
EKONOMIA BEZPIECZEŃSTWA I LOGISTYKA

**GLOBAL SUPPLY CHAIN STANDARDS AND SOLUTIONS IN THE
CONTEXT OF LEGISLATIVE AND STRUCTURAL TOOLS OF THE
MINISTRY OF DEFENSE OF THE SLOVAK REPUBLIC IN ALLIANCE
COOPERATION**

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Abstract

The paper analyses the NATO Codification System, explains basic terms and definitions, analyses the NATO codification policy and basic principles, characterizes the procurement system and NATO related codification procedures applied within the Armed Forces of the Slovak Republic and describes the supply and stock system implemented at the Ministry of Defense of the Slovak Republic.

Introduction

The term “codification” is used especially in relation to a standard for a language that defines official rules for its implementation (enactment) or in relation to law codification, which is the process of systematic collecting of legal regulations in certain areas of jurisdiction into a complete or a partial complex (code of laws, codex, directive, etc.).

Each weapons system used in the armed forces consists of many parts – groups, subgroups – items. To maintain operability of such a system requires storage of a necessary number of spare parts. As a result, the bases and other logistics units within the Slovak Armed Forces store thousands of items, plenty of which have the same technical and functional properties but different identification marking. The codification system seeks to eliminate the risk of duplication by the systematic and coordinated maintenance of all identification data on individual items. It creates a database of weapons, ammunition, equipment and spare parts that are used for national defense. Furthermore, it makes this extensive database available to all entities involved in development, production, delivery and storage of military technologies.

**Implementation of NATO Codification and
Standardisation Activities in the armed
forces of the Slovak Republic**

NATO Codification System (NCS) is based on principles and procedures generally binding for all member states but, at the same time, it allows adaptations to national requirements and particularities. The NCS is a basic tool for effective logistic support in the armed forces. Indeed, the NCS is DNA of modern logistics. The main objective of this system is to make sure that military personnel deployed in joint operations can be sure about correctness of items that will be supplied to them according to their requirements. The NCS is also used or implemented by several dozen non-NATO states that are interested in participating in joint logistic support.

The foundation for the contemporary NATO Codification System was laid by the US Congress and the US President Roosevelt at the end of World War II. That time, the USA had large quantities of material, which was marked and classified in many different ways, in stores all over the world. Different marking or designation of the same item resulted in a surplus and waste of materials (materials were purchased even though they were available in stores) as well as a critical shortage of

important spare parts and failure of technologies. This was happening due to the fact that there was no cataloguing system that would unify marking and identification of products from different producers.

As a result, the US Congress approved the Defense Cataloguing and Standardization Act No. 436 on 1 July 1952. Pursuant to this act, cataloguing of an item/product must include designation, classification, description and numbering of each item repeatedly used, purchased, stored or distributed by the Ministry of Defense or its sections in such a way that the same item is identified by only one unique distinguishing combination of letters or digits. The procedure that included all these steps was called “the Federal Cataloguing System”, which was later adopted by other NATO member states as the NATO Codification System (NCS) and which serves as a basic logistic element of the item lifecycle management.

Basic definitions and terms

CODIFICATION OF PRODUCTS – means a complexity of services providing identification, classification and assigning of a stock number to individual stock items belonging to NATO member states. The purpose of codification is to implement a uniform language for identification of stocks. The rule is that each item of supply is assigned with a unique stock number. NATO codification involves maintenance of existing registers and development of updated information for all countries that are registered as users of individual items of supply.

CODIFICATION SYSTEM – is a basic system for implementation of a uniform language used for identification, classification, numbering and recording of producers, suppliers as well as for maintenance of databases that include records of individual stock items. The codification system is a tool of logistics management.

NCS (NATO Codification System) – is a system described in detail in the AcodP-1 NATO Manual in Codification and in NATO standardization agreements.

CODIFICATION DATA – all data related to items of supply, i.e. parameters for items of supply (their characteristics), parameters and data on producers as well as data on users. All this data is recorded in the national database of each member

state (for example, in the Total Item Record – TIR).

NCB (National Codification Bureau) – is a central body of each state that is responsible for implementation and maintenance of the NATO Codification System. The NCB is a connecting link between armed forces of individual countries, NATO member states and the NATO Support Agency, the main logistics and procurement agency of the North Atlantic Treaty Organization. Furthermore, the NCB represents its country in the NATO Cadre Group of National Directors on Codification AC/135 and it is also responsible for the application of national and international codification procedures.

