

Gasexplosion och brand efter ett terroristdåd på en petrokemisk anläggning.

870612 MARS 1987_10

Efter ett terroristdåd mot anläggningen brast en pipeline och en ansenlig gasmängd släpptes ut i atmosfären. Gasmolnet antändes vilket resulterade i en explosion följt av en kraftig jetlåga. Inom några minuter aktiverades staden Tarragonas katastrofplan. Efter fyra dagar hade branden släckts.

Inblandade ämnen och mängder

	CAS Nr.	Mängd
brännbara gaser		okänt

Skador:

Människor: Två brandmän skadades lindrigt.

Materiella: Omfattande skador på anläggningen. Även angränsande företag fick skador.

Miljö/ekologi: Inga effekter rapporterade.

Infrastruktur: Viss panik utbröt i närliggande Tarragona. Järnvägstrafiken Tarragona-Valencia avbröts i en veckas tid. En undervisningsanstalt i närheten evakuerades.

Erfarenheter redovisade (Ja/Nej): Nej

Report Profile

Identification of Report:

country: FA ident key: 1987_010_01

reported under Seveso I directive as major accident reports: SHORT+FULL

Date of Major Occurrence: Time of Major Occurrence

start: 1987-06-12 start: 00:05:00

finish: 1987-06-16 finish:

Establishment:

name:

address:

industry: - not applicable -

Petrochemical

Seveso II status: not applicable: Yes art. 6 (notification): No

art. 7 (MAPP): No

art. 9 (safety report): No

Date of Report:

short: full:

Authority Reporting:

name:

address:

Authority Contact:**rep_cont_name:****rep_cont_phone:****rep_cont_fax:****Additional Comments:**

a) - not applicable -

b) - not applicable -

c) - not applicable -

d) - not applicable -

e) - not applicable -

Short Report**country:** FA **ident key:** 1987_010_01**Accident Types:****release:** Yes **explosion:** Yes**water contamination:** No **other:** No**fire:** Yes**description:**

SAFETY SYSTEMS OR OPERATORS INTERVENTION:... see Appendix Short Report / description of accident types

Substance(s) Directly Involved:**toxic:** No **explosive:** Yes**ecotoxic:** No **other:** No**flammable:** Yes**description:**

- Flammable Gases: amount involved = not known.... see Appendix Short Report / description of substances

involved

Immediate Sources of Accident:**storage:** No **transfer:** No**process:** Yes **other:** No**description:**

The accident involved an interconnecting pipe rack of a petrochemical industry. The component involved was a flammable gases transfer pipeline.

Suspected Causes:**plant or equipment:** No **environmental:** No**human:** Yes **other:** No**description:**

CAUSES:

The pipeline rupture occurred due to a terroristic action (sabotage).

Immediate Effects:

material loss: Yes

human deaths: No

human injuries: Yes **community disruption:** Yes

other: No

ecological harm: No

national heritage loss: No

description:

EFFECTS ON PEOPLE... see Appendix Short Report / description of immediate effects

Emergency Measures taken:

on-site systems: No **decontamination:** No

external services: Yes **restoration:** No

sheltering: No **other:** No

evacuation: Yes

description:

EXTERNAL TO THE ESTABLISHMENT:... see Appendix Short Report / description of emergency measures taken

Immediate Lessons Learned:

prevention: No **other:** No

mitigation: No

description:

- not applicable -

A Occurrence Full Report

country: FA **ident key:** 1987_010_01

1 Type of Accident

remarks: Owing to a terroristic action against an interconnecting pipe rack that

ruptured a pipeline, a significant amount of flammable gas was released in

the atmosphere creating an explosive gas cloud (code 1101). The unconfined

gas cloud was igni... see Appendix Full Report A / type of accident

2 Dangerous Substances

remarks: No data are available about the composition and the amount of flammable

gases released during the accident.

3 Source of Accident

illustration: - not applicable -

remarks: - not applicable -

4 Meteorological Conditions

precipitation none: fog: rain: hail: snow:

No No No No No

wind speed (m/s):

direction (from):

stability (Pasquill):

ambient temperature (∞C):

remarks: - not applicable -

5 Causes of Major Occurrence

main causes

technical / physical - not applicable -

- not applicable -

- not applicable -

- not applicable -

- not applicable -

human / organizational 5404 person: malicious intervention

- not applicable -

- not applicable -

- not applicable -

- not applicable -

remarks: The pipeline rupture occurred due to a terroristic action (sabotage) [5404].

