

Major Accidents with explosives in Bulgaria Lessons Learned

MJV, Norway, 9-11 November 2016

- ***National legislation on explosives and pyrotechnics***
- ***Seveso sites with explosives in Bulgaria, exemptions***
- ***Explosion in Midjur Ammo Plant, Gorni Lom, 1st October 2014***
- ***Outstanding issues and lessons learned***

Outline

- **Weapons, Ammunition, Explosives and Pyrotechnic Articles Act**, Ministry of Interior
- **Ordinance on building design for production and storage of explosives, firearms and ammunition** (land use planning, safety distances, etc.), Ministry of Regional Development
- **Health and Safety at Work with Explosives Ordinances**, Ministry of Labour and Social Affairs
- **Environmental Protection Act and Ordinance on major accidents prevention and control** (Seveso III), Ministry of Environment and Water
- **Disaster Protection Act**, Ministry of Interior
- **Spacial Planning Act**, Ministry of Regional Development, Ministry of Defence
- other

National Legislation on Explosives and Pyrotechnics

Conclusions:

- *over-regulated area and not efficient enough;*
- *many and different competent authorities and regulatory regimes (some gaps and overlaps identified);*
- *improved cooperation among the authorities at central and regional level is necessary;*
- *too many old facilities in use and not sufficiently advanced techniques available for demilitarisation of ammunitions (manual work predominantly), etc.*

***National Legislation on Explosives and
Pyrotechnics***

Seveso explosives sites in Bulgaria:

Due to the recent re-classification of the existing Seveso sites, the number of explosives sites for the time being is:

- 20 Seveso sites of 18 operators perform activities with explosives mainly (50-50 distribution of upper- and lower tier sites);
- on-going examination of notifications of a number of "newly classified" undeclared establishments;
- 15 Seveso sites of 6 operators were identified as fulfilling the exemption on military establishments (national defence/security) and already not subject to Seveso III requirements (similar obligations introduced in other regulations);

Major accident in Midzhur Ammo Plant, Gorni Lom:

On ***1 October 2014***, in the process of dismantling of land mines a blast, killed 15 workers and injured 3 other and completely demolished the factory.

The damaged caused are estimated at ***BGN 517,528***.

Examples



Workshop „C” –
Section “Utilisation of
ammunitions”

