USE OF THE POLISH AIR FORCE OUTSIDE THE COUNTRY- ORGANIZATIONAL ASPECT

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Abstract: Air Force plays an important role in the security system of each country and alliances. The importance of the Air Force determines the high potential of modern air force and air defense, multiplied by rapid development of technology, particularly the increase of combat capabilities through the use of precision-guided weapons. These features make the Air Force the most predisposed mean of struggle to resolve the contemporary crisis in the international environment. Therefore, this article identifies mission scenarios that can be fulfilled by Polish Air Force (PLAF), declared force level and proposed structure of the air component task forces foreseen to be used outside the country.

Keywords: Air Force, Crisis Response Operations, operational capability, module

1. INTRODUCTION

End of the Cold War contributed to the disappearance of the risks specific to the past bipolar polarization of powers in the world. The armed conflict in the Balkans in the 90s of the last century reminded everyone that from the seemingly safe situation in Europe till the outbreak of the conflict, particularly the regional one, is not that far away. Despite the fact that destructive factors resulting with the threat of stability in the relationship of international powers ceased to exist there are still possible scenarios in which the security of states may be at risk due to the whole spectrum of other factors, mainly related to globalization, which on the one hand stimulates the development of countries and entire regions of the world, but on the other hand involves the risk associated with the spread of severe diseases or of over-exploitation of natural resources, including raw resources for energy production.

Current risks are mainly related to terrorism, proliferation of mass destruction weapons, regional conflicts, decays states and organized crime. Following new threats the concepts of defense of individual states and alliances have changed as well.

The necessity to act before a crisis occurs or in its earliest stage has been distinguished. Therefore, there is a need for defensive tasks beyond country’s borders. However, this requires the use of highly manoeuvring forces with large combat abilities, which are the Air Force. Air Force in the near future will belong to one of the most effective tools in dealing with crises, regardless of nature of the conflict (war, other than war or struggle with the effects of natural disasters).

Hence the need for the development of modern air force capable to conduct operations in every region of the globe. Its structure will be created on the basis of specialized, highly mobile units, with considerable combat potential.

The above-mentioned factors led me to define the aim of this article as to: create new task structures of the air component to be able to fulfil its missions outside of the country.

2. OVERSEAS AIR FORCE USAGE SCENARIOS

To identify tasks that Polish Air Force can perform outside the country, their range of applications in operations under the flag of NATO and the EU must be determined first. Taking into account the time criteria, the Alliance may be involved into peacetime operations, crisis operations and war.

However, considering the criterion of NATO activities operations can be carried out on the territory of the Alliance and beyond, and can represent collective defense conducted in accordance with Article 5 The North Atlantic Treaty (the direct threat to the security) or crisis response operations.
According to Art.5 of the Washington Treaty, an armed attack against any of the Allies in Europe or North America shall be equal to an attack on all countries in the alliance, and obligates other Member States to provide assistance under attack. The case, known as the casus foederis, has been applied so far only once after the terrorist attacks on the USA on 11th September 2001. The rules and circumstances of usage of the armed forces of NATO member states in case of external aggression are precisely defined in mentioned art. 5 of the Washington Treaty on collective defence or as part of military deterrence (Collective Defence of NATO Territory). The second type of military operations of NATO as deviating from collective defence in accordance with Article 5 North Atlantic Treaty emergency response operations are non-Article 5 (Non-Article 5 Crisis Response Operations). According to AJP-3.4 (A) - Allied Joint Doctrine for Non Article 5 Crisis Response Operations, NATO stands out in the following breakdown Crisis Response Operations:

Peace Support Operations: Conflict Prevention, Peacemaking, Peace Enforcement, Peace Keeping and Peace Building;

Counter Irregular Activities: Approaches to Countering Irregular Activities, Insurgency and counterinsurgency, Terrorism, Antiterrorism, Counterterrorism, criminality, disorder, Subversion;

Support to Civil Authorities) Military Assistance to Civil Authorities and Support to Humanitarian Assistance Operations;

Search and Rescue (Search and Rescue - SAR), (Combat Search and Rescue - CSAR);

(Extraction Operations);

(Sanctions and Embargoes)

(Freedom of Navigation and Overflight Operations)

With regard to the European Union possible crisis scenarios are as follows:

(Separation of Parties by Force - Šopf).

