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NOTICE
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DEFENCE REVIEW COMMITTEE

GROUP ON FORCE DATA MANAGEMENT AND ANALYSIS

Note by the Chairman

This System Manual represents the result of many years' effort by the Systems Analysis Section of the NATO International Staff and Members of the DRC's Group on Force Data Management and Analysis. It constitutes an up-to-date compendium of essential elements of the new NATO Force Planning Data Base (NFPDB) system. It supersedes all previous notes issued in the course of the evolving development process.

2. At this state of system development the basic components of the design must be regarded as firmly – and, at least until the completion of the implementation phase, irreversibly – defined. This applies, in particular, to the input records structures and the rules governing their application. It does, however, not strictly apply to the presented categorisation schemes for data items; the system is insensitive to modifications, extensions or improved definitions in this area.

3. This Manual is only a part of the complete NFPDB system documentation, but it is believed to present sufficient guidance for Nations to respond to the new system in the desired manner.

4. One of the significant features of the system is its capability of flexible response to variations in volume, aggregation and parametric breakdown of data inputs. In addition, it offers – for the first time – NATO Nations the opportunity of reporting both current and planning data for all branches of Service in automated form to a central computerised data base.

(Signed)   A. Puhl

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N A T O   R E S T R I C T E D

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NATO
FORCE PLANNING
DATA BASE (NFPDB)

SYSTEM MANUAL

PART A: FILES
RECORDS
CODES

(excluding equipment codes)

DECEMBER 1977

SYSTEMS ANALYSIS SECTION, DPP DIVISION

NATO/OTAN - BRUXELLES 1110

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SYSTEMS ANALYSIS SECTION

DEFENCE PLANNING AND POLICY DIVISION

NATO FORCE PLANNING DATA BASE (NFPDB)

SYSTEM MANUAL

PART A: FILES
RECORDS
CODES

Foreword

This NFPDB System Manual has been prepared by Systems Analysis Section (SAS), Defence Planning and Policy Division, to assist NATO and national data-handling experts in implementing the new NFPDB.

2.   No attempt has been made to produce a complete description of the System. Rather, an overview of the salient features has been provided, together with instructions which, it is hoped, will suffice fully to allow data providers to submit the necessary information to NATO Headquarters.

3.   Certain precautions should be taken in use of this Manual. The reader should recognise that the association of values with the codes and parameters drawn from this document can take on a security classification. The entry of marginal notes or quantitative/qualitative performance data obtained from other classified references, or which in context may be classified, should be avoided.

4.   In order to improve the NFPDB, recipients are encouraged to forward to this Section proposals for additions, changes or corrections to the content of this Manual which they may deem important in the light of technical, military and political developments.

(Signed)   A. Puhl
Head, Systems Analysis Section
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1.   <u>INTRODUCTION</u>

1.1   <u>Scope of the System Manual</u>

This Manual forms part of the NATO Force Planning Data
Base (NFPDB) System Support Documentation. It is
intended primarily for those (data providers) whose
responsibility it is to provide inputs to the NFPDB;
and for those (information users) who have a legitimate
requirement for information stored in the base.

Chapter 2 of this Manual provides data providers and
information users with a brief description of the
internal file system, indicating types, content and
linkages of physical file records. For more complete
information about data management operation, such as
programme logic, etc., interested readers are referred
to relevant NFPDB System Documentation Manuals.

Chapters 3, 4 and 5 contain exhaustive and essential
information needed by data providers to enable them
to perform their input function in the desired manner.
Detailed descriptions of the card input formats are
found in Chapter 3. Relevant guidance and instructions
(together with some examples) for input preparation are
set out in Chapter 4.

Chapter 5 contains lists of codes appertaining to data
elements of NFPDB records. With the exception of
equipment codes, which are to be found in the NFPDB
System Manual, Part B, the required data items of
record elements are identified, presented in logical
and alphabetic sequence, and uniquely encoded.

1.2   <u>General System Capability</u>

As the central and principal source of force planning
information of the Alliance, the NFPDB is designed to
organise, store and manipulate large quantities of
data in an efficient and cohesive manner and in such
a form that information can be retrieved for a
variety of current standard and future applications.
This capability of the system is coupled with
sufficient flexibility for expansion and limited
compatibility with systems, techniques and concepts
applied by data providers. As to the nature of

information reported into the base, the system permits,
within defined limits, the data providers the
possibility of reporting information to whatever level
of detail is (a) compatible with their own system
concepts and planning philosophies, and (b) dictated
by user requirements. However, data providers'
freedom of input action is severely limited due to
requirements of automation and centralisation: the
system accepts inputs on magnetic media and in a
defined format only; further, certain input rules must
be adhered to; and codes other than those listed in
the NFPDB Coding Handbooks are not permissible.

An essential feature of the system is its capability
of managing information of non-steady nature; i.e.
information elements are associated with variables of
time (see β codes) and plans (see γ codes). This
method of "information superposition", if systematically
applied by data providers, yields the advantage of
reducing the level of data redundancy to a minimum.
This facility is, admittedly, liable to increase
software complexity. Without it, however, the large
data volume -- coupled with hardware limitations -
would cause insurmountable problems.

Through the application of modern data base techniques
and the use of a data base management software a high
degree of data independence, both in respect of the
overall logical structure and the physical organisation
of data and file layout, was achieved. Thus, the data
structures are, as far as possible, being kept
independent of the application programmes, which is
considered highly desirable in a multi-user environment.

Interoperability with other existing or planned NATO
information systems operating with both Management
Information Systems (MIS) and Command and Control
Information Systems (CCIS) type data has been
considered in the design of the NFPDB.

1.3   General NFPDB Content

In accordance with the ultimate and broad objectives
of the NFPDB(1), the system was designed to satisfy
existing requirements for information of all users who
can appropriately be served, as well as known and

(1)   Frame of Reference for the NATO Force Planning Data Base (as
      published in Document DRC/N(76)30

anticipated future requirements. In order to cope, in
a dynamic environment, with additional - as yet unknown
- requirements the system has sufficient growth
potential in regard to volume and type of information.
The current selection of data items contained in the
NFPDB was, however, made on the basis of current actual
and known future user requirements.

Depending on the area of application, the NFPDB
content is subdivided into two main information
categories:

-       UNIT-oriented information, such as characteristics
        appertaining to military service units, defence
        support organisations and installations, etc.
        (see Figure 1);

-       EQUIPMENT-oriented information, such as
        characteristics of weapons and other military
        equipment and installations, and their
        operational use, etc. (see Figure 2).

As regards UNIT-oriented information, it is important
to note that the time dimension has been introduced
into the NFPDB to permit the storage of force planning
information relating to the future. This is termed
applicability of time (see β codes). Furthermore, as
an aid to efficient data storage, the organisation of
data within the NFPDB recognises explicitly that a
given type of data can serve different purposes (e.g.
personnel-type data can be used to convey information
on actual or on war-authorised or on peace-authorised
strengths. This is termed applicability of plans (see
γ codes). Finally, both parameters (β and γ) are
applied to certain groups of data elements, which are
referred to as information types. All three variables
- information type, applicability of time and
applicability of plan - are described within the NFPDB
by the so-called Alpha-Beta-Gamma triad (see Figure 3).

For both UNIT-oriented and EQUIPMENT-oriented
information, the NFPDB system is capable of meeting
new requirements by the application of either one, or
a combination of all four of the following techniques:

(a)   extension of the list of codes for an appropriate
        data element;

(b)   extension of the range of applicability of plan
        (additional γ code(s));

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(c) creation of new information type(s) (additional
     ∝ code(s));

(d) extension of an existing information type (new
     data element(s)).

Only the latter two alternatives would require system
modifications. It is, however, expected that most
anticipated additional user requirements will be
satisfied by options (a) or (b).

INFORMATION CONTENT
UNIT ORIENTED

Figure 1
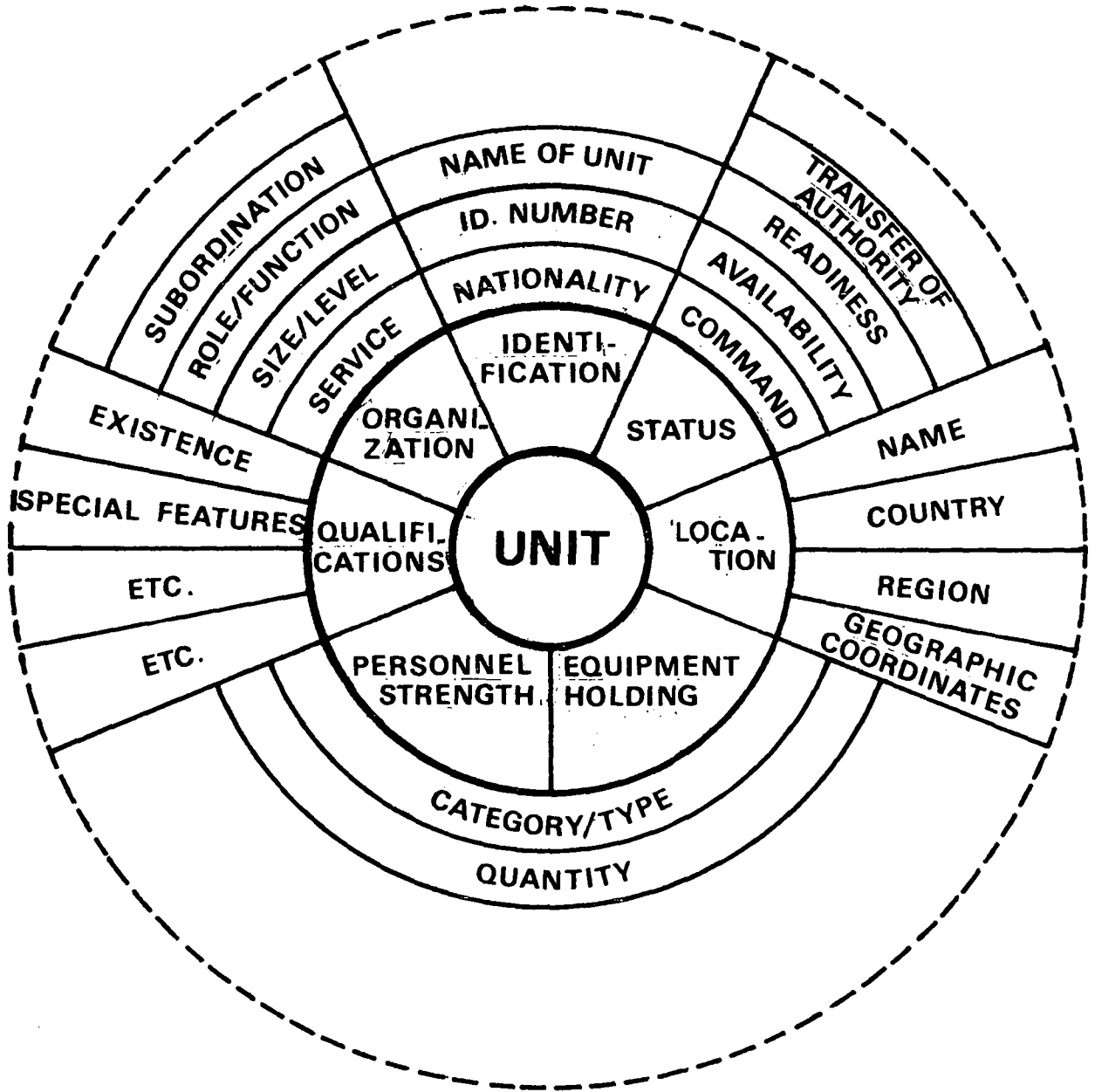
INFORMATION CONTENT
EQUIPMENT ORIENTED

Figure 2
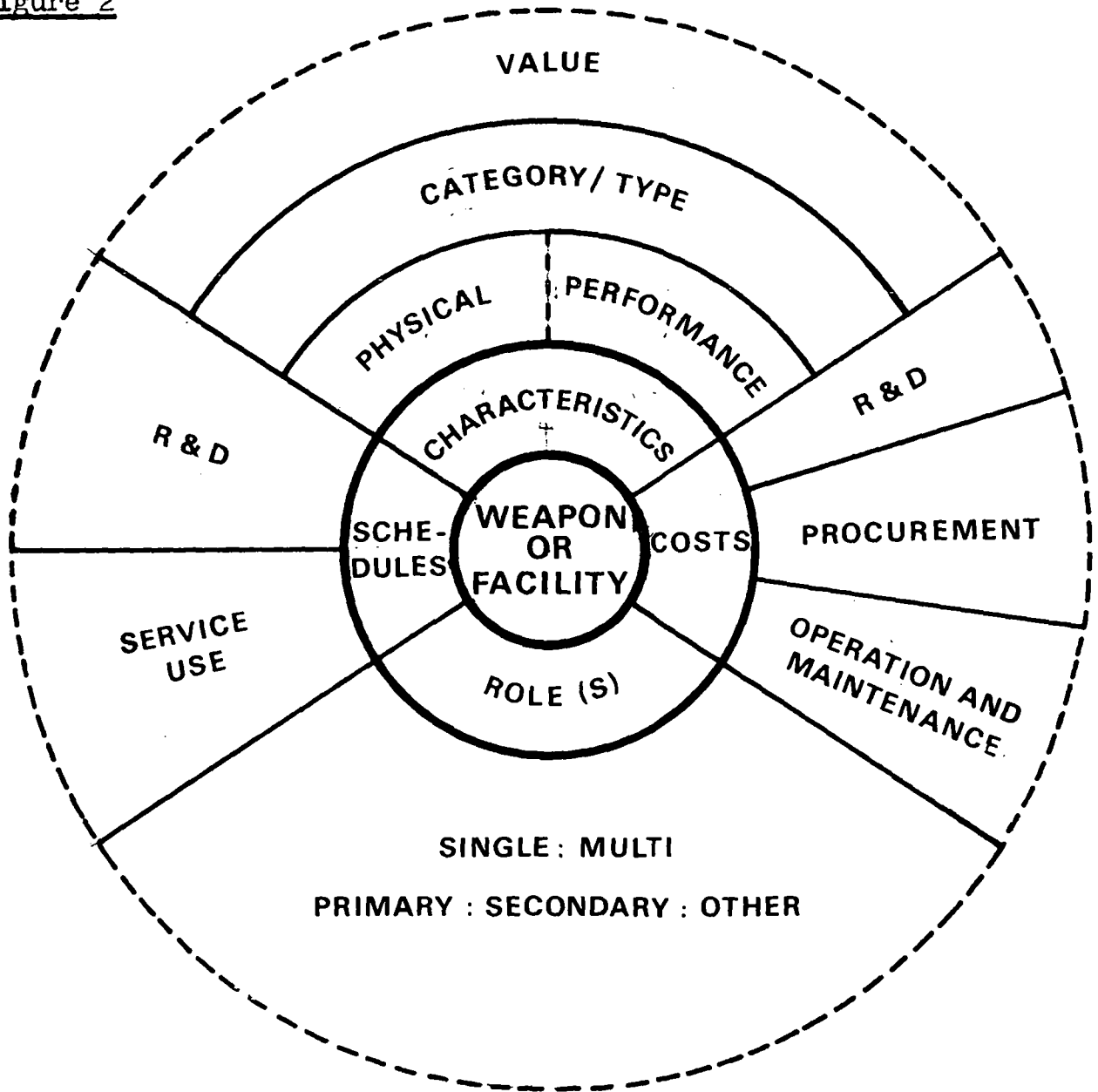
VALUE

CATEGORY/ TYPE

PHYSICAL | PERFORMANCE

CHARACTERISTICS

R & D

R & D

SCHE-DULES

WEAPON
OR
FACILITY

COSTS

PROCUREMENT

SERVICE
USE

ROLE (S)

