NATO and Partnership for Peace countries.

The Republic of Bulgaria does not stand outside this process. On March 29, 2004, together with Estonia, Latvia, Lithuania, Romania, Slovakia, and Slovenia, Bulgaria was accepted as a member of NATO. This event opened a new page in the 1300 years-old Bulgarian history. As a US ally and a NATO member, Bulgaria sent military contingents in Iraq and Afghanistan to support the war against terrorism. It made Bulgaria one of the countries most threatened by the terrorism.

The terrorist attacks of September 11, 2001 in New York and Washington set new challenges to the Air Forces all around the world – namely to fight against hijacked aircraft,

---

[1] Lieutenant-General Jeff Pennie, CF, Deputy Commander-in-Chief of NORAD interviewed by *"Toronto Star"* on October 23, 2001

aiming to destroy key political, economic or military objects. Counteraction to such aircraft is not typical for the principles and tactics of the contemporary aerial warfare. It sets some specific requirements to the legislative base, regulating the responsibilities and the missions of the Armed Forces during peacetime, the command and control system of the Air Defense, the air traffic control, the methodology of evaluation of the threat and taking the decision for action, the procedures of the fighter pilots intercepting a hijacked aircraft, and the requirements to the fighter aircraft and its capabilities.

This paper will analyze the capabilities of the Bulgarian Air Forces to perform the air policing mission. The legislative base, the system of command and control, the intelligence, surveillance, and reconnaissance system, the interoperability with NATO forces and assets, and the decision-making procedures will be described. This paper will demonstrate, that the Bulgarian Air Forces have changed their command and control structure, and their intelligence, surveillance, and reconnaissance system to meet all NATO requirements and standards and can successfully perform this mission. It will also demonstrate that two problems still exist. The legislative base is not relevant to the contemporary environment. The decision-making procedures to react against a civilian, hijacked aircraft are not flexible and are time-consuming. It slows down the decision making process, which makes the system impotent to react fast in case of a sudden terrorist attack, like the one of September 11, 2001.

Definitions

The *air policing* is a subset of the national security. It is a concept for the use of air power to protect the air sovereignty of the respective country. This is a mission performed by air-to-air role fighter units during peacetime. The aim of the air policing is to prevent the air space of a

country from unauthorized penetration by other countries' aircraft or from violation of the rules of the air traffic control over the country's territory. The role of air policing is to prevent attacks and reconnaissance by airborne assets of other countries directed at the key infrastructure of the country and its population; prevent terrorist attacks; to counter proliferation of weapons of mass destruction and drugs, and to control the aerial borders of the country. The fighters, performing this mission, may also be assigned a task to assist a civil or military aircraft in distress.

To perform this mission, the pilots, the maintenance, and the aircraft are in a state of readiness. The Bulgarian Fighter Aviation has two major states of readiness – Quick Reaction Alert and Combat Air Patrol. The *Quick Reaction Alert (QRA)* is a state of readiness of the pilots, maintenance crews, and the aircraft to execute an air policing mission. In this state of readiness the aircraft and the crews are on the ground in fifteen-minutes takeoff readiness. The *Combat Air Patrol (CAP)* is a state of readiness to react immediately to a threat. In this state of readiness the aircrafts are in the air, patrolling in a defined area.

Historical background of the air policing mission in the Bulgarian Air Forces

In Bulgaria, the origin of the air policing clearly demonstrates the fact that the necessity is the mother of invention. The "invention" was the Quick Reaction Alert duty in the fighter squadrons, established in March 1954. And the necessity was driven by the national requirements to counter the regular violations of Bulgarian air space by NATO aircrafts from March to October 1954. The intruders flew in from Greece and taking advantage of the terrain, crossed South Bulgaria at night, at a low altitude, leaving it in the direction of Turkey. They collected intelligence information and dropped propaganda leaflets over the towns. Stopping the intruders became a matter of honor to the Bulgarian fighter forces. Three combat air patrols over

