



**ENVIRONMENTAL
STATUS
IN THE SLOVENE ARMY**



BEFORE 1991

- **Poor federal environmental legislation**
- **Not applicable to the Yugoslav Army**
- **Slovenia was of minor strategic importance**



BEFORE 1991

Few large military installations

- **Training areas (30 sq. km)**
- **Stores (7 sq. km)**
- **Barracks (5 sq. km)**



BEFORE 1991

Total:

451 military installations

56,1 sq. km

AFTER 1991

- **The YA retreated in September 1991**
- **The property turned over to the MoD**
- **Reduced and compromised down to the number needed:**
 - **border garrisons**
 - **installations in urban centers**
 - **training areas**
 - **stores**







AFTER 1991

- **Total sold, hired or given:
207 installations (8,2 sq. km)**
- **Total retained by the Slovene army:
244 installations (47,9 sq. km)**



AFTER 1991

- **One major central training area**
- **Sensitive carst region**
- **High environmental impacts**
- **Sacrificed regions**



AFTER 1991

- **Lack of national environmental policy**
- **New environmental legislation 1994**
- **Polluter pays principle**
- **No explicit exceptions for the army**



AFTER 1991

- **No ministerial guidance**
- **Changed social environment**
- **In 1998 the SA developed own guidelines**



ENVIRONMENTAL GUIDELINES

• **The Slovene armed forces:**

- **Recognize the importance of the environment**
- **Exert concern about the environmental problems**
- **Adopt the national environmental legislation**
- **Develop special environmental structure and practices**



ENVIRONMENTAL GUIDELINES

- **Sound environmental practices**
- **Contamination cleanup**
- **Training and education on all levels**
- **Annual planning as part of the SAF activities**
- **Yearly reviews**



ENVIRONMENTAL GUIDELINES

• **Sound environmental practices:**

- **Environmental analyses of equipment, installations and activities**
- **Protection and prevention**
- **HM/DS reduction, recycling, treatment and disposal**



ENVIRONMENTAL GUIDELINES

• **Structure:**

- **Everybody's involvement**
- **Commander's responsibility**
- **Environmental specialists/advisors**
- **Highest to lowest levels**