(Stabilization, Reconstruction and Military Advice to Third Countries - SR).

(Conflict Prevention - CP).

(Evacuation Operations - EO).

(A Humanitarian Assistance Operations - HA)

Above scenarios complement these assumptions about the possible use of military assets to support civilian authorities and organizations in dealing with crises of a different nature, such as the fights against organized crime and terrorism, in accordance with the provisions of the European Security Strategy.

3. THE LEVEL OF THE AIR FORCE DECLARED TO NATO AND EU OPERATIONS

Currently next to the Polish Army contribution to NATO operations and EU battle groups Poland declared also Air Force component consisting of:

- 4 F-16 (year of 2010),
- 2 C-295 aircrafts or C-130 aircraft, as a substitute (2006),
- Team GROM (4 launchers) - a short-range anti-aircraft unit (2006)
- The two helicopters W-3RM version of Search and Rescue (2006)

Most likely two of four declared F-16 version – offensive-defensive will be replaced by aircraft air surveillance version. Additionally, another GROM (4 launchers) team and logistics module for runway restoring will be transferred in the near future.

In terms of the air force tactical combat module it is expected to use the F-16 aircraft. According to the on-going process of achieving full operational capability, the amount of aircrafts that can be further deployed into operations is estimated between 4 to 14.  

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1. Casus foederis (Latin) - a case which, under the concluded international agreement commits the state allied to the common shares. For example, under the Treaty of Washington (Article 5), the attack on is a special type of military solidarity among NATO members. [Accessed 07.01.2014].

2. AJP-3.4(A) Allied Joint Doctrine for Non-Article 5 Crisis Response Operations, NSA, Brussels 2010, s. 3-1 – 3-17.


Minimum level of involvement includes four aircrafts and eight pilots designated to act for a period of 180 days and will be possible to achieve in subsequent years. It should be noted that force rotation is not planned in this variant but will be necessary in case of the possible increase in the quota of air component.

Within the years 2013-2015 there is anticipated possibility to deploy eight aircrafts and 16 pilots - up to 180 days without rotation. For the following two years 2015-2017 partial rotation is the assumptions for the years 2015-2017 on the possibility of partial rotation. In this period four aircrafts will be rotated every three months.

As of 2018 the maximum effort will reach 14 aircrafts and 28 pilots ready to act for 180 days without rotation, or 4 aircrafts and 8 pilots rotated every 3 months for two years. Maximum exposure level is dictated by the needs to ensure the integrity of their airspace and the need to rotate forces, mainly due to the low total number of F-16 aircrafts in the Air Force.

Quantity of transport aircraft allows the delegation from two up to four aircraft. Therefore, air transport composition for abroad operations can be as follows: two CASA C-295M aircraft, 4 CASA C-295M aircraft or two CASA C-295M aircraft and two C-130E Hercules aircraft.

Current operational capabilities in the area of antiaircraft module dedicated to the protection of the air base allow only for a symbolic involvement into overseas operations. Presently it is an antiaircraft team consisting of four two person groups equipped with rocket GROM each. It is anticipated that in the future it will be two teams (8 launchers).

4. THE REQUIRED OPERATIONAL CAPABILITIES OF THE AIR FORCE MISSION STRUCTURES

The recent changes in the area of international security - globalization and asymmetric threats, creates the need to achieve by the armed forces desired operational capabilities, enabling them to respond effectively even directly in the origin of threat.

Previous experience and future operational scenarios confirm the need for system solutions for the forces preparation to conduct the full spectrum of activities - against any threat, in any area and in specific geographical environment, etc. These challenges generally fall within two complementary areas - structural and technical (armament and military equipment).

