

Fire in a collecting chemical waste centre

May, 12th, 2000

Drachten

The Netherlands

Industrial wastes

Dioxin

Automatic extinguishing

Administrative coordination

THE INSTALLATIONS IN QUESTION

The activity of the site consists in collecting, sorting and sorting chemical wastes before their transports and further treatments. It constitutes a big centre. The city where it is located is a 30 000 inhabitant-one and is located in an agricultural and watery surrounding.

On an administrative level, the facility has got a new brand environmental permit.

THE ACCIDENT, ITS BEHAVIOUR, ITS EFFECTS AND CONSEQUENCES

The accident :

The waste-shed stored 480 tons of various wastes.

Furthermore, during the crisis, a lot of different authorities were involved :

- ✓ Mayor with its own departments : fire-brigade ; police ; local medical service
- ✓ Provincial governor
- ✓ Legal authorities:
 - ✗ Province : it gives the regular environmental permits
 - ✗ Waterschap : it gives permits for draining waste-waters
- ✓ National ministry of agriculture
- ✓ National environmental Inspectorate
- ✓ RIVM : National Institute for public health and environmental questions.

The consequences :

The waste-shed is destroyed, the fire-brigades did not succeed in extinguishing it but used a strategy consisting in preventing an eventual spread to other premises.

As so far as the substances stored were not well-known, it was difficult for fire-brigades to adapt themselves to the circumstances: violent fire, quick propagation, possibly hazardous substances stored, ...



European scale of industrial accidents

By applying the rating rules of the 18 parameters of the scale made official in February 1994 by the Committee of Competent Authorities of the Member States which oversees the application of the 'SEVESO' directive, the accident can be characterised by the following 4 indices, based on the information available.

Dangerous materials released		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Human and social consequences		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental consequences		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Economic consequences		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The parameters that comprise these indices and the corresponding rating method are indicated in the appendix hereto and are available at the following address: <http://www.aria.ecologie.gouv.fr>

The "human and social consequences" index is 2 due to the fact that establishments near the site had to be evacuated (parameter H7). In addition, the other indices of the European accident scale could not be determined owing to a lack of sufficiently precise data.



ORIGIN, CAUSES AND CIRCUMSTANCES OF THE ACCIDENT

Chemical heating-brew and incompatible combination of "sorted" chemicals caused fire in the storage-shed.

When the accident occurred, the fire-extinguish installation failed :

- ✓ Hi-ex inside air installation seemed to be inappropriate for the kind of chemical stored
- ✓ Ventilation-grids did not close automatically
- ✓ Insufficient amount of foam
- ✓ Adding foam by the fire-brigade did not work out;

Fire-extinguish installation was approved by an acknowledged private inspector.

ACTIONS TAKEN

Measures in the acute stage :

- ✓ The Mayor declared an emergency regulation for the immediate surroundings : emergency teams closed the area and evacuated the other industries located in the vicinity.

- ✓ The sewer was cut-off to collect extinguish-waters.
- ✓ Indicative measurements were carried out by fire-brigades with dräger-tubes : they indicated that there was no risk for public health and, as a consequence, they decided to take no measures toward civil population because surveillance showed that they were not exposed to the smoke.
- ✓ Air, grass and milk samples were supposed to have been contaminated by dioxines so :
 - ✗ Cattle were sheltered in,
 - ✗ Grass was cut and destroyed
 - ✗ Milk was treated separated



Measures in controle stage / after-care

- ✓ Risk-assessment based on air, grass and milk samples (RIVM):
 - ✗ No risk for public health (not acute nor in the future)
 - ✗ Emergency-regulation and agricultural measures were ended
- ✓ Further inquiry because of public anxiety (province):
 - ✗ Soil
 - ✗ Water (swimming, drinking waters for cattle, fish-consumption)

Political implications :

- ✓ Criminal inquiry to possible illegal activities by the operator causing the fire (police)
- ✓ Discussion about the position of the Mayor
- ✓ Discussion about the way the Province operated as legal authority
- ✓ Questions asked in the national Parliament

LESSONS LEARNED

Technical level :

- ✓ Regulations for storage of chemicals are too complicated
- ✓ Several inspection standards
- ✓ Approval by a acknowledged private inspector is no guarantee for :
 - ✗ Selection of the right fire-extinguish installation
 - ✗ Good functioning installation
 - ✗ Hi-ex inside air installation:
 - ✗ Suitable for liquid chemicals
 - ✗ Not suitable for solid products that are sensitive to brew

Management level :

- ✓ Cross-over from acute stage to control stage must be clearly marked (responsibilities)
- ✓ Careful communication; (Avoid saying immediately that there is no risk!)
- ✓ Regular authorities should be involved directly during the acute stage
- ✓ Risk-assessment in the acute stage should be based on precaution instead of air measurements
- ✓ Inquiries in the control stage /after-care should be well coordinated.