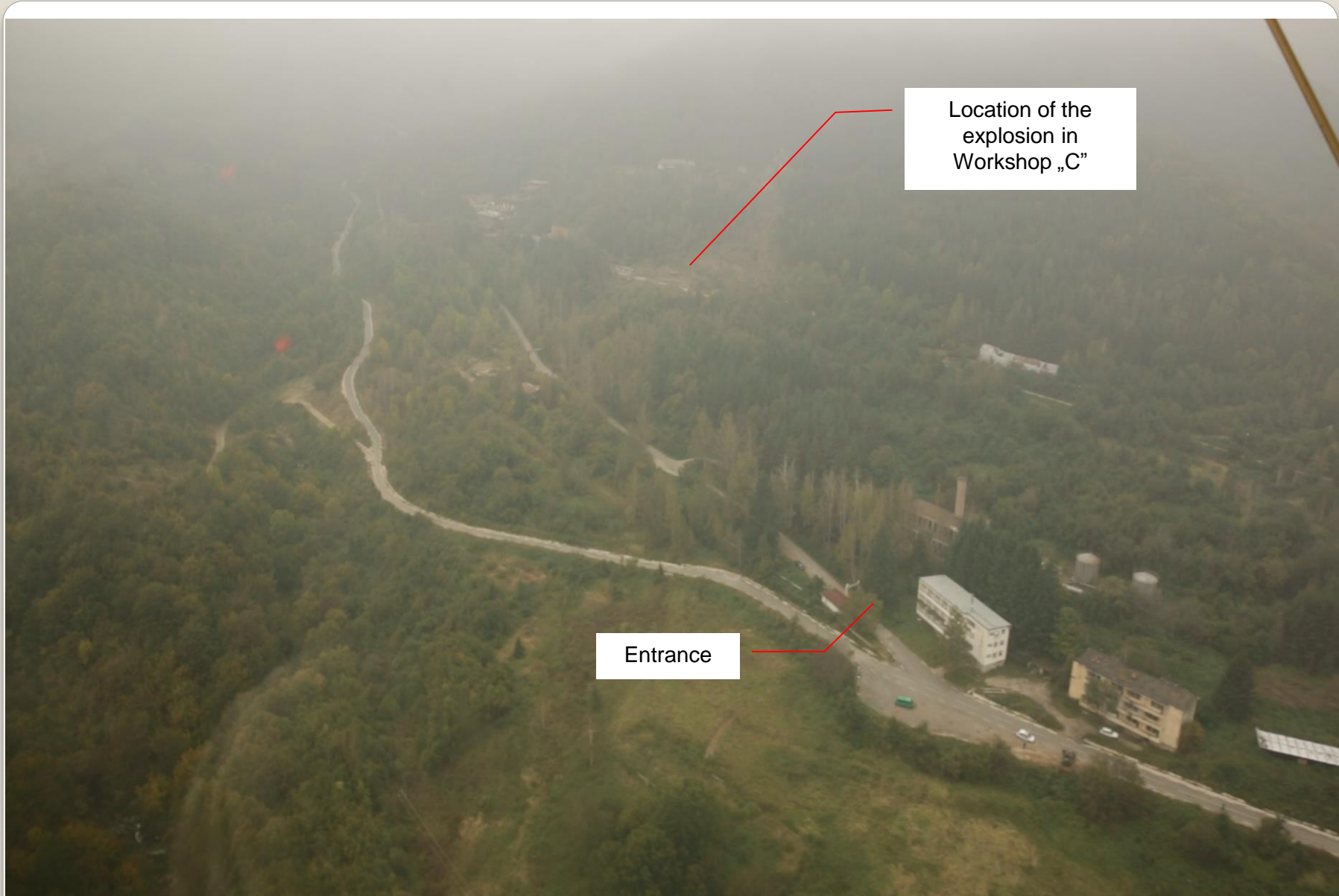
Conditional
blast center



Workshop „C” –
Section “Cast
Booster”

