

# ACCIDENT

13-03-2013

NITROERG S.A.

at production plant in Bieruń

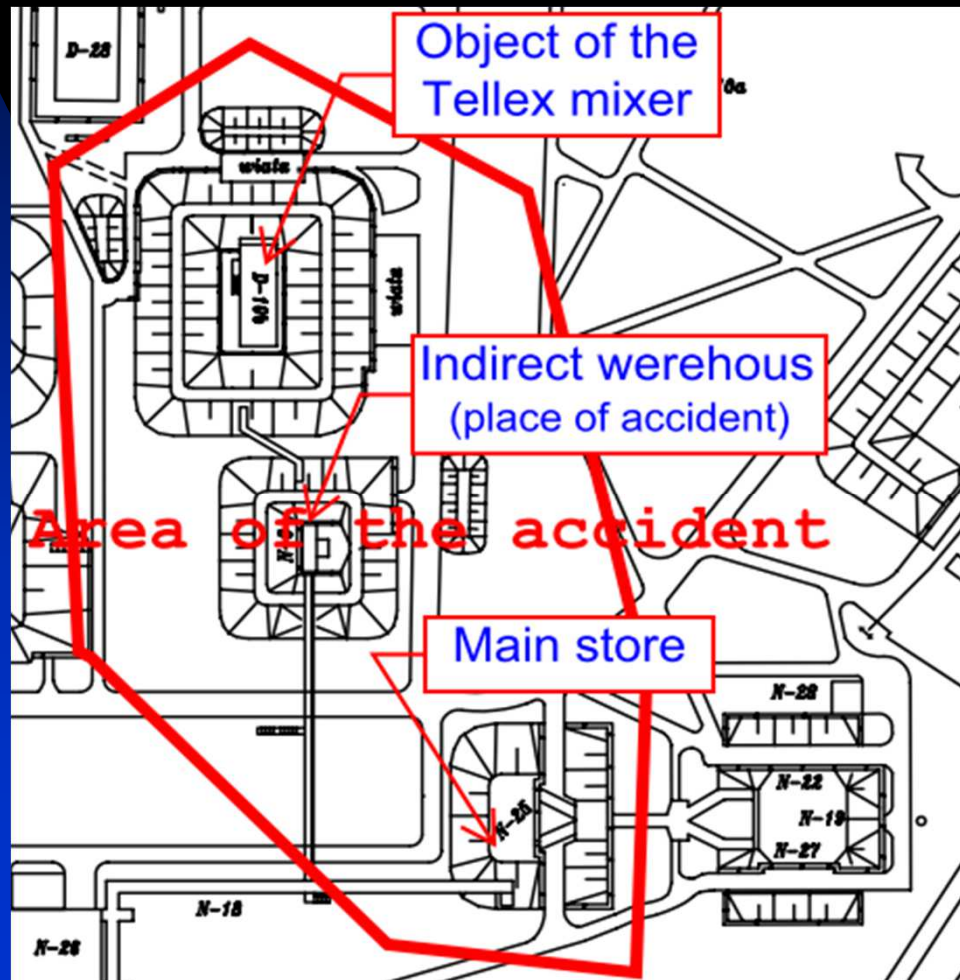
NITROERG S.A. - Capital Group KGHM Polska Miedź S.A.

