

# PRESS KIT

**An overview of the fact-finding reports and action plans associated with the accidental sulphuric acid leak on 1st April 2009.**

## What has been learned from the accident, to prevent and contain industrial risks

On 1<sup>st</sup> April, a sulphuric acid leak occurred on the Vale Inco New Caledonia industrial site. A technical accident that took place during test operations and which had an impact on the environment in close proximity, the North Bay creek.

More than a month after this harmful incident, investigations conducted to understand the cause of the accident have been concluded.

Today, the findings of reports of investigations and action plans are being shared with the company's stakeholders.

## Three fact-finding reports to gain an understanding of what happened

This rundown takes into account three fact-finding reports:

- A report from Lloyds on an international investigation sponsored by the DIMENC and conducted in collaboration with local institutions and Vale Inco New Caledonia.
- A report on an internal investigation conducted by Vale Inco New Caledonia with the assistance of Vale Inco teams from Toronto in consultation with neighbouring communities and delegated community members from Mont Dore and Yaté.
- And environmental monitoring reports produced by three scientific bodies and experts.

## The main conclusions

- **According to the report from Lloyds** which takes into account the accident and the sulphuric acid plant in its scope of analysis , **there are 3 main causes:**
  - Technical malfunction of the facilities associated with a structural cause - a design and manufacture fault in the expansion joints.
  - The containment system for on-site leaks - a shortfall in the existing operational set-up.
  - Emergency measures - failure to appreciate the security alert level.

> The report by Lloyds makes **20 recommendations.**
- **According to Vale Inco New Caledonia's internal investigation report** which takes into account a more comprehensive and multidisciplinary scope of analysis, namely the entire industrial site, there are three main causes:
  - Technical failure of the facilities associated with a circumstantial cause. The expansion and rupturing of a faulty joint, under normal temperature and pressure conditions, resulting in sulphuric acid being sprayed outside of the containment system located downstream from the acid plant.
  - More particularly, the leak containment system downstream from the plant. A containment bund not designed to deal with a potential spray.

The operational set-up for the prevention of industrial risks; a shortfall in the systems and facilities to prevent this type of accident, despite the response time of the operations and commissioning teams and emergency services.

- **According to the environmental monitoring reports** which take into account:
  - o Expert reports from the emergency services,
  - o Expert reports on the impact on the freshwater environment,
  - o Expert reports on the marine environment,
  - o Short and medium-term monitoring of changes over time,
  - o Long-term monitoring of the ecosystems and their capacity to regenerate.

Conclusions in terms of an environmental impact assessment are:

**In the freshwater environment:**

- o Urgent monitoring of the physico-chemical properties of the freshwater - acute, limited impact; 12 hours after the wave of sulphuric acid passed through the pH reading was 7 (the norm for discharge into the environment is between 5.5 and 9.5)
- o Monitoring sediment in the creek - dissolution of certain metals present in the sediment; no impact observed.
- o Monitoring of groundwater - no impact observed
- o Monitoring of freshwater fauna - very intense but over a short period; recolonization of the environment observed; moderate impact as reversible.
- o Monitoring of freshwater macroinvertebrates - substantial impact, but reversible.
- o Monitoring of riparian flora - no irreversible impact (a few ferns affected)
- o Monitoring of the ecosystems' recovery - rapid return to initial conditions; ecological conditions favouring recolonization by local fauna; no impact noted on the mangrove swamp.

**In the marine environment:**

- o Spatio-temporal evaluation and analysis of metals - limited loading of metals in a perimeter limited to 500 metres; totally disappeared from the gradient two weeks after the accident.
- o No chronic pollution of the marine ecosystems (coral, benthos and fish)

Additional monitoring may be envisaged, subject to the consensus of scientists and the communities, and if this were judged necessary:

- **Restoration measures**

- o Studies into restocking the creek according to needs identified.

- **Additional compensatory measures**

- o Study and preservation of another river
- o Developing knowledge about the coral population in Prony Bay
- o Study into the sediment input in Prony Bay.

**Action plans to enhance the prevention of industrial risks and the safety of the manpower and facilities**

Vale Inco New Caledonia is introducing new measures aimed at improving its plans to prevent and contain any industrial risk associated with its operations.

Within the framework of its internal report and its twelve recommendations and the recommendations made by Lloyds, Vale Inco New Caledonia is consolidating and planning the deployment of **a plan involving 84 concrete actions**.

As of now Vale Inco has deployed concrete measures:

- Organisational changes:
  - o Commissioning operations (technical tests phase) henceforth come under the direct responsibility of the Managing Director.
  
- Technical security-related operations:
  - o Decontamination of the first flush pond and the laying of a membrane
  - o Connecting the containment bund in the sulphur storage area to the existing first flush pond to increase the overall containment capacity
  - o Allocating and planning the 84 actions
  - o Optimising fluid containment capacities by making additional facilities available
  - o Inspecting the 600 joints throughout the plant.

## **Commitments in terms of industrial safety and dialogue**

Vale Inco New Caledonia's number one priority is the safety of its manpower and facilities.

Technical tests will resume once safety conditions have been met.

*"In industrial operations, there is no such thing as zero risk. Technical malfunction, or even human failure, cannot be ruled out. Risk in itself is never admissible. A risk may or may not prove to be admissible in a specific environment at a given time. We are conducting operations in a sensitive environment because of its exceptional nature in terms of its biodiversity. Industrial safety is our ability to contain risks due to our own operations or risks that our external environment might impose on us. We are also committed to clearly identifying them in our industrial operations, evaluating them and dealing with them. Risk tolerance levels are evaluated by means of talks and consultations between the manufacturing company and its stakeholders, throughout the facilities' lifetime. Vale Inco New Caledonia is conscious of the need to develop such dialogue and intends to contribute to this in its capacity as a responsible manufacturing company,"* Michel Sylvestre, Vale Inco's Managing Director, reminded people.