

## Naturgasutsläpp från en gasklocka.

960204 MARS 1996\_08

Stora mängder naturgas läckte ut från en gasklocka till följd av ett felaktigt fyllt vattenlås. Efter att vattenlåset fyllts på stoppade gasutsläppet. Gasen skingrades utan att finnantändning. Orsaken till vattenlåsets fallerande är okänt.

### Inblandade ämnen och mängder

	CAS Nr.	Mängd
naturgas		mellan 4 och 17,7 ton

### Skador:

Människor: Inga.  
Materiella: Inga.  
Miljö/ekologi: Inga effekter rapporterade.  
Infrastruktur: Inga.

**Erfarenheter redovisade (Ja/Nej): Nej**

## Report Profile

### Identification of Report:

country: FA ident key: 1996\_008\_01

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

### Date of Major Occurrence: Time of Major Occurrence

start: 1996-02-04 start: 23:30:00

finish: 1996-02-05 finish: 03:12:00

### Establishment:

name:

address:

industry: 2005 power supply and distribution (electric, gas, etc.)

Gas supply

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: 1996\_008\_01

**Accident Types:**

release: Yes explosion: No

water contamination: No other: No

fire: No

**description:**

Uncontrolled release of over 4 tonnes of natural gas from a water sealed gas holder.

**Substance(s) Directly Involved:**

toxic: No explosive: Yes

ecotoxic: No other: No

flammable: Yes

**description:**

Natural gas. Quantity lost is a maximum of 17.7 tonnes.

**Immediate Sources of Accident:**

storage: Yes transfer: No

process: No other: No

**description:**

There are 7 operational gas holders at the station with a total storage capacity of 330 tonnes. The holder involved in the incident is a two-lift column-guided water sealed holder, maximum capacity 48.60 tonnes.

**Suspected Causes:**

plant or equipment: No environmental: No

human: No other: No

**description:**

At present it appears release of gas was due to the failure of the cup and grip seal seems to have come about due to an insufficient depth of water on the cup. The reasons why this may have occurred are being investigated.

**Immediate Effects:**

material loss: No

human deaths: No

human injuries: No community disruption: No

**other:** Yes

**ecological harm:** No

**national heritage loss:** No

**description:**

None, the gas dispersed harmlessly.

### **Emergency Measures taken:**

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

**external services:** No **restoration:** No

**sheltering:** No **other:** No

**evacuation:** No

**description:**

The site is normally unoccupied local residents smelt gas before British Gas were sent to the site. They lowered holder into tank until the seal was remade. Holder then reinflated to test seal which was found to be good.

### **Immediate Lessons Learned:**

**prevention:** Yes **other:** No

**mitigation:** No

**description:**

Reasons for incident not fully identified at present. The need for careful control of remote filling operations was identified as being necessary to prevent the phenomenon of "false-cupping" occurring which could easily lead to a similar re... see Appendix Short Report / description of immediate lessons learned

## **A Occurrence Full Report**

**country:** FA **ident key:** 1996\_008\_01

### **1 Type of Accident**

**remarks:** - not applicable -

### **2 Dangerous Substances**

**remarks:** Escape of natural gas from the water seal on a water-sealed gas holder.

### **3 Source of Accident**

**illustration:** - not applicable -

**remarks:** Column-guided water sealed gas holder with two lifts with maximum capacity of 48.6 tonnes. Holder has in-ground water tank. Holder designated as holder No. 8.

### **4 Meteorological Conditions**

**precipitation none: fog: rain: hail: snow:**

Yes No No No No

**wind speed (m/s):** 0

**direction (from):**

**stability (Pasquill):**

**ambient temperature (∞C):**

**remarks:** conditions were normal and played no part in incident.

## 5 Causes of Major Occurrence

### main causes

**technical / physical** 5101 operation: vessel/container/containment-equipment failure

- not applicable -

- not applicable -

- not applicable -

- not applicable -

**human / organizational** - not applicable -

- not applicable -

- not applicable -

- not applicable -

- not applicable -

**remarks:** exact cause of failure of cup and gripwater seal not established. Suspected shortcomings with remote filling and emptying procedures for holders may have played a role.

