REPUBLIC OF BULGARIA

MINISTRY OF ECONOMY

NATIONAL PROGRAM ON THE IMPLEMENTATION OF MEASURES ON THE CONVENTION OF THE PROHIBITION OF THE USE, STOCKPILING, PRODUCTION AND TRANSFER OF A P M’s AND ON THEIR DESTRUCTION

ANTI-PERSONNEL FRAGMENTATION MINES’ DESTRUCTION

SOFIA – GENEVA

MAY, 2003
Several acts of the Bulgarian authorities are the legal basis of the National program on the destruction of the stockpiled anti-personnel fragmentation mines:

- Law on the Ratification of the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction, adopted by the National Assembly on 29.07.1998 (State Gazette No.93/11.08.1998);
INTRODUCTION

• Decree No.271/17.12.1998 of the Council of Ministers of the Republic of Bulgaria on measures of trade policy regarding the import and export (State Gazette No. 152/22.12.1998);

• Decision No.569/10.08.1999 of the Council of Ministers of the Republic of Bulgaria on the creation of a Governmental Working Group for co-ordination of the implementation measures by Bulgaria in conformity with the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction.

In accordance with Article 7.1 "Each State Party shall report to the Secretary-General ... on:

f) The status of programs for the destruction of anti-personnel mines in accordance with Articles 4 and 5, including details of the methods which will be used in destruction, the location of all destruction sites and the applicable safety and environmental standards to be observed."
**SPECIFICATION AND QUANTITIES OF DESTROYED APMs**

*All Bulgarian APM’s were destroyed in two companies – **DUNARIT SpJsCo**, city of Rousse and **TEREM** – branch factory, City of Kostenetz.*

<table>
<thead>
<tr>
<th>TYPES</th>
<th>QUANTITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM-79</td>
<td>331 931</td>
</tr>
<tr>
<td>PSM-1</td>
<td>294 245</td>
</tr>
<tr>
<td>PMN</td>
<td>61 361</td>
</tr>
<tr>
<td>OZM-3</td>
<td>60 398</td>
</tr>
<tr>
<td>CHR-2</td>
<td>61 497</td>
</tr>
<tr>
<td>MON-50</td>
<td>34 840</td>
</tr>
<tr>
<td>PFM-1S</td>
<td>12 792</td>
</tr>
</tbody>
</table>
PFM – 1S specifications

- Weight – 80 g;
- Dimensions (Mine) – 119 x 64 x 20 mm packed in clips of 16, four to a KSF-1S container (total of 64 Mines per container);
- Dimensions of the cluster – 480 x 140 mm;
- Explosive type – VS-6D Liquid;
- Net Explosive Content – 40 g.
Phases of the Completed Work

1. Evaluation of the actual condition of the PFM
2. Transportation of the PFM from the Armed Forces’ storages.
3. Selection of a method of destruction suitable for PFM
4. Ecological monitoring of the process of destruction of PFM
5. Destruction of PFM
Evaluation of the actual condition of the PFM

- The PFM were kept in covered storage facilities and were in good condition.
- The PFM were produced in mid-1980s.
- There are no cases of leakages of explosive liquid from the plastic container.
Selection of a method of destruction suitable for PFMGs

- Through dismantling and subsequent separation of the different materials.
- Burning in special furnaces.
- Through detonation.
Dismantling and subsequent separation of the different materials

- The containers cannot be dismantled
- The materials which could possibly be extracted are of no real value.
- The process of dismantling is dangerous and economically ineffective.
Burning in special furnaces

• Due to the nature of the explosive liquid and the polymers from which the container is made a large amount of harmful substances would be released.

• The harmful substances released are described in detail in several publications available on the GICHD website.
Destruction through Detonation

- The objective is the detonation process to be conducted under conditions close to the ideal.
- The detonation process should be conducted in the presence of the highest pressure possible.
- In order the necessary parameters to be reached, it is advisable that the containers be put in drillings.
- The quantity of the containers is limited and it is economically inefficient to be used as an industrial explosive.
- The necessary conditions were accomplished by placing the containers in trenches covered with explosive.
Process of Destruction of PFM

• Trenches 0.5 m deep were dug
• 10 containers were placed in each trench and were covered by a layer of explosive.
• Time necessary for the destruction of all the available quantity of 12 792 pieces of PFM’s – one week.
• The destruction was conducted on the firing ground in “Dunarit”.
LOCATION OF DESTRUCTION SITES, PRESENTATION OF CAPABILITIES/FACILITIES

"DUNARIT" Company - Joint-stock Company established in 1903 as a plant for powder and explosives for the needs of the Bulgarian armed forces. Shareholder – 100 % State owned

The present activities of “Dunarit” are in the field of production of a range of ammunitions, technology equipment, equipment for the food-processing industry; metal-working machines, anti-fire, agricultural, medical and household equipment; industrial explosives.

The company implemented ISO 9001 quality assurance system, awarded in 1999. The ISO 9001(v..2000) and AQAP audit procedures are being carried out.
LOCATION OF DESTRUCTION SITES,
PRESENTATION OF
CAPABILITIES/FACILITIES

"DUNARIT" Company:
- is basically equipped with suitable process lines/infrastructure which allows destruction/utilization works not only for APM’s but other ammunitions to be stored and processed;
- has built up additional facilities for storage/discharge and protection during the process of APM’s destruction/utilization;
- has developed its own “know – how” for APM’s destruction/utilization works and the wasted explosives/materials processing;
- has considerable experience and traditions in handling a variety of ammunitions, explosives and their processing;
- has reached capacity to process 1200-4000 APM’s per work shift.
The authors would like to express their gratitude to the high-ranking officials, organizers and sponsors and colleagues – experts for this excellent opportunity

Bozhidar Penchev
State expert
Ministry of Economy
Sector analysis directorate
1046 Sofia, 8 Slavianska str
+359 2 940 75 74 phone
+359 2 987 21 90 fax
b.penchev@mi.government.bg

Angel Topalov
Head of departement
“Innovation & marketing”
“Dunarit” SpJsc
7000 Rousse, POB 12
+359 82 844 139 phone
+359 82 446 826
a_topalov@dunarit.rousse.bg