OPERATION AND
MAINTENANCE

SINGLE : MULTI

PRIMARY : SECONDARY : OTHER

THREE-DIMENSIONAL REPRESENTATION OF FDMA INFORMATION

Figure 3

- γ (APPLICATION)
- γ_6
- γ_5
- γ_4 (GDP)
- γ_3 (WAR AUTH)
- γ_2 (PEACE AUTH)
- γ_1 (ACTUAL)

(INFORMATION TYPE) a

- a_5 PERSONNEL
- a_4 EQUIPMENT
- a_3 LOCATION
- a_2 PERFORMANCE
- a_1 UNIT

1977 1978 1979 1980 1981

β (TIME)
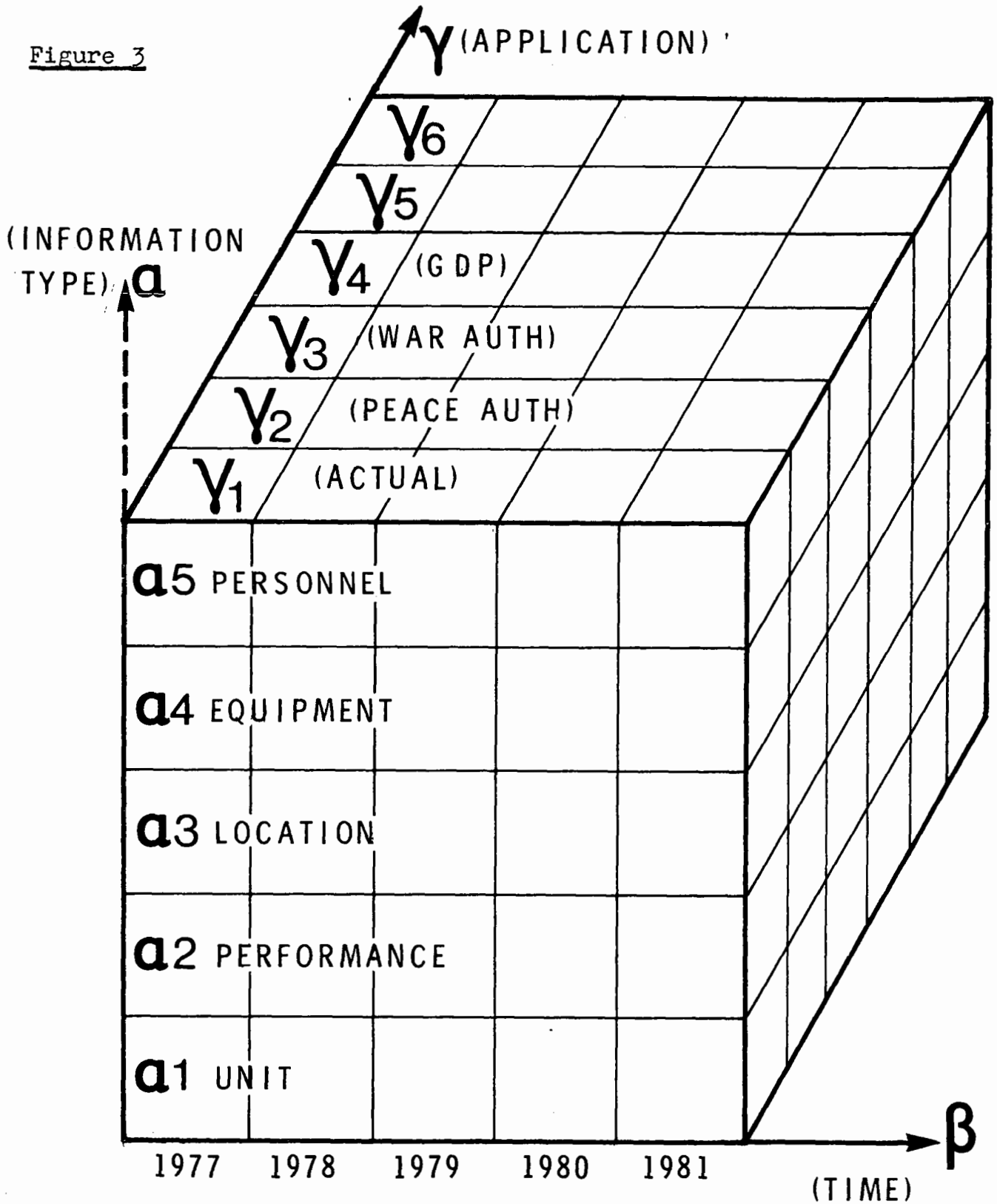
2.   FILE SYSTEM

            This chapter is intended to provide the NFPDB users
            with a concise description of the data organisation
            within the data base. This is particularly to aid
            the NFPDB user in his comprehension of the content of,
            and the relationships between, the different record
            types, and only the overall schema of data items,
            records and files is addressed(1).

            In general, it is not essential, however, for data
            users and providers to concern themselves with the
            structure of the NFPDB. It may simply be regarded
            as a black box, which requires inputs and provides
            outputs. The methods by which this is achieved are
            largely irrelevant to providers and users of
            information. Potential users will see from the Codes
            section the scope, nature and level of detail of the
            data held in the data base. In general, outputs can
            be produced linking these individual data items in
            any combination and to any level of aggregation.
            However, the structure of the data base makes the
            production of certain types of output easier and
            faster than that of others. Intending users of the
            data base should, therefore, first consult the Head
            of the Systems Analysis Section as to the feasibility
            of satisfying their particular requirements.

            In its current layout the NFPDB consists of 14
            physical files as listed in Figure 4. These are
            embedded into a global system as represented in
            Figure 5. The records of the physical files are
            linked with the aid of a data base management system.
            The linkage paths are also shown in Figure 5. These
            links between the records of different files are
            established by the data base management system
            (Figure 6).

---

(1) The reader may wish to note that SAS prefers to distinguish
     between (a) logical input records (as described in
     Chapter 3 and (b) records of NFPDB physical files, bearing
     in mind, however, that the term "physical" is not
     necessarily conclusive as to the actual representation of
     data within the physical data base. It is felt that the
     latter aspect of internal data storage and manipulation is
     - in the general application context - of no concern to the
     user.

As in a conventional filing system, the information
in a computerised data base is arranged in files
according to its nature. However, the set of
physical files shown in Figures 4 and 5 has, to a
certain extent, been artificially conditioned by
technical features of the data management system
employed. For example, the system distinguishes
between two types of file: Master Files, or Single-
Entry Data Sets, denoted in Figure 5 by rectangular
boxes, and Variable-Entry Data Sets, denoted by
circles. The main significance of this distinction
is that records of Single-Entry Data Sets can be
accessed directly. Records of Variable-Entry Data
Sets, in general, must be accessed via a Single-Entry
Data Set. At the same time, a set of records in a
Variable-Entry Data Set can be chained together and
linked to one record in a Single-Entry Data Set.
This is indicated by the lines linking files in
Figure 5, which represent the pointers. Note the
direction of the arrows.

The content of these physical files is indicated in
Figures 7, 8 and 9 (together with the field lengths
allocated to each data element). It can be seen that
an appreciable part of the content is administrative
material required by the data management system. The
useful information content of the NFPDB will be
described more fully in Chapters 3 and 4, when we come
to deal with the input record formats. The mention
of "coded records" in Figure 9 refers to an aspect of
the data management system whereby part of the record
can be redefined, i.e. the meaning of the content of
the redefined part depends on the value of the code
found in the first two positions of the record.

Figure 4

SYSTEMS ANALYSIS SECTION
NATO FORCE PLANNING DATA BASE (NFPDB)

NFPDB PHYSICAL FILES
DICTIONARY

UNIT - UNIT FILE (elem. and compl. units)

ADIS - ALPHA DISTRIBUTOR FILE

POSU - SUPERIOR UNIT FILE (compl. units)

LOCA - LOCATION FILE

BEGA - BETA-GAMMA FILE

TEXT - TEXT FILE

LINE - LINE FILE

POSC - STEP/CHEP POINTER FILE

TOEP - UNIT STRENGTH FILE (equ. and pers.)

COEP - EQUIPMENT & PERS. CODE FILE

ECOM - EQUIPMENT COMPONENTS FILE

PERC - EQUIPM. & PERS. CHARACTER. FILE

AUXI - AUXILIARY FILE

CAUX - CODE-BOOK FILE

Figure 5

SYSTEMS ANALYSIS SECTION
NATO FORCE PLANNING DATA BASE (NFPDB)

LINKAGE OF NFPDB PHYSICAL FILES

Figure 6

NFPDB PHYSICAL FILE RECORDS

DICTIONARY OF POINTERS

U   -   UNIT ID = UNIT key = pointer to ADIS

U_S -   UNIT ID = Sup. UNIT key = point. to POSU

L   -   LOCATION key = pointer to LOCA

T   -   TEXT key = pointer to TEXT

F   -   FORCE (CHEP or STEP) TABLE KEY = Pointer to TOEP

E   -   EQUIPMENT and WEAPON SYSTEM COMPONENT code = pointer to COEP, TOEP, PERC and ECON

P   -   PERSONNEL TYPE code = pointer to COEP, TOEP and PERC

α -   VARIABLE FIELD DATA ELEMENT DESIGNATOR

$\left.\begin{matrix} \beta_S \\ \beta_E \end{matrix}\right\}$ TIME LIMITS OF APPLICATION

Y   -   PLAN OF APPLICATION

SU -   "SUPERIOR UNIT" RECORD CODE

LO -   "LOCATION" RECORD CODE

TE -   "TEXT" RECORD CODE

ST -   "STEP" RECORD CODE

CH -   "CHEP" RECORD CODE

AR -   "UNIT STATUS"(Availability, Readiness, etc.) RECORD CODE

AI -   "AIR UNIT STATUS" RECORD CODE

TN -   "TABLE-NUMBER" of AUXI FILE

AU -   "AUXI CODE"

LI -   LINE CODE

PHYSICAL RECORD STRUCTURE OF NFPDB FILES

(1) SINGLE ENTRY FILES

UNIT

root 8	UNIT ID 10	link ADIS 8	UPDATE INFO 8	UNIT NAME 32	UNIT CAT 6	UNIT ORG 1	UNIT LIFE 4

BEGA

root 8	β_S 2 $\mid$ Y 2	link ADIS 8

POSU

root 8	POSU key 10	link ADIS 8	UPDATE INFO 8

LOCA

root 8	LOCA key 12	link ADIS 8	UPDATE INFO 8	LOCATION NAME 32	GEOGR. CO-ORD. 11

TEXT

root 8	TEXT key 6	link ADIS 8	UPDATE INFO 8	link LINE 8

POSC

root 8	STEP/CHEP key 12	α 2	link ADIS 8	link TOEP 8	UPDATE INFO 8	STEP NAME 32	STEP CAT 1	STEP TYPE 3

COEP

root 8	E/P code 6	link TOEP 8	link PERC 8	link ECOM 8	UPDATE INFO 8	E/P NAME 32

AUXI

root 8	AUXI key 10	UPDATE INFO 8	NAME 32	link CAUX 8

Figure 7

Figure 8

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SYSTEMS ANALYSIS SECTION
NATO FORCE PLANNING DATA BASE (NFPDB)

PHYSICAL RECORD STRUCTURE OF NFPDB FILES

(2) VARIABLE ENTRY FILES

TOEP

POSC key 14	link POSC 8	E/P code 6	link COEP 8	E/P QUANTITY 5

PERC

E/P code 6	link COEP 8	E/P CHAR. code 3	E/P CHAR. QUANTITY 6

ECOM

E code 6	link COEP 8	E COMP. code 6	E COMP. QUANTITY 5

LINE

LINE code 2	TEXT key 6	link TEXT 8	TEXT LINE 60

CAUX

CAUX code 2	AUXI key 10	link AUXI 8	NAME 32	AUXI code 10

Figure 9

NATO RESTRICTED

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SYSTEMS ANALYSIS SECTION
NATO FORCE PLANNING DATA BASE (NFPDB)

PHYSICAL RECORD STRUCTURE OF NFPDB FILES
(3) VARIABLE ENTRY CODED RECORDS FILE

ADIS

			BASE DATA 34				REDEFINED DATA 22							
VFDE CODE 2	UNIT key 10	link UNIT 8	β_s 2	Y 2	β_E 2	link BEGA 8	data 22							
SU	''	''	''	''	''	''	POSU key 10	link POSU 8						
LO	''	''	''	''	''	''	LOCA key 12	link LOCA 8						
TE	''	''	''	''	''	''	TEXT key 6	link TEXT 8						
ST	''	''	''	''	''	''	STEP key 12	"ST" 2	link POSC 8					
CH	''	''	''	''	''	''	CHEP key 12	"CH" 2	link POSC 8					
AR	''	''	''	''	''	''	UPDATE INFO 8	READI-NESS 1	AVAIL. CODE 1	AVAIL. (DAYS) 2	DESIGN-ATION 1	TRANS. COM'D. 2	TRANS. CONTR. 2	TYPE FORCE 3
AI	''	''	''	''	''	''	UPDATE INFO 8	A/C READIN. 3	A/CREW READIN. 3	FLYING HOURS 4				

3.   INPUT RECORDS

3.1   General Concept

3.1.1   Introduction

By definition, one of the essential requirements
of the NFPDB is its capability of storing an
information volume sufficient to satisfy the
totality of information needs identified within
the NATO community. To achieve this, the amount
of data fed into the base, and managed by the
system, will be large by known comparative
standards. There is, however, a physical limit,
to the volume of data that the NFPDB can store.