Task force structures of a new type, capable to respond against changes in the international security environment should be characterized by the following operational capabilities:

- readiness at a given time, ensuring the use in the operation of all necessary means within a given period, after reaching their readiness to use according to their purpose;
- flexibility of command and control;
- the efficiency of an intelligence, allowing gaining information about potential enemy and threats and to deliver this information to all recipients in real time;
- mobility, enabling operational development of the forces in a specific region of the mission including usage of air transport and the creation of task groups within given time and place.\(^5\)
- business continuity ensuring creation of proper circumstances needed by delegated forces to achieve aims of operation in any area both in favourable and hostile environment (without adequate infrastructure, host nation support and in adversary weather conditions);
- resistance and force protection, which allow to maintain own combat potential during operation and minimize losses;
- Interoperability, enabling cooperation in operations conducted under the auspices of the European Union.\(^6\)

\(^5\) According to assumptions for EU battle groups future operations area will be quite far from Polish borders: Balcans, north Africa, close east.

\(^6\) Based on: Polska wizja przyszłego pola walki udział polskiego przemysłu obronnego w zabezpieczeniu potrzeb Sił Zbrojnych RP, Cz. II, Warszawa 2006, s. 6-7.
5. THE DESIRED CAPABILITIES OF THE AIR FORCE TO CARRY OUT TASKS OUTSIDE THE COUNTRY

Hypothetical range of future operations indicates that in order to create flexible Task Force package (Unit of Action) there has to be a proper baseline and mechanism of action prepared in advance. It will consist of combat modules highly “saturated” with operational capabilities resulting from the integration of various specialties.

For the Air Force this module should be prepared to act all over the world, regardless of the weather, condition of the technical infrastructure and the level of support from the host nation (HNS). Depending on the type of mission module should be able to operate independently, as the part of the international forces, as the whole or a part of the forces. Task Forces with modular structure must perform also strictly air tasks as the struggle for domination in the air, strikes - including tasks for the army, the air interdiction of the fighting area and defensive tasks in the air defence system.

To meet these challenges Air Force module has to be based upon following six modules: destruction, maneouvre, search and rescue, security, logistics and command.

6. DESTRUCTION MODULE

The module should be based on combat platform (multi-purpose aircraft) fourth or fifth generation providing high manoeuvrability, low detectability by air defence systems (Stealth), supersonic cruising speed and short take-off and landing (STOL). Furthermore, the ability to engage targets from long distance, out of a range of enemy’s air defence; display tactical situation picture and the low radar detection vulnerability. It is required that the airplane is equipped with integrated avionics, communication, navigation and identification. The platform should also be compatible with a wide range of weapon systems including guided munitions, rapid-fire cannon – designed against air or ground targets, missiles of various types: air to air, air to ground/water and aerial bombs. In addition, the plane should also be prepared to move fake thermal and radar aims launcher (chaff and flare).

These requirements (a wide range) are met by the F - 16.8 purchased by Poland. Taking into account F-16 combat capabilities it is assumed that this jet will play a major role in the battle to dominate the sky. The aim of this fight is to control airspace by providing the freedom of its use by own aircraft, while the same time preventing its usage by enemy aircraft.

Most likely this will be achieved by carrying out simultaneous offensive and defensive actions. Considering the range of armament of Polish F-16 to control objects from a group of active measures against the enemy air force will be applied laser-guided bomb GBU-12 Paveway II and guided missiles, AGM-65G Maverick.

The impact on the fortified airport infrastructure and command control facilities will be carried out by using bombs guided by inertial navigation system with satellite navigation correction type GBU-31 JDAM/GBU-38 JDAM. The defensive tasks will be performed by shifts in the zones of action, patrolling designated areas or zones through ensuring obedience of No-fly zone through usage AIM-9X Sidewinder and AIM-120C AMRAAM missiles. An equally important task carried out by the F-16s will be strategic strikes, carried out in order to minimize political, military, economic, and moral potential of a opponents’ country.

The most effective weapon of F-16 designed to destroy critical objects is: laser guided bombs GBU-24 Paveway III, bombs guided by inertial navigation system with satellite navigation correction type GBU-31 JDAM and gliding tray JSOW AGM-154c. There is no doubt that the F-16 in combat operations will also fight against army and navy. In this case task of F-16 will focus on the close air support and air interdiction. Taking into account the availability of weapons of Polish F-16 (guided missiles AGM-65G Maverick, unguided bombs Mk-82/Mk-84 and rotary cannon M61 A Vulcan), the main targets in case of close air support could be tanks, armoured vehicles, artillery and helicopters.

