



India's National Green Tribunal identifies LG's disregard for safety as the cause of the lethal chemical release

Liability should extend to the parent company
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Key findings

India's National Green Tribunal created a monitoring committee to investigate the LG tragedy which released a final 168-page report on 28 May 2020, including the following findings:

- An estimated 800 tons of styrene escaped from an old tank without any alarm. Community residents alerted police to the toxic gas release, not company personnel.
- No temperature sensors were present in the middle and top parts of the tank which leaked, reflecting a *"clear cut case of negligence."*
- No automated sprinkler arrangement for vapor loss existed *"as this had never been anticipated."*
- A chemical used to inhibit polymerization and styrene release had not been added to the styrene tanks since 1 April 2020, *"since there was no stock at the site."*
- Once the styrene temperature rises above 52°C, the usual chemical inhibitor is not effective, however, *"It seems LG Chem did not consider this possibility."*
- The report identifies 22 remedial measures including further studies. The report also includes 20 suggestions from a public consultation including concerns over exposures in pregnant women.
- Weak elements of the report include: 1. Acceptance of government compensation rather than LG being fully accountable; 2. Trusting LG to conduct a risk assessment study of its own accident; 3. Recommending only a short time period of five years for monitoring cancer in a population exposed to high levels of a probable human carcinogen; and 4. Ignoring the responsibility of the parent company, LG Chemical.

Introduction

On 7 May 2020, in the early hours of the morning in Vizag, India, LG Polymers, a polystyrene manufacturing [plant](#) owned by South Korea's [LG Chemical](#)¹, released toxic [styrene](#) gas into the nearby residential area, killing 14, sending hundreds to the hospital, and causing the anxious evacuation of thousands of people. Government officials have warned residents not to use groundwater or eat perishable foods from the area due to contamination concerns.

CCTV [footage](#) showed thick clouds of gas and people collapsing as they tried to escape. [Grim video footage](#) and [photos captured](#) casualties and frantic scenes of evacuation.



<https://www.cnn.com/2020/05/07/asia/india-gas-leak-death-intl-hnk/index.html>

¹ LG Chemical is one of 70 subsidiaries of LG Group. In 2019, LG Group had 250,000 employees and [sales](#) of US\$137.2 billion.

The National Green Tribunal issues an interim fine and launches an investigation

A national [law](#) in India established the [National Green Tribunal](#) (NGT) in 2010. The NGT is a legal body with jurisdiction over issues related to water pollution, forest conservation, air pollution, environmental protection, public liability, and biological diversity. Importantly, the NGT is not bound by Civil Procedure law, but “shall be guided by principles of natural justice.” In practice this means that NGT applies principles of sustainable development, the precautionary principle and the polluter pays principle.

On 8 May 2020, the National Green Tribunal [directed](#) LG Polymers to deposit an interim fine of ₹50 crore (~US\$6.6 million, ~¥8.1 billion) due to “damage to life, public health and environment” and formed a committee to investigate the tragedy.

The NGT asked the committee to specifically investigate the following matters:

1. Sequence of events;
2. Causes of failures and persons and authorities responsible;
3. Extent of damage to life, human and non-human; public health; and environment – including water, soil, air;
4. Steps to be taken for compensation of victims and restitution of the damaged property and environment, and the cost involved;
5. Remedial measures to prevent recurrence; and
6. Any other incidental or allied issues found relevant.

Interim NGT investigative report blames LG operations for the tragedy

On 17 May 2020, the Committee delivered an interim report to the NGT which noted that, “the management did not take proper care of the affected storage tank.” The Committee stated the following reasons for the tragedy, illustrating a surprising lack of attention to fundamental safety operations:

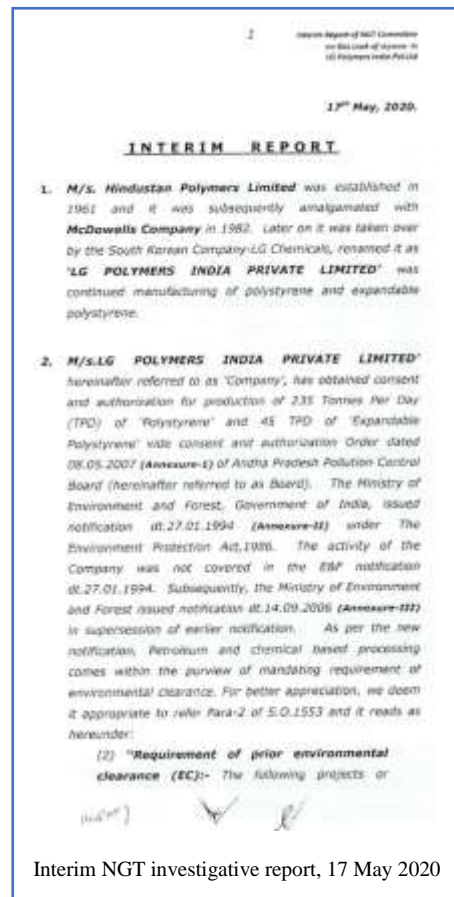
1. Insufficient Tertiary Butyl Catechol (TBC, used as an inhibitor to avoid polymerization at lower temperatures) concentration in styrene tank due to unavailability of TBC in the plant.
2. There is no monitoring system for dissolved oxygen in the vapour space which might have fallen down below 6%.
3. The tank has no provision of monitoring temperatures at top layers of the storage.
4. Refrigeration system was not being operated for 24 hours.
5. Gross human failure and negligence of the Person in-Charge of the plant and maintenance personnel of the storage tanks.”

LG Chemical tries to remove NGT investigation

On 19 May 2020, LG [petitioned](#) the Supreme Court of India to reduce the number of investigative committees researching the causes of the tragedy. The company demonstrated its clout by hiring Mr. [Mukul Rohatgi](#), the former Attorney General of India, as their legal representative. Mr. Rohatgi, was briefed on the case by attorneys from [Shardul Amarchand Mangaldas](#), one of India’s top corporate law firms.



Outcome of NGT hearing, 8 May 2020

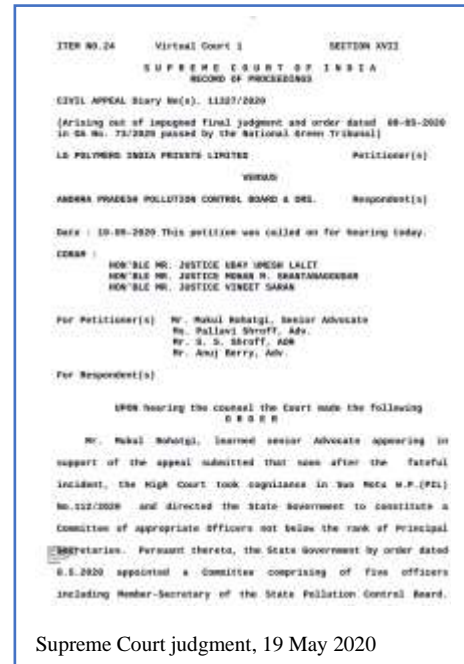


Interim NGT investigative report, 17 May 2020

LG pushed the Supreme Court to remove the NGT from investigating the tragedy, arguing that, “...there was no occasion for the NGT to appoint a further Committee.” In response, Supreme Court refused the company’s argument and ruled that LG should make this argument directly to the NGT.

Interviews with former workers reveals disinterest in plant safety among LG executives

The Andhra Pradesh Forensic Science Laboratory [determined](#) that the styrene storage tank at LG Polymers was not maintained below 20°C as required. The tragedy was apparently caused by a temperature surge in a styrene storage tank due to a [clogged](#) cooling system. A [report](#) written by Sagar Dhara (consultant to UNEP and Government of India) and K Babu Rao (Indian Institute of Technology) noted that if LG had sounded a siren as soon as the temperature begin rising in the tanks, and if the residents were trained in emergency response, “all 12 deaths could have been avoided and injury could have been minimized.” Government officials also [noted](#) the absence of a siren and a former employee said that the managing director of the company was aware that it did not work but “laughed it off.” Inspection [reports](#) indicate poor maintenance at the factory, including on the tanks holding styrene and pentane, another toxic chemical.



Supreme Court judgment, 19 May 2020

NGT investigation slams LG’s inattention to safety

The NGT investigative committee delivered [a critical final report](#) on 28 May 2020 which concluded that LG’s “gross human failure” and the company’s lack of basic safety equipment and procedures caused the tragedy. The committee noted that, “The root cause thus appears to be the lack of experience of LG Polymers India and their Korean principal, LG Chem, in monitoring and maintaining full tanks of styrene that were idled for a long period of several weeks without operation.”