Southern Bulgaria were established. The intruders flew at the altitude of 200 m (650 feet), only at full moon. Due to the altitude of the target and peculiarities of the relief, radar support from the surveillance stations was almost impossible. This left the Aerial Visual Observation, Alert, and Communication Service as a sole reliable source of information. In the eve of September 9, 1954, an intruder aircraft was intercepted and shot down by Bulgarian fighter patrol MiG-15 near the Turkish border. During the attack one of the Bulgarian fighters came under fire coming from the friendly anti-aircraft artillery, but it wasn't seriously damaged. [2]

The Bulgarian Air Forces have learned a few lessons from this case. Firstly, they understood the importance of surveillance for protecting the country's air sovereignty. Secondly, they learned that they need to improve the training of the pilots at low altitude at night for intercepting and attacking low-level targets. Thirdly, it became clear that, to avoid friendly fire, actions of the fighter units and the other air defense units have to be coordinated through establishing areas of responsibilities and establishing a reliable command and control system.

Later, in 1956, seven reconnaissance balloons of the western countries were shot down by fighter pilots on Bulgarian territory.[3]

After it was established, the air policing concept was developed in the next decades. This used to be the most important role of the Bulgarian Air Forces during the Cold War. At that time, the surveillance system was developed and the radar picture of the air space was improved. The infrastructure of the old airfields was renovated and new airfields were build. Every day and night twelve fighter pilots from six airfields were in seven-minutes' readiness to take-off and protect the sovereignty of the Bulgarian airspace.

---

[2] Bulgarian Air Forces, *The History of Graf Ignatievo Air Force Base*, (Sofia: Voenno Izdatelstvo Ltd.2003), 31-34.

[3] *Ibid,* 51.

In the post-Cold War period, Bulgaria's accession in NATO became a strategic goal in its foreign and national security policy. To achieve this goal, the Bulgarian Armed Forces had to be reorganized and reequipped. Nine airfields and many radar stations were closed. This influenced negatively the capabilities of the Fighter Aviation to perform the air policing mission. On the other hand, the system of command and control of the Bulgarian Air Forces was developed to meet the NATO requirements. This act improved the ability of the Air Forces to perform this mission.

Legislative base

The authority vested in the Air Forces by the legal code or a legal body, such as the national government or an international institution by virtue of the law, is important for using the air power during peacetime. The Law of Defense and Armed Forces of the Republic of Bulgaria vests such authority in the Bulgarian Air Forces. As per Article 62 paragraph 2, 3, and 6 of this law, the control of the airspace in order to protect the air sovereignty in peacetime is responsibility of the Air Forces and has to be executed in accordance with the Regulation, approved by the Cabinet.[4] This is the "Regulation on exercising the Quick Reaction Alert duty by the Air Defense Forces". The problem, created by this document, is that the document was written in 1989 and is not relevant to the contemporary environment and challenges. The threats, the command and control system, and the terminology are different now. This document was designed as a reaction against the threats from the time of the Cold War – NATO and the western countries. The terminology used in this document was used in the Warsaw Pact and it is being

---

[4] Ministry of Defense of the Republic of Bulgaria, Закон За Отбраната и Въоръжените Сили на Република България (The Law of Defense and Armed Forces of the Republic of Bulgaria). available from: http://www.paragraf22.com/pravo/zakoni/zakoni-d/126 htm; Internet; accessed 20 February 2005.

confused nowadays. Since 1994 the Bulgarian Air Forces have launched amending their command and control system in order to satisfy NATO requirements. Therefore, the current system is completely different from the one, described in the "Regulation on exercising the Quick Reaction Alert duty by the Air Defense Forces". The current system makes this regulation useless and imposes the necessity of issuing a new regulation on performing the air policing mission by the Fighter Aviation.

Command and Control System

The command and control system is essential for applying air power effectively and precisely. The "Air Force Doctrine Document 2-8 – Command and Control" defines the Command and Control as:

> "… exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission. Also called C2."[5]

This definition acknowledges three aspects in exercising command and control functions. The first is the human aspect. It includes the personnel, its training, motivation, responsibilities, and abilities. The human factor is the commander and his subordinates in the decision making and mission planning process. These are the people who collect, process, and analyze the

---

[5] United States, Department of Defense, *"Air Force Doctrine Document 2-8 – Command and Control"*, 16 February 2001; available at: http://www.e-publishing.af.mil/pubfiles/afdc/dd/afdd2-8/afdd2-8.pdf 1; Internet; accessed at 6 March2005.

information needed for decision making and intended for the commander who takes this decision. The second aspect is the technology. These are the equipment, the communications, and the facilities. They are used to overcome the problems of integrating actions across space and time. The third aspect are the procedures. They are found in tactics, techniques and procedure documents, and other publications, and describe how missions have to be performed. Personnel, technologies, and procedures must all come together to efficiently execute command and control functions.