7 27 Dec 2002 Polish government decided to buy 48 Lockheed Martin F-16 C/D Block 50+ aircraft.
On the other hand in case of air interdiction impact will be focused on the fight against armoured and mechanized forces while movement, in the assembly area and rest areas, roads and railways, transshipment points, bridges as well as logistical depots and warehouses. Combating land forces and battlefield infrastructure should be carried out by using unguided bombs Mk-82/Mk-84, guided bombs GBU-31 JDAM/GBU-38 JDAM, and guided missiles AGM-65G Maverick. Another possible role to play for F-16 both in combat and crisis environment will be air reconnaissance. It should be emphasized that this requirement is met by reconnaissance Pod DB-110. It is likely that the future tasks of Polish F-16 will be extended by electronic warfare.

Having all above in mind it is quite obvious that air force involvement into operations outside the country will enforce the use of a wide variety of munitions of various impact, purpose and method of guidance. Therefore it will be very important to organize efficient logistic system in order to provide requested supplies in sufficient quantity, assortment, in the right time and place. In addition, such a wide range of requirements needs prepared and skilled personnel. The desired aspect of preparation at least two pilots for each plane should not also be neglected. While deploying 14 F-16 aircraft there have to be 28 pilots deployed as well. Furthermore it should also be noted that right now Polish Air Force has no specialized equipment to electronic warfare. Therefore, this task should be considered as forward-looking.

7. MANOEUVRE MODULE

Manoeuvrability is a basic feature of most Air Force elements and components. It is expressed by ability of quick movement of whole or part of forces; complete the task within the prescribed time and readiness recovery. Therefore, module should has ability to perform wide spectrum of missions, starting from humanitarian operations, throughout transportation operations, ending with the special actions, such as air refuelling and participation in landing operations.

Analysing PLAF previous experience we can assume that cargo aircrafts would be the most commonly used resources during non-military operations. Air transport is divided into two basic groups: strategic and tactical. So usage of declared polish cargo aircrafts C-295/C-130 should be seen as mentioned previously, despite the fact that it cannot be included in the strategic range aircraft. The main objective of the air transportation in strategic scope, in reference to PLAF declared resources, is supply of necessary equipment and facilities for Polish Deployable Forces participating in given operation. Main objectives, in the tactical scope, include carrying passengers and cargo between airfields and airstrips in the theatre of operations. So cargo aircraft C-295 and C-130 should be treated as mentioned previously.

It should be noted, that in the field of air transportation PLAF’s capabilities are very limited, especially when there is a need to move outsize loads to distant places. Current quantity of cargo aircrafts may be too small to sustain needs of particular PLAF modules (e.g. protection) and other type force components in an international scale. Usage of aircraft for different task simultaneously (e.g. carrying people, medical evacuation etc.) and the consequent need to quickly change the configuration of the loading compartment could appear as the next problem.

It is necessary to equip aircrafts with devices able to engage self-defence measures automatically, including passive detection of approaching guided ground-to-air missiles and ground radar signal passive detection, analysis and identification.

8. SEARCH AND RESCUE (SAR) MODULE

The main objective of search and rescue (SAR) module is aimed to minimize health and life threat of crew and passengers of faulty aircrafts or aircrafts which for any other reasons are in danger.

11 AJP-3.4 Non-Article 5 Crisis Response Operations, NSA, Brussels 2010, s. 2-12.
12 European Union Personnel Recovery Doctrine and Tactics, Techniques and Procedures, Study Draft 1, 2009, s. 9.
The main task for PLAF SAR components will be aimed at aircrew searching and assistance after emergency landing or for those which were down during operations. The next possible task is connected to air drop of rescue teams and survival kits for survivors, not necessarily resulting from enemy impact and participation in air transportation as well. We cannot exclude usage of SAR helicopters, involved in the shares of humanitarian aid (air drop and food delivery and rescue equipment), removal of effects of natural disasters and industrial disasters. We cannot also ignore its participation in people and equipment airlift. However, it seems, SAR objectives are only subsidiary.

The optimal means to achieve the above tasks, connected to personnel recovery, are helicopters type W-3RM, but only in the territory of northern Europe. This version of helicopter provides execution SAR tasks in various conditions such as: tasks over the water and land, in harsh weather conditions during the day and at night and in icing.