Key findings in the report include:

- 800 tons of styrene escaped from an old tank without any alarm. Community residents alerted police to the toxic gas release, not company personnel.
- No temperature sensors were present in the middle and top parts of the tank, reflecting a “clear cut case of negligence.”
- No automated sprinkler arrangement for vapor loss existed “as this had never been anticipated.”
- A chemical used to inhibit polymerization and release had not been added to the styrene tanks since 1 April 2020, “since there was no stock at the site.”
- Once the styrene temperature rises above 52°C, the usual chemical inhibitor is not effective, however, “It seems LG Chem did not consider this possibility.”
- The report identifies 22 remedial measures including further studies and reports on 20 suggestions from a public consultation including concerns over exposures in pregnant women.



NGT investigative report, 28 May 2020

Shortcomings of the NGT investigative report

Weaknesses in the NGT investigative report include:

1. Acceptance of government compensation rather than LG being fully accountable
The NGT mandate includes enforcement of the polluter pays principle ([Rio Principle 16](#)) which states that the polluter should “*bear the cost of pollution*” and that environmental costs should be internalized by the industry. LG Chemical in South Korea should be fully accountable for all costs related to the tragedy (please see below).
2. Trusting LG to conduct a risk assessment study of its own accident
A critical analysis of the impact of the accident and the company’s disaster management practices should be rigorously conducted by a truly independent third party. NGT should not be recommending an opportunity for corporate conflict of interest.
3. Recommending only a short time period of five years for monitoring cancer in a population exposed to high levels of a probable human carcinogen
The NGT report recommends a comprehensive health monitoring program for the suspected population for at least five years. However, styrene is a probable human [carcinogen](#) with a variety of [toxic](#) effects. The monitoring program should be significantly increased due to the long latency of cancers and other health effects. For example, a large epidemiological [study](#) of plastics workers exposure to styrene found an increased risk of acute myeloid leukemia with a latency period of approximately 15 years.
4. Ignoring the responsibility of the parent company, LG Chemical.
The NGT report notes various parties that have accountability in the tragedy, including company and governmental personnel. However, LG Chemical, the parent company, is not mentioned. One of the key lessons that should be learned from the Bhopal tragedy and applied in this case is importance of parent company accountability (see below).

Absolute liability should be applied to LG Chemical

Two types of liability principles have emerged in dealing with corporate accidents: strict liability and absolute liability. Strict liability would hold a company responsible and require compensation, but certain loopholes exist. These include an accident caused by strangers or a natural disaster, among others. In contrast, absolute liability places a duty on the company that no harm will be caused to the community. If harm is caused, then no exceptions can be used by the company and the cause of the accident is not required to establish liability. In other words, the company cannot argue that it took all reasonable precautions and therefore should have reduced liability. In 1990, the Indian Supreme Court [affirmed](#) use of absolute liability in the Bhopal disaster-related case of Charan Lal Sahu vs. Union of India. Absolute liability should be fully applied in the LG tragedy to both LG Polymers (India) and LG Chemical (South Korea), including prosecution of executives, compensation, medical expenses, health surveillance, and remediation, among others.

A 2017 [study](#) from the University of Chicago Booth School of Business examined corporate decision-making in pollution and proposed several deterrence mechanisms as solutions. A key lesson applicable to the LG tragedy (and all other chemical industry pollution cases and accidents) is to allocate responsibility to executive managers in the company. In the case of a foreign company, that should include executives from the parent company as well as the national subsidiary. The study notes two precedents for this practice in the US: 1) The financial world in which the Chief Executive Officer and Chief Financial Officer must certify the company’s reports; and 2) Under the US Clean Air Act in which the person in charge of submitting information to the regulator is subject to jail time if the information is false.

The 1984 Union Carbide [Bhopal disaster](#) also provides an important lesson about holding parent companies liable. Dow Chemical [purchased](#) Union Carbide in 1999 but claimed that it did not buy the company’s liabilities resulting from the Bhopal disaster. However, Dow’s subsidiary, Union Carbide, is wanted in India on [criminal](#) charges and US investors have expressed [concern](#) that Dow did not disclose potential liabilities in the Bhopal case. Dow Chemical refused to clean up the toxic site and the tragedy still [continues](#). In the recent LG tragedy, LG Polymers is a subsidiary of LG Chemical – one of the ten [largest](#) chemical companies in the world. Liability and criminal prosecution for the accident should include executives at LG Polymers (India) and LG Chemical (South Korea).