The system is, therefore, designed with a view to
minimising the level of data redundancy without
reducing the required quality and quantity of
information. Clearly, the application of this
concept is bound to introduce in the design an
additional degree of complexity, both in regard to
internal data processes and as regards input
preparation. This method provides, however, the
advantage of great flexibility, coupled with ease
of application.

3.1.2   Formats and Data Elements

Submission of information to the NFPDB is performed
by the use of a set of clearly defined input record
formats. Guidance as to their application for the
presentation of force situations is given in
Chapter 4.

A schematic representation of the 8 permissible
record types used by data providers to report to
the base is shown in Figure 10.

The data elements contained in each input record
format are selected on the basis of:

  --   (near-) commonality in respect to one or
        more entities and their respective
        attributes and values;

  --   application dependence; and

  --   frequency of occurrence.

We distinguish between Fixed-Field Data Elements
(FFDE) and Variable-Field Data Elements (VFDE).
FFDEs always occur in every record of a given File,
and always in the same positions in the record.
The system software thus recognises the meaning of
FFDEs from their position within the record. VFDEs,
on the other hand, need not appear in every record
of a particular type, and the order in which they
appear in a record is immaterial. VFDEs must,
therefore, carry their own definition (this is
explained in paragraph 3.1.4 and Chapter 4).

As regards the total lengths of input records, we
distinguish between fixed-length records (LOCA and
COEP) and variable-length records (UNIT, TEXT, CHEP,
STEP, PERC and ECOM). The change of all variable
length records occurs as a "quantum" jump of a
fixed (80-character card image) length. The quantum
can accommodate up to three VFDEs (Variable Field
Data Elements) in spaces described in Figure 11.

3.1.3   The Variable Data Element Technique

The "variable data element technique" is used in
order to avoid, as far as possible:

(a)   carrying along a prohibitively large amount
       of unused fields in each record;

(b)   changes of record structures as new
       requirements arise; and

(c)   unnecessary duplication of identical
       information.

This is achieved in two ways. First, to each
variable-length record, as many VFDEs are added as
there are attributes and values of an entity.
This method is used with TEXT, CHEP, STEP, PERC and
ECOM. Second, VFDEs are used (in UNIT only) to
express attributes and values of a unit, which are
dependent on certain parameters, whereby the
information is either contained in the VFDE itself
(which is the case for VFDEs denoted by "SU", "AR"
and "AI") or it is found in other records connected
to the VFDE by a pointer. In the latter case, the
VFDE serves as a "distributor".

3.1.4   ALPHA-BETA-GAMMA Activator

All VFDEs of the UNIT include their own definition,
in order that the system may act on them. For the
VFDEs of UNIT this definition is accomplished by an
8-character (alpha, beta, gamma key) "activator",
which tells the system: (alpha) the type of
information element; (beta) the time for which the
information is valid; and (gamma) the plan or other
condition for which the information is applicable.

As an example, let us consider the information type
α = LOCATION: A unit's location may vary with time;
in other words, a unit, in general, occupies a
particular location for a period of time, which has
a starting-point and an end-point. This is dealt
with in the NFPDB by specifying the β-codes for the
start and end of the time-period, β_S and β_E.
Moreover, there may be several locations associated
with a unit, during a given time period, e.g. its
peacetime location, deployed or General Defence Plan
(GDP) location, etc. This feature is referred to
in the NFPDB as "applicability of plan" and is
dealt with by assigning a different γ-code to each
of these "plan applications".

Figure 10

SYSTEMS ANALYSIS SECTION
NATO FORCE PLANNING DATA BASE (NFPDB)

LOGICAL STRUCTURE OF NFPDB INPUT RECORDS

UNIT

| UNIT ID 10 | UPDATE INFO 8 | UNIT NAME 32 | UNIT CAT 6 | UNIT ORG 1 | U-LIFE $\beta_S \beta_E$ 4 | "SU"$\beta_S \beta_E$Y 8 | S-UNIT ID 10 | "AR"$\beta_S \beta_E$Y 8 | READI. CODE 1 | AVAIL. CODE 1 | AVAIL. [DAYS] 2 | DESIGN-ATION 1 | TRANSF. COMM'D 2 | TRANSF. CONTR. 2 | TYPE FORCE 3 |

| "ST"$\beta_S \beta_E$Y 8 | STEP key 12 | "CH"$\beta_S \beta_E$Y 8 | CHEP key 12 | "LO"$\beta_S \beta_E$Y 8 | LOCA key 12 | "TE"$\beta_S \beta_E$Y 8 | TEXT key 6 | "AI"$\beta_S \beta_E$Y 8 | A/C READI. 3 | A CREW READI. 3 | FLYING HOURS 4 |

TEXT

| TEXT key 6 | UPDATE INFO 8 | TEXT LINE 60 |

LOCA

| LOCA key 12 | UPDATE INFO. 8 | LOCA NAME 32 | GEOGR. CO-ORD. 11 |

CHEP

| CHEP key 12 | UPDATE INFO 8 | ST/CH REF. key 14 | E/P CODE 6 | QUANTITY 5 |

STEP

| STEP key 12 | UPDATE INFO 8 | STEP NAME 32 | STEP CAT 1 | STEP TYPE 3 | E/P CODE 6 | QUANTITY 5 |

COEP

| E/P CODE 6 | UPDATE INFO 8 | E/P NAME 32 | E/P CAT. 8 |

PERC

| E/P CODE 6 | UPDATE INFO 8 | E/P CHAR. CODE 3 | QUANTITY 6 |

ECOM

| E CODE 6 | UPDATE INFO 8 | E-COMP. CODE 6 | QUANTITY 5 |

Figure 11

STANDARD "A" CARD FORMAT

STANDARD "X" CARD FORMAT

3.2   Layout of Input Record Formats

As a central system the NFPDB must be responsive to
different levels of ADP operations within a
heterogeneous data providers' community. Therefore,
relevant standards that are believed to be in general
use must be applied.

A basic dimensional element of the NFPDB input
formats is the 80-character card(1) image. Within
these dimensional limits, two standard formats -
which we refer to as card types - are introduced:

A-Card type; and

X-Card type.

The general structure of the two card image types
is presented in Figure 11.

With the exception of the COEP record, which consists
of an A-Card only, each record will be composed of
one (and only one) A-Card and (at least) one or more
X-Cards. Except for LOCA, which has only one X-Card,
the number of X-Cards used for each record is, in
principle, unlimited and dependent on the information
volume to be reported.

In summary, the input formats are made up as follows:

COEP : one A-type card image.

LOCA : one A-Card followed by one X-Card.

UNIT, STEP, CHEP, TEXT, ECOM, PERC:

one A-Card followed by as many X-Cards as
are necessary to report the required
information for the record.

Generally, the content of both card types can be
reduced to three information groups:

(1) The use of the term "card" must be interpreted pictorially
and should not be construed to mean that data input is
carried out by means of punch cards. As a matter of fact,
the NFPDB hardware cannot accept punch cards.

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- entity identifier (= record key)
- descriptor(s)
- control data

For A-Cards, the position of each defined descriptor
is fixed. Therefore, descriptors of A-Cards are
referred to as "fixed-field data elements" (FFDEs).
An FFDE descriptor consists of a value only. With
the exception of the LOCA X-Card, where the positions
of the descriptors are fixed, in X-Cards of all
variable length records the descriptors (VFDEs) can
be inserted in any desired order, into the available
three spaces of equal length (20 characters) and of
fixed positions. This is possible because each VFDE
descriptor carries - in addition to a value - its own
definition.

The detailed structure of cards, with their information
elements for each input record type is presented as
follows. (The tables, with footnotes, are considered
self-explanatory.)

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3.2.1   UNIT INPUT RECORD - Card A

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn.(1)
1--2 3-3 4--10	2 1 7	Nationality Service National Unit ID, left-adjusted	Unit ID	5.1.10 5.1.3	
11--12	2	Blank			
13--13 14--14	1 1	Type of Update Update Source		5.1.1 5.1.2	
15--16 17--18 19--20	2 2 2	Year Month Day	Date of Update		
21--52 53--58 59--59	32 6 1	Unit Name Unit Function Organization		5.1.20 5.1.6	
60--61 62--63	2 2	BETA--Start BETA--End	Unit Existence(2)	5.1.13	
64--73	10	Blank			
74--76	3	Card sequence code (Optional, for data providers' use)			
77--77 78--79 80--80	1 2 1	Update code (= "N") File code (= "UN") Card type (= "A")	Update Control	5.1.11.1 5.1.11.2	

Notes:

(1)   A data-element dictionary is in preparation.

(2)   The time enclosed by the stated years denotes that period
        in which the unit is existent in NFPDB terms, i.e. the
        unit cannot have VFDEs with BETA assuming values outside
        the stipulated lifetime.

UNIT INPUT RECORD - CARD(S) X (1)

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn.(2)
1-2 3-3 4-10	2 1 7	Nationality Service National Unit ID left-adjusted	Unit ID	5.1.10 5.1.3	
11-12	2	Blank			
Variable Field Data Element (VFDE) (3)	2 2 2 2 2 1 7	ALPHA BETA-Start BETA-End GAMMA Nationality Service National Unit ID (left-adjusted)	Subor-dination Element (Upward Pointer to Superior Unit)	5.1.12 5.1.13 5.1.13 5.1.14 5.1.10 5.1.3	
VFDE (3)	2 2 2 2 2 1 9	ALPHA BETA-Start BETA-End GAMMA Nationality of Host Country Region (6) UTM Co-ordinates	Pointer to LOCA File	5.1.12 5.1.13 5.1.13 5.1.14 5.1.10 5.3 5.3	
VFDE (3)	2 2 2 2 1 1 2 1 2 2 3	ALPHA BETA-Start BETA-End GAMMA Unit Readiness Availability Code Availability (days) Designation Transfer of Operational Command Transfer of Operational Control Type force	Unit status infor-mation (7)	5.1.12 5.1.13 5.1.13 5.1.14 5.1.8 5.1.9 5.1.7.1 5.1.7.2 5.1.7.3 5.1.19	

UNIT INPUT RECORD - CARD(S) X (Continued)

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn.(2)
VFDE (3)	2 2 2 2 2 1 9	ALPHA BETA-Start BETA-End GAMMA Nationality Service Unique STEP ID	Pointer to STEP record (for elemen-tary units only)(4)	5.1.12 5.1.13 5.1.13 5.1.14 5.1.10 5.1.3	
VFDE (3)	2 2 2 2 2 1 9	ALPHA BETA-Start BETA-End GAMMA Nationality Service National CHEP Record ID	(for elemen-tary units only)(4) Pointer to CHEP record	5.1.12 5.1.13 5.1.13 5.1.14 5.1.10 5.1.3	
VFDE (3)	2 2 2 2 3 3 4	ALPHA BETA-Start BETA-End GAMMA Aircraft readiness (%) (5) Aircrew readiness (%) (5) Average annual flying hours (5)	Infor-mation specific to air units	5.1.12 5.1.13 5.1.13 5.1.14	
VFDE (3)	2 2 2 2 6	ALPHA BETA-Start BETA-End GAMMA Unique 6-character code	Pointer to TEXT File	5.1.12 5.1.13 5.1.13 5.1.14	
74-76	3	Card sequence code (Optional			
77-77 78-79 80-80	1 2 1	Update Code (= "N") File Code (= "UN") Card Type (= "X")	Update Control	5.1.11.1 5.1.11.2 5.1.11.3	

Notes:

(1)   After the A-Card, the UNIT input record card-packet
        contains as many X-cards as are necessary to hold all
        the VFDEs to be inserted.

(2)   A data-element dictionary is in preparation.

(3)   This layout indicates the structure of <u>all</u> the VFDEs
        which may be inserted in a UNIT record. (But see
        Note (4) below.) It is not to be taken as meaning
        that they must be included in the order shown, or in
        any particular positions. VFDEs are entered on
        X-cards in any desired order at the rate of 3 VFDEs
        per card, left-adjusted in the following fields:

                Card positions: 13-32, 33-52, 53-72

                (See Figure 11: standard X-Card format)

(4)   Only the UNIT records corresponding to elementary
        units may contain information on personnel and
        equipment. Note, however, that a given unit may be
        elementary for certain BETA-GAMMA combinations and
        complex for others. (E.g. if planning information
        is reported at a higher level of aggregation than
        the current status.)

(5)   Figures right-adjusted integers.

(6)   For NATO locations insert "X". For Warsaw Pact
        locations insert Region code as appropriate.

(7)   Availabilities of less than 24 hours can be expressed
        as decimal fractions of a day by placing a decimal
        point in the leftmost position (e.g. ".6").

3.2.2   STEP INPUT RECORD - Card A

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn. (1)
1-2 3-3 4-12	2 1 9	Nationality Service National STEP Record ID	STEP ID	5.1.10 5.1.3	
13-13 14-14	1 1	Type of Update Update Source		5.1.1 5.1.2	
15-16 17-18 19-20	2 2 2	Year Month Day	Date of Update		
21-52 53-53 54-56	32 1 3	STEP Table Name STEP Category STEP Type (3)		5.1.4 5.1.5	
57-59	3	Blank			
60-71	12	Forward Pointer to STEP (2)			
72-73	2	Blank			
74-76	3	Card sequence code (Optional, for data providers' use)			
77-77 78-79 80-80	1 2 1	Update Code (="N") File Code (= "ST") Card Type (= "A")	Update Control	5.1.11.1 5.1.11.2 5.1.11.3	

Notes:

(1)   A data-element dictionary is in preparation.

(2)   This pointer is the key of another STEP record. The
       purpose of this pointer is to place STEP records in a
       logical chain convenient for the data provider. The
       reporting of this field is optional.

(3)   STEP Category and STEP Type should be left blank for
       NATO forces. They must be inserted for Warsaw Pact forces.