Structure of environmental officers in the Slovene Armed Forces





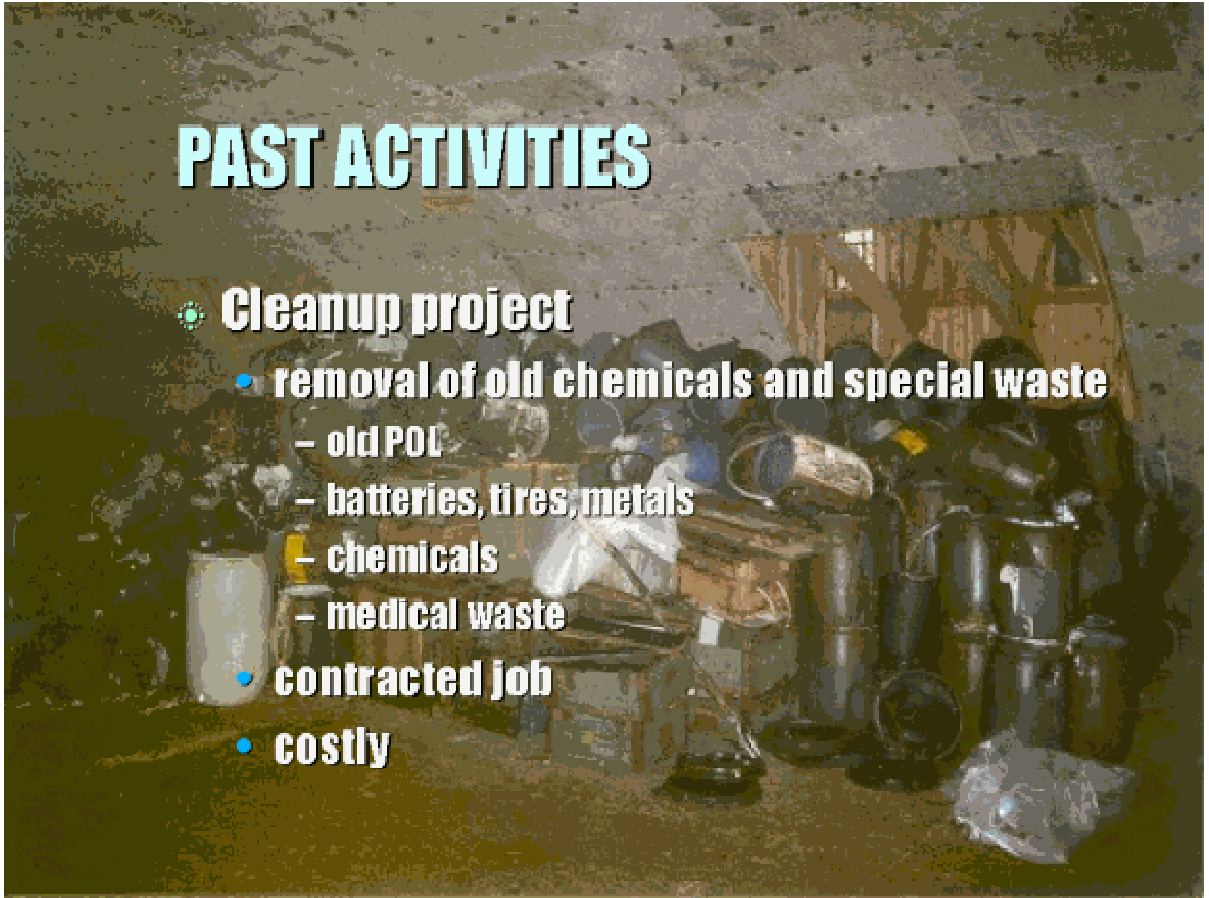
ENVIRONMENTAL GUIDELINES

• **Financing:**

- **Through regular financing scheme**
 - Environmental costs integral part of general financial projects
- **Active financing**
 - Special projects

PAST ACTIVITIES

- **Cleanup project**
 - **removal of old chemicals and special waste**
 - old POC
 - batteries, tires, metals
 - chemicals
 - medical waste
 - **contracted job**
 - **costly**





CURRENT & SHORT-TERM ACTIVITIES

• Environmental survey

- Implementation of sound environmental practices in military installations**
 - limited by the civil capabilities**
 - reduction (waste and natural resources)**
 - separation (where possible)**
 - recycling (where possible)**
- Survey of MTA environmental practices**
- Environmental training**

MID & LONG-TERM ACTIVITIES

- **Military training areas**
 - **Implementation of environmental management in MTAs**
 - environmental analyses
 - exploitation regime
 - revitalization and restoration
 - **Environmental infrastructure**



COOPERATION

National:

- Ministry of environment
- Governemental and Non-governmental Environmental agencies and organizations

International:

- NATO ETWG
- Bilateral cooperation: Austria, USA, Germany, Hungary, Greece
- SEDM Environmental Conference



SEDM ENVIRONMENTAL CONFERENCE

- **A joint project of the US and SVN Ministries of the defence.**
- **Scope:**
 - **To introduce different environmental considerations into peace-time activities of the armed forces**
 - **To stimulate bilateral and multilateral co-operation**
 - **To build confidence and security in the region**



SEDM ENVIRONMENTAL CONFERENCE

• PARTICIPANTS:

- **South-eastern European countries (Romania, Bulgaria, Greece, Turkey, Albania, FYR Macedonia, Slovenia),**
- **Some NATO and PFP countries and agencies (Austria, Italy, Hungary, US, Sweden, Denmark)**
- **Environmental experts from the MODs and MOEs**



SEDM ENVIRONMENTAL CONFERENCE

• TIME AND VENUE

- April 2000**
- Venue: Grand Hotel Toplice Bled**

Southeastern European Defense Ministerial Environmental Conference

Bled-Slovenia, April 11-13, 2000



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Introduction

■ How did ESG come to its know-how relating to environmental and hazardous materials topics?