## 6 Discussion about the Occurrence

- not applicable -

**Type of Accident** country: FA ident key: 1996\_008\_01

**event:**

**major occurrence** 1101 release: gas/vapour/mist/etc release to air

**initiating event** - not applicable -

**associated event** - not applicable -

## Dangerous substances

country: FA ident key: 1996\_008\_01

### a) total establishment inventory

**CAS number: identity:** Natural Gas

**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):** 329

**use of substance as:** NORMAL FINISHED PRODUCT

**b) substance belongs to relevant inventory directly involved:** Yes

**actual quantity:** 7,7 **potential quantity:** 48,6

**c) substance belongs to relevant inventory indirectly involved:** No

**actual quantity:** -1 **indir\_pot\_quant:** -1

**Source of Accident - Situation** country: FA ident key: 1996\_008\_01

## **situation**

### **industry**

**initiating event** - not applicable -

**associated event** - not applicable -

### **activity/unit**

**major occurrence** 3202 storage: distribution-associated (not on-site of manufacture)

**initiating event** - not applicable -

**associated event** - not applicable -

### **component**

**major occurrence** 4003 container; non-pressurised (hopper, tank, drum, bag, etc.)

**initiating event** - not applicable -

**associated event** - not applicable -

# **B Consequences Full Report**

**country:** FA **ident key:** 1996\_008\_01

## **1 Area concerned**

### **affected**

**extent of effects installation:** No

**establishment:** No

**off-site; local:** No

**off-site; regional:** No

**off-site; transboundary:** No

**illustration of effects** - not applicable -

**remarks** The gas dispersed without incident. There were no on-site or off-site effects.... see Appendix

Full Report B / area concerned - remarks

## **2 People**

**establishment popul. emergency personnel off-site population**

**total at risk** 0 0 0

**immediate fatalities** 0 0 0

**subsequent fatalities** 0 0 0

**hospitalizing injuries** 0 0 0

**other serious injuries** 0 0 0

**health monitoring** 0 0 0

**remarks** There were no injuries or effects on people of any sort. The site is unmanned an... 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 No ecological harm of the above types occurred because the gas was non-toxic and... see Appendix

Full Report B / ecological harm

#### **4 National Heritage Loss**

effects on:

- historical sites Suspected - historic monuments Suspected
- historic buildings Suspected - art treasures Suspected

remarks nothing was threatened by the major occurrence.

#### **5 Material Loss**

establishment losses off site losses

costs (direct costs to operator) (social costs)

in ECU British Pounds ECU British Pounds

material losses 0 0

response, clean up, restoration 0 0

remarks no costs related to event.

#### **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 No 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
- waterways No
- air transport No

significant public concern none local level national level

- **off site populations** Yes No No

- **media interest** Yes No No

- **political interest** Yes No No

**remarks** there was no disruption of community life.

## 7 Discussion of Consequences

### Ecological Components involved

**country:** FA **ident key:** 1996\_008\_01

**type:** 6102 inland: urban development

**threatened:** Suspected **affected:** not applicable

## C Response Full Report

**country:** FA **ident key:** 1996\_008\_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**

Though not full explanation of... see Appendix Full Report C / lesson learned - prevent

**measures to mitigate consequences:**

not applicable.

**useful references:**

none relevant.

**5 Discussion about Response**

- not applicable -

**Appendices for the FA / 1996\_008\_01 report**

**Appendix Short Report / description of immediate lessons learned:**

Reasons for incident not fully identified at present. The need for careful control of remote filling operations was identified as being necessary to prevent the phenomenon of "false-cupping" occurring which could easily lead to a similar release of gas.

**Appendix Full Report B / area concerned - remarks:**

The gas dispersed without incident. There were no on-site or off-site effects.

**Appendix Full Report B / people:**

There were no injuries or effects on people of any sort. The site is unmanned and relatively remote from surrounding residential areas.

**Appendix Full Report B / ecological harm:**

No ecological harm of the above types occurred because the gas was non-toxic and lighter than air and escaped upwards being ignited.

**Appendix Full Report C / lesson learned - prevent:**

Though not full explanation of the seal failure has been discovered in the investigation, the introduction of procedures to ensure cup and grip seals are adequately replenished with water before holder filling takes place would help reduce the likelihood of such an event occurring again.