Until 2002 the command and control system of the Bulgarian Air Forces used to be the one of the time of the Cold War. The Bulgarian territory was divided into three parts called Areas of Responsibilities. Every area had a Command Post that collected information from the radar stations of its region and provided ground control intercept for the scrambled fighters in case of violation of the sovereignty of the Bulgarian air space. These Command Posts were subordinated to the Control Center of the Air Force and Air Defense. This center provided the interaction between the Regional Command Posts and if needed could also double the responsibilities of some of them. If the fighter, intercepting the renegade aircraft had left one Area of Responsibility and entered into another one, then he had to change the control agency as well. For a country of Bulgaria's size, this system was useless. It violated the principle of centralized control and decentralized execution.

Today Bulgaria is a NATO member and its airspace is part of the integrated airspace of the NATO countries. Actually the transition process to the NATO Command and Control system was launched in 1996 with a project for building the Air Sovereignty Operational Center (ASOC). This center has been operational since 2002, when all other control centers were closed. The Air Sovereignty Operational Center is responsible for the military control of the Bulgarian

Air Space. On March 14, 2004 it became part of the NATO Integrated Air Defense System (NATINADS). Bulgarian ASOC is subordinated to the regional NATO Air Operational Center (AOC), responsible for the region of the Balkans. The ASOC provides intelligence information to controllers, commanders and decision makers, needed for taking the right decision. Its mission is to monitor the airspace, to collect surveillance information from all military and civilian radar assets located on Bulgarian territory and to provide a ground control intercept to the fighters in case of Renegade aircraft.

Intelligence, Surveillance, and Reconnaissance system

The Intelligence, Surveillance, and Reconnaissance (ISR) system is vital to the decision making cycle. It provides precise and timely intelligence information to controllers, commanders, and decision makers, helping them reduce the uncertainties in taking timely and correct decisions. The Air Forces of the NATO countries are currently operating a variety of surface-, airborne-, and space-based surveillance and reconnaissance assets that provide almost full global sensor coverage. Using these assets appropriately enables the command and control system to maximize the forces' effectiveness by providing them with precise, timely and accurate information.

The best effect, achieved by intelligence, surveillance and reconnaissance, is based on the synergy between the three parts of this system. The synergy is "the cooperation between two or more things to produce combined effect greater than the sum of their separate effects"[6]. Together intelligence, surveillance and reconnaissance provide the best possible information to the

---

[6] Oxford New York; *Oxford English Dictionary*, (Oxford University Press, ninth edition), 924.

commanders and decision makers, producing accurate, timely, and predictive intelligence information that can be quickly used to make decisions.

The Air Force Doctrine Document 2-52 - "Intelligence, Surveillance, and Reconnaissance Operations" defines *surveillance* as:

> "… the systematic observation of aerospace, surface or subsurface areas, places, persons, or things, by visual, aural, electronic, photographic, or other means."[7]

The principle support that surveillance provides to the air-policing mission is early warning and ground control intercept. The surveillance net must link space-, air-, and surface-based sensors (both national or ally's). It must provide current, integrated, accurate, and timely information of eventual threats to the air sovereignty or violation of the rules of air traffic control.

During the last decade the surveillance net of the Bulgarian Air Forces was developed to meet the requirements for interoperability with the NATO command and control system. This net consists only of ground-based assets. The radars operated by this system, are the Russian radars from the time of the Cold War. These radars have been upgraded with a NATO IFF (Interrogation Friend or Foe) system. The information from the radars is digitalized and processed with a software making this information understandable and interoperable for the regional NATO AOC. Besides this, the civil radar net has been linked to the military net. That broadens the radar picture and provides more detailed and richer information on the air traffic over the Bulgarian territory.