AC/135 MG – NATO Cadre Group of National Directors on Codification is subordinate to the Conference of National Armaments Directors – CNAD. AC/135 MG is composed of national directors of NATO member states’ codification bureaus. This group is responsible for development, implementation and maintenance of the NATO Codification System while providing technical and logistic support for participating nations. It is divided into three subgroups: PANEL A, NMBS and TriCOD.

NSPA (NATO SUPPORT AGENCY) – is the main NATO agency that focuses on logistic support, including armaments and individual items of supply. The NSPA has developed, implemented and maintains the NATO Mailbox System, which is a means of international data exchange in electronic format. In addition, the NSPA maintains and processes a complex database of NATO codified products and producers.

DLIS – the Defense Logistics Information Service provides complex integrated logistics and IT service for the U.S. Department of Defense, national agencies and international partners. On behalf of NATO, the DLIS maintains identification guides FIIGs, MEDCAT, H-Series resource files and various additional codification manuals.

NCAGE (NATO Commercial and Governmental Entity Code) – NATO code for producers and organizations.

NSC – NATO Supply Classification – is a system that divides items of supply into groups and classes, especially for the purpose of efficient supply and storage.

NATO Codification policy

The NATO Codification System is aimed at achieving maximum effectiveness of national and international logistic support and facilitating supply data management as well as identification of items that are different but fulfill the same requirements. This will allow reduction of supplies (equipment, assembly systems, components and spare parts) and keeping necessary amounts of supplies under control.

The NCS uses a uniform system for classification and identification of items of supply and it seeks to:

- avoid different identifications of the same item of supply,
- determine which items are interchangeable,
- support standardization,
- improve logistic support of NATO and other participating forces,
- enhance interface between defense codification systems and industries,
- improve property management by increasing effectiveness and efficiency of logistic operations.

According to the NCS, all signatories shall use the common terminology (a common supply language) for logistics and all defense purposes. Implementation of the NCS is based on ratification of the Standardization Agreements (STANAG). From the establishment of NATO to the present day, all member states have made their national systems compatible with NATO by ratification of the standardized agreements on codification.

As a result, the NCS principles are implemented in national legislation and member states become compatible as far as defense logistic support is concerned.

The following basic NATO Standardization Agreements allow a clear definition and effective application of the NCS:

STANAG 3150 – Uniform System of Supply Classification;

STANAG 3151 – Uniform System of Item Identification;

STANAG 4177 – Uniform System of Data Acquisition;

STANAG 4199 – Uniform System of Exchange of Material Management Data;

STANAG 4438 – Uniform System of Dissemination of Data Associated with NATO Stock Numbers.

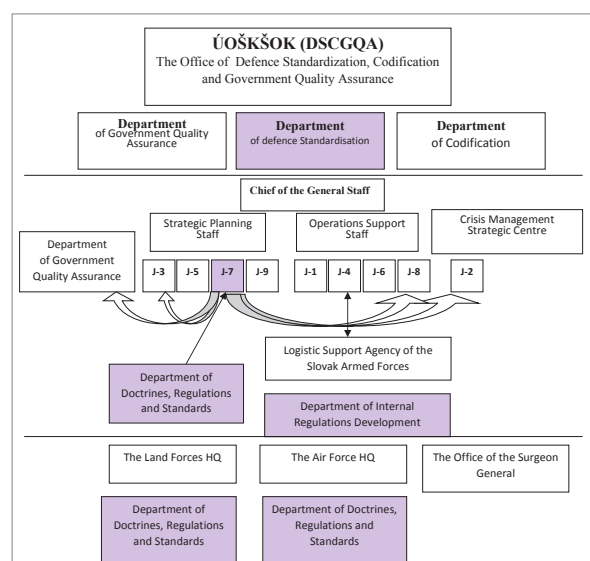
These standardization agreements are regarded to have been implemented when the provisions of these agreements are included in the corresponding national documentation. The Office of Defense Standardization, Codification and Government Quality Assurance ratified these standardization agreements on codification as of 1 May 2004.

Principles and provisions of individual agreements are included in the national legislation of the Slovak Republic – the Act No. 11/2004 as later amended, the MoD Directive No. 476/2011 MO SR, guidelines and standard procedures. The structure of the defense standardization in the Slovak Republic is depicted in the following picture.

Basic Principles of the NCS

One Item of Supply – One Stock Number

For each item, which is repeatedly used, purchased, stored and distributed, only one type of unique identification (one NATO Stock Number – NSN) is used for all supply functions.