STEP INPUT RECORD - Card(s) X (2)

Field		Data Element	Rôle	Reference for:	
Position From--To	No. of Characters			Codes	Defn.(1)
1--2 3--3 4--12	2 1 9	Nationality Service National STEP ID	STEP ID	5.1.10 5.1.3	
	6 5	Equipment/ Personnel Code Quantity	STEP Elements (Variable field data elements) (3)	5.2 5.1.15	
74--76	3	Card sequence code (Optional, for data providers' use)			
77--77 73--79 80--80	1 2 1	Update Code (= "N") File Code (= "ST") Card Type (= "X")	Update Control	5.1.11.1 5.1.11.2 5.1.11.3	

Notes:

(1)   A data-element dictionary is in preparation.

(2)   After the A-card, the STEP record creation card-packet
      contains as many X-cards as are necessary to hold all
      the VFDEs to be inserted.

(3)   STEP record VFDEs are to be entered in any order, 3 per
      X-card, left-adjusted in positions 13-32, 33-52 and
      53-72.

3.2.3   CHEP INPUT RECORD - Card A

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn.(1)
1-2 3-3 4-12	2 1 9	Nationality Service National CHEP Record ID	CHEP Record	5.1.10 5.1.3	
13-13 14-14	1 1	Type of Update Update Source		5.1.1 5.1.2	
15-16 17-18 19-20	2 2 2	Year Month Day	Date of Update		
21-22 23-23 24-32	2 1 9 2	Nationality Service National STEP Record ID ST-CH Indicator	Pointer to STEP/ CHEP record to which this CHEP record relates (2)	5.1.10 5.1.3	
33-73	41	Blank			
74-76	3	Card sequence code (Optional, for data providers' use)			
77-77 78-79 80-80	1 2 1	Update Code (= "N") File Code (= "CH") Card Type (= "A")	Update Control	5.1.11.1 5.1.11.2 5.1.11.3	

Notes:

(1)   A data-element dictionary is in preparation.

(2)   A particular situation, characterised by a certain Beta-
       Gamma combination, may be described by a STEP record, or
       by a STEP record accompanied by one, or a sequence of
       several, CHEP records. Each additional CHEP record
       contains a change with respect to the situation described
       by the STEP record plus all the preceding CHEP records
       (if any). This field contains the key of the previous
       record in the sequence - either STEP (if this is the
       first CHEP record) or the previous CHEP. This field must
       be filled in, and the last record in a sequence must be a
       STEP.

CHEP INPUT RECORD - Card(s) X (2)

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn. (1)
1-2 3-3 4-12	2 1 9	Nationality Service National CHEP ID	CHEP ID	5.1.10 5.1.3	
Variable field data elements (3)	6 5	Equipment/ Personnel Code Quantity	CHEP Elements	5.2 5.1.15	
74-76	3	Card sequence code (Optional, for data providers' use)			
77-77 78-79 80-80	1 2 1	Update Code (= "N") File Code (= "CH") Card Type (= "X")	Update Control	5.1.11.1 5.1.11.2 5.1.11.3	

Notes:

(1)   A data-element dictionary is in preparation.

(2)   After the A-card, the CHEP record creation card-packet
       contains as many X-cards as are necessary to hold all
       the VFDEs to be inserted.

(3)   CHEP record VFDEs are to be entered in any order, 3
       per X-card, left-adjusted in positions 13-32, 33-52
       and 53-72.

3.2.4   TEXT INPUT RECORD - A-Card

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn. (1)
1-2 3-3 4-6	2 1 3	Nationality Service Unique National 3-Character Identifier (left-adjusted)	TEXT Record ID	5.1.10	
7-12	6	Blank			
13-13 14-14	1 1	Update Type Update Source		5.1.1 5.1.2	
15-16 17-18 19-20	2 2 2	Year Month Day	Date of Update		
21-73	53	Blank			
74-76	3	Card sequence code (Optional, for data providers' use)			
77-77 78-79 80-80	1 2 1	Update Code (= "N") File Code (= "TE") Card Type (= "A")	Update Control	5.1.11.1 5.1.11.2 5.1.11.3	

TEXT INPUT RECORD - X-Card (2)

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn.(1)
1-2 3-3 4-6	2 1 3	Nationality Service Unique National 3-character ID (left-adjusted)	TEXT Record ID	5.1.10 5.1.3	
7-12	6	Blank			
13-72	60	60 characters of explanatory text or comments as desired by a nation	TEXT		
73-73	1	Blank			
74-76	3	Card sequence code (Optional, for data providers' use)			
77-77 78-79	1 2	Update Code (= "N") File Code (= "TE") Card Type (= "X")	Update Control	5.1.11.1 5.1.11.2 5.1.11.3	
80-80	1				

Notes:

(1)   A data-element dictionary is in preparation.

(2)   Each TEXT group must be contained in a deck of X-cards.
       A maximum of 60 characters per card is permitted, i.e.
       each card represents one half of a print line for
       output purposes.

       The input sequence of TEXT X-cards for a given TEXT
       key must be the order in which the lines of text are to
       be printed out for that particular message.

       Maximum number of X-cards is 99.

3.2.5   COEP RECORD INPUT FORMAT - A-Card (1)(4)

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn.(2)
1-6	6	Equipment or[3] Personnel Code	Uniquely Identifies Equipment Item or Personnel Category	5.2 5.1.15	
7-12	6	Blank			
13-13 14-14	1 1	Type of Update Update Source		5.1.1 5.1.2	
15-16 17-18 19-20	2 2 2	Year Month Day	Date of Update		
21-52	32	Equipment Item/ Personnel Type Name			
53-73	21	Blank			
74-76	3	Card sequence code (Optional, for data providers' use)			
77-77 78-79 80-80	1 2 1	Update Code (= "N") File Code (= "CO") Card Type (= "A")	Update Control	5.1.11.1 5.1.11.2 5.1.11.3	

Notes:

(1)   The input data for a COEP record are contained on a single A-type card.

(2)   A data-element dictionary is in preparation.

Notes: (Continued)

(3)   This is an alphanumeric code of up to 6 characters in
         length whose function is uniquely to identify the
         equipment or personnel type and, simultaneously, to
         categorise it with respect to various criteria, as
         indicated in the appropriate Section of the System
         Manual - Part B.   It is essential that two items of
         equipment should receive the same code only if they
         are truly identical in every respect, and are
         referred to by the same name by the reporting nations,
         e.g. an Agusta-Bell 205 helicopter reported by Italy
         should not be given the same code as a UH-1D helicopter
         reported by the United States.

(4)   Note that a COEP record A-card must be completed for
         every equipment item reported, including those which
         occur only as components of other equipment items.

3.2.6   ECOM(1) RECORD INPUT FORMAT - A-Card

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn. (2)
1-6	6	Equipment Code	Identifies uniquely Equipment Item	5.2	
7-12	6	Blank			
13-13	1	Type of Update		5.1.1	
14-14	1	Update Source		5.1.2	
15-16	2	Year	Date of Update		
17-18	2	Month			
19-20	2	Day			
21-73	53	Blank			
74-76	3	Card sequence code (Optional, for data providers' use)			
77-77	1	Update Code (= "N")	Update Control	5.1.11.1	
78-79	2	File Code (= "EC")		5.1.11.2	
80-80	1	Card Type (= "A")		5.1.11.3	

ECOM RECORD INPUT FORMAT - X-Card (3)

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn. (2)
1-6	6	Equipment Code	Uniquely Identifies Equipment Item	5.2	
13-18	6	Equipment Code	Uniquely(4) Identifies Equipment Item which is a component of the equipment item coded in pos. 1-6 The number of these component items contained by the item coded in pos. 1-6	5.2	
19-23	5	Quantity			
33-38	6	Equipment Code	Same function as previous field	5.2	
39-43	5	Quantity			
53-58	6	Equipment Code	Same function as previous field	5.2	
59-63	5	Quantity			
74-76	3	Card sequence code (Optional, for data providers' use)			
77-77	1	Update Code (= "N")	Update Control	5.1.11.1	
78-79	2	File Code (= "EC")		5.1.11.2	
80-80	1	Card Type (= "X")		5.1.11.3	

Notes:

(1)   The Equipment COMponents file contains records for a
        subset of equipment items for which it is desired to
        specify component sub-systems.

(2)   A data-element dictionary is in preparation.

(3)   The input card-packet for an ECOM record should
        contain as many X-cards as are necessary to hold all
        the components of the corresponding major equipment
        item which it is desired to report.

(4)   Note that for each component element not yet identified
        in the COEP file, a complete COEP record must be
        established.

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3.2.7   PERC INPUT RECORD - Card A

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn.(1)
1-6	6	Equipment/ Personnel Code		5.2 5.1.15	
7-12	6	Blank			
13-13 14-14	1 1	Update Type Update Source		5.1.1 5.1.2	
15-16 17-18 19-20	2 2 2	Year Month Day	Date of Update		
21-73	53	Blank			
74-76	3	Card sequence code (Optional, for data providers' use)			
77-77 78-79 80-80	1 2 1	Update Code (= "N") File Code (= "PE") Card Type (= "A")	Update Control	5.1.11.1 5.1.11.2 5.1.11.3	

Notes:

(1)   A data-element dictionary is in preparation.

PERC INPUT RECORD - Card(s) X (2)

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn. (1)
1-6	6	Equipment/ Personnel Code		5.2 5.1.15	
7-12	6	Blank			
Variable Field Data Elements (3)	3 6	PERC Type PERC Quantity	Performance or characteristics information element	5.4	
74-76	3	Card sequence code (Optional, for data providers' use)			
77-77 78-79 80-80	1 2 1	Update Code (= "N") File Code (= "PE") Card Type (= "X")	Update Control	5.1.11.1 5.1.11.2 5.1.11.3	

Notes:

(1)   A data-element dictionary is in preparation.

(2)   After the A-card, the PERC record creation card-packet
        contains as many X-cards as are necessary to hold all
        the VFDEs to be inserted.

(3)   PERC record VFDEs are to be entered in any order, 3
        per X-card, left-adjusted in positions 13-32, 33-52
        and 53-72.

3.2.8   LOCA INPUT RECORD - A-Card

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn. (1)
1-2 3-3 4-12	2 1 2 1 2 2 2	(Host) Country (5) Region (3) UTM Grid Number UTM Zone Letter Letters for 100 km square East co-ordinates in km North co-ordinates in km	Location ID (4)	5.1.10 5.3	
13-13 14-14	1 1	Update Type Update Source		5.1.1 5.1.2	
15-16 17-18 19-20	2 2 2	Year Month Day	Date of Update		
21-52	32	Location name (left-adjusted)			
53-59	7	Blank			
60-61 62-62 63-71	2 1 9	(Host) Country Region (3) Geographic location code	Forward Pointer to next LOCA Record (2)		
72-73	2	Blank			
74-76	3	Card sequence code (Optional, for data providers' use)			
77-77 78-79 80-80	1 2 1	Update Code (= "N") File Code (= "LO") Card Type (= "A")	Update Control	5.1.11.1 5.1.11.2 5.1.11.3	

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Notes:

(1)   A data-element dictionary is in preparation.

(2)   This pointer is the key of another LOCA record. The
        purpose of this pointer is to place locations in a
        logical chain convenient to data users and/or
        providers. Reporting of this field is optional.

(3)   For NATO locations insert "X". For Warsaw Pact
        locations insert appropriate region code.

(4)   All figures after UTM zone letter can be replaced
        by "X" if the accuracy of 1, 10 or 100 km is not
        desired.

(5)   For cases which are unsuitable for coding using the
        UTM system (such as the operational area of a ship),
        the codes for land and water divisions and subdivisions
        of the world given in Section 5.3 should be inserted,
        left-adjusted if necessary, in the Host Country field.

LOCA INPUT RECORD -- X-Card

Field		Data Element	Rôle	Reference for:	
Position From-To	No. of Characters			Codes	Defn. (1)
1-2 3-3 4-12	2 1 9	(Host) Country Region (3) UTM Co-ordinates (Same as "A" Card)	Location ID	5.1.10 5.3	
Variable Field Data Element (VFDE) (4)	2 2 1 3 2 1	Degrees of Latitude Minutes of Latitude Hemisphere of Latitude (N or S) Degrees of Longitude Minutes of Longitude Hemisphere of Longitude (E or W)	Geographic co-ordinate system (Latitude, Longitude) (2)		
74-76	3	Card sequence code (Optional, for data providers' use)			
77-77 78-79 80-80	1 2 1	Update Code (= "N") File Code (= "LO") Card Type (= "X")	Update Control	5.1.11.1 5.1.11.2 5.1.11.3	

Notes:

(1)   A data-element dictionary is in preparation.

(2)   One set of co-ordinates (latitude/longitude).

(3)   For NATO locations insert "X". For Warsaw Pact locations insert the appropriate region code.

(4)   Left-adjusted in first Data Element field of standard X-card Input Format.

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4.   GUIDANCE FOR INPUT PREPARATION

4.1   General

This Chapter is intended to assist data providers in
their task of collation; transcription into defined
formats and in accordance with NFPDB programme logic;
and transmission to the NFPDB of complete information
on military forces.

4.1.1   Information Request

The Defence Review Committee (DRC) is authorised to
request data providers to submit force information to
the NFPDB. At present, the cycle of updating is one
per year. The period between the request and the
updating of the NFPDB should be as short as possible,
and will depend mainly on the extent to which the
information requested differs from that required
previously. There would seem to be no reason, in
principle, for the preparation of an update
transaction tape from a national automated data base
to take longer than a few days, if no new type of
information is required. In general, the first
submission of information by a nation is not synonymous
with completion of updating of that nation's NFPDB
files, since there are usually input errors to be
corrected, etc. At present the target date for first
submission of information is two months after the
"as of" date.

4.1.2   Information Submission

   (a)   Data providers are responsible for the safe
          transmission of information to NATO Headquarters. It
          is recommended that an NFPDB Action Officer be
          designated in each national Delegation at NATO HQ,
          with the general responsibility of ensuring the rapid
          and secure transfer of magnetic tapes and other urgent
          material between Systems Analysis Section (SAS) and
          the national office providing the NFPDB input. SAS
          should be notified by telephone, for example, as soon
          as input material arrives in the Delegation.

          Information must be accompanied by a covering letter.
          The covering letter must:

          (1)   state the security classification of the
                information enclosed.

(2) confirm that the magnetic tape conforms to the technical specifications listed in paragraph (c) below.

(3) include any other relevant instructions for the data base managers.

Because of NATO HQ regulations for the handling of classified documents, the classification of the covering letter itself, when separated from the enclosure(s) must also be shown.