---

[7] United States, Department of Defense, *"The Air Force Doctrine Document 2-5.2 - Intelligence, Surveillance, and Reconnaissance Operations "*, 21 April 1999; available at: http://www.e-publishing.af mil/pubfiles/afdc/dd/afdd2-5.2/afdd2-5.2.pdf, 2; Internet; accessed at 6 March2005.

The next component of ISR system, the *reconnaissance*, is defined in the Air Force Doctrine Document 2-52 - "Intelligence, Surveillance, and Reconnaissance Operations" as follows:

> "… a mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy, or to secure data concerning meteorological, hydrographical, or geographic characteristics of a particular area."[8]

For the needs of the air policing the reconnaissance compliments the surveillance, providing information, which generally has a time constraint associated with the tasking. It is focused on concrete tasks and provides information that cannot be acquired by the surveillance assets.

The Air Force Doctrine Document 2-52 - "Intelligence, Surveillance, and Reconnaissance Operations" defines *intelligence* as:

> "… the product resulting from the collection, processing, integration, analysis, evaluation, and interpretation of available information concerning foreign countries or areas; it is the information and knowledge about an adversary obtained through observation, investigation, analysis, or understanding."[9]

For the contemporary needs of air policing the intelligence effort is primarily focused on the military capabilities of the potential enemy countries; identifying, tracking, and discovering the terrorist and criminal groups inside and outside the country; their intents, and the capabilities of the technologies, assets, and resources these countries or groups could use. The information

---

[8] *Ibid, 2*

[9] *Ibid, 1*

derived from surveillance and reconnaissance is converted into intelligence by fusion and analysis.

The Bulgarian Armed Forces, including the Air Forces, have limited ISR capabilities and it is impossible for a country like Bulgaria to develop or acquire its own modern reconnaissance and surveillance technologies or assets. However, the NATO membership gives the Bulgarian Air Forces an opportunity to use the intelligence information of its allies' assets and also to provide the information gathered through the national surveillance system to its NATO partners. This exchange of ISR information will help increase the effectiveness of the air policing missions. It improves not only the Bulgarian national security, but also the security of the NATO countries as a whole and helps fighting more effectively terrorism, drugs, and WMD (weapon of mass destruction) proliferation.

Interoperability

The issue of interoperability was already mentioned above, but as it is one of the contemporary problems of the NATO forces, it needs more attention. Interoperability is the ability of all military assets, system, and technologies to exchange and understand information, allowing war fighters to operate effectively together. Interoperability is best achieved by adhering to technology and processes standards that allow information flow. Unity of command is difficult, if not impossible, to achieve when command and control systems do not work together. The surveillance and reconnaissance information couldn't be perceived by all agencies if not processed with a common software.

It was already mentioned that the C2 and ISR systems of the Bulgarian Air Forces were upgraded and developed to achieve the requirements for interoperability with the NATO systems. The fighter aircraft in service in the Bulgarian Air Forces are MiG-21BIS (Fishbed) and MiG-29 (Fulcrum). Both are designed during the time of the Cold War and have limited interoperability with NATO assets. With their avionic, equipment, IFF, and weapon systems these aircrafts cannot operate together with the NATO forces in big scale operations and campaigns. However, for the needs of the homeland security and the air policing these aircraft are still useful. In the late 90s they were equipped with commercial transponders and GPS systems. The transponder allows the fighter aircraft to be identified by the surveillance assets and provides information on its speed, altitude, and direction. The IFF system is not compatible with the NATO assets, but the standard procedures of air policing do not require a radar interrogation of the intercepted target. The fighters intercepting a renegade aircraft have to close up and visually identify the nationality, type, and activities of the target. Communication with the intercepted aircraft is performed by broadcasting command and instructions or by specific visual signals.

During the last decade the Bulgarian Air Forces have upgraded and developed their C2 and ISR systems and made them interoperable with the NATO assets and systems. The aircraft in service in the Bulgarian Air Forces has the capabilities to execute the mission of air policing and guarantee the security of the Bulgarian airspace.

