Update on Kodai for online sustainability report for Unilever.com

Kodaikanal, India

We are sometimes asked about a breach of our environmental operating guidelines at our former thermometer factory at Kodaikanal, India.

The facts

Our Code of Business Principles commits us to conducting our operations with honesty, integrity and openness. In line with these Principles, we have summarised below how this breach of our guidelines occurred as the facts of this issue are often misunderstood or misrepresented. The facts are that:

- Hindustan Unilever Limited (HUL)*, did not dump glass waste contaminated with mercury on land behind its factory. Scrap glass containing mercury had been sold to a scrap dealer about three kilometres away from the factory, in breach of our guidelines.
- There were no adverse impacts on the health of employees or the environment. This has been confirmed by many independent studies. There was limited impact on the soil at some spots within the factory premises which required remediation.

With the necessary permits from the US and Indian governments, the glass scrap was sent to the US for recycling in 2003. In early 2006 the plant and machinery and materials used in thermometer manufacturing at the site were decontaminated and disposed of as scrap to industrial recyclers.

After extensive assessment and testing, final permission for remediation of the soil was granted in July 2008 by the statutory authority, the Tamil Nadu Pollution Control Board (TNPCB). Pre-remediation work was started in 2009 at the site. However, in 2010, the TNPCB decided to revalidate the soil clean-up standard in response to NGO requests. Soil remediation work will commence at the factory site once the final decision is taken on the soil clean-up standard and consent is given by the TNPCB.

The text below makes clear the steps we have taken to reach this stage.

* Hindustan Unilever Limited (HUL) was formerly known as Hindustan Lever Limited (HLL)

Mercury contamination at our former thermometer factory, Kodaikanal, India

Background

The mercury thermometer factory was set up in Kodaikanal, Tamil Nadu State, in southern India in 1983. In 1987, Pond’s India came into the Unilever fold through the larger corporate acquisition of Cheseborough-Pond's. Pond's India, and with it the thermometer factory, merged with Hindustan Lever Limited** in 1998.

Thermometers were a product line that was not core to Unilever but they were a source of export earnings to which the Indian government attached high importance. Given Unilever's strategic decision to exit non-core product activities, the factory's long-term future within the company was under review some time before the events described below. A decision to exit the thermometer business had already been made in January 2001.

** Hindustan Lever Limited is now known as Hindustan Unilever Limited (HUL).

- March 2001

Activities at the Kodaikanal site became a focus for attention in March 2001 when Greenpeace and others brought to Hindustan Unilever's attention the fact that glass scrap containing mercury had been sold to a scrap dealer about three kilometres away from the factory. HUL immediately closed the factory and launched an investigation.

HUL notified the relevant statutory body, the Tamil Nadu Pollution Control Board (TNPCB). HUL also engaged URS Dames and Moore as independent international environmental consultants to make an environmental assessment and risk assessment of the site.

Our investigation revealed that 5.3 metric tonnes of mercury-tainted glass scrap (containing approx. 0.15% residual mercury) had been sold in breach of our established procedures.

The investigation showed that the manufacturing process was safe and had been audited as such both internally by HUL and by the Tamil Nadu State authorities. There were strict processes in place for recycling glass scrap containing traces of mercury. It was these procedures that had been breached and glass scrap containing mercury had gone to recyclers, who should only have had pure glass scrap.

The Final Report from URS on the assessment for mercury at the site concluded that the Kodai lake had not been impacted by mercury; the people who had worked at the site had not suffered adverse health effects due to the factory operations; and remediation of soil was needed at the site.

- June 2001

HUL removed 7.4 tonnes of mercury-bearing glass scrap and the soil beneath the scrap from the scrap yard to its factory premises for safe storage. HUL also took action to track down any scrap glass which had left the site over the previous ten years and offered to recover any scrap from recyclers for safe storage on the Kodaikanal site.

- August 2001

Five silt traps were constructed to prevent discharge of soil from the factory site to the Pambar valley, the only direction into which the water flows out of the site. This task was completed in time for the 2001 monsoon season.

- June 2002

HUL sought permission as early as 28 June 2002 for the clean up or remediation of the land within the premises of the factory to a high, residential standard known as the 'Dutch standard' (10 mg/kg).

- March–May 2003

Hindustan Unilever negotiated with the Indian and US governments for permits to pack and transport the mercury-containing material to the US for recycling. The consignment consisted of 290 tonnes of materials and included mercury-bearing glass scrap, semi-finished and finished thermometers, effluent treatment plant waste and elemental mercury. They were packed under the supervision of TNPCB

officials and witnessed by local NGOs, including Greenpeace. The materials reached New York on 31 May 2003 and were then transported to Bethlehem Apparatus Inc. for recovery of mercury and its subsequent recycling/disposal.

- 2004–2005

HUL continued to pursue with the TNPCB permissions to remediate the soil and also to de-contaminate and scrap the thermometer-making equipment at the Kodaikanal site.

On the advice of the TNPCB, HUL engaged with technical experts from the Government of India's National Environment Engineering Research Institute (NEERI) and finalised the scope and timing of the NEERI study and their involvement in the physical decontamination of the equipment at the site and the soil remediation.

- May 2005

The NEERI proposal was approved by the TNPCB.

- February–May 2006

The plant and machinery and materials used in thermometer manufacturing at the site were decontaminated and disposed of as scrap to industrial recyclers.

The protocol for decontamination was prepared by URS, modified by Professor Shyam R Asolekar of IIT Mumbai, verified by NEERI and approved by the TNPCB and the Scientific Experts Committee constituted by the Supreme Court Monitoring Committee to monitor the remediation measures.