Legend:

ÚOŠKŠOK (DSCGQA) – The Office of Defence Standardization, Codification and Government Quality Assurance

Each Item of Supply that is to be implemented in the supply system must be designated, identified and classified in such a way that it can be assigned with only one NSN.

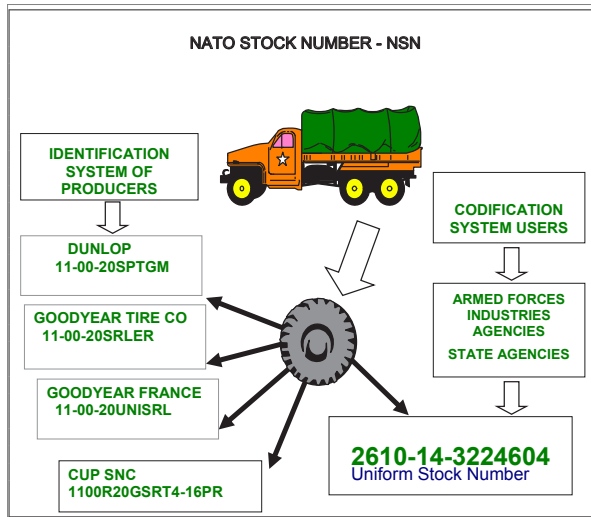
Picture 1. Structure of the Defense Standardization System in the Slovak Republic

National Responsibility

The National Codification Bureau – NCB – is responsible for codification of all items of supply for all NCS participating nations even if

some items of supply are not used by the armed forces of a particular country that is responsible for codification.

Each nation that wants to use such codified items must sign up as a user by means of the MOE Code. An item of supply, which has not been produced by the NCS participating nation, must be codified by the nation that implements this item in the NCS and manages its data.



Picture 2. Assignment of NATO Stock Number – NSN

Codification Process

The NCS is based on the concept of an item of supply, which is the subject of all codification processes. An item of supply is an item of production that is repeatedly purchased, stored, and used for the defense logistic support.

An item of supply is composed of parts (components) or subjects grouped under the same reference number of a particular producer. The reference number gives the product unique identification by means of a technical drawing, standard or other kind of identification used by its producer. It is necessary to follow the rule that an item of production is not necessarily an item of supply.

Designation of an Item of Supply

Each item of supply must be designated according to the NCS rules. Designation of items of supply is usually an Approved Item Name (AIN) and this designation is regarded as a basic step of codification. Application of an approved name with a corresponding five-digit Item Name Code (INC) enhances international standardization and provides further information

such as definitions, item classification codes and procedures for descriptive identification. When a corresponding approved item name is not available, a non-approved item name is used with its INC = 77777.

Classification of an Item of Supply

NATO Supply Classification is a system that classifies items of supply according to different groups and classes, especially for the purpose of efficient supply and storage.

Criteria for combining items into groups and classes are as follows:

- physical or performance properties,
- relation of their components and accessories to nearest groups of a higher unit for which they are designed,
- the fact that the items are normally procured and supplied together.

The result of the NATO classification of items of supply is the assignment of a four-digit code to each item of supply. However, classification of an item of supply may alter during its lifecycle. Classification is performed in accordance to H2SK (AcodP-2).

Identification of an Item of Supply

Identification of an Item of Supply means acquisition and processing of minimum data necessary for fulfilment of a certain requirement and determination of basic characteristics that make an item of supply unique and different from all other items of supply.

Items of supply are normally identified by means of two basic identification methods, i.e. reference and descriptive methods.

Reference method – applies identification by means of item identification data processed by the producer (or the supplier) and its recording. This method uses so-called Reference (REF), which consists of the Reference Number (RN) and NCAGE. The reference number usually stands for a number of drawing or other markings applied by the user – model, type. Reference identification also involves determination of the reference number value in terms of identification and acquisition by means of reference number codes (e.g. RNCC, RNVC, DAC, RNSC, RNFC, RNJC...).

Descriptive method – applies recording of technical, performance and other properties of items of supply according to the procedure included in the Item Identification Guide (IIG). Item characteristics are recorded in codes in order

to provide international standardization and safe electronic transmission.

Identification of Producer of Item of Supply

Identification of the real source of each item of supply is one of the basic prerequisites for proper implementation of the uniform item identification system. The source can provide necessary documentation and information on codification responsibilities. Each reference number, which is listed in the NATO Codification System, must be connected to NCAGE (NATO Commercial and Government Entity Code) before this number – a number of the producer’s component – is put into the Total Item Record (TIR), which is maintained by individual national codification bureaus.