The decision making procedures

One of the important lessons learned from the terrorist attacks in New York and Washington was that it may be necessary to shoot down a hijacked aircraft with the purpose to

save hundreds, thousands or probably millions of human lives. The decision for such an action has to be taken very fast. There is not much time the decision makers have to analyze the situation, to consult, and to take a decision. A key role in this process plays the issue, who is authorized to take such a decision, and the rules or procedures for transmitting the information between the agencies and the authorities.

These issues are faced not only by the Bulgarian Air Defense System, but also by the NATO Air Defense as a whole. Before September 11, North American Air Defense (NORAD) did have in place procedures to deal with hijacked aircraft. It was assumed that there would be time for senior officials to take any difficult decision. But not in a place where procedures have to swiftly authorize the destruction of hijacked planes used by suicidal terrorists as flying bombs. On September 11, after the attacks on the World Trade Center and a conversation with the Vice President, President Bush authorized the destruction of any other threatening civilian aircraft.[10]

Despite NORAD's binational status, the procedures, which have been put in place since then, leave such authority in exclusively national hands. In the US air space, shoot down authority of civilian aircraft resides with the President and the Secretary of Defense. They have delegated that authority to the commanders of NORAD and PACOM (Pacific Command). NORAD's regional commanders, CONR (Continental Region) and Alaskan NORAD Region Commanders, have emergency engagement authority in a time of critical situation. The commander's decision is based on hostile intent or act.[11]

---

[10] Professor Joseph Jockel "After the September Attacks: Four Questions About NORAD's Future", *Canadian Military Journal* (Spring 2002), 12.

[11] Major Roger J. Witek, "Airpower's Role in Home Land Defense: a Western Hemisphere Perspective", (Maxwell Air Force Base, Alabama, Air University, School of Advanced Airpower Studies Course Paper, June 2002), 104.

In Canada, the authority to take a decision for shooting down a renegade aircraft is not given to the military. Art Eggleton, the Minister of National Defense stated: "If this was to happen in Canada, the decision would be made by the Canadian government acting through me in consultation with the Prime Minister."[12]

In Europe the decision for the destruction of a civilian aircraft is also left to the national authorities. In Bulgaria, the decision-making procedures are similar to these in Canada. The authority to take a decision for destruction of a civilian aircraft is vested in the Prime minister. He has delegated that authority to the Minister of Defense. It is evident that the process for taking a decision is based on exchanging information among several agencies and authorities. In addition certain consultations have to be conducted. In Bulgaria this type of decision-making procedures was established during the Cold War. The threat at that time came from outside the country's territory and it was assumed that there would be enough time for all these procedures to be followed and timely counter action to be taken. Nowadays, however, the threat of terrorist attacks would most likely rise from inside the country and the time for decision making and an adequate reaction to this threat would be far more limited. This necessitates establishing new, more flexible and prompt procedures. Understandably, both political and military leaders are reluctant to take a decision for shooting down a civilian aircraft and facing the possibility of a mistake. So, the procedures, besides the necessity of being prompt and flexible, have to minimize the risk of mistakes. In the US system, establishment of three levels of interagency conference calls minimizes the risk. NORAD's Regional JFACC initiates the lowest level conference call that directly involves the military organization. NORAD can initiate the next higher-level

---

[12] Professor Joseph Jockel "After the September Attacks: Four Questions About NORAD's Future", *Canadian Military Journal* (Spring 2002), 12.

conference call. It includes the addition of several NORAD and other outside agencies. Finally, the National Military Command Center at the Pentagon can initiate the highest level, the Domestic Event/Threat Conference Call. This level call adds the National Security Council.[13]

Conclusion

In the Bulgarian Air Force the air policing is a mission, which is performed by the air-to-air role fighter units. Its goal is to protect the air sovereignty of the Republic of Bulgaria and in this way to increase its national security. This mission has been carried on by the Bulgarian fighter aviation since 1954. The priorities have changed during the years, but regardless of the political regimes, it has been a matter of honor for the Bulgarian fighters to perform this mission to serve their country and guarantee its air sovereignty.