(b) Recipient of the information is the Data Base Administrator (Head, Systems Analysis Section, Defence Planning and Policy Division, NATO Headquarters, Brussels), who also acts as the custodian of the NFPDB content, in compliance with the rules and regulations set out in the Frame of Reference for the NFPDB(1).

(c) Magnetic tapes are the only acceptable means on which information is submitted to the NFPDB, whereby the following requirements must be fulfilled:

> Unlabelled
>
> 9 tracks
>
> 800 BPI (80/800 blocking factor)

(d) To assist in the updating operation, the presence of a service expert of the data provider is most welcome.

4.1.3   Update Levels

At this early stage of system implementation, and for reasons not necessarily related to the technical system capabilities, data providers will submit information in two basically different modes:

4.1.3.1 Extra-ordinary Update

Under this mode, data providers will furnish information to the NFPDB:

(a) as and when required; this applies to PERC and ECOM;

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(1) DRC/N(76)30, dated 8th October, 1976

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(b) well in advance of the "ordinary update", and if, and only if, the information is not contained in the valid Coding Handbook but required for inputs under the ordinary update mode; this applies to LOCA and COEP.

In the case of 4.1.3.1(b) data providers must await the NFPDB administrators' confirmation of the validity of the submitted information, before it can be referred to in the process of ordinary update preparation.

4.1.3.2   Ordinary Update

Under this mode, data providers will submit to the NFPDB, at regular intervals and at the time stipulated, complete information on their forces. For this they will only use input record formats of: STEP, CHEP, TEXT and UNIT, whereby it is absolutely essential that data providers observe the sequence in which the information is contained on the input tape(s):

   1.   STEP transactions

   2.   CHEP transactions

   3.   TEXT transactions

   4.   UNIT transactions

4.1.4   Update Type

It is important to note that, for operational security reasons, the number of update options available to data providers is limited to one, and that is CREATION OF NEW RECORDS (update code = N).

Only the data base managers can initiate operations of other update types.

4.1.5   Other General Input Rules

4.1.5.1   Input Record Compactness

As stated in Section 3.2 the information required for the creation of a new record is submitted to the system in the form of one A-Card image followed by one or more X-Card images (except for COEP records). This sequence of card images, for a given record key, constituting one input record, is called the input (or update) packet. The input packet should be compact;

i.e. if there is more than one card image in the
packet for a given record, the X-Card image(s) should
follow immediately after the A-Card image, without
any gaps. The input packet for one record should not
be interrupted by card-images belonging to a different
packet.

4.1.5.2   Input of Variable Field Data Elements (VFDEs)

VFDEs are input on X-Card images. Up to 3 VFDEs can
be input on a single X-Card image, in positions 13
through 32, 33 through 52 and 53 through 72, i.e.
20 character spaces have been provided for one VFDE.
The actual number of characters inserted varies from
case to case, depending on the nature of the VFDE
and whether or not it is concatenated with an Alpha-
Beta-Gamma activator (as is the case with UNIT record
inputs). The VFDEs (preceded, in UNIT records, by
the appropriate $\alpha \beta \gamma$ combination) should therefore
be inserted left-adjusted in the space provided.

All three VFDE fields on a given X-Card must be used
before a further X-Card is added to the packet, i.e.
there must be no gaps in the input stream of VFDEs
for a given record. Naturally the second and/or
third VFDE field on the last X-Card image of a given
packet may be blank. Apart from the above rules the
order in which the VFDEs occur in the input record
packet may be freely chosen by the data provider and
has no effect on the system. Note, however, that
the sequence of input transactions prescribed in
Section 4.1.3.2 must be observed.

4.1.5.3   Mandatory and Optional Fields

It goes without saying that, unless stated otherwise,
all data fields of necessary FFDEs and VFDEs of
input records must be filled in. The data fields for
all input records are unambiguously identified in
paragraphs 3.2.1 to 3.2.8. (The footnotes of the
tables are important!!) All fields indicated on
A-Cards must be filled in unless they are expressly
marked "optional". On X-Cards the record key (in
the first 12 positions) and the control information
(in positions 77 through 80) must be inserted on
every card image (see below)

4.1.5.4   Record Key

The record key is always placed in the first 12
positions of each card image in the input packet
(i.e. it appears on the A-Card and is repeated on
each of the X-Cards, if any). Since the length of
the record key differs, depending on the record type,
all 12 positions are not always used. The record
key is inserted left-adjusted, i.e. starting in the
leftmost position of the field, with any blank spaces
occurring at the right.

4.1.5.5   Control Data

This information occurs in fixed positions on both
types of card image and consists of:

-   Type of Update (e.g. annual update, intermediate
    update, special update, etc.)

-   Source of Update (e.g. Nation, IMS NATO-agreed
    Intelligence, etc.)

-   Date of Update (if this is left blank by the data
    provider, the date on which the transaction is
    posted to the file at NATO HQ will be inserted)

-   Card-sequence code (optional)

-   File code (indicating which of the 8 input
    record types is involved in the transaction)

-   Card type (A or X)

-   Update code (indicating the nature of the
    transaction; as stated in Section 4.1.4, the
    only type of update transaction at present open
    to data providers is the creation of a complete
    new record).

4.1.5.6   Left and Right Adjustment

It is a general rule that, if a code or a quantity
does not occupy the whole of the field provided for
it, codes should be inserted left-adjusted and
quantities should be inserted right-adjusted.

4.2   Input Records

4.2.1   STEP/CHEP

STEP/CHEP records are associated with elementary(1) units, and only with elementary units.

Each STEP/CHEP record can be associated with more than one elementary unit.

STEP/CHEP records carry equipment and personnel information appertaining to elementary units. They are variable-length records, and the length of each record is a function of the number of equipment/personnel VFDEs contained in the record. The order of inserting VFDEs is unspecified. Within any given STEP or CHEP record no two VFDEs of the same equipment or personnel type may be reported.

Each STEP record and each CHEP record reported to the NFPDB must be identified uniquely (by an ID of less than 13 characters).

As opposed to what may be termed a "self-contained" STEP record the information content of a CHEP record is always related to another equipment/personnel table (STEP or CHEP). This is achieved by having in each CHEP record a pointer consisting of the key of the STEP or CHEP record (the "reference" record) to which the CHEP record relates.

It follows that, while a STEP can represent the complete strength(2) of one or more units, a CHEP per se cannot; CHEP records are used for the adjustment of a strength table, not, however, for its complete replacement. This adjustment is achieved by the insertion into the CHEP record of as many VFDEs as there are equipment/personnel elements requiring changes in type or quantity or both, whereby the new absolute value is recorded, and not merely the difference to yield the new value of an equipment/personnel type affected by the change. (Thus, if the number of a particular type of tank changes from, say, 136 to 150, the new CHEP record will contain "150" and not "+14".)

_____

(1) For the definition of "elementary" and "complex" units, see paragraph 4.2.2

(2) Strength = personnel strength and equipment

In order, then, to establish the complete strength
applicable for the new situation (i.e. the situation
for which the latest new CHEP record was introduced),
the following operation must be performed.

1) replace all equipment/personnel elements of
    the "reference record" by those elements of
    the latest (new) CHEP which are equal in type;
    and add the remaining elements of both records;
    (the result thus obtained constitutes the
    complete strength, if and only if the
    reference record is a STEP);

2) if the reference record is a CHEP, perform
    an operation similar to 1) by using the result
    of 1) to adjust the next reference record; (the
    principle of this operation is reapplied until
    the last reference record (STEP) is reached).

Clearly, in order that the NFPDB software can
correctly re-establish the force situation intended
by the data provider, it is absolutely essential
for the latter to fully understand and to rigorously
apply the principle underlying the STEP/CHEP
philosophy indicated above.

While the NFPDB system is, in principle, capable of
accepting STEP records representing complete strength
for all required situations, an abuse of this
capability on the part of data providers would
result in a prohibitively high level of data
redundancy (storage difficulties!). Data providers
are, therefore, urged to employ the STEP/CHEP method
to the (greatest) extent possible.

Ideally, a STEP should only be used to establish a
standard, average or most representative table of
equipment and personnel for one, or preferably a
group of similar elementary units. Any adjustment
as to the "real" status of strength of the individual
units with respect to any time (β) and for any
condition (γ) should be effected by CHEPs. It is,
of course, possible, and in certain circumstances
even desirable to introduce more than one STEP for
one or a group of elementary units, during their
lifetime. This decision must, however, be left at
the discretion of the data provider who is expected
to apply the rules of data management economy coupled
with commonsense.

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Clearly, the data provider will establish STEP and
CHEP records only to the extent required to permit
representation of the strengths of all elementary
units for all required applications (β and γ). In
the process he will, therefore, take into account
the relationship between the number and content of
STEP and CHEP records, and their linkages, on one
hand, and the individual elementary units and the
times and places for which the reported information
is valid, on the other hand.

However, when reported to the NFPDB, the STEP/CHEP
records will not contain information as to their
association with units or conditions of application.
Such an association will only be established through
relevant messages contained in UNIT records. Some
representative examples for unit-application-strength
relationships are presented below:

A. GROUP OF TRIVIAL CASES

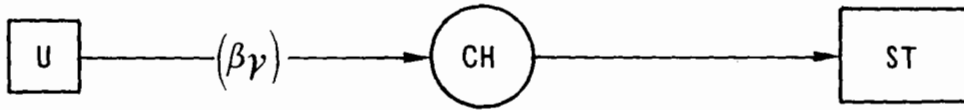### FORCE SITUATION IS REPRESENTED BY A STEP RECORD ALONE
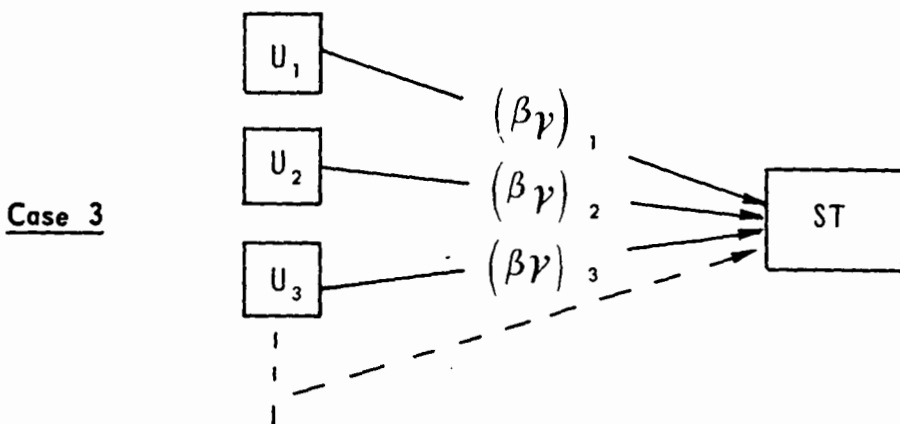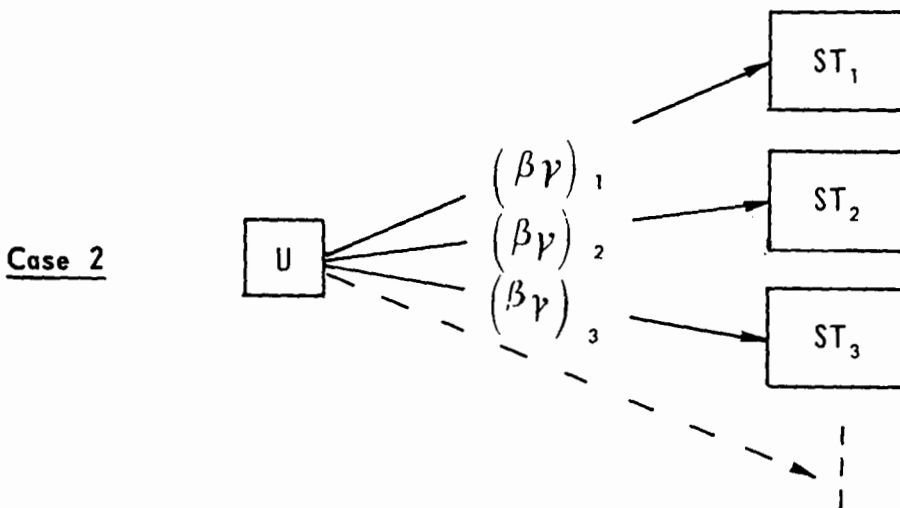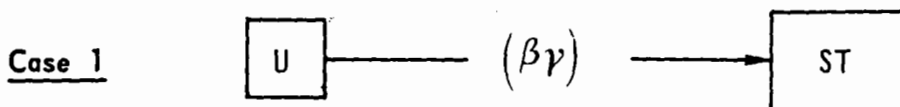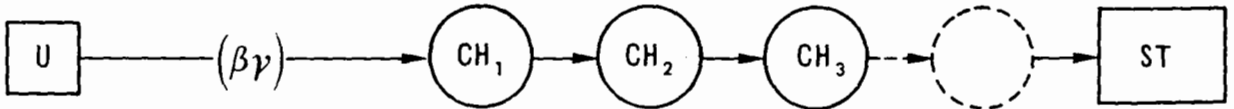

