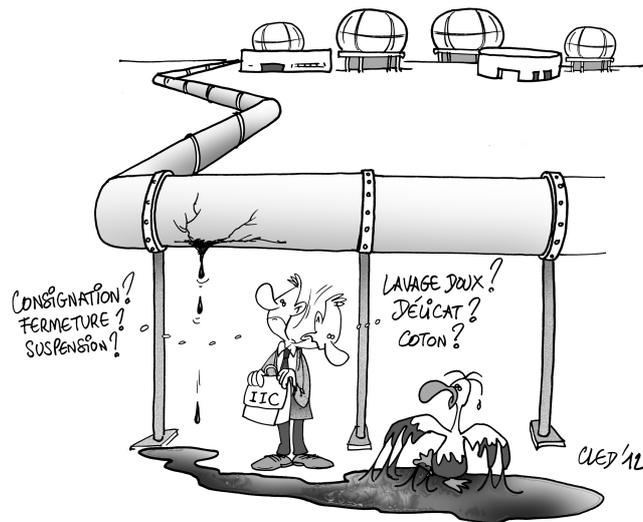


Follow-ups of an accident

During an accident, the Classified Facilities Inspectorate (CFI):

1. Participates on behalf of the local Prefect in **managing the crisis at hand as well as the immediate repercussions** through the monitoring of : the placement of all involved installations in safe mode, eventual health and environmental impacts, initial administrative consequences (proposition of Prefecture emergency measures order) etc. The CFI also helps with efforts to keep the main actors informed of situation updates.
2. Performs an **"accident investigation"** by staying informed of other expert appraisals and any relevant studies. The CFI might also feel compelled to propose and monitor longer-term consequences in the event of significant health or environmental impacts, whether actually present or feared (i.e. **post-accident management**).



1. Crisis management and immediate consequences

An immediate management response to the unfolding crisis during an accident primarily involves overseeing the placement of installations in safe mode and conducting an initial assessment of the accident consequences, especially with regards to health or environmental impacts, whether actually recorded or feared, and determining if a more targeted long-term monitoring campaign is necessary.

The CFI verifies that the operator has adopted all measures required to ensure site safety and avoid potential "domino effects". Difficulties may arise whenever clear lines of responsibility have not been drawn to match the urgency of the problem: a management structure designed with multiple supervisors, devoid of supervision, defective or unresponsive chain of command, execution failure, deadlines missed due to claims for appeal and then litigation (ARIA N°4225, 1 8379, 30269, 35035). Faced with managerial inaction and given the challenges and urgency inherent in certain situations, the assigned agencies may decide to implement specific procedures stipulated in regulations (Prefecture emergency measures order, requisitions, etc.) to identify the administrative response and action plan to be launched, including: shutdown of on-site activities, site monitoring, mandatory authorisation renewal prior to activity restart.

If a dedicated external emergency plan is activated during this accident management phase, **the CFI is typically requested by the Prefect to take part in the crisis unit set up at the departmental operations centre**, at which point the Inspectorate is convened to assist the Prefect by providing its knowledge of the particular installation (operating permit application, safety report, etc.) and overall competence in the area of pollution and risk prevention. If deemed necessary, the inspector's transfer to the DOC¹ or FCP² must be scheduled and planned to ensure safety, for example by selecting an itinerary that avoids crossing high-risk zones (ARIA 38242).

The inspection may involve requesting samples and analyses (toxicity of smoke, pollution of soils, surface water resources and/or groundwater) in order to evaluate the need for additional emergency measures, such as the closure of drinking water abstraction points and decontamination procedures. All

¹ DOC: Departmental Operations Centre

² FCP: Field Command Post / (on-site)

sampling-related costs are absorbed by the manager of the responsible activity. Private or public-sector laboratories equipped with the proper sampling and analysis resources may be called upon, depending on the level of vulnerability, state of emergency and expertise required. The emphasis on reliable evidence and representative samples may prove to be very important during judicial procedures when these interpretations and risks are challenged. For this reason, a network of post-accident appraisers/experts has gradually been assembled³.

Moreover, given the critical nature of protecting human health and the environment, in addition to saving physical data of potential value when conducting subsequent investigations, the CFI may under certain conditions find it necessary to request that the Prefect notify the appropriate legal authorities of either the urgency surrounding post-accident cleanup work (ARIA 13050), especially once a site has been sealed off, or the need to preserve subsequent evidence (ARIA 3969).

2. Accident investigation and post-accident situation management

Once the emergency response has been wrapped up, the CFI must manage an array of follow-up steps, including: accident investigation; assessment of the site's operating status (e.g. damage to installations, waste management, decontamination, verifications prior to facility restart); participation in monitoring health and/or environmental consequences, if applicable; information dissemination to public authorities and the general population; and feedback processing.