The Republic of Bulgaria experienced many significant historical changes during the last two decades. Among them are the overthrow of the communist regime, the end of the Cold War, the deep economic and political crises, the world terrorism and the combat against it, the NATO and the Europe Union membership. All these events reflected the Air Forces and the performance of the air policing mission.

After 9/11 the primary task of the air policing became countering the eventual intents of the terrorist groups to attack strategic or key civilian or military objects, using civilian planes as flying bombs. On March 29, 2004 Republic of Bulgaria was accepted in NATO. This opened a new page in the Bulgarian history. For the Republic of Bulgaria NATO membership means security and prosperity. On the other hand it also means responsibility to the other NATO

---

[13] Major Roger J. Witek, "Airpower's Role in Home Land Defense: a Western Hemisphere Perspective", (Maxwell Air Force Base, Alabama, Air University, School of Advanced Airpower Studies Course Paper, June 2002), 105.

members for increasing their security and prosperity. In order to be integrated into the NATINADS (NATO Integrated Air Defense System), the Bulgarian Air Defense System had to satisfy all requirements for interoperability with the NATO system. The command and control systems were developed. The Air Sovereignty Operation Center was established. This center collects surveillance information from the national radar assets and controls the fighters intercepting renegade aircraft. It also provides surveillance information to the regional AOC (Air Operation Center) responsible for the Balkans. The Intelligence, Surveillance, and Reconnaissance system was also developed and it is able to provide understandable and useful information to NATINADS. However, improvements are still needed. The Bulgarian Air Forces need a new regulation, which would define the procedures, rules, and terminology for performing the air policing mission. The existing procedures for taking a decision for destruction of a hijacked civilian aircraft, used for a terrorist attack against strategic infrastructure or against the Bulgarian population are not relevant to the contemporary realities and also need to be improved.

The air policing mission is important for the national security of the Republic of Bulgaria. It guarantees the sovereignty of its air space. By performing this mission, the Bulgarian air defense fighters protect the aerial borders of the country and prevent the threats coming from inside and outside the Bulgarian territory.

BIBLIOGRAPHY:

1. Champness, Lt Col Michael, USAF; "The Role of the Air Force in Fighting Terrorism at Home"; *Aerospace Power Journal, Spring 2002*; available from: http://www.airpower.maxwell.af.mil/airchronicles/apj/apj02/spr02/champness.html ; accessed 22 March 2005.

2. Dr Clodfelter, Mark; "Air Power versus Asymetric Enemies: A Frameworc for Evaluating" *Air & Space Power Chronicles*; available from: http://www.airpower.maxwell.af.mil/airhronicles/apj/apj02/fal02/coldfelter.html ; accessed on 10 December 2004.

3. Fiorenza, Nicholas; "NATO Provides Air Cover to New Members"; *International Security Information Service, Europe;* Vol.6 no.2, April 2004; available from: http://www.isis-europe.org/ftp/Download/NATO%20Notes%20v6n2.PDF ; accessed 17 February 2005.

4. Gunston, Bill. *Air Superiority* (London: Ian Allan LTD)

5. Heuser, Marius; "Germany: Push to use military for domestic policing"; *World Socialist Web Site* 25 April 2003; available from: http://www.wsws.org/articles/2003/apr2003/germ-a25.shtml ; accessed 16 March 2005.

6. Harclerode, Peter. *Fighting Dirty. The Inside Story of Covert Operations from Ho Chi Minh to Osama Bin Laden* (Cassel&CO)

7. Hoge, James F. JR., and Rose, Gideon. *How did this Happen? Terrorism and the new war.* (New York: Public Affairs)

8. Professor Jockel, Joseph; "After the September Attacks: Four Questions About NORAD's Future", *Canadian Military Journal* (Spring 2002): 11-16.

9. Larson, Eric V.; "U.S. Air Force Roles Reaches Beyond Securing the Skies"; *RAND Corporation, Summer 2002, Homeland Security*; available from: http://www.rand.org/publications/randreview/issues/rr.08.02/airforce.html ; accessed 18 March 2005.

10. Lt Col D Poynor, Robert, USAF, Retired; "A Proposal for Homeland-Defense Organization" *Airspace Power Journal* (Spring 2002): 97 – 100.