# LOCATION

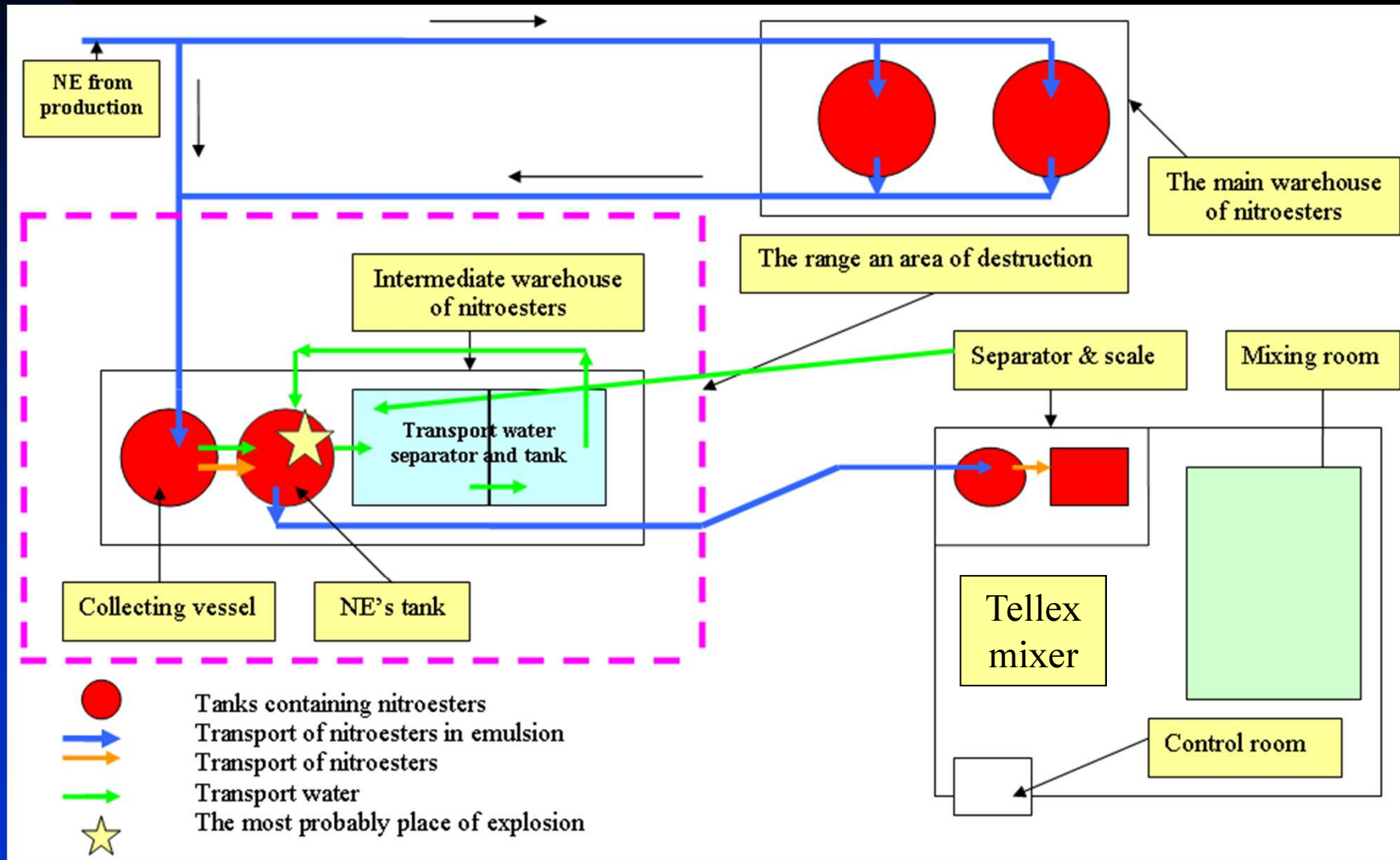


**13.03.2013. at 07:05:28 am an explosion occurred  
An accident took place inside the transitional  
magazine of nitroesters.**

Location of the production objects at the territory of factory:



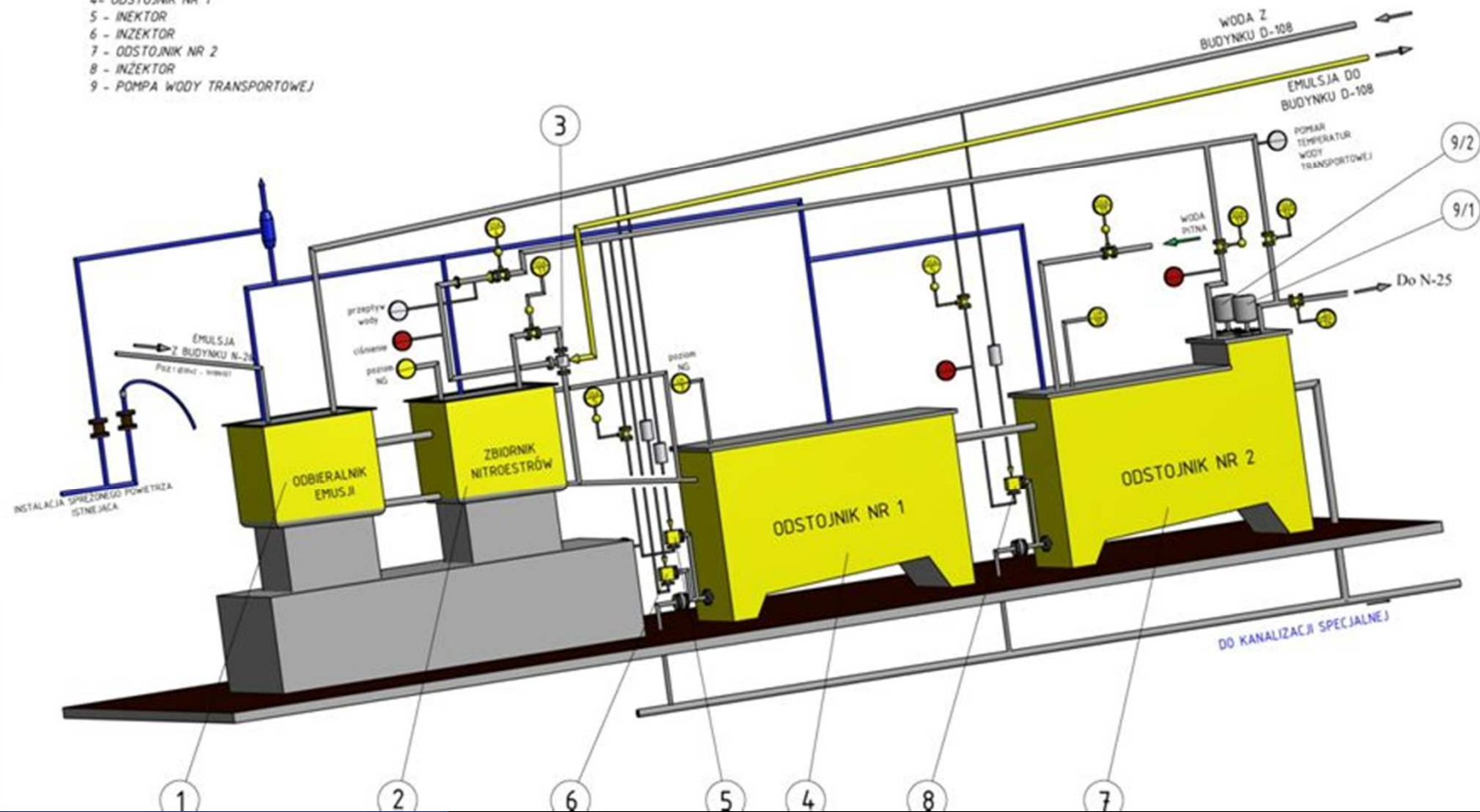
# Diagram of flows the nitroesters and transport water between production facilities.



# Facilities and Equipment

## TRANSPORT NG z N9 do D10b

- 1 - ODBIERNIK EMUSJI
- 2 - ZBIORNIK NITROESTRÓW
- 3 - INJEKTOR TRANSPORTOWY
- 4 - ODSTOJNIK NR 1
- 5 - INEKTOR
- 6 - INEKTOR
- 7 - ODSTOJNIK NR 2
- 8 - INEKTOR
- 9 - POMPA WODY TRANSPORTOWEJ



# A view inside the intermediate store (five minutes before the explosion)



There was ~ 600 kg of Nitroesters

6/14/2014

# Process control principles

- The transport system of NE from the production plant and from the main magazine to the magazine N-9 and from N-9 to the Tellex mixer was carried out by the controller.
- The controller ensures the correct sequence of individual operations and counteracted the possibility of unstabilized states of the system.
- Omitting of the controller or omitting of the function which was realized by controller was not possible.
- The controller assured stop the process transport of NE in the following situations:
  - when the level of nitroesters in the separator before the scale in the Tellex mixer object exceeds 420 mm,
  - when a pressure of transport water is out of range 300 to 660 kPa
  - when the flow of transport water in the injector will be less than 1500 dm<sup>3</sup>/h (this condition was carried out with a delay of 10 seconds).

# What happened

- After starting the process of NE's production, the emulsion (NE + water) flowed to the store continuously until it is fill the tank in the warehouse N-9 after the emulsion has been a referral to the tanks in the root store at N-25.
- NE has been collecting periodically for preparation of production batches to the next stages of production.
- The explosion occurred at the time of delivery the NEs from the magazine N-9 to object Tellex mixer. Transport of NE from main magazine N-25 has not been run.

**No one was killed and no one was injured**

# After explosion:



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# Conclusions and learning



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# Thank you for your attention

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