NCAGE is a five-digit alphanumeric code the structure of which is specified by international standards. NCAGE is assigned to an entity by a national codification bureau of the country where the entity has its seat. Entities – producers or suppliers – in non-NATO member states or in TIER-1 countries are given these codes by NSPA.

Assignment of NATO Stock Number – NSN

The NATO Stock Number is a 13-digit code for an item of supply that has its standard structure and standard methods of assignment thus it always remains unique. The NATO Stock Number is issued by the national codification bureau in accordance to the national responsibility principle. The NSN structure is depicted in picture 3.

Assignment of other data

After the above-mentioned codification procedures are completed, data records of items of supply are supplemented with other data that is specified by principles concerning storage and management of items of supply. The extent and structure of this data depends especially on the roles that the codification system plays in the national environment. These are especially specific matters of individual users or nations.

Provision of NATO Stock Numbers and Item Identification Data

National codification bureaus of NATO nations or TIER 2 nations are responsible for providing the NSPA or a procuring nation with the NATO Stock Numbers and data on item identification. This provision is in accordance with the NATO Codification System requirements.

International Exchange Of Information

Exchange of Data by Means of ADP

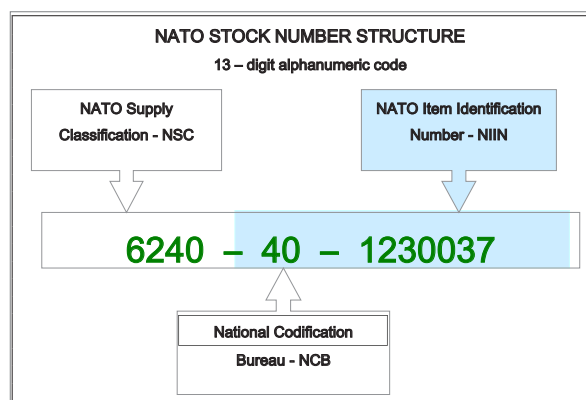
Quality of the codification system is associated with the ability to find information in a particular environment (procedures, documentation, database of suppliers, references, manuals, catalogues ...).

Codification data is available to the NCS participants by means of a uniform system of automated exchange of data between countries. This system is defined on the basis of explicit rules that specify standardized formats for exchange of codified data by means of ADP. These electronic transactions of data elements are called segments.

NATO Mailbox System (NMBS)

The NSPA is the center for coordination of data exchange. It runs the NATO MAILBOX SYSTEM – NMBS, and, thus, provides distribution services focused on electronic transactions between individual countries. The NMBS provides the central hardware and software platform with various pre-defined connection settings. It uses various safety coding protocols.

A sending unit delivers its data to the NMBS in accordance to this system’s rules and notifications. The NSPA checks all transfers in the NMBS and stores the data in electronic boxes so that they can be retrieved by a receiving unit in approved intervals. The mailbox is a common transmission station that stores the NATO codification data. Countries participating in the NCS are assigned with their mailbox which receives messages addressed to the National Codification Bureau and messages addressed to all NCS users.



Picture 3. Structure of NATO Stock Number

NATO Automated Business System (NABS)

The NATO Automated Business System (NABS) is an official instrument for management of documentation in AC/135 used for development of automated programs for meetings of the Main Group, Panel A and work teams. The NABS applies standardized software technologies as a commercial and publicly available COTS programmed file. This system allows its users electronic processing, delivery and management of documents.

Furthermore, the NABS enables the sending and storage of documents used for business meetings in an electronic format as well as immediate access to documents in portable personal computers during business meetings. In addition, this system provides committee members with access to information on the meeting's program and documentation that is to be used during the meeting. As a result, participants of meetings can discuss individual points of the program having the same documents.

Electronic Connection to Both Above-Mentioned Systems

Nowadays, both systems are accessible over the Internet by means of a coded access at the entry page. After users enter the code for a particular system, they can use either the NMBS or NABS programs which perform selected operations (input/output transactions, replies to delivered applications, documents and forms).

Terms and Connection of the Slovak Republic to NMBS/NABS by ADP means

Pursuant to ACodP-1, activities associated with data exchange through NMBS and NABS can only be performed by a national authority on codification (NCB), which is the Office of Defense Standardization, Codification and Government Quality Assurance based in Trenčín. Since 15 June 2004, the Codification and Information System of the Slovak Republic has been connected to the NSPA by means of the NMBS and, since then, it has been performing all automated transactions within the international data exchange system.

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