In Poland peace time SAR system is well developed, especially in AF, which have designated facilities. The main problem is preparation of soldiers to conduct isolated personnel recovery during military actions. Lack of doctrinal documents and necessary procedures in planning process, consistent tactics and training rules for personnel exposed to isolation pose next problem in this area.

9. SURVIVAL MODULE (PROTECTION AND DEFENCE)

High mobility and readiness for immediate use of close range anti-aircraft module, declared from PLAF to operate abroad, is its main advantage. These capabilities allow for a flexible response in case of danger associated with the appearance of enemy air raid, which may affect protected objects. We should be aware, that combat capabilities of given module, during operations abroad, are limited to two essential tasks: point-defence and cover of fighting forces. Point-defence seems to be essential task assigned to close range air self-defence. Man-portable air-defence system GROM, in the area of operation, may optionally be designed to cover: airports (airfields, airstrips, take-off and landing zones, embarkation and disembarkation places), essential for military and non-military forces logistic facilities. Cover of fighting forces (combat groups), in its essence, would be task similar to previous one. Due to manoeuvrability and range of the fire module, it could be perfect applicable measure to cover moving convoys or military forces in the event of a threat of air attacks.

It must be emphasized, that incomplete team capabilities in the field of airbase cover are limiting factor and its usage is acceptable in composite combat team only and in cooperation with other teams. Moreover, taking into account support and protection procedures of anti-air module, tasks can be executed only for the airbase with combat or airlift aircrafts national modules. Hence, close range air self-defence module can complement complementary formation designed to cover key objects against air attacks or other threats, including asymmetric ones. Achieving full ability to independently cover base requires, that covering forces should be equipped with new short-range air defence systems.

10. THE PROTECTION AND SUPPORT MODULE

The protection and support battle modules PLAF in the operation outside the country represent total earlier pre-plan action of powers and measures of the logistic system, medical and in the protection of military personnel, armies being aimed at keeping the air force vitality and sustaining their continuity of operations.

With no less important functional aspects carried out will be guarantee to ensuring appropriate conditions of the conduct battle actions.

The logistic protection combat module PLAF in the operation outside the country he is a process, which the main focus is establish the proper logistic conditions for protected battle modules, directed and performing tasks by them.

For main tasks of activity of logistic services protecting action of allocated battle modules PLAF in the operation outside the country will be assembling, keeping battle and material reserves of funds, keeping the essential material potential, technical, cargo, infrastructure and medical for current supplying and the service.

Moreover of service delivery social-living, as well as providing for the continuity protecting them. In the matter of fact, that logistic protection forces prepared for operation outside the country will be keeping all PLAF contingent, so battle modules and elements of supporting and safeguarding these forces.
Medical protection of the battle modules PLA in the operation outside the country an entirety will constitute planned activities of powers and means of the medical system previously, to aim the keeping combat abilities of forces, by guarantee granting the help and the medical care. The undertakings force protection allocated battle modules they have enabling to preserve the freedom for the task and effectiveness their activity in international circle, under huge probability of the influence on the enemy forces. The goal of protection forces is minimization sensitivity of the military personnel, objects, equipment on all threats and appeasement their effects in the destination of keeping military abilities for manoeuvrability and efficiencies of action of powers.\(^{13}\) It consists of: protection, masking, the common air defence, engineering support, defence against weapon of mass destruction.

The completion of above undertakings takes place in active defence, passive defence, protective security and recovering operational capabilities.\(^{14}\) Essential it is matter that logistic protection forces performing tasks outside country borders are in the national responsibility.

However concerning details of the international cooperation and the logistic support of forces participating in operations outside country bordersthey will be resolved by international arrangements. So according to applicable rules the logistic support of combat modules PLA participating in operations outside country borders it should be carried out only by powers and means allocated from logistic PLA.