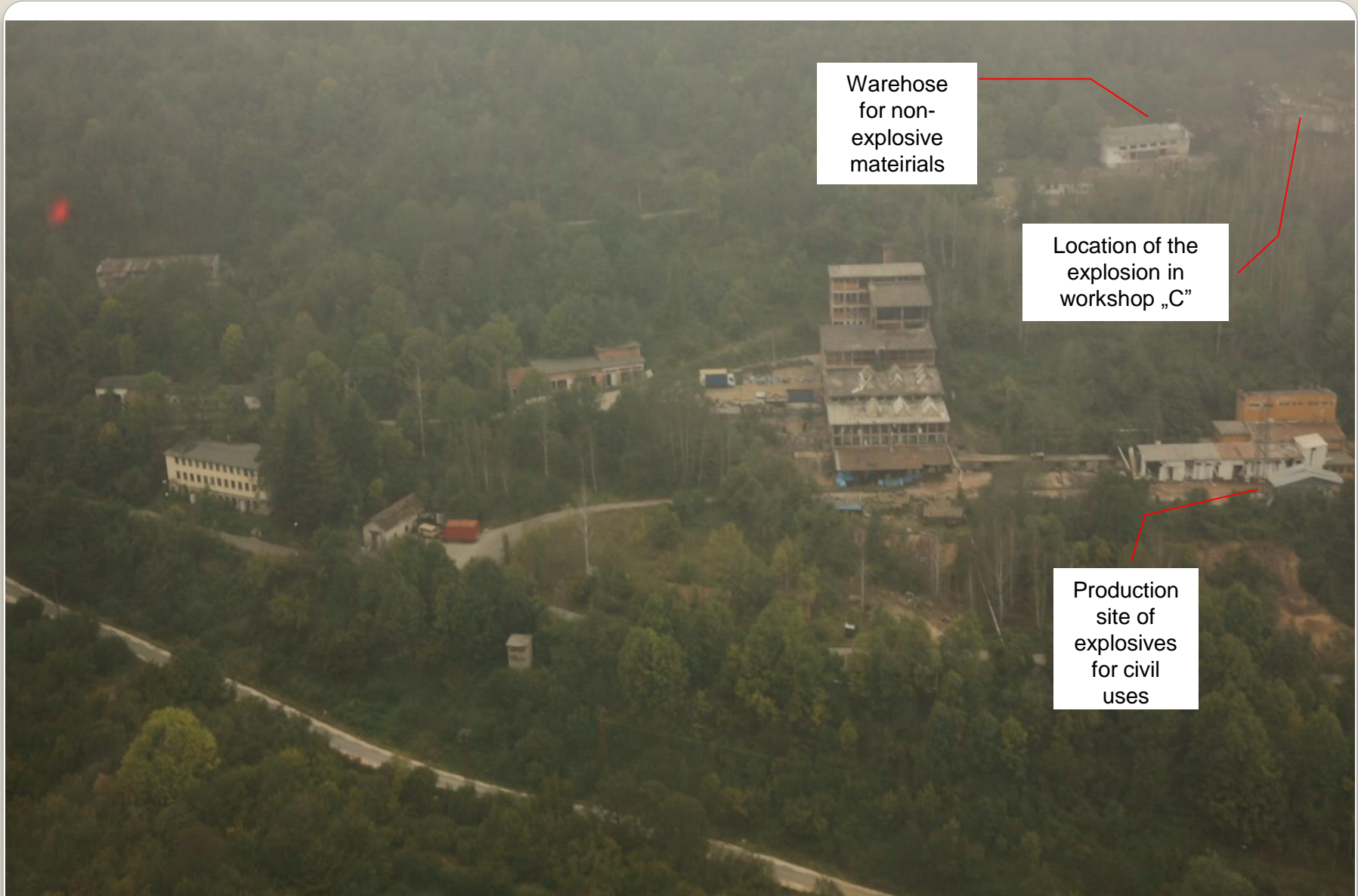


Ring concrete
tunnel
connecting the
two rooms



Location of the explosion in Workshop „C”


Entrance



Warehouse
for non-
explosive
materials

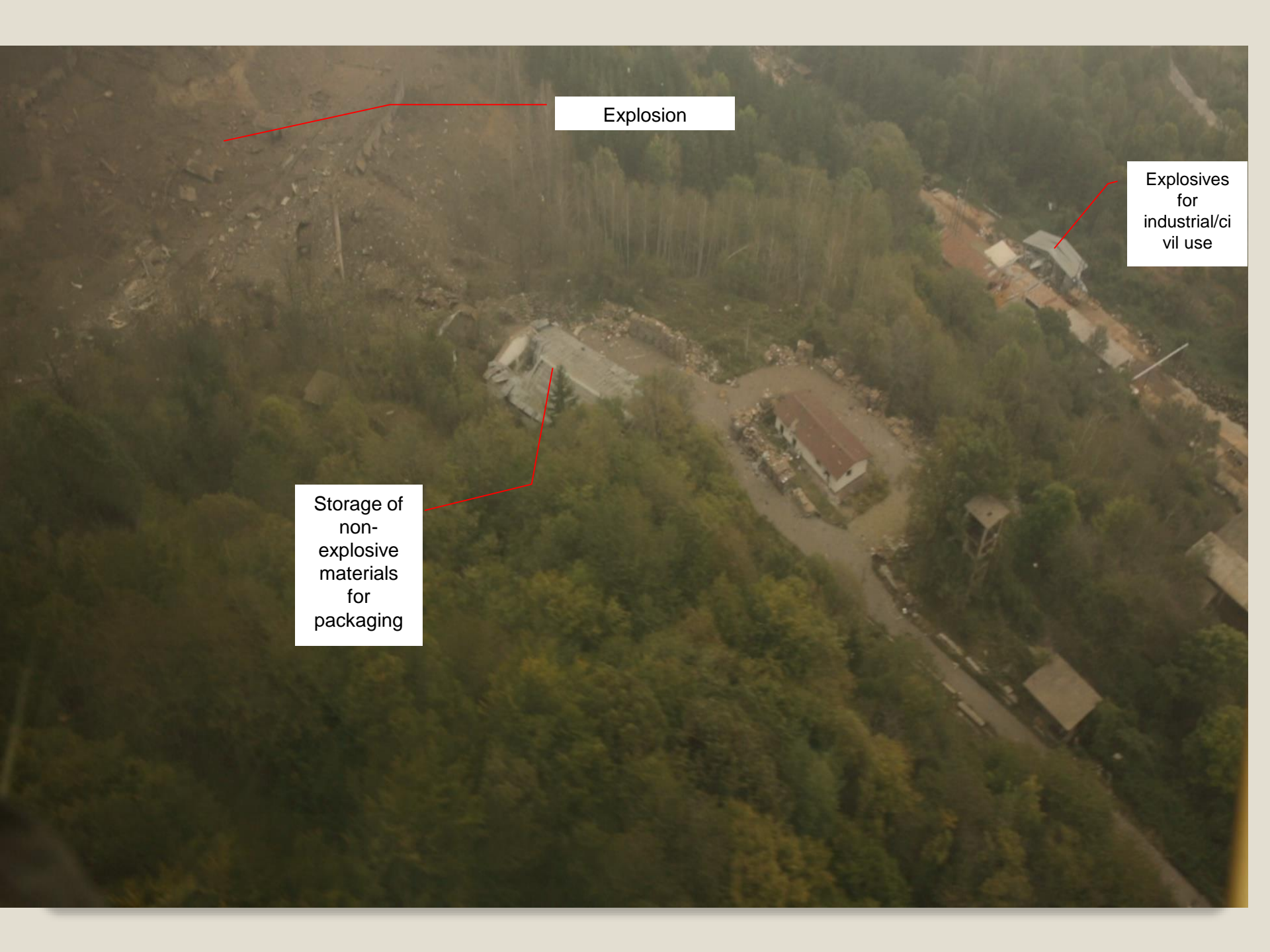
Location of the
explosion in
workshop „C”