11. Rall, Ted; "Where Was the Air Force? The Real Question on 9-11"; available from; http://www.globalissues.org/Geopolitics/WarOnTerror/Where.asp ; accessed 18 March 2005.

12. Lt Col Rinaldy, Steven M., USAF, Lt Col Donald H. Leathem, USAF, Col Timothy Kaufman, USAF, Retired, "Protecting the Homeland: Air Force Roles in Homeland Security" *Airspace Power Journal* (Spring 2002): 77 – 86.

13. Col Szafranski, Richard, USAF, Retired; "Fighting Stupid Defending Smart" *Airspace Power Journal* (Spring 2002): 87 – 93.

14. Air Vice Marshal Mason, Tony. *Air Power. A Centennial Appraisal* (London / Washington – Brassey's)

15. Meigs, Montgomery C.; "Unorthodox Thoughts about Asymmetric Warfare"; *Parameters, The United States Army's Senior Professional Journal,* Summer 2003; available from: http://carlisle-www.army.mil/usawc/Parameters/03summer/meigs.pdf ; Internet; accessed January 2005.

16. Major Witek, Roger J., "Airpower's Role in Home Land Defense: a Western Hemisphere Perspective", Maxwell Air Force Base, Alabama, Air University, School of Advanced Airpower Studies Course Paper, June 2002.

17. Republic of Bulgaria, Ministry of Defense of the Republic of Bulgaria, Закон За Отбраната и Въоръжените Сили на Република България (The Law of Defense and Armed Forces of the Republic of Bulgaria); available from: http://www.paragraf22.com/pravo/zakoni/zakoni-d/126.htm ; Internet; accessed 20 February 2005.

18. Republic of Bulgarian, Bulgarian Air Forces; *The History of Graf Ignatievo Air Force Base*, Sofia: Voenno Izdatelstvo Ltd., 2003.

19. United States, Department of Defense, *"Air Force Doctrine Document 1-2 – Air Force Glossary"* 24 August 2004; available at: http://www.e-publishing.af.mil/pubfiles/afdc/dd/afdd1-2/afdd1-2.pdf ; Internet; accessed 6 March 2005.

20. United States, Department of Defense, *"Air Force Doctrine Document 2-1.1 – Counter Air Operations"* 26 April2002; available at: http://www.e-publishing.af.mil/pubfiles/afdc/dd/afdd2-1.1/afdd2-1.1.pdf ; Internet; accessed 6 March 2005.

21. United States, Department of Defense, *"Air Force Doctrine Document 2-3.1 – Foreign Internal Defense"*; 10 May 2004; available at: http://www.e-publishing.af.mil/pubfiles/afdc/dd/afdd2-3.1/afdd2-3.1.pdf ; Internet; accessed 6 March 2005.

22. United States, Department of Defense, *"The Air Force Doctrine Document 2-5.2 - Intelligence, Surveillance, and Reconnaissance Operations "*, 21 April 1999; available at: http://www.e-publishing.af.mil/pubfiles/afdc/dd/afdd2-5.2/afdd2-5.2.pdf ; Internet; accessed at 6 March2005.

23. United States, Department of Defense, *"Air Force Doctrine Document 2-8 – Command and Control"*, 16 February 2001; available at: http://www.e-publishing.af.mil/pubfiles/afdc/dd/afdd2-8/afdd2-8.pdf ; Internet; accessed 6 March2005.

24. United States, Department of Defense, *"Air Force Doctrine Document 2-3 – Military Operations Other Than War"* 3 July 2000; available at: http://www.e-publishing.af.mil/pubfiles/afdc/dd/afdd2-3/afdd2-3.pdf ; Internet; accessed 6 March 2005.

25. United States, Office of Homeland Security, *"National Strategy of Homeland Security"* July 2002; Available at: http://www.whitehouse.gov/homeland/book/nat_strat_hls.pdf ; Internet; accessed at 6 March 2005.

26. United States, Oxford New York; *Oxford English Dictionary.* Oxford University Press, ninth edition, 2001.

27. United States, Staff reports of the 9/11 Commission, *The 9/11 Investigations* (New York: Public Affairs 2004)