6 Discussion about the Occurrence

- not applicable -

Type of Accident country: FA ident key: 1987_010_01

event:

major occurrence 1307 explosion: VCE (vapour cloud explosion; supersonic wave front)

initiating event - not applicable -

associated event - not applicable -

event:

major occurrence 1203 fire: jet flame (burning jet of fluid from orifice)

initiating event 1101 release: gas/vapour/mist/etc release to air

associated event - not applicable -

Dangerous substances

country: FA ident key: 1987_010_01

a) total establishment inventory

CAS number: identity: Flammable Gases

name from Seveso I Directive: - not applicable -

name from Seveso II Directive: - not applicable -

category from Seveso II: - not applicable -

other hazards (1): - not applicable -

other hazards (2): - not applicable -

maximum quantity (tonnes): -1

use of substance as: NORMAL FINISHED PRODUCT

b) substance belongs to relevant inventory directly involved: Yes

actual quantity: -1 potential quantity: -1

e) substance belongs to relevant inventory indirectly involved: No

actual quantity: -1 indir_pot_quant: -1

B Consequences Full Report

country: FA ident key: 1987_010_01

1 Area concerned

affected

extent of effects installation: Yes

establishment: Yes

off-site; local: Yes

off-site; regional: No

off-site; transboundary: No

illustration of effects - not applicable -

remarks The accident caused a certain panic at Tarragona. The Laboral University was eva... see Appendix

Full Report B / area concerned - remarks

2 People

establishment popul. emergency personnel off-site population

total at risk 700

immediate fatalities

subsequent fatalities

hospitalizing injuries

other serious injuries 2

health monitoring

remarks As the accident occurred during the night, the effects on people were not catast... see Appendix

Full Report B / people

3 Ecological Harm

pollution/contamination/damage of:

- residential area (covered by toxic cloud) Suspected

- common wild flora/fauna (death or elimination) Suspected

- rare or protected flora/fauna (death or elimination) Suspected

- water catchment areas and supplies for consumption or recreation Suspected

- land (with known potential for long term ecological harm or Suspected

preventing human access or activities)

- marine or fresh water habitat Suspected

- areas of high conservation value or given special protection Suspected

remarks In the Original Report there is no evidence of significant ecological harms.... see Appendix

Full Report B / ecological harm

4 National Heritage Loss

effects on:

- **historical sites** not applicable - **historic monuments** not applicable

- **historic buildings** not applicable - **art treasures** not applicable

remarks No data available.

5 Material Loss

establishment losses off site losses

costs (direct costs to operator) (social costs)

in ECU Spanish Pesetas ECU Spanish Pesetas

material losses 1E+08

response, clean up, restoration

remarks The accident caused extensive damages to the plant. The cost of these material d... see Appendix

Full Report B / material loss

6 Disruption of Community Life

establishment/plant evacuated disabled/unoccupiable destroyed

- **nearby residences/hotels** No No No

- **nearby factories/offices/small shops** No No No

- **schools, hospitals, institutions** Yes No No

- **other places of public assembly** No No No

interruption of utilities etc. no / yes duration

- **gas** No

- **electricity** No

- **water** No

- **sewage treatment works** No

- **telecommunications** No

- **main roads** No

- **railways** No 1 week

- **waterways** No

- **air transport** No

significant public concern none local level national level

- **off site populations** No No Yes

- **media interest** No No No

- **political interest** No No No

remarks The accident caused a certain panic at Tarragona. The rail-way Tarragona-Valenci... see Appendix

7 Discussion of Consequences

C Response Full Report

country: FA **ident key:** 1987_010_01

1 Emergency Measures

taken - on site - not applicable - - not applicable -

- not applicable - - not applicable -

- not applicable - - not applicable -

- **off site** - not applicable - - not applicable -

- not applicable - - not applicable -

- not applicable - - not applicable -

still - on site - not applicable - - not applicable -

required

- not applicable - - not applicable -

- not applicable - - not applicable -

- **off site** - not applicable - - not applicable -

- not applicable - - not applicable -

- not applicable - - not applicable -

continuing contamination or danger

-**on site** not applicable

-**off site** not applicable

remarks - not applicable -

2 Seveso II Duties

pre-accident evaluation

Article item not due yet not done done/submitted evaluated

6 notification No No No No

7 policy (MAPP) No No No No

9 safety report No No No No

9, 10, 11 update No No No No

11 internal plan No No No No

11 external plan No No No No

13 informing public No No No No

9, 12 siting policy No No No No

post-accident evaluation

Seveso II duty was actual were actual compared with actual

contingency consequences consequences, the

addressed? addressed? predicted extent was?