Case 1

Case 2

Case 3

B. GROUP OF COMMON CASES

FORCE SITUATION IS REPRESENTED BY A CHAIN OF CHEP(S) AND A STEP
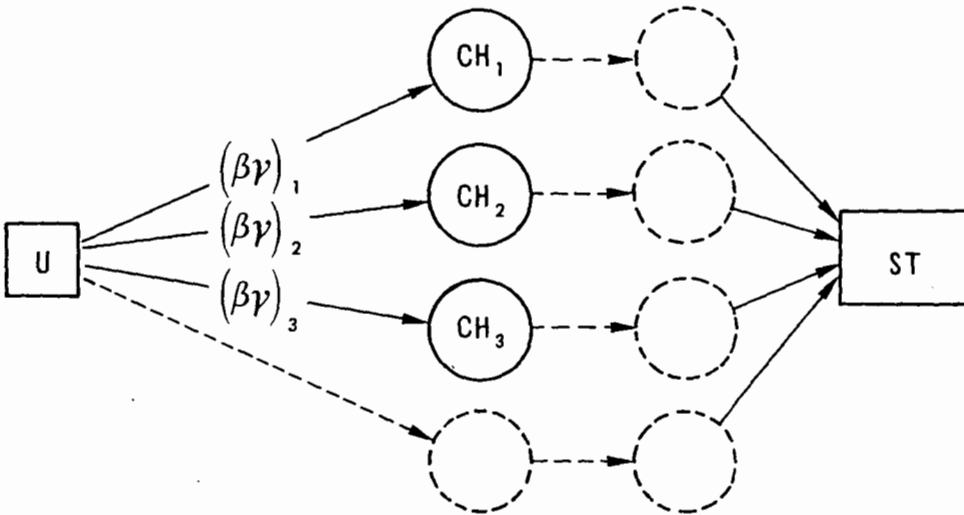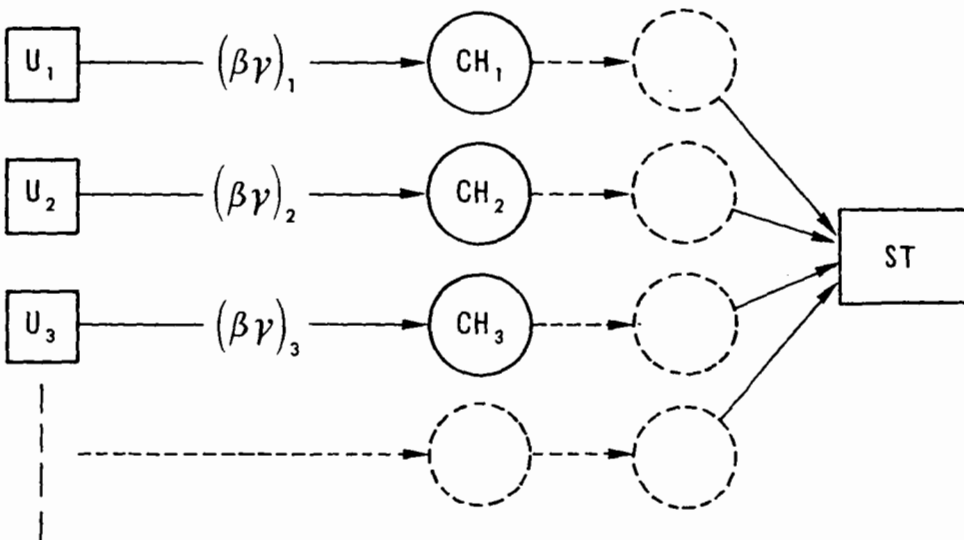
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Case 8
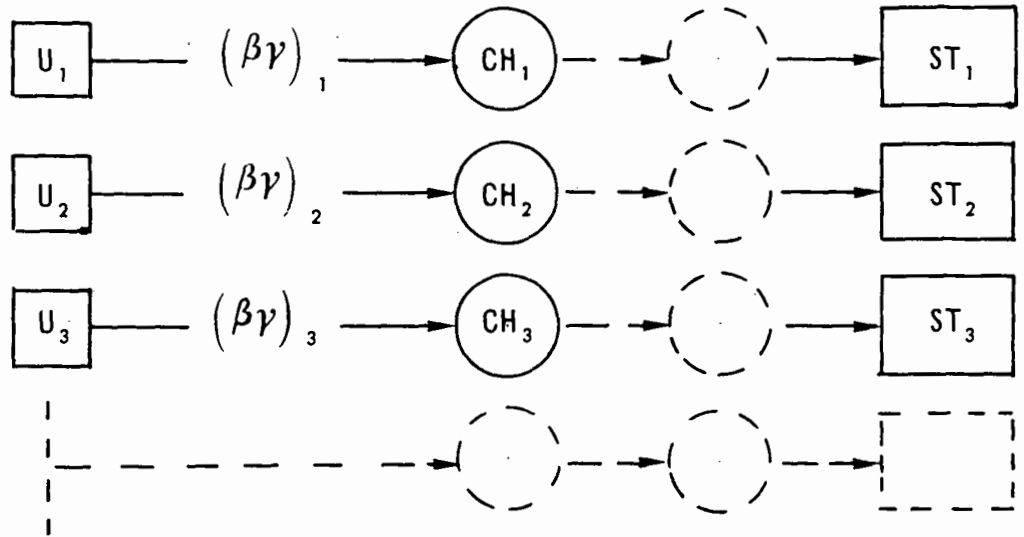
Case 9
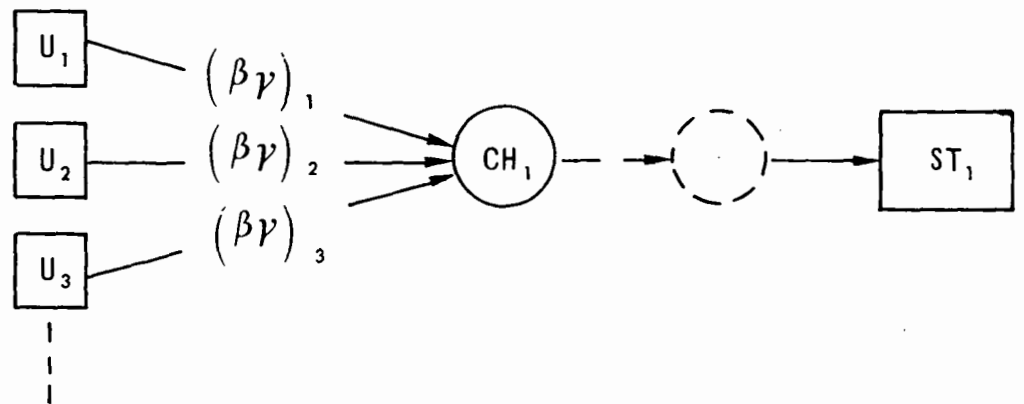
C. ILLUSTRATION OF A MORE COMPLEX CASE

Case 10
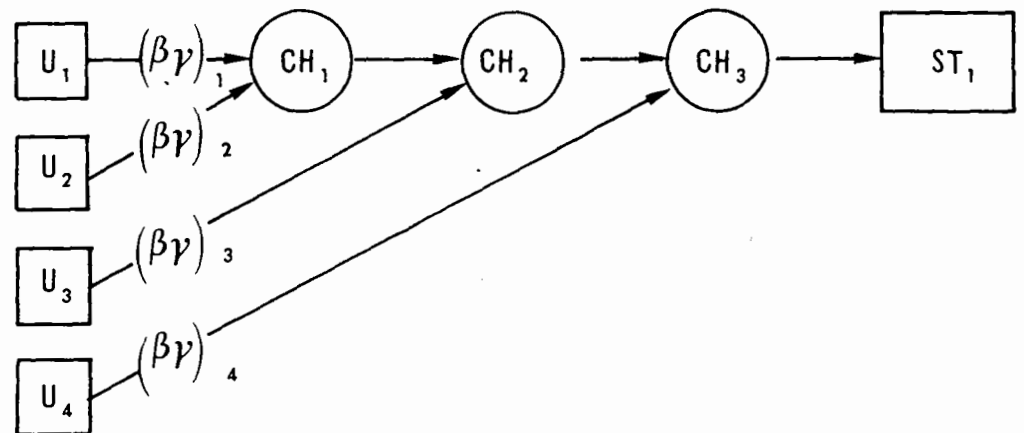
4.2.2   UNIT

For every single unit reported into the NFPDB, one,
and only one, UNIT record is established.

The system is able to accept UNIT records in any
order, without loss of capability to establish
hierarchies. If, however, the data provider wishes
to maintain a certain order of units within each
subordination level, then he is obliged to insert the
UNIT records in the desired order. This option is,
however, given only for one BETA-GAMMA state.

In the context of the NFPDB, a unit can either be
"complex" or "elementary". By definition, an
elementary unit is a unit for which no subordinate
units are reported to the NFPDB, while a complex unit
is one which has subordinate units(1). Conversely,
all units have at least one and, in case of
subordination changes with respect to application
$(\beta \gamma)$, more than one superior unit(2).

The UNIT input record is designed to carry all
essential unit-specific information, either in
explicit form or by way of indicators pointing to
other types of associated input records.

UNIT records are variable-length records, and the
length of each record is a function of the number
of VFDEs contained in the record. The order of
inserting VFDEs is unspecified, both with respect to
VFDE types and in regard to individual VFDEs of the
same type.

---

(1)   The designations "elementary" or "complex" are not to be
      construed as an indication of size or organisational level
      of a unit reported to the NFPDB. A nation may, for example,
      report one part of its forces down to platoon level and
      another part only to divisional level. In the first case,
      the parent division would be a complex unit. In the second
      case, the division would be an elementary unit. The units
      subordinate to a complex unit may be elementary or
      themselves complex.

(2)   The top-unit in a national hierarchy should, for technical
      reasons, always point to Unit ID: N2AØØØØØØØØ.

For all units, the UNIT records must, in addition to the A-Card data fields, contain at least one VFDE of the type "SU" and can, if necessary, have VFDEs of the types: "TE", "AI"(1), "AR" and "LO". Clearly, within a given UNIT record, the total number of VFDEs of any type will depend on the number of BETA-GAMMA combinations necessary to fulfil the necessary reporting requirements.

For elementary units, the UNIT records must, in addition to the essential information indicated above, contain:

- at least one VFDE of type "AR";

- at least one VFDE of type "LO";

- at least one "ST" or "CH" VFDE (see paragraph 4.2.1).

In no case should UNIT records of complex units contain "ST" or "CH" VFDEs!

It is important to note that all VFDEs of UNIT records contain as the first element the so-called ALPHA-BETA-GAMMA activator, that is the message telling the system:

(1) the type of VFDE information (see ALPHA-codes);

(2) the time limits within which the information contained in the respective data field is valid (see BETA-codes); and

(3) the plan or condition (other than time) for which the information in the data field is applicable (see GAMMA-codes).

The data provider must ensure that the following conditions for BETA values of every VFDE in a UNIT record are fulfilled:

$$\left\{\beta_{Start}\right\}_{VFDE} \geqslant \left\{\beta_{Start}\right\}_{Unit\ Life\ Time}$$

$$\left\{\beta_{End}\right\}_{VFDE} \leqslant \left\{\beta_{End}\right\}_{Unit\ Life\ Time}$$

In the case that more than one VFDE of the same type must be inserted as a result of changes in the time-applicability, i.e. when γ = const., then the following rule applies:

---

(1) "AI" VFDEs must always be inserted for flying units.

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$$\left\{ \beta_{Start} \right\}_{VFDE_2} = 1 + \left\{ \beta_{End} \right\}_{VFDE_1}$$

$$\left\{ \beta_{Start} \right\}_{VFDE_3} = 1 + \left\{ \beta_{End} \right\}_{VFDE_2}$$

etc.

where $VFDE_1$, $VFDE_2$, $VFDE_3$ are the first, second, third, etc. VFDEs of the same type in the order of increasing time. It is, of course, permissible to have:

$$\left\{ \beta_{Start} \right\}_{VFDE_a} = \left\{ \beta_{End} \right\}_{VFDE_a}$$

As regards the sequence of input, it goes without saying that, prior to the insertion of a pointer-type UNIT-VFDE, the data provider must ensure that the record pointed at is already contained in the input medium. If this is not the case, then the system will be unable to establish the linkage and reject the VFDE in question as a result. This difficulty will, clearly, be avoided if the "sequence rule" of paragraph 4.1.3.2 is consistently applied, and if, of course, no records pointed at are missing.

4.2.3   TEXT

TEXT records are intended to be used to convey, in narrative form, information about one unit or a group of units.

Data providers should note that 60 characters of text can be input on each "X" Card image (see Section 3.2.4) and that the maximum amount of text for any one key is limited to the content of 99 such card images. The X-Card images containing a text record must be in the correct logical sequence when submitted.

4.2.4   COEP

It should be noted that the COEP (physical) file of
the NFPDB is intended to contain as many records as
there are equipment and personnel types required for
the NFPDB to fully meet the user requirements. These
requirements can be purely unit-oriented or purely
equipment-oriented, with overlapping areas of both
domains.

As regards the annual service strength updating
("ordinary updating"), the COEP file is required to
contain (at least) all those equipment/personnel types
which are referred to in the force tables (STEPs and
CHEPs). The data content of the COEP file will be
presented in the System Manual(1).

In a rapidly changing equipment environment frequent
changes to the list of equipment codes is anticipated.
New codes will be added as the situation demands.

In order, however, that the Data Base Manager can
maintain the COEP file in an up-to-date state, he
must seek the co-operation of the Data Providers.
The latter will, therefore, be expected to provide
SAS with codes and associated names of those equipment
types which are not contained in the currently valid
System Manual, but which are needed for the "ordinary
updating" of the NFPDB. Such supplementary (COEP
file) information is submitted by means of
"extraordinary updating" (i.e. well in advance of
the "normal updating") so as to permit the Data Base
Administrator to perform code uniqueness checks and,
if necessary, to inform the Data Provider about code
changes. The information will be submitted via a
magnetic tape, on which each new equipment code will
be presented according to the COEP input record format
shown at paragraph 3.2.5 of this Manual. In
assigning the codes, Data Providers will be expected
properly to apply the criteria underlying the new
equipment categorisation scheme.

COEP input records are fixed-length records (in fact,
a COEP consists of one A-Card only).

_____

(1) Personnel Type Codes : System Manual, Part A, Chapter 5.1.15
     Equipment Codes   : System Manual, Part B, Chapter 5.2

4.2.5   ECOM

For certain applications it is essential that a
means is provided to break down an equipment type
into its components, to any desired level of detail,
and to identify these, together with their quantities,
as integral parts of the equipment. The
sophistication of an item of equipment deemed to be
broken down into its components may range from that
of a ship, aircraft or air defence system to that of
a gun. The system must, of course, make it possible
to break down a component into its components, etc.

The ECOM (physical) file of the NFPDB is intended to
provide this facility. It contains packages of
records (with codes and quantities) of "component"
equipment types. Each ECOM record package is linked
to that COEP record which identifies the associated
composite equipment type.

It is important to note that a COEP record must also
be established, if not already present, for each
"component" equipment type identified in the ECOM
file.

ECOM input records are variable-length records, and
the length of each record is a function of the number
of the equipment component VFDEs contained in the
record. The ECOM record key is identical to the
code of the "composite" equipment type (e.g. SAM
system), while the data fields of the ECOM record
X-Card(s) contain equipment type codes and quantities
of the components (e.g. radars, launchers, etc. of
the SAM system). The exact format of the ECOM input
record is shown in paragraph 3.2.6 of this Manual.

4.2.6   PERC

The PERC (physical) file of the NFPDB is intended to
store relevant information of a large spectrum of
characteristics pertaining to individual equipment
and personnel types. Such information will include
design, mission, performance characteristics, as well
as associated costs and time schedules.