- October 2007

For the remediation of the contaminated soil on site, NEERI conducted pilot plant trials at the factory and its results were considered by NEERI while it recommended a soil remediation protocol. NEERI recommended soil washing and thermal retorting technologies in this protocol.

NEERI presented the protocol to the TNPCB and the Scientific Experts Committee and the protocol was accepted. Based on the recommendation of the Scientific Experts Committee, the TNPCB set soil remediation criteria and asked NEERI to prepare a Detailed Project Report (DPR) for undertaking soil remediation.

NEERI submitted the DPR to TNPCB and sought permission to commence the remediation work.

- November 2007

The Scientific Experts Committee and TNPCB considered the DPR. They granted in principle approval for the remediation, asking Hindustan Unilever to incorporate some suggestions and submit a revised DPR.

- May 2008

The Scientific Experts Committee and TNPCB visited the factory site, inspected the pilot plant, reviewed the revised DPR and cleared the DPR.

- July 2008

TNPCB granted permission for remediation to commence.

The Tamil Nadu Pollution Control Board (TNPCB) is the statutory authority in the state of Tamil Nadu, India to set soil remediation criteria.

It should be noted that India does not have any accepted numerical standards for either assessing soil contamination or for determining remediation criteria. The Supreme Court Monitoring Committee directed NEERI to develop the remediation criteria for the site, based on a Risk Assessment Study. Remediation standards or clean-up criteria will vary from site to site depending on soil conditions, future land use, the need for the preservation of local ecology and potential risks.

It is also pertinent to note that screening criteria such as the British and Dutch Intervention Values do not necessarily mean that these would be applicable as the soil clean-up standard or remediation criteria. The Dutch Intervention Value for mercury was originally 10 mg/kg in 2001. Based on new scientific data and models generated by the Dutch authorities, the Intervention Value was revised upwards to 36 mg/kg in 2006.

Remediation criteria set by the TNPCB is 20 mg/kg of mercury concentration in soil (ie. 95% of the samples analysed should be equal to or less than 20 mg/kg and 5% of the samples can measure up to 25 mg/kg but none of the samples should exceed 25 mg/kg).

- May 2009

Pre-remediation work started in May 2009 according to the DPR.

- 2010

Some NGOs contested the soil clean-up criteria set by the TNPCB. Remediation criteria based on a site specific Risk Assessment Study is the internationally recognised procedure for remediation. As desired by the TNPCB and the Scientific Experts Committee during the project review meeting in January 2010, additional studies were undertaken by national institutions. IIT Delhi revalidated the Risk Assessment Study and site specific clean-up standard; National Botanical Research Institute, Lucknow, studied the impact on trees and preservation of trees; and the Centre for Soil and Water Conservation Research and Training Institute, Ooty, studied the impact on soil and soil erosion.

- 2011–2012

The findings of these additional studies, conducted by IIT Delhi, National Botanical Research Institute and the Centre for Soil and Water Conservation Research and Training Institute, were submitted to TNPCB and the SEC in February 2011. IIT Delhi study recommended the site specific cleanup standard of 22.4 mg/kg for soil remediation. Based on the findings of these three studies, together with the results of remediation trials and the recommendation of the Scientific Experts Committee, the TNPCB will then take a final decision on the soil clean-up standard. HUL will commence soil remediation work at the

factory site once the decision on the clean-up standard has been taken and consent given by the Tamil Nadu Pollution Control Board.

Assessing the health of our workers

Comprehensive occupational health and safety systems existed at the Kodaikanal factory prior to its closure in 2001. Internal monitoring within the factory and external audits carried out by statutory authorities during the operation of the factory showed that there were no adverse health effects to the workers on account of their employment at the factory.

In addition, many expert studies carried out after the closure all concluded that there had been no adverse health impacts on ex-employees due to the nature of their work in the factory. These studies included:

- A comprehensive medical examination conducted by a panel of doctors using a questionnaire developed by the US Department of Labor, Mines, Safety and Health Administration
- Studies by the Certifying Surgeon from the Inspectorate of Factories, by Dr P N Viswanathan of Industrial Toxicology Research Centre (ITRC); by Dr Tom van Teuenbroek of TNO as directed by the TNPCB; and by the Industrial Toxicology Research Centre (ITRC) as directed by the Supreme Court Monitoring Committee.

The conclusions from our own occupational health surveillance have also been independently endorsed by the All India Institute of Medical Sciences (AIIMS) and the National Institute of Occupational Health (NIOH).

In February 2006, some of the ex-employees of the Kodaikanal factory approached the Madras High Court seeking directions for conducting a fresh health survey and providing economic rehabilitation.

In June 2007 the Honourable Madras High Court constituted a five-member expert committee (including representatives from ITRC, AIIMS and NIOH) to decide whether the alleged health conditions of the workers and their families were related to mercury exposure. The committee was also asked to decide whether a new health study was needed.

The expert committee obtained inputs from the petitioners and from Hindustan Unilever Limited (HUL) and, during a visit to the factory in October 2007 to understand its safety systems and procedures, also examined some ex-workers and family members of ex-workers. The expert committee submitted its report in December 2007. Its conclusion was that "The committee failed to find sufficient evidence to link the current clinical condition of the factory workers to the mercury exposure in the factory in the past". The Madras High Court appointed expert committee ruled out the need for any fresh health study.

The Ministry of Labour & Employment (the Ministry) is also a respondent in the matter filed by the ex-workers of the Kodaikanal factory in the Madras High Court. After almost four years of the earlier report being put on Court record and without any objections to the report, the Ministry has recently (end 2011) submitted a report to the Honourable Madras High Court. HUL has filed its objections to the Ministry’s report. The matter is sub judice.