- in-service phase of airborne weapon systems
- in-service phase extends over many years, often decades
 - constantly changes and modifications
 - introduction of new equipments
 - introduction of new POL (petroleum, oils and lubricants) into the supply cycle of the German armed forces
- legale requirements
 - enforce modifications to defence equipment

Introduction

■ **increasing awareness of subjects such as:**

- hazardous materials
- environmental protection
- on-the-job safety
- transportation of dangerous goods

**requirement for information on hazardous materials
which can be evaluated**

Problems in the Provision of Information

- **essential information in computer systems**

- not fully available or not available at all
- scattered and unformatted
- not stored at a central point

- **problems in identifying hazardous materials**

- **effort involved in identifying hazardous materials is enormous**

- **ESG dealing with these problems since 1984**

- **ESG makes computerised systems**

- transparent
- formatted

Environmental hazardous material information systems - ESG -

	Substitution of luminescent paints 1994 - 95
 PATRIOT	Consumables and POL database (PATRIOT) 1992 -
 alle WS	Consumables and POL database for Federal Austrian Army 1994 -
 WS F-4	Substitution of asbestos 1994 - 97
SUBSTANZ	Substitution and standardization of items of supply 1995 -
 MIG-29	Consumables and POL database (MIG-29) 1995 -
 TORNADO	Determination of assemblies containing cadmium 1997 - 99
 PCB	Determination and substitution of capacitors containing PCB 1998
	Studies on subjects dealing with hazardous materials 1999 -

Objectives

- **important objectives learned from our experience, are:**
 - acquisition of information from the beginning of the life cycle of defense equipment
 - in a adequate depth
 - formatted
 - updating of the data over the entire life cycle
 - centralised data management

Significance of information about hazardous materials

- **information about hazardous materials are important today with regard to subjects such as:**
 - on-the-job safety
 - transportation of dangerous goods
 - protection of the environment
 - reusability of systems and equipment
 - disposal

legal situation demands this information

Acquisition of Information in Adequate Depth

- **acquisition of information of hazardous materials from a present-day point of view**
 - acquisition of hazardous consumable and POL
 - mostly properly documented (safety data sheets)
 - acquisition of other hazardous materials
 - eg. documented in form of special authorisation

Acquisition of Information in Adequate Depth

- acquisition of information of materials which have *not been hazardous materials* so far but which have *become hazardous* as a result of a change in the law
 - eg. asbestos, CFC, PCB, (cadmium)
- options of determination of these items
 - acquisition of information relating to
 - material
 - constituents
 - compounds
 - surface treatment



Data Management in Centralised Logistic Information Systems

- **centralised logistic information systems**
 - GAF: ILIMS (Integrated Logistic Information and Management System)
 - RAF: ISIS (Item of Supply Information System)
 - USAF: FLIS (Federal Logistics Information System)

- **possibility of acquiring and mapping information about**
 - hazardous materials
 - characteristics data of items of supply (eg. material, compounds, surface treatment)


- **NATO-compatible systems**

Codification

- **information and data contained in NATO-compatible systems (eg. ILIMS) acquired as part of the *codification process***
- **items of supply which have been introduced into the supply cycle have to be coded**
- **beginning of the life cycle of defence material**
- **codification is an excellent opportunity to acquire information required for identifying hazardous materials**

Codification

■ codification process

- acquisition of the name of the item of supply, the material category and manufacturer's information
- acquisition of the characteristics data such as properties and hazardous characteristics 
- assignment of the NATO stock number

■ performed by the same method in all NATO countries

Characteristics Data

■ identification guides

- characteristics data acquired by answering questions, “feature questions”
- “feature questions” specified in identification guides
- identification guides for screws describing a screw in greater detail
 - item name
 - thread, right-hand/left-hand
 - length
 - type of screw head
 - eg. countersunk
 - material
 - surface treatment
 - etc.

Problems with Identification

- **identification of material which have now become hazardous materials as a result of a change in the law**
 - not all questions listed in identification guides have to be answered
 - certain details which would be necessary for determining materials which become hazardous are not available
 - all feature questions relating specifically these materials have to be answered as part of the codification process

Examples of Characteristics Data for Evaluation

Characteristics Data Response for NSN 5330-00-579-7838		FOUO
Today's Date: 06 Apr 00		Effective Date: 1 Jan 2000
Item Name: GASKET		FLIS
MEC	Requirement Statement	Clear Text Reply
NAME	ITEM NAME	GASKET
AAGR	CROSS-SECTIONAL SHAPE STYLE	FIL METAL AND NONMETALLIC MATERIALS
ABKV	OUTSIDE DIAMETER	1.328 INCHES NOMINAL
ABVL	APERTURE DIAMETER	1.000 INCHES NOMINAL
ADVM	CROSS-SECTIONAL THICKNESS	0.080 INCHES NOMINAL
MATT	MATERIAL	COPPER OVERALL AND ASBESTOS
STYL	STYLE DESIGNATOR	B1 CIRCULAR
ZZZV	FSC APPLICATION DATA	ENGINE,GASOLINE,RECIPROCATING,AIRCRAFT