Production
site of
explosives
for civil
uses

An aerial photograph showing an industrial facility situated in a valley surrounded by dense green forest. The facility consists of several large, interconnected buildings with flat roofs, some of which appear to be under construction or in various stages of disrepair. A dirt road or path runs through the center of the site. Two white callout boxes with black text and red leader lines are overlaid on the image. The first box, located in the upper left, points to a specific area on a hillside. The second box, located in the upper right, points to a building within the industrial complex. The overall scene is somewhat hazy, suggesting a misty or overcast day.

Location of the
explosion in Workshop
„C”

Workshop
for
production
of non-
military
explosives



Explosion

Explosives
for
industrial/ci
vil use

Storage of
non-
explosive
materials
for
packaging









Company background:

- established in 1990 as a military establishment (armed forces),
- classified as an upper-tier establishment at the end of 2006 (new operator after the privatisation),
- development, production and trading with explosive materials, blasting devices and engineering ammunitions,
- at the time of the accident the plant had been operated under a contract concluded with a Greek company for dismantling and utilisation of three types of ***land mines***;
- two other serious accidents in the past (in 2007 and 2010);
- the company had been recently sanctioned for violations of workplace laws;

Midjur Ammo Plant, Gorni Lom

- **Investigation**

- a team of 19 investigators from the National Investigation Service and external experts was involved in the investigation in the pre-trial proceedings;
- restricted access to other authorities for certain period of time;
- recently charges had been brought by the prosecutor against four individuals: plant owner and person in charge of the safety at work operations, as well as two officials from the Ministry of Interior and Ministry of Economy in charge of the permitting of activities with explosives and export control of weapons

Investigation



Causes of the explosion:

- non-compliance with the authorised quantities of the explosives on the site;
- violation of the safety rules and quantity restrictions for storage of explosives at work place (high concentration of ammunitions and explosives at the unit for utilisation);
- inappropriate actions and insufficient internal controls;
- managerial deficiencies with outdated equipment, proper training and handling procedures;
- no indication that the explosion was triggered deliberately or by an external person;

Accident

Seveso procedures:

- review and re-evaluation of the safety report (ongoing procedure at the time of the accident) taking into account the recent and past accidents and deficiencies in safety culture of the company;
- “prohibition of use” difficult to follow (it could create further risk of accidents on the site)
- information on “proper techniques/technologies” of dismantling not available;
- shutdown the plant as a last resort;

Other: need for changes in the legislation.

Lessons learned and outstanding issues

**Thank you for the
attention!**