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LOGFAS PROGRAM PAKET – INSTRUMENT FOR OPTIMIZING THE PLANIFICATION OF MOVEMENT AND TRANSPORT OPERATIONS (M&T)

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ABSTRACT

Movement and transport planning involves the coordination of a whole complex of influence factors including: the dimensions of the deployed force as well as the logistical support required, the requirements for the time to reach the destination for each structure, the availability of means of transport and their transport capacity, the tactical situation, the terrain conditions, the season and the weather, the availability and maintenance of the communication routes and their occupancy, the existence of threats in the travel strip and their level, the availability of force protection measures, etc. The analysis and application of the measures necessary to improve the influence of these factors on the execution of the mission is a laborious and detailed work with a great need of time for completion. In order to counter the waste of time, as well as the precise and scientific planning of logistics supply and transport support, the North Atlantic Alliance has designed and made available to transport planners in the member countries the package of specialized logistics programmes – LOGFAS (Logistics Functional Area Services).

KEYWORDS: movement, transport, planning, LOGFAS Program Package, ADAMS programme, GEOMAN

1. Introduction

The partnership with NATO and subsequently joining it broadened the conceptual horizon as well as the range of tools used in the planning, organisation, execution and control of logistics operations in general, as well as those specific to the field of movement and transport. Thus, logistic planners as well as staff in charge of conducting this type of activity benefit from the experience and expertise of NATO armies through training of logistics staff through specialized courses and the provision of the common package of software dedicated to logistics with possibilities of planning, monitoring and control in the areas of logistics reporting, supply, as well as movement and transport – LOGFAS. This system is part of the automatic command and control system (C2).

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2. Description of Computer Systems Used for the Planning of Movement and Transport Operations

The coverage of the functions of this system has been devoted in particular to multinational operations as an integrator of logistics areas in multinational operations, but NATO member nations are *"encouraged to use the LOGFAS package of programmes to draw up their internal deployment plans at national level"* (Allied Joint Movement and Transportation Doctrine, AJP - 4.4, 2013, p. E-3).

The LOGFAS software package includes:

– A series of common applications, known as LOGBASE (logistic database) that ensure the input and management of general data that can be used in all other specialised applications such as: data on the structures involved and planned operations (LDM – logistic data modules), geographical data relating to maps, locations, infrastructure and transport facilities, deployment, etc., data on operations support planning (SPM – how to plan logistics support);

– An application for logistic reporting (LOGREP);

– Application for planning the supply of decisive combat ammunition (ACE Resource Optimization Software System (NATO) (ACROSS) – with modules for planning the consumption of decisive ammunition used by land forces (LEMEM – Equipment Ammunition Model), air defence ammunition (ADMEM - Air Defence Munitions Expansion Model), Air-to-Ground Operations Experimental Model (AGMEM) and maritime munitions (MARMEM);

– Movement and transport applications (ADAMS, CORSOM and EVE).

We consider it important to review the functions performed by common applications, as well as those specialised in the field of movement and transport.

The development of a deployment plan or for the execution of logistics supply transport involves the completion of a planning process based on the design of the operation, the determination of the force requirements and their allocation and operational requirements, following the development of a national deployment plan which is integrated into the detailed multinational deployment plan and, finally, after updating the data on the need to be transported , the operational requirements and changes during the planning conferences result in a detailed multinational plan of deconflicted dislocation, i.e. relieved of all interference related to the execution time, the ability to load the means available or their availability, etc. that could affect its proper execution.

The optimal process of this planning process involves the integrated use of applications from the common database (GEOMAN, LDM, SPM) and those specialised in the field of movement and transport (ADAMS, EVE and CORSOM). All of these applications will be briefly described as to the functions performed.

The Geographical Manager Module (GEOMAN) allows the creation and exploitation of the geographical data required for all LOGFAS applications as follows:

– includes general and detailed maps, communication routes related to all modes of transport and locations of facilities of all kinds (barracks, railway stations, ports, airports, localities, warehouses, training fields or polygons, etc.);

– submit technical data on the various existing facilities;

– transport routes are created and can be established;

– import and export geographical locations to update data is allowed.