Examples of Characteristics Data for Evaluation

Characteristics Data Response for NSN 5305-00-045-3179		
Today's Date: 05 Apr 00		FOUO
Item Name: SCREW/MACHINE		Effective Date: 1 Jan 2000
		FUS
MRC	Requirement Statement	Clear Text Reply
NAME	ITEM NAME	SCREW/MACHINE
AAJD	THREAD CLASS	3A
AAJF	THREAD DIRECTION	RIGHT-HAND
AASA	THREAD LENGTH	0.460 INCHES MINIMUM
AASB	FASTENER LENGTH	0.969 INCHES NOMINAL
AASK	HEAD STYLE	A39 FLAT COUNTERSUNK
AASL	HEAD DIAMETER	0.447 INCHES MINIMUM AND 0.507 INCHES MAXIMUM
ABQZ	INTERNAL DRIVE STYLE	B1 CROSS RECESS TYPE 1
AMVM	NOMINAL THREAD DIAMETER	0.150 INCHES
CNLP	THREAD QUANTITY PER INCH	28
CQBC	MINIMUM TENSILE STRENGTH	125000 POUNDS PER SQUARE INCH
CQFM	HARDNESS RATING	50.0 ROCKWELL C MINIMUM AND 56.0 ROCKWELL C MAXIMUM
CRSQ	COUNTERSINK ANGLE	99.0 DEGREES MINIMUM AND 101.0 DEGREES MAXIMUM
CYAU	SCREW MATERIAL	STEEL
CYBA	SCREW SURFACE TREATMENT	<u>CADMIUM</u>
TRSD	THREAD SERIES DESIGNATOR	UNF

Examples of Characteristics Data for Evaluation

Characteristics Data Response for NSN 5910 00 972 3200 FDU0
 Trace/Date: 06 Apr 00 Effective Date: 1 Jan 2000
 Item Name: CAPACITOR, FIXED, PAPER DIELECTRIC FJ5

NSN	Requirement Statement	Class Text Reply
BARL	TYPE NAME	CAPACITOR, FIXED, PAPER DIELECTRIC
AAQ1	FOOT STYLE	14A W/9 MFG FACILITIES, TERMINAL (3) ON ONE SURFACE
AA9G	RELIABILITY INDICATOR	NOT ESTABLISHED
ABHD	OVERALL LENGTH	2.500 INCHES NOMINAL
ABHT	OVERALL HEIGHT	1.187 INCHES NOMINAL
ABHE	OVERALL WIDTH	1.188 INCHES NOMINAL
ADW0	FOOT LENGTH	2.500 INCHES NOMINAL
ADW7	FOOT WIDTH	1.188 INCHES NOMINAL
ADW9	FOOT HEIGHT	4.790 INCHES NOMINAL
AFRT	CENTER TO CENTER DISTANCE	1.338 INCHES NOMINAL AND
CRTP	TOLERANCE RANGE PER SECTION	-15.00/10.00 PERCENT SINGLE SECTION
CW6E	CASE MATERIAL	METAL
CW6K	INSULATION RESISTANCE AT REFERENCE TEMP	1500.0 RESOHM-ML/STANDARD
CW6D	DISSIPATION FACTOR AT REFERENCE TEMP IN PERCENT	1.0000
FKAT	SPECIAL FEATURES	INCLUDES SUBSTANCE CONTAINING PCB (3.5 PPM)
TEST	TEST DATA DOCUMENT	Q1049-MIL-C-25 SPECIFICATION
TTVY	TERMINAL TYPE AND QUANTITY	2 THREADED STUD

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“N-CORE“ Codification Tool

- **codification process is complex regarding the different sequences**

- **ESG developed a computer program which maps all the codification processes, it's called N-CORE**
 - supports all the functions which are expected of a NATO codification bureau

 - supports the user in particular with the identification and codification of items of supply

Summary

- **acquisition of information of defense material at the beginning of the life cycle**
 - codification process
- **updating of the data over the entire life cycle**
- **centralised data management**

legal situation demands information on hazardous materials