The PERC (physical) file contains packages of records
(with codes and quantities) of characteristic types;
and each PERC record package is linked to that COEP
record which identifies the equipment/personnel type
about which characteristics are reported.

PERC input records are variable-length records, and the length of each record is a function of the number of the characteristics VFDEs contained in the record.

The exact format of the PERC input record is shown in paragraph 3.2.7 of this Manual.

PERC information will be submitted by Data Providers on special request only.

4.2.7   LOCA

One LOCA record must be established for every location to be reported to the Data Base. This applies to:

(a)   specific locations, consisting of a named town, village, or other feature together with co-ordinates defining its position to (for NFPDB purposes) the nearest kilometre;

(b)   more generalised location-type information indicating a larger area (e.g. "Baltic Sea", "Northern Flank", "NATO Guidelines Area", etc.).

For specific locations (as defined above) the LOCA input record must consist of:

-    an A-card image with all mandatory fields filled in

-    an X-card image with all mandatory fields filled in

and the geographic latitude and longitude entered as prescribed in paragraph 3.2.8, left-adjusted in positions 13 through 32.

For more generalised locations the LOCA input record must consist of a single A-card image with all mandatory fields filled in. The X-card image should be omitted in this case. The rightmost 9 positions of the LOCA record key must be filled with "X"s.

As in the case of COEP records (see Section 4.2.4 above) data providers wishing to report a new location for the first time must provide the Data Base Manager well in advance with the necessary LOCA input record, in the form of an "extraordinary update".

5.1   GENERAL SYSTEM CODES

5.1.1   UPDATE TYPE CODE

Type	Code
Annual Update	1
Intermediate Update	2
Special Update	3
Error Correction	4
Special Correction	5

5.1.2   UPDATE SOURCE CODE

5.1.2.1   NATO FORCE INFORMATION

Source	Code
Nation	1
NATO International Staff	2
NATO International Military Staff	3
SACEUR	4
SACLANT/CINCHAN	5
Other Source	6

5.1.2.2   WP FORCE INFORMATION

Source	Code
IMS (NATO Agreed)	A
IMS (Own Estimate)	B
SACEUR (NATO Agreed)	C
SACEUR (Own Estimate)	D
SACLANT/CINCHAN (NATO Agreed)	E
SACLANT/CINCHAN (Own Estimate)	F
NATO International Staff (NATO Agreed)	G
NATO International Staff (Own Estimate)	H
BELGIUM Intelligence	I
CANADA Intelligence	J

WP FORCE INFORMATION (Continued)

Source	Code
DENMARK Intelligence	K
FRANCE Intelligence	L
GERMANY Intelligence	M
GREECE Intelligence	N
ITALY Intelligence	O
NETHERLANDS Intelligence	P
NORWAY Intelligence	Q
PORTUGAL Intelligence	R
TURKEY Intelligence	S
UK Intelligence	T
US Intelligence	U
Non-NATO	V
WARSAW PACT Official Release	W
Open Publication	X
Other	Y

5.1.3   SERVICE CODE

Data Item	Code
Army	A
Air Force	F
Navy	N
Marines	M
Coast Guard	C
Paramilitary:	
– Border Troops	B
– Internal Security	S
– Other	P
– Unspecified	D
Joint/Mixed/Common	J
Unspecified	X

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SERVICE CODE (Continued)

Data Item	Code
Warsaw Pact Strategic Rocket Forces	R
Warsaw Pact Air Defence of the Homeland:	
- Air	H
- Ground	K
- Unspecified	L

5.1.4   STEP CATEGORY CODE
(For use with Warsaw Pact forces only)

Data Item	Code
Major Headquarters	A
Combat Unit	B
Combat Support	C
Combat Service Support	D
Mixed	Y
Not Specified	X

5.1.5   STEP TYPE

5.1.5.1   NATO FORCES

Reserved

5.1.5.2   WARSAW PACT FORCES

Data Item	Code
BDE HQ	BHQ
DIV HQ	DHQ
HQS General	HQS
Army Corps HQ	MHC
Army HQ	MHZ
Regt HQ	RHQ
Territorial HQ	THQ
General Staff HQ	TSQ
Unspecified	XXX
Airborne Inf	ABN
Air Cavalry	ACC

WARSAW PACT FORCES (Continued)

Data Item	Code
Amphibious	AHP
Airmobile Inf	AMO
Armoured Cavalry	ARC
Anti-Tank	ATX
Barrier Inf	BAR
Tank Destroyer	DYK
Light Infantry	LJN
Armd/Mech Inf	MEC
Mountain Inf	MPJ
Motorized Inf	MTZ
Recon-Armd	REC
Special Inf	SAS
Tank	TKX
Unspecified	XXX
Anti-A/c Arty	AAA
Airborne Inf	ABN
Air Cavalry	ACC
Armoured	ADD
Atom Demol Eng	ADE
Air Format Sig	AFO
Amphibious	AHP
Airmobile Inf	AML
Amph Edg Eng	APB
Pack Arty	APK
Armoured Cavalry	ARC
Convent. Sp. Arty	ASC
Dual Capable Sp. Arty	ASD
Nuclear Sp. Arty	ASN
Convent. Tow Arty	ATC
Dual Cap Two Arty	ATD
Nuclear Two Arty	ATN
Anti-Tank	ATX
Army Aviation	AVA
Barrier Inf	BAR
Bridge Eng	BDG
C&C Ad	CAD
Biol Chem & Rad	CBR
CBR Defence	CCD
Chemical Unspec	CHE
Counter Info	CIX
Combat Eng	CME
Chem Smoke Gen	CSG
NBC Decont Prot	DEC
Demolition Eng	DEM
Tank Destroyer	DYK
Engineer	ENG

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WARSAW PACT FORCES (Continued)

Data Item	Code
Topo Survey Eng	ETO
Early Warning	EWG
Gendarmerie	GEN
Light Anti-A/c	LAA
Light Infantry	LJN
Armd/Mech Inf	MEC
Military Intelligence	MIX
Mountain Inf	MPJ
Mortar	MPR
Military Police	MFX
Mult Rkt Lnchr	MRL
Psycho-Warfare	MSY
Motorized Inf	MEZ
Observ Loc Arty	OBL
Interrogation	OIX
Miscellaneous	OTH
P.O.W. Activity	POW
Provost-Marshal	PRO
Recon-Armd	REC
Sur-to-Air Msl	SAM
Special Inf	SAS
Security	SCE
Signal Security	SEC
Electr Warf Sig	SEW
Signal Unit	SIG
Intell Radio Sig	SIR
Air Support Sig	SIS
Sur-to-Sur Msl	SSM
Traffic Control	TCN
Tank	TKX
Totals	TOT
Srv Topogr Arty	TPA
Acquis Arty	TRA
Unspecified	XXX
Admin Service	ADM
Med Transport	AMB
Ordn Ammunition	AMU
Ordn Ammo Maint	ATM
Army Avn Maint	AVM
Construct Serv	CNE
Signal Construct	CON
Composite Supply	COP
QM Cloth Supply	CPP
Maintenance Eng	EMA
Engineer	ENG
Eng Eqpt Supply	ENP

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WARSAW PACT FORCES (Continued)

Data Item	Code
Plant Service	EPL
Port Service	EPT
Med Unspecified	MED
Ordn Wpns Maint	MMX
Ord Msls Maint	MMY
Sig Maint/Sply	MNT
Medical Sply Eqp	MSY
Med R2 FD Amb	MVA
Med R3 FD Hosp	MVB
Med R4 GEN Hosp	MVC
Maint/Sply Ordn	OAT
Pers/Gen Auxiliary	OGA
Comp Sply/Maint	OLG
Ordn Veh Maint	OMA
Composite Maint	OMD
Ordn Pol Supply	OPT
Ord Comp Maint	ORM
Miscellaneous	OTH
Ordn Telec Maint	OTW
Postal Unit	PCS
Ord Comp Supply	PRP
QM Pol Supply	PSD
QM Food Supply	QFD
QM Mixed Supply	QMY
QM Maint/Service	QSU
Railway Service	RLY
Pers/Rep/Rein	RPL
Signal Units	SIG
Ordn Nucl Supply	SNW
Signal Supply	SSP
Army Air Transp	TAA
Movement/Control	TCM
Traffic Control	TCN
Missile Transp	TML
POL Tanker Trans	TPT
Training/Schools	TRG
Tank Transport	TRK
Telephone Trunk	TRM
Pack Transport	TRP
Ordn Veh/Spares	VDP
Veterinary Serv	VET
Gen Truck Transp	VRA
Worker Service	WKS
Ordn Wpns/Spares	WSP

5.1.6   UNIT ORGANIZATION (LEVEL) CODES

Land Forces	Air and Naval Air Forces	Naval Forces	Size Symbol (1)	Code (2)
Unit Levels Below Company				Ø
COMPANY (Battery, Squadron, etc.)			I	4
BATTALION			II	5
REGIMENT (Group, etc.)			III	6
BRIGADE (Combat Group, etc.)	←——Equivalent Units——→	←——Equivalent Units——→	X	7
DIVISION			XX	8
CORPS			XXX	9
Field ARMY			XXXX	A
Army GROUP				B
FRONT				C
MOD (or Major Command)				H

Notes:

1.   These size symbols are taken from STANAG 2019.

2.   The codes are taken from STANAG 2356.

      These two references should assist data providers in
      determining the equivalent units to be used for air
      and naval forces.

5.1.7   <u>UNIT ASSIGNMENT STATUS</u>

5.1.7.1   <u>DESIGNATION OF FORCES CODE</u>(1)

Data Item	Code
NATO Command Forces	C
NATO Assigned Forces	A
NATO Earmarked Forces	E
Other Forces for NATO	O
Forces Remaining Under National Command	N

5.1.7.2   <u>TIME OF TRANSFER OF OPERATIONAL COMMAND TO NATO</u>

5.1.7.3   <u>TIME OF TRANSFER OF OPERATIONAL CONTROL TO NATO</u>

For Sections 5.1.7.2 and 5.1.7.3 the codes given in
Appendix 5 to Annex B to ACE DIRECTIVE No. 80-20
(Allocation of Forces and Transfer of Authority)
should be used.

5.1.8   <u>READINESS CATEGORY CODE</u>

For Definition see MC 55/2 for NATO and MC 161 for
Warsaw Pact.

Data Item	Code
READY - A	A
READY - B	B
READY - C	C
READY - UNSPECIFIED	X

5.1.9   <u>AVAILABILITY CODE</u>

For Definition see MC 55/2 for NATO and MC 161 for
Warsaw Pact.

Data Item	Code
AVAILABILITY - UNSPECIFIED	X
AVAILABILITY - 1	1
AVAILABILITY - 2	2
AVAILABILITY - 3	3
AVAILABILITY - 4	4
AVAILABILITY - 5	5

(1)   Force Designation Codes for Warsaw Pact units will be
defined in due course.

5.1.10   NATIONALITY, INTERNATIONAL AFFILIATION AND SOIL
COUNTRY CODE

For convenience, various geopolitical entities are
here treated on the same basis as nations.

Data Item	Code
Albania	AL
Belgium	BE
Bulgaria	BJ
Canada	CA
Czechoslovakia	CZ
Denmark	DA
Europe	E
Faeroe	FO
France	FR
East Germany	GC
Germany	GE
Greenland	GL
Greece	GR
Hungary	HU
Iceland	IC
Italy	IT
Okinawa	JP
Korea	KS
Laos	LA
Luxembourg	LU
Mongolia	MG
Netherlands	NL
Norway	NO
NATO	N2
Poland	PL
Portugal	PO
Rumania	RO
Spain	SP
Thailand	TH
Turkey	TU
United Kingdom	UK
USSR	UR
United States	US
Vietnam	VS
W-Berlin	WB
Mixed/Unspec.	XX
Yugoslavia	YO
Warsaw Pact	Y8

If required, additional codes may be taken from Data
Elements $\emptyset\emptyset$5 and $\emptyset\emptyset$6 of A Dat P1 -- Part III. The Data
Base Administrator must be informed, however, before
such new codes are used in an update.

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5.1.11 UPDATE CONTROL CODES

5.1.11.1 UPDATE CODE

Transaction	Code
Creation of new record	N

(Other transactions are reserved for the Data Base Management Staff)

5.1.11.2 FILE CODE

File	Code	Used by:
UNIT	UN	Data Provider (normal update)
STEP	ST	"
CHEP	CH	"
TEXT	TE	"
COEP	CO	Data Provider (extraordinary update)
ECOM	EC	"
PERC	PE	"
LOCA	LO	"
POSU	SU	Data Base Administrator
BEGA	BE	"
AUXI	AU	"

5.1.11.3 CARD TYPE CODE

Data Item	Code
Fixed Field Data Element Cards	A
Variable Field Data Element Cards	X

5.1.12 ALPHA CODE

VFDE Identifier of Unit Record	Code
Superior Unit	SU
Location	LO
Unit Status Information	AR
STEP	ST
CHEP	CH
Air Unit Information	AI
TEXT	TE

5.1.13   BETA CODE

Data Element	Code
Continual	XX
1977	77
1978	78
1979	79
•	•
•	•
•	•
1999	99
2000	00
2001	01
•	•
•	•
•	•

Note:

The use of BETA Codes is subject to the following general rule:

β_{Start} and β_{End} represent the time limits within which the represented situation is constant. In NFPDB terms, each situation is only allowed to start on 1st January of β_{Start} and to end on 31st December of β_{End}. Changes within a calendar year are not permitted.

Obviously, then, for the following period of time applicability there must be:

$$(\beta_{Start})_{II} = (\beta_{End})_{I} + 1$$

E.g.   Case A: 1977 - XX

Case B: 1977 - 1977

1978 - 1980

1981 - XX

5.1.14   GAMMA CODE

Plan	Code
Peace Authorized	PA
War Authorized	WA
Actual	AC

Note: Inputs must be provided for all three of the
        above Gamma codes.

5.1.15   PERSONNEL CODES

Each personnel type is designated by a 6-character code,
the first three of which are always $\emptyset$ and remaining
three characters will be composed by the data provider
according to the following scheme:

4th Character	Code
Officers	A
Other Ranks	B
Military, Unspecified	X
Civilian	C

5th Character	Code
Regular	A
Conscript	B
Regular/Conscript	C
Reservist	D
Unspecified	X

6th Character	Code
Active duty	A
Immediate recall/short leave	B
Reservists - general total	C
Reservists - to be called up in the first 15 days of mobilisation	D
Reservists - to receive at least one week's continuous training during the year	E
Unspecified	X

Some illustrative examples are shown in the following
list (which is not necessarily intended to be
exhaustive).

