

Transboundary pollution accident River Daugava (Latvia)

23 March 2007

Latvia

Hazardous release
Transboundary pollution
Surface water pollution
Pipeline
Diesel fuel (hydrocarbons)
Ageing
Organization
Response (difficulties of)
Crisis communication

THE ACCIDENT, ITS CHRONOLOGY, EFFECTS AND CONSEQUENCES

The accident:

On 23rd March 2007, Latvia received some information about leakage from the oil product pipeline “Unecha-Venstpils” in Belarus about 130 kilometres from the border of Latvia.

Belarus officially informed Latvia of the spill on the River Ulla on 24th March - 17 hours after the spill occurred and the slick began its drift toward the downstream River Daugava.

Leakage occurred in the Vitebsk area (northern Belarus) close to the River Ulla – Belarusian tributary stream of River Daugava – the biggest river of Latvia. The Daugava is Latvia's largest river and before reaching the Gulf of Riga - an offshoot of the Baltic Sea flows through both Riga and the country's second city, Daugavpils.

The rupture of a 377-millimeters oil pipeline for 5 hours resulted in approximately 120 tonnes of diesel fuel spilled into River Ulla and then into River Daugava.

Pipeline owner had no immediate comment on the spill.



Latvian Coast Guard Service



Latvian Coast Guard Service

Consequences of the accident:

Pollution from this source affected 2 countries – Latvia and Belarus. Leakage of approximately 120 tonnes of diesel fuel also contaminated 1.2 hectares of land at the source. The oil slick extended over 100 kilometres downstream, around 30 per cent of the river's width has been affected by the spill. The clean-up operation prevented much significant long-term damage from the spill.















The oil company responsible for the accident paid 170 000 EUR for the costs of emergency activities and direct damage to the environment. At the same time some environmental scientists estimated that the overall costs of this accident in Latvia, including environmental damage, indirect consequences to the environment and clean-up operation at approximately 440 000 €.

During the clean-up operation international assistance was received - Estonia had dispatched six volunteer workers and Sweden had sent booms, which were deployed across the River Daugava.

Direct consequences on fauna and flora were estimated by State Environmental Service, involving scientists from the University of Latvia. Such parameters as oil content in water/sediments, toxicity of water, ecotoxicity of river fauna/flora, oxygen demand were measured, biological tests incorporated species that are considered sensitive and representative and included tests on acute toxicity, chronic toxicity, potential of bioaccumulation and potential for bioaccumulation. As a result, direct damage to the environment was calculated by assessing the scale of affected river fauna and flora. The results of Latvian University's research concluded on non-significant lasting impact caused by the pollution on the environment. Moreover, the evaluation of influence of pollution on fish natural feed reserves (analysis of biomass, variety of species and number of species – zooplankton and benthos) didn't show significant damage, possibly due to the early spring season.

The European scale of industrial accidents:

By applying the rating rules applicable to the 18 parameters of the scale officially adopted in February 1994 by the Member States' Competent Authority Committee for implementing the 'SEVESO' directive on handling hazardous substances, and in light of the information available, this accident can be characterised by the four following indices:

Dangerous materials released							
Human and social consequences							
Environmental consequences							
Economic consequences							

The parameters composing these indices and their corresponding rating protocol are available from the following website: www.aria.developpement-durable.gouv.fr.

The dangerous material released Q1 parameter was rated at 2 due to the release of 120 tonnes of diesel fuel (0,48 % of the 25 000 tonnes upper threshold of the Seveso II Directive).

No human or social consequences have been found.

Environmental consequences were rated at level 5 on account of the 100 km of river polluted (Env 14 parameter).

Level 2 rating was given to the "economic consequences" index as the official costs of damage to the environment and emergency activities were estimated at 170 000 € (€18 parameter).

THE ORIGIN, CAUSES AND CIRCUMSTANCES SURROUNDING THE ACCIDENT

Latvia and Belarus are linked by Soviet-era pipelines built to carry Russian oil to the ports of the Baltic. However, much of the infrastructure is outworn and needs to be renovated. Also in this case - ageing was the reason of the accident.

Due to the spring season, there was strong stream and very high water level, as well as unstable ground of riverbank, which made impossible deployment of booms directly on the border of Latvia and Belarus to prevent transboundary pollution.

ACTIONS TAKEN

Belarusian environmental services had gathered and utilised 90% of the leaked fuel at the source. Approximately 4 tonnes reached Latvian territory.

Initial attempts by Latvian rescue services to place preventive booms across the river at the border of Latvia and Belarus were hampered by high water levels and rapid currents.

The second attempt of deployment of booms 50 kilometres downstream was successful. In total more than 4 tonnes of oil products pollution was collected. The size of the spill was constantly fluctuating and the main concern was that the leakage would continue longer than we predicted initially.

Observation of 40 sites in affected area was made during clean-up operation and during monitoring of affected area later on.



The management of emergency situation included co-ordination of several institution: State Environmental Service, State Fire and Rescue Service, Latvian Coast Guard Service and Ministry of Foreign Affairs (international Operations and Crisis Management Division) as well as nearby municipalities.

Latvia filed an official claim with Belarus to ask for compensation for its losses incurred by the spill and for the clear-up efforts to collect the pollution.

Latvian emergency services had to work for about a week to collect the oil slick and to stop it from reaching the capital Riga.

During the clean-up operation instant operational communication was held between the state services - Latvian Coast Guard Service, State Fire fighting Service, State Environmental Service etc.

Co-ordination of emergency operations was established already at the beginning by convening the Government Crisis Management Council. Also international communication with Belarus was established through the Ministry of Foreign Affairs. Requests for assistance were dispatched to the neighbouring countries - Sweden, Estonia and Lithuania and emergency equipment was received, such as absorbent and river boom, as well as rescue brigades from Lithuania and Estonia.



A lot of effort was put into public information and media. Information was given to the public on:

- Prevention of possible use of polluted water;
- Current information on environmental condition of affected area;
- Regular summary about activities of Environmental and Rescue services.

No official restrictions on water use were announced due to the monitoring results of pollution levels in the river, which did not exceed the permissible levels.

As a result of clean-up operation the main waste consisted of used absorbent booms, which were collected and delivered for destruction to the waste incineration plant in Latvia.

The following follow up activities were carried out:

- Cooperation with University of Latvia to assess damage to the environment on the territory of Latvia;
- Regular monitoring of affected area (sampling, laboratory analysis, visual);
- Submitting of invoice to oil company - total costs of estimated damage to the environment and costs of emergency activities (~170 000 EUR).

LESSONS LEARNT

The organization of the emergency and rescue operations required rapid assessing the extent of pollution and its actual and potential effects. The sufficient level of information exchange is very significant in case of transboundary pollution accident.

The clean up methods (deployment of booms) as well as assessment methods of damage of the environment (Bonn Agreement Oil Appearance Code: BAOAC) was successfully used in this case.

During consultations between the Ministries of Foreign Affairs of Latvia and Belarus in Minsk (Belarus) it was emphasized that there is a need of expanding the legal framework in order to prevent and successfully resolve similar situations in the future and a need of signing the technical protocol *On Exchange of Information between the Ministry of Environment of the Republic of Latvia and Ministry of Natural Resources and Environmental Protection in Ecological Crisis Situations of Belarus*, and the multilateral agreement *On Use and Protection of Water Resources in the Basin of Zapadnaya Dvina/Daugava*.