The LOGFAS Data Module (LDM) is used for:

– the creation and management of force profiles by which data relating to the organisation and endowment of force are

stored separately, the type of mission for which it is constituted;

– creation and import/export of the statement of requirements (SOR);

– the allocation of the forces made available to ensure the requirements through the national and allied lists of provisions (Allied Disqualified List (ADL) and National Disqualified List (NDL));

– management of the technical characteristics of the materials and equipment in the endowment.

The Sustain Planning Module (SPM) provides the calculations necessary to determine the quantitative logistical support requirements (requirements) in accordance with the supply scenario and policy as follows:

– provides a catalogue of national and common coding techniques and products with NATO member states using the NIC (National Item Code) and RIC (Reportable Item Code) codes;

– calculates the material requirements for the establishment of planned stocks and for the support of operations according to the scenario and supply policy established. Consumption rates and change factors shall be used to determine these requirements so that the results reflect the level of effort;

– calculates the data necessary for the execution of supplies according to the replenishment period and provides this data for export transport planning in the ADAMS module;

– provide data on the degree of planned stock assurance or operational support.

The field of movement and transport, through its complexity, has generated the need for applications covering the areas of their planning and execution (ADAMS and EVE), as well as for the planning, organisation and execution of Reception, Staging, Onward Movement (RSOM)-specific (CORSOM) specific activities.

Allied Deployment And Movements System (ADAMS) is the main tool used for planning movement and transport operations, both deployment and logistics through:

– the creation of detailed transport plans ensuring the possibility of dividing the components of the columns according to travel needs;

– estimation of the need for means of transport to carry out the necessary movements (tactical or logistical);

– scheduling of movements to be performed;

– the allocation of the means of transport necessary for the organisation of the movement which may be its own means or of an entity specialising in the execution of military or civilian transport (transport operator);

– simulating the execution of the detailed transport plan and reporting any conflicts;

– the animated presentation of this simulation;

– resolving the “conflicts” arising in the organisation of columns and in terms of travel execution times;

– the generation of reports, transport graphs or other necessary analyses.

The Effective Vehicle Execution (App) is used to view how movement and transport plans are implemented by performing the following functions:

– importing detailed deployment plans (DDPs), motion spreadsheets or other EVE files;

– reviewing the initial plans by changing priorities and coordinating the flow of movement in current plans;

– filtered search and update of movement information and arrivals and departures status;

– the allocation of means of transport for the management of the transport fleet;

– carrying out statistical analyses on movement on the basis of concrete movement data;

– providing personalised reports.

The Coalition Reception Staging Onward Movement (CORSOM) module is the tool used to plan, organize, execute and control domain-specific activities. The potential for use of CORSOM includes:

– viewing and understanding the geography of the region in which the RSOM process is to be carried out;

– RSOM planning, evaluation and revision of the plan through the import of DDPs, accurate estimates of transport requirements and the possibility of adding support facilities where necessary;

– Possibility of working with generic units for quick estimates, but also with detailed data at the time when they may be available;

– Running The RSOM using the capabilities of the EVE module.

In our view, the LOGFAS programme package can be a powerful tool for supply planning and logistics operations and for expert reporting, taking into account the following considerations:

– the programme may store and manage geographical data and locations of troops, communication routes and terminals used for modes of transport, sources of supply and other facilities existing in the area (warehouses, economic operators, training grounds, polygons);

– gives us the possibility to obtain simple estimates of the material requirements for preparing and supporting operations taking into account factors that could influence consumption such as consumption rates, type and intensity of operation, climate conditions, season and weather, terrain, etc. These estimates shall also be made taking into account the design of the supply by days and periods of time.

– estimates of the need for means and of the movement and transport plans, with the possibility of simulating and deconflicting them, save the time used by logistic planners by helping to transmit orders to this effect;

– Logistic reporting (LOGREP) integrates data from all specialized applications providing a high degree of precision and promptness.