The **accident investigation** yields information on the sequence of events and emergency response of rescue crews. It constitutes a pivotal step not only towards overseeing the return to installation safety, actions taken to assess potential impacts and ancillary control measures, but also informing a decision over the proposed activation of an interdepartmental post-accident crisis unit. Once the accident response sequence has been completed, this investigation will seek to detail the underlying circumstances and causes, along with measures adopted by the operator to avoid accident recurrence.

The procedures for handling waste generated by the accident must account for the inherent hazards, while paying special attention to the risks of spreading contamination to the environment or releasing an eventual source of pollution. These wastes may be composed of debris resulting from the collapse of buildings or installations, chemical substances, polluted water and earth, wastes of either animal or vegetable origin; on the other hand, they may stem from contaminated farm production and no longer be suitable for distribution. The manager of the responsible activity must be instructed to proceed with the disposal of designated wastes as quickly as possible using appropriate channels. This manager must be capable of proving that each type of waste has been removed in compliance with prescriptions. In exceptional cases, the magnitude of some accidents may necessitate creating temporary storage zones (ARIA 16879, 41474).

Installation restart may be made contingent upon the completion of new studies (risk analysis, safety report, etc.) or physical/chemical analyses of damaged materials, substances or equipment. A second opinion rendered by the CFI may serve as a prerequisite for verifying the adequate implementation of remedial or preventive measures.

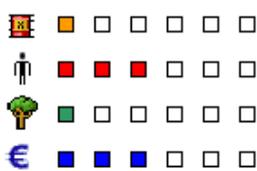
If an **interdepartmental post-accident unit** is assembled, the CFI contributes to evaluating and managing post-accident consequences, in particular by offering to associate the competent agencies with respect to environmental concerns (regional health, veterinarian teams) and by issuing requests for the operator to conduct an impact study and introduce measures for managing consequences. Such a study produces a plan to perform and analyse samples with the aim of proposing more suitable long-term management guidelines: restrictions of use, a strategy for managing polluted sites, elimination of farm produce, etc.

Interdepartmental post-accident unit³

Unit designed to assist the Prefect, composed of various departmental or regional environmental-related agencies (DREAL, DD(CS)PP, ARS, DRAAF, etc.), to ensure the coordination of missions assigned to evaluate and manage post-accident consequences (environmental and health impacts). The unit is assembled by Prefect order on a case-by-case basis depending on the importance of the issues

Lastly, the role of the CFI in generating **feedback** entails thoroughly examining all documents submitted by the operator (accident report - in compliance with Article R.512-69 of the Environmental Code, safety report update) so as to ensure that the preventive actions and measures to avoid a similar incident or accident have indeed been deployed and, if need be, to introduce additional prescriptions by means of a supplemental Prefecture order (Article R.512-31). The Inspectorate then transmits the lessons drawn to BARPI for feedback dissemination.

³ Circular issued on 20 February 2012 relative to the management of environmental and health impacts due to events of a technological origin (downloadable from <http://www.developpement-durable.gouv.fr/Gestion-post-accident.html>).



ARIA 18379 - 01/08/2000 - 95 - MARLY-LA-VILLE

52.10 – warehousing and storage

During on-site works carried out using a blowtorch on the roof of a warehouse, composed of 8 storage cells and rented by 4 different industrial operators, fire broke out in a group of cellulose cotton-wool balls and spread within 20 min via the roof, resulting in the partial collapse of a dividing wall. The 3rd cell that ignited contained agro-pharmaceutical products as well as animal feed.

Despite the site's water supply constraints, fire-fighters brought the blaze under control in 2 hours. [...] During their intervention, 1,500 m³ of polluted extinction water were collected in a permeable stormwater tank; the water table and drinking water abstraction points were both threatened.

Given the refusal of this consortium of operators to comply with prescriptions set forth in the Prefecture's post-accident orders combined with the claims filed for appeal and then litigation, requisitioning measures were taken to quickly proceed with the pumping, storage and treatment of fire water, in addition to installing 2 piezometers to monitor water table conditions. [...]

→ Feedback derived by the CFI:

- The fast spreading of this fire serves as a reminder of the importance of adopting appropriate construction measures, along with the need for impermeable retention basins for each warehouse cell (whenever applicable) and/or each site operator.
- Difficulties tied to the various operators, who had refused to comply with stipulations set forth in the Prefect's orders and initiated legal proceedings, required adopting emergency measures and requisitioning other firms.
- When installations are operated by various operators, it is essential to verify that the appropriate measures, which clearly identify the compliance manager, are taken in order to address the technical and organisational issues related to pollution prevention and risks.