However in situations in which financing of the supply is difficult or economically unprofitable we should use local logistics resources, which after entering relevant agreements and contracts should be recruited in the appropriate amount. In the destination of providing for the continuity the logistic forces sented outside country borders PLA should have powers and means to organize and delegating NATIONAL SUPPORT ELEMENT (NSE) and specialists prepared for entering into agreements and contracts with using provided benefits by other countries alliance in frames HOST NATION SUPPORT (HNS).\(^{15}\)

With particularly a neuralgic element in the process of protecting battle modules outside the country is technical support, because apart from standard functions we should take circumstances associated with the aviation maintenance support. At present wait to the spare parts for combat aircraft is growing longer (up to couple months), and problems with operations of aircraft appeared.\(^{16}\) Next the problem associated with the medical support appeared during Afghanistan mission.

A lack of personnel medical in PLA forces was highlighted and problems with recruiting civilian personnel - even at very good earnings.

According to support system we should state that practically it doesn’t exist in PLA. In the air bases specialist protection branches are missing and it causes that duties of protection of personnel, aviation and infrastructure are transferred to civilian employees.

Such a solution cannot be practised in missions outside the country. One should also prepare and equip with the appropriate air defence systems for base protection.

11. THE COMMAND MODULE

It is estimated that the command and control modules, which are part of the components, will be implemented at the Combined Joint Task Force (CJTF) level, as part of the allied or multinational operations. For this purpose, the perspective battlefield management system should create a unified image of the battlefield based on operational images from other modules and collect information from other systems.

Moreover, it should allow creating an awareness of the tactical situation, and knowledge of the weapon systems and weapon availability, what gives a possibility to make an immediate assignment of a target to engage or to renew the attack, depending on the situation. Furthermore, it should also ensure both rendering and exchange of an up-to-date display of the real air situation via automated system (Automated Data Processor) within the Integrated Environment of the Tactical Management Space.

\(^{13}\) Regulamin Działań Sił Powietrznych, DD3.3, Warszawa 2004., pkt 8001
\(^{16}\) M. Zieja i in., System Informatycznego Wsparcia Eksplotacji Wojskowych Statków Powietrznych, Logistyka nr 4/2012, Poznań, s. 47-56.
For several years the Air Force has strived to fulfill requirements necessary to obtain a real and current image of the airspace by implementation of NATO automated command systems. From the perspective of ensuring the function of command outside the national borders, the biggest issue may be mobility of the command system. The solution is to organize the Mobile CRC (MJDOP) and to equip it with appropriate command means. It should be noted, however, that it is an executive element that provides control of active means of fight. During the Air Force activities abroad there may be a perceptible lack of a mobile planning authority. Therefore, a proposed solution may be to create a mobile air operations planning center, like Allied Joint Force Air Component Commander (JFACC) or Deployable Combined Air Operation Centre (DCAOC).

CONCLUSIONS

There are no doubts that the use of the PAF resources abroad is essential. It comes from the general assumption of deploying Polish Armed Forces in the international field in the aspect of allied commitments. We have to remember that participation of the PAF and the rest of AF modules will depend on their combat capabilities and political decisions made with respect for national interests. It must also be noted that the scope of deployment of the declared forces will be dictated by solutions developed in allied operations or solutions from allied standards and doctrines. Generally, cargo aircraft are going to be the most used component in the PAF abroad due to character of contemporary threats, among which natural and humanitarian disasters are of the top priority.

In connection with the provision of humanitarian aid, casual evacuation and supplying essential supplies are going to be basic tasks accomplished by C-295 and C-130 aircraft. It is estimated that potential Polish F-16s participation will focus on conducting Recce Missions and also maintaining appropriate level of the airspace control in the area of conflict reacting to emerging threats. We cannot absolutely eliminate situations in which our F-16s will participate in typical Air to Ground missions. During military operations and in the unfriendly environment we must not forget about the meaning of the SHORAD module. We have to take into consideration all qualities of the SHORAD, which may be the sole mean available to protect against A-G threats. It is also worth to underline the role of the protection and support module especially in the environment where there will be a lack of the support from HN side (Host Nation). As the part of this module there are additional ones like logistic, medical and security modules. Additionally, crucial during abroad operations is the Search and Rescue module used to recover isolated personnel. The command module is the last of reviewing structures. Without this structure it will be impossible to meet mission needs abroad. The basic task of this module is to organize the communication and information system, task force and measures, monitoring of the tasks’ implementation, and command of active measures of fight.

REFERENCES