3. Use of the LOGFAS Programme Package for Movement and Transport Planning at the Mechanised Brigade Level

The description of the LOGFAS programme package demonstrated the possibilities offered by it to facilitate the planning work of movement and transport managers, as well as the management of logistics supply and transport operations, both in multinational operations and in the case of operations that do not involve other nations.

With regard to movement and transport, the programmes specifically for this functional area of logistics offer the possibility to draw up very simple quantitative estimates for deployment and logistics transport, but also of the order of scheduling their execution by setting temporary benchmarks and the possibility of simulating the missions generated in order to achieve their deconflictation. The deconflictation of transport missions ensures the optimisation of transport in terms of the use of means, as well as in terms of passages through certain important points in order to avoid traffic jams and traffic jams. This avoids the negative effects of delays on the success of the operation.

A very important facility is the possibility to combine the efforts of logistics planners with supply and movement and transport responsibilities by using the SPM and ADAMS modules to plan regular replenishments.

We appreciate that, at the level of a mechanised brigade, the implementation of the use of the LOGFAS programme package would be very useful for planning operations at tactical level for both international missions and for the planning needs of missions or exercises carried out at national level.

The use of this programme package requires specialised operators trained through courses to ensure the following requirements:

– supply planning using LDM and SPM modules;

– M&T planning through the ADAMS and CORSOM module;

– leading M&T operations through the EVE and CORSOM modules;

– reporting the logistics situation through the LOGREP module.

We believe that in order to cover these requirements the logistics compartment of the mechanised brigade should prepare at least 4 LOGFAS operators, 2 base and 2 reserve, and have at least 2 workstations (for planning and conducting logistics operations) that meet the technical and security classification requirements for the installation of the programmes.

LOGFAS users should cover the following responsibilities relating to tasks common to all users of LOGFAS and those specific to the supply/resupply area:

– the establishment of the database in the LCM module and its popularity with data on the forces used, the necessary profiles, the dislocation locations and their endowment;

– the creation of the action plan supported by the statement of requirements (SOR) and the allocation of forces and endowment through the ADL – Allied Disposition List (ADL);

– the introduction of the supply policy relating to the operation plan relating to the number of days of operation, initial stocks and the replenishment cycle;

– establishing stock-packing options in the SPM module with a view to configuring the logistics packages for replenishments;

– calculation of planned and supporting stocks,

– the packaging of these stocks and the generation of the SOR and the automatic list of disposals for replenishment missions;

– exporting data to ADAMS users if they use another workstation.

M&T managers using ADAMS perform the following activities:

– enter geographical data on sources of supply, districts of disposal of logistics units/subunits, other important locations such as embarkation/disembarkation points, ports, airports, supply axes and communication line networks;

– make initial estimates of distances and routes to be made;

– establish checkpoints, coordination alignments and other key points;

– centralizes data from subordinate echelons and creates the detailed Multinational Deployment Detailed Plan (MNDDP) which centralizes the detailed deployment plans of subordinate units;

– introduce data on the categories of means of transport, the quantitative limits of their use and the establishment of the transport fleet;

– make initial estimates of transport requirements using travel routes using the "Graph" option in the ADAMS module;

– generates components of the force moving separately (Split component) according to the device elements decided by the order of operations and transport missions related to all these forces;

– can view the time planning of planned missions (GANTT View) and can deconflicte these missions if necessary;

– performs the simulation of the execution of transport missions and can make changes to the planned actions;

– the detailed transport programme can be obtained from the EVE module by taking the data entered into the ADAMS programme.

4. Conclusions

In the absence of specialised users, we consider that the programme package can also be used by a single operator prepared for the use of all the logistics IT modules made available, if assisted by

specialists in areas not covered. The integrated use of Program Management System (PMS) and ADAMS for supply planning and logistics transport is, in our view, a different way of addressing the use of the LOGFAS package, which adds value to its existence.

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