For further details:

http://www.aria.developpement-durable.gouv.fr/ressources/18379_marly_la_ville_sj_ang.pdf



ARIA 35027 - 19/08/2008 - 45 - SAINT-HILAIRE-SUR-PUISEAUX

46.21 – wholesale of grain

2,100 tonnes of wheat and 1,000 tonnes of corn spilled following a break in the sheet pile wall of a silo. The grains partially buried a 95-m³ propane tank located 15 m from the silo; a pipeline burst and an LPG leak ensued due to a domino effect. First responders set up a safety perimeter and closed the valve upstream of the break. The owner used a flare to burn the stored gas. [...]

An emergency Prefecture order prescribed a set of measures to secure the site; these included activity stoppage, enclosure and monitoring of the premises, emptying the silo of its cereal

contents and inspecting its state of repair. The restart of silo operations was made contingent upon Prefecture decision.

The Inspectorate visited the damaged silo along with a neighbouring silo owned by the same operator and noted several points to be verified/remediated by the operator regarding the use of silos and LPG depots. [...]

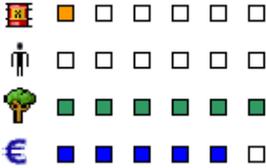
The Inspectorate also requested companies owning LPG tanks at both sites to indicate the characteristics of their cisterns and safety equipment, as well as the measures adopted by these companies to ensure their LPG cisterns are being operated in accordance with required safety conditions. [...]

As a direct application of feedback from this accident, the site's intact LPG cistern was inerted and then moved prior to being placed back online after renewed certification and approval of the fire water reserve tank design by the local fire safety department.

Other remedial actions were triggered by Prefecture order, with the establishment of a works schedule for installation readiness. [...]

For further details:

http://www.aria.developpement-durable.gouv.fr/ressources/fd_35027_st_hilaire_sur_puiseau_ccgb_vfinal.pdf


ARIA 35035 - 22/08/2008 - 42 - SAINT-CYPRIEN
 38.32 – *recovery of sorted materials*
 Inside a wood recycling plant located on the former site of a company specialised in recovering electrical transformers, fire broke out from an unknown source on 22 August around 4 am at a 2,000-m² wood stockpile. The site watchman notified emergency services, who arrived at the scene equipped with several fire hoses. A thick cloud of smoke could be seen hovering over the town. **CFI officials visited the site and observed that the wood, which had been stored on-site in quantities exceeding the permit authorisation, could have been polluted by chemical substances. An emergency order prescribed 7 days after the accident a round of analyses on local groundwater and soils from nearby farms.**

Wind stoked the fire on 3rd September and first responders had to intervene a second time, **prompting the Prefect to enact several other orders: activity suspension, emergency measures aimed at site cleanup and waste disposal, plus an official warning to update the company's administrative situation.** It ultimately took 3 months to completely extinguish this fire.

On 15 September, a specialist organisation installed air quality control devices. The analyses communicated on 18 November revealed major emissions into the atmosphere of both dioxins and polychlorinated biphenyls (PCB). On 26 Nov., the public veterinarian's office sampled milk at a farm in the vicinity. Contamination was detected, as the regulatory threshold for the marketing of foodstuffs had been exceeded (European regulation 1881/2006/EC); site operations were placed into receivership.

These investigations gradually expanded from 1 to 2 km during March 2009 and then out to 5 km in April. On 25 May 2009, **the monitoring zone was widened to encompass 40 towns via Prefect order** and reached 42 towns in August 2009. In July 2009, a specialist body stated that this contamination event had originated in the soil and could not be easily determined beyond a 2-km radius. In all, 914 farms were inspected; a series of hygiene protocols were implemented and a total of 2,255 cows, sheep, pigs and horses had to be slaughtered. A local cement works burned the slaughterhouse residue, and the animal fat capable of containing PCB was processed in Belgium. Nearly 187,000 litres of raw milk were also discarded.

The **wastes generated** during this accident, i.e. 1,678 tonnes of milled wood and 8.14 tonnes of sludge (produced for the most part from scraping the ground), were transported to specialised processing channels between 10 and 31 July 2009; 70 lorry runs were needed to complete the disposal. An additional transport operation was organised for polluted individual protective gear as well as the water and cover of the cleaning tank. However, 7,600 m³ of polluted soil still had to be removed from the site. Given the cost of pollution cleanup, appraised at €2 million, and the fact that **the site had since been "tagged" for its deficient oversight**, the company was placed in compulsory liquidation on 23 July 2010. Only the **involvement of a public-sector entity** could provide for the facility's safety and propose a durable solution for managing the situation.

[...]



For further details:

http://www.aria.developpement-durable.gouv.fr/ressources/fd_35035_st_cyprien_ang.pdf