

EUExNet education and training

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Nammo Raufoss as/Nammo AS

Nammo

Nammo AS – Incompany training

- There is no national demand for special licenses for employees in explosive production in Norway, but the company is responsible for securing that the employees have satisfactory competence regarding doing their job and have good explosives knowledge
- In other companies in Nammo there are different regulations (Germany, Finland, Sweden, USA, Switzerland) but there are common HESS work and policy in the cooperation.
- In Nammo Raufoss AS the company have a computer based system for mapping and follow up the need of training and education to develop employee
- A mapping and registration operation is done

COMPETENCE DEMANDS - POSITIONS AT NAMMO RAUFOSS AS

POSITION	COMPETENCE (UNITS)	LEVEL DEMANDED				
		0	1	2	3	4
Worker	Transportation and transmission of expl.goods		x			
	Working environment		x			
	Instructions and lay-outs			x		
	Handling with waste/rubbish			x		
	Working with explosives			x		
	Explosives' sensity			x		
	Explosive knowledge			x		
	HES - Data sheet		x			
	Internal control		x			
	Knowledge of chemicals		x			
	Handling with crisis		x			
	Internal and external environments (ISO14001)		x			
	Knowledge of production equipment		x			
	Laws and regulations		x			
	Cleaning and order		x			
	Personal safety				x	
	Product knowledge				x	
	Risk analysis		x			
	Risk understanding				x	
	Safe treatment of explosives				x	
	Safety revision		x			
	Safe job analysis		x			
	Static electricity (ESD - Electrostatic Discharge)		x			
Safety protection principals				x		
Safety equipment				x		

COMPETENCE LEVELS:

- 0 = no knowledge/skills
- 1 = some knowledge/skills
- 2 = good knowledge/skills
- 3 = very good knowledge/skills

Nammo Raufoss AS – Incompany training

In order to meet the requirement and prevent accidents the company has developed 3 different courses:

1. Introduction course – Duration 1 day

Contents:

Rules and regulations

Explosive knowledge

Product knowledge

Classifying ammunition

HESS

Testing explosives

The participants have to pass a written test before they are allowed to start in the production line or other kind of work

Nammo Raufoss AS – Incompany training

Introduction course II – Duration 1 day. Contents:

- Organizations and goals of the department
- Presentation of employee representatives and safety deputy
- Going through products (processes, layout and instructions)
- Buildings (constructions, how to escape, safety conditions)
- Personal safety, and risks connected to the operations
- Introduction to work and on work training supervised by an skilled mentor
- Guided tour in the department

Nammo Raufoss AS – Incompany training

3. Explosive and product knowledge – Nammo Raufoss AS Duration – 40 hours

Contents:

- Explosive knowledge
- Identifying ammunition
- Product knowledge
- Space activities
- Testing explosives
- Demonstration firing activities
- Risk/Safety analyses
- Dealing with crisis
- HESS
- Fire prevention

The participants have to pass 3 written tests

Course cooperation – The Norwegian Defence – Nammo Raufoss AS

Joint Basic Course – Duration 75 hours

Contents:

- HESS – Data Sheet
- Protection principles/Protective equipment
- Internal control
- Fire prevention
- Risk/security analysis
- Product information
- Basic explosive theory
- Low explosives (Gun powder)
- High explosives (Explosives)
- Low sensitivity ammunition (1M)
- Pyrotechnics
- Static electricity
- Disposal
- Laws and regulations
- Instructions and Layouts
- Exam

Norwegian authority responsibility Courses - Firework

- The Norwegian Fire Protection Association is an independent, non-profit foundation that works to achieve a safer society. By providing information, training and counselling, the association assist individuals, businesses and organisations to take responsibility for their own fire safety
- From January 2010 the association was delegated authority to licence distributors, importers, personell making fireworks and professional pyrotechnicians according to a new EU-directive adjusted to Norwegian conditions
- This authority was given from DSB which is the Norwegian Directorate for Civil Protection and Emergency Planning
- In order to carry out this task The Norwegian Fire Protection Association has developed 4 different courses:

Courses - Firework

1. Course for distributors – Duration 1 day

Contents:

Regulations regarding storage, sale and use of the products, fire protection

2. Course for importers / further sale – Duration 2 days

Contents:

Regulations regarding storage, sale and use of the products, fire protection, national and international regulations, transportation, production, documentation, import

Courses - Firework

3. Course for users of pyrotechnical effects on a scene (indoor and outdoor) –
Duration 3 days

Contents:

Pyrotechnic, rules and regulations, storage, transportation, risk analyses, first aid, fire protection, special knowledge of fireworks, practice

4. Course for professional pyrotechnicians – Duration 3 days

Contents:

Pyrotechnic, rules and regulations, risk analyses, transportation of dangerous goods, first aid, fire protection, practice

Common for all the courses:

Participants have to pass an exam to receive the certificate demanded which has a validity of 5 years

EDUCATION - SHOTFIRING

- Norwegian Association of Heavy Equipment Contractors is also member of a Norwegian advisory board for shotfiring
- This association will, in cooperation with DSB (the Norwegian Directorate for Civil Protection and Emergency Planning) and according to rules and regulations, focus on
 - Securing recruitment to the mining industry
 - Challenges regarding demand for new competence
 - Licences
 - HESS

EDUCATION - SHOTFIRING

- The advisory board is developing 3 different educations:
 1. Certificate as manager shotfiring

Requirements:

2 years practice as shotfirer or one years practice concerning planning of shotfiring after completed education as an engineer

Completed av special course approved by DSB

Passed an exam as manager shotfiring approved by DSB

Satisfactory police certificate not older than 3 months

EDUCATION - SHOTFIRING

2. Certificate as shotfirer

Requirements:

Achieved a skilled worker certificate , mountain and mining

Passed a test as shotfirer, approved by DSB

Satisfactory police certificate not older than 3 months

EDUCATION - SHOTFIRING

3. Skilled in technical blasting

Requirements:

Completed a special course, approved by DSB

Passed a test as, approved by DSB

Every 5th year complete a renewal course, approved by DSB

Documentation of product knowledge on explosive goods and the activity of shotfiring

TRANSPORTATION – DANGEROUS GOODS ADR

2 different, national certificates demanded:

- Safety adviser – fore transportation of dangerous goods
- Driver – transportation of dangerous goods
- General training and knowledge fore all that are involved I ADR activity