Article item

7 policy (MAPP) not applicable not applicable not applicable

9 current safety report not applicable not applicable not applicable

11 internal plan not applicable not applicable not applicable

11 external plan not applicable not applicable not applicable

13 informing public not applicable not applicable not applicable

9, 12 siting policy not applicable not applicable not applicable

evaluation of safety organisation

organisational element element existed did element relate to actual circumstances of

yes / no no / partly / yes adequate?

- written policy objectives No

- specified management No

structure

- specified responsibilities No

- specified working procedures No

- specified procedures for No

assessment/auditing of

management system

- specified procedures for No

review and update of

management policy

- specified general training No

procedures

- specified emergency No

training procedures

evaluation of ecological impact control

organisational element element existed did element relate to actual circumstances of

yes / no no / partly / yes adequate?

- ecological status review No

before incident

- potential ecological No

consequences assessment

- ecological impact review No

after incident

- ecological restoration No

procedures

- subsequent review of No

restoration success

remarks - not applicable -

3 Official Action Taken

legal action

- not applicable -

other official action

- not applicable -

4 Lessons Learned

measures to prevent recurrence

- not applicable -

measures to mitigate consequences:

- not applicable -

useful references:

- not applicable -

5 Discussion about Response

- not applicable -

Appendices for the FA / 1987_010_01 report

Appendix Short Report / description of accident types:

SAFETY SYSTEMS OR OPERATORS INTERVENTION:

After few minutes from the beginning of the accident, the External Emergency Plan of Tarragona was completely activated (PLASEQTA).

ACCIDENT CASE HISTORY DESCRIPTION:

Owing to a terroristic action against an interconnecting pipe rack that ruptured a pipeline, a significant amount of flammable gas was released in the atmosphere creating an explosive gas cloud. The unconfined gas cloud was ignited resulting in an explosion followed by a major jet-fire. The fire had been extinguished after 4 days. As the accident occurred during the night, the effects on people were not catastrophic (just two firemen slightly wounded during the fire fighting operations).

Appendix Short Report / description of substances involved:

- Flammable Gases: amount involved = not known.

Appendix Short Report / description of immediate effects:

EFFECTS ON PEOPLE:

As the accident occurred during the night, the effects on people were not catastrophic (just two firemen slightly wounded during the fire fighting operations).

MATERIAL LOSS:

The accident caused extensive damages to the plant. The cost of these material damages was estimated in about 100 millions of Pesetas. No data are available about the cost of the production loss due to the plant unavailability.

Outside the establishment, some companies (such as REYCON) were seriously damaged but no data are available about the cost of these material damages.

COMMUNITY DISRUPTION:

The accident caused a certain panic at Tarragona. The rail-way Tarragona-Valencia was interrupted for one week. The Laboral University was evacuated (about 700 people).

Appendix Short Report / description of emergency measures taken:

EXTERNAL TO THE ESTABLISHMENT:

After few minutes from the beginning of the accident, the External Emergency Plan of Tarragona was completely activated (PLASEQTA). The rail-way Tarragona-Valencia was interrupted for one week. The Laboral University was evacuated (about 700 people). The fire had been extinguished after 4 days.

Appendix Full Report A / type of accident:

Owing to a terroristic action against an interconnecting pipe rack that ruptured a pipeline, a significant amount of flammable gas was released in the atmosphere creating an explosive gas cloud (code 1101). The unconfined gas cloud was ignited resulting in an explosion (code 1307) followed by a major jet-fire (code 1203). The fire had been extinguished after 4 days.

Appendix Full Report B / area concerned - remarks:

The accident caused a certain panic at Tarragona. The Laboral University was evacuated (about 700 people).

Appendix Full Report B / people:

As the accident occurred during the night, the effects on people were not catastrophic (just two firemen slightly wounded during the fire fighting operations). The Laboral University was evacuated (about 700 people).

Appendix Full Report B / ecological harm:

In the Original Report there is no evidence of significant ecological harms.

Appendix Full Report B / material loss:

The accident caused extensive damages to the plant. The cost of these material damages was estimated in about 100 millions of Pesetas. No data are available about the cost of the production loss due to the plant unavailability.

Outside the establishment, some companies (such as REYCON) were seriously damaged but no data are available about the cost of these material damages.

Appendix Full Report B / disruption of community life:

The accident caused a certain panic at Tarragona. The rail-way Tarragona-Valencia was interrupted for one week. The Laboral University was evacuated (about 700 people).