Personnel Type	Code
Officer, Regular, Active Duty	ØØØAAA
Officer, Conscript, Active Duty	" ABA
Officer, Regular/Conscript, Active Duty	" ACA
Officer, Reservist, Immediate Recall	" ADB
Officer, Reservist, To be called up in first 15 days of mobilisation	" ADD
Officer, Reservist, To receive at least one week's continuous training during the year	" ADE
Officer, Reservist, Unspecified	" ADX
Other Ranks, Regular, Active Duty	" BAA
Other Ranks, Conscript, Active Duty	" BBA
Other Ranks, Conscript, Immediate Recall	" BBB
Other Ranks, Regular/Conscript, Active Duty	" BCA
Other Ranks, Regular/Conscript, Immediate Recall	" BCB
Other Ranks, Reservist, Immediate Recall	" BDB
Other Ranks, Reservist (1st 15 days of mobilisation)	" BDD
Other Ranks, Reservist (training during year)	" BDE
Other Ranks, Reservist, Unspecified	" BDX
Military, Unspec., Regular, Active Duty	" XAA
Military, Unspec., Conscript, Active Duty	" XBA
Military, Unspec., Conscript, Immediate Recall	" XBB
Military, Unspec., Regular/Conscript, Active Duty	" XCA
Military, Unspec., Regular/Conscript, Immediate Recall	" XCB
Military, Unspec., Reservist, Immediate Recall	" XDB
Military, Unspec., Reservist, General Total	" XDC
Military, Unspec., Reservist (1st 15 days of mobilisation)	" XDD
Military, Unspec., Reservist (training during year)	" XDE
Military, Unspec., Reservist, Unspecified	" XDX
Civilian, Unspecified, Unspecified	" CXX

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5.1.16   Reserved for future use.

5.1.17   Reserved for future use.

5.1.18   Reserved for future use.

5.1.19   TYPE FORCES

Data Item	Code
ACE Mobile Force	AMF
ACE Mobile Force/General Defence Plan	GDM
ACE Mobile Force/Regional Reserve	RAM
ACE Mobile Force/SACEUR's Strategic Reserve	AMR
Air Augmentation (Specific Type of Regional Reserve Unit)	AUG
Air Transport Unit (in accordance with MC 75)	ATU
Dual Based (Specific Type of GDP Unit)	DUB
General Defence Plan	GDP
General Strike Plan	GSP
Maritime Contingency Force	MCF
NATO Europe Integrated Air Defence (in accordance with MC 54)	ADF
Rapid Reaction (Specific Type of Regional Reserve Unit)	RAP
Regional Reserve	RRR
SACEUR's Strategic Reserve	SSR

5.1.20   UNIT FUNCTION CODES

Code	Data Element
A0000	Firepwr Delivery-Strategic (FPS)
A1000	FPS Anti-Air
A1100	FPS Air-to-Air
A1110	FPS Air-to-Air All-Weather Ftr
A1120	FPS Air-to-Air Day Fighter
A1200	FPS Grnd-to-Air
A1210	FPS Grnd-to-Air HISAM
A1220	FPS Grnd-to-Air LOSAM
A1230	FPS Grnd-to-Air SHORAD
A2000	FPS Anti-Ground
A2100	FPS Air-to-Grnd
A2200	FPS Grnd-to-Grnd
A2300	FPS Subsurface-to-Ground

UNIT FUNCTION CODES (Continued)

Code	Data Element	
BC000	Firepwr Delivery-Theatre (FPT)	
B1000	FPT Anti-Air	
B1100	FPT Air-to-Air	
B1110	FPT Air-to-Air All-Weather Ftr	
B1120	FPT Air-to-Air Day Fighter	
B1200	FPT Surface-to-Air	
B1210	FPT Surf-to-Air HISAM	
B1220	FPT Surf-to-Air LOSAM	
B1230	FPT Surf-to-Air SHORAD	
B2000	FPT Anti-Ground	
B2100	FPT Anti-Ground Air-to-Ground	
B2110	FPT Anti-Grnd A-G Attack	
B2120	FPT Anti-Grnd A-G Strike	
B2130	FPT Anti-Grnd A-G Strike/Attack	
B2140	FPT Anti-Grnd A-G Attack/Recce	
B2150	FPT Anti-Grnd A-G Helo Wpn Platfm	
B2200	FPT Anti-Ground Ground-to-Ground	
B2210	FPT Grnd-to-Grnd Direct Fire	
B221A	FPT/GGDF	Armour
B221B	FPT/GGDF	Reconnaissance
B221C	FPT/GGDF	Armoured Inf
B221D	FPT/GGDF	Mechanised Inf
B221E	FPT/GGDF	Motorised Inf
B221F	FPT/GGDF	Light Inf
B221G	FPT/GGDF	Anti-Tank Inf
B221H	FPT/GGDF	Mountain Inf
B221I	FPT/GGDF	Amphibious Inf
B221J	FPT/GGDF	Airborne Inf
B221K	FPT/GGDF	Airmobile Inf
B2220	FPT Grnd-to-Grnd Indirect Fire	
B222A	FPT/GGIF	SSM/ROCKET-Conv.
B222B	FPT/GGIF	SSM/ROCKET-Nucl.
B222C	FPT/GGIF	SSM/ROCKET-Dual
B222D	FPT/GGIF	Gun/Howitzer-Conv.
B222E	FPT/GGIF	Gun/Howitzer-Nucl.
B222F	FPT/GGIF	Mult Rocket Lchr.
B222G	FPT/GGIF	Mortars
B3000	FPT Anti-Air/Anti-Ground	
B3100	FPT AntiA/AntiG AWX/Strike/Attck	
B3200	FPT AntiA/AntiG AWX/Attack	
B3300	FPT AntiA/AntiG Day Ftr/Attack	
B4000	FPT Antimaritime (FPT/AM)	
B4100	FPT Anti-mar Air-to-Surface	
B4200	FPT Anti-mar Air-to-Subsurface	
B4300	FPT Anti-mar SFC-to-SFC/Subsurface	
B4400	FPT/AM Subsfce-to-Surf/Subsurf	

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UNIT FUNCTION CODES (Continued)

Code	Data Element
B5000	FPT Anti-Air/Anti-Maritime
B5100	FPT-AM/AA Surf-to-Surface/Air
B5200	FPT-AM/AA Surf-to-Surf/Sub/Air
C0000	Admin+Personnel Services (ADM)
C1000	Adm Personnel Administration
C2000	Adm Dependent Schools
C3000	Adm Automated Data Processing
C4000	Adm Financial Services
C5000	Adm Public Relns
C6000	Adm Admin of Reserves
C7000	Adm Personnel Replacement
C8000	Adm Miscel Admin Services
D0000	Command Control Communications
D1000	CCC Headquarters
D1100	CCC HQ Firepower Delivery
D1200	CCC HQ Engineer/Environmental
D1300	CCC HQ Logistics
D1400	CCC HQ Miscel
D2000	CCC Control
D2100	CCC Control Air Traffic Services
D2200	CCC Control Control + Reporting
D2300	CCC Control Other
D3000	CCC Communications
D3100	CCC/Com Telecoms-Installn Spt
D3200	CCC/Com Telecoms-Area Support
D3300	CCC/Com Telecoms-Long Haul
D3400	CCC/Com Postal/Courier Services
D4000	CCC Composite Cmnd Contrl Comms
E0000	Composite Logistics Svces (Log)
E1000	Log Mobile Avn Platforms
E2000	Log Replenishment
E3000	Log Other Comp Logistics Svces
F0000	Defence Management
G0000	Engineering/Environmental (Eng)
G1000	Eng Barrier/Cover/Demolition
G1100	Eng Bar/Cov/Dem Conventional
G1200	Eng Bar/Cov/Dem Dual
G2000	Eng Bridging/Ferry
G3000	Eng Construction + Repair

UNIT FUNCTION CODES (Continued)

Code	Data Element
G4000	Eng Composite Engineering
G4100	Eng Comp Eng Conventional
G4200	Eng Comp Eng Dual
G5000	Eng Geophysical Services
G6000	Eng Nucl/Biol/Chem Defence
H0000	Installation Operations
I0000	Intel/Targeting/Electr Warfare
I1000	Int Analysis/Processing
I2000	Int Recce/Tgting/Surveillance
I3000	Int Electronic Warfare
J0000	Maintenance/Repair (Mai)
J1000	Mai Maintrep- Aircraft
J2000	Mai Maintrep- Ground Vehicles
J3000	Mai Maintrep- Floating Craft
J4000	Mai Maintrep- Armament
J5000	Mai Maintrep- Comm/Electronics
J6000	Mai Maintrep- Composite
J7000	Mai Maintrep- Other
K0000	Medical (Med)
K1000	Med Evacuation
K2000	Med Initial Treatment + Evac
K3000	Med Treatment + Convalescence
K4000	Med Auxiliary Services
L0000	Mil/Civ Assist-Ance/Liaisn (Mal)
L1000	Mal Civil Affrs
L2000	Mal Military Assistance
L3000	Mal Liaison
M0000	Mil Security/Law Enforcement (Sec)
M1000	Sec Instaln Secy + Law Enforcement
M2000	Sec Area Security
M3000	Sec Confinement
M4000	Sec Investigatns
N0000	Psychological Warfare (Psy)
P0000	Resch, Devpmnt, Testing + Acq (Rnd)
P1000	Rnd Equipment Acquisition
P1100	Rnd Equip Acq- Procurement
P1200	Rnd Equip Acq- Production
P1300	Rnd Equip Acq- Prog Management

UNIT FUNCTION CODES (Continued)

Code	Data Element	
P2000	Rnd Personnel	Acquisition
P3000	Rnd Real Estate	Acquisition
P4000	Rnd Technology	Acquisition
P4100	Rnd Tech Acq	Human Resources
P4200	Rnd Tech Acq	Materiel/Equipt
P4300	Rnd Tech Acq	Tactics/Concepts
Q0000	Search/Rescue (SAR)	
R0000	Supply (Sup)	
R1000	Sup Inventory	Control
R2000	Sup Armament	Supply
R3000	Sup Petroleum	Supply
R4000	Sup Other	Supply
S0000	Training + Educn	- Mil Pers (Trg)
S1000	Trg Basic Mil	Training
S2000	Trg Job-Related	Skill Trng/Evaln
S3000	Trg Officer+NCO	Acquisition Trng
S4000	Trg Career	Development Trng
S5000	Trg Training	Support
T0000	Transportation (Tpt)	
T1000	Tpt Airlift	
T2000	Tpt Railway	
T3000	Tpt Roadway	
T4000	Tpt Sealift/Waterway	
T5000	Tpt Terminal	Services
T5100	Tpt Terminal	Svc - Air
T5200	Tpt Terminal	Svc - Water
T5300	Tpt Terminal	Svc - Land
U0000	Artificial Units (Atf)	
U1000	Atf Manpower	Supernumeraries
U2000	Atf Materiel	Stock Holding

5.2   EQUIPMENT CODES

           See Section B of this Manual.

5.3   LOCATION CODES

5.3.1   NATO LOCATIONS

5.3.1.1   Specific Locations

           Reserved.

5.3.1.2   Divisions of the World (Source: ADatP1 - Part III)

           Data Item   Code

                                          (to be entered left-adjusted,
                                          i.e. in position 1 of the
                                          LOCA A and X Card image
                                          formats - see Section 3.2.8)

           Africa   F
           Antarctic Continent   T
           Arctic Ocean Aggregate   5
           Asia   A
           Australian Continent   U
           Baltic Sea Aggregation   7
           Europe   E
           Great Lakes Aggregation   9
           Indian Ocean Aggregation   6
           Mediterranean Sea Aggregation   8
           North America   N
           North Atlantic Ocean Aggregation   1
           North Pacific Ocean Aggregation   3
           South America   S
           South Atlantic Ocean Aggregation   2
           South Pacific Ocean Aggregation   4

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5.3.1.3   Land Sub-Divisions of the World
           (Source: ADatP1 - Part III)

Data Item   Code

                                           (to be inserted in place of
                                           the Soil Country code in the
                                           LOCA 'A' and 'X' card-images)

           Arabian Peninsula   A4
           Australasia   U1
           Benelux   E3
           British Isles   E2
           Caribbean Isles   N5
           Central Asia   A6
           Communist East Europe   E5
           East Africa   F3
           East Asia   A7
           Fennoscandia   E1
           Lower North America   N4
           Lower South America   S2
           North Africa   F1
           Northeastern Asia   A2
           South Asia   A5
           Southeast Asia   A8
           Southern Africa   F4
           Southwest Asia   A3
           Upper North America   N3
           Upper South America   S1
           West Africa   F2
           Western Europe   E4

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5.3.1.4   Water Bodies of the World (Source: ADatP1 - Part III)

Data Item	Code
	(to be inserted in place of the Soil Country code in the LOCA 'A' and 'X' card-images)
Adriatic Sea	8D
Aegean Sea	8G
Arabian Sea	6R
Aral Sea	8R
Arctic Ocean	5A
Atlantic Ocean, North	1A
Atlantic Ocean, South	2A
Azor, Sea of	8Z
Baltic Sea	7B
Barents Sea	5B
Beaufort Sea	5U
Bering Sea	5D
Bering Strait	5R
Black Sea	8B
Bosphorus	8P
Caribbean Sea	1X
Caspian Sea	8C
Finland, Gulf of	7F
Gibraltar, Strait of	8S
Hudson Bay	1H
Indian Ocean	6A
Irish Sea	1R
Japan, Sea of	3J
Marmara, Sea of	8M
Mediterranean Sea, Western	8W
Mediterranean Sea, Eastern	8E
Mexico, Gulf of	1M
North Sea	1N
Pacific Ocean, South	4A
Pacific Ocean, North	3A
Panama Canal	1J
Persian Gulf	6P
Red Sea	6E
Siberian Sea, East	5S
Suez Canal	6U
Suez, Gulf of	6W

Note:

The above list is a selection from Data Element No. 004 of ADatP1 - Part III. Data providers who wish to use other data items from this data element should first inform the Data Base Manager, to ensure that the new entries are recognised as valid codes.

5.3.2   WARSAW PACT LOCATIONS

Reserved.