

SUPREME COURT MONITORING COMMITTEE
(Ref: CWP 657 Of 1995)

REPORT OF THE VISIT OF THE SCMC TO TAMILNADU
SEPTEMBER 20-22, 2004

The Supreme Court Monitoring Committee on Hazardous Waste Management (SCMC) visited the State of Tamilnadu during September 20-22, 2004 to monitor compliance of the directions issued by the Supreme Court in its order dated 14.10.2003 in CWP No.657/1995 and to verify the report presented by the Tamilnadu Pollution Control Board (TNPCB) to the SCMC at its second meeting held in Mumbai in January 2004.

Present were:

1) Members of the SCMC

- Dr. Claude Alvares
- Dr. D.B. Boralkar
- Dr. Tapan Chakrabarti
- Prof. S.P. Mehrotra
- Dr. G. Thyagarajan, Chairman

2) MoEF

- Ms. Usha Subramaniam, Jt. Director (HSM Divn)

3) TN PCB

- Ms. Girija Vaidyanathan, Chairperson
- Thiru K. Sanjeevi, Member Secretary
- Thiru R. Ramachandran, Dy. Chief Environ. Engineer.

4) TN State Government

- Shri Ajoy Bhattacharya, Environment Secretary
- Shri R. Mishra, Industry Secretary
- Shri T.R.Srinivasan, Chairman & Managing Director, SIPCOT

Following is the report of the Committee:

DAY ONE: September 20, 2004:

During the presentation made by the TNPCB on January 8/9, 2004 at the second meeting of the SCMC in Mumbai, the Committee had been informed of two major problem areas involving large quantities of hazardous wastes: Tamilnadu Chromates and the site of the Hindustan lever thermometer unit at Kodaikanal.

1. Hindustan Lever Ltd. Kodaikanal (Thermometer factory)

The SCMC visited the unit of M/s Hindustan Lever Limited at Kodaikanal which has been associated with uncontrolled releases of toxic mercury into the working and natural environment. (It did not visit the site of Tamilnadu Chromates.)

The HLL made a power point presentation to the SCMC of its efforts to deal with the problem of mercury contamination caused due to its unit. Thereafter, the SCMC visited the plant that has been shut since 2002. Later, it met representatives of the local community, NGOs and workers affected by the plant's operations.

From the records placed before the SCMC, the facts are as follows: In March 2001, local citizens led by Greenpeace (NGO) discovered a scrap yard bearing mercury wastes which they sourced to the HLL plant. During recovery of the mercury scrap it was weighed and found to be approximately 7.4 tonnes. The discovery of this illegal discharge of hazardous wastes led to further inquiries which opened up a Pandora's box of mercury contamination in the working area of the factory and its surrounding natural environment including river, lake and forest. It was also admitted that mercury scrap of similar nature had been disposed of to scrap dealers as a routine practice.

The SCMC was informed that much of the mercury waste recovered from the scrap yard has since been shipped back to the US. However, workers affected by mercury poisoning and an environment and plant contaminated with mercury remain as living heritages that need to go for rehabilitation.

The ill-effects of mercury poisoning and the negative impacts of mercury on the natural environment are well-known. Minamata disease (in Japan) has been documented in detail. The situation at HLL is extremely serious in nature. There can be no two opinions that remediation and rehabilitation of the natural environment and of workers and others affected are both urgently required, especially in view of the fact that the area is also a tourist spot of major importance.

TNPCB under section rule 16 (2) of the Hazardous Waste Rules, 1989 (as amended) is mandated with the responsibility of rehabilitation of sites affected by hazardous wastes and chemicals.

In view of the above, and the need to implement the directions of the Supreme Court, the Committee is of the opinion that the complete remediation of the site including decontamination of plant and machinery etc is necessary in order to render it free of mercury contamination for protection of environmental and public health.

Therefore, the SCMC hereby directs the TNPCB as under:

- 1) Invoke action under Rule 16 (2) of the Hazardous Waste Rules, 1989, as amended, and fix the liability on to HLL to reinstate/restore damaged/destroyed elements of the environment. HLL being the occupier is liable to pay the entire cost of remediation/restoration to *status quo ante* in advance upto the amount estimated by TNPCB. To begin with, TNPCB may consider an advance of Rs.50 (fifty) crores for this programme. This amount shall be provided by HLL in the form of a revolving bank guarantee of Rs.50 (fifty) crores with a condition that at any given time, a sum of Rs.10 crores will be available at the disposal of TNPCB. Thereafter, TNPCB shall plan and cause to be executed the programme for remediation/restoration of the environment. TNPCB may consider placing an energetic and efficient officer on special duty exclusively for implementation of this programme.
- 2) The advance paid by HLL to SPCB towards the cost of remediation/restoration shall be adjusted once the actual cost of remediation/restoration is finally determined. The remaining amount, if any, shall be recovered from M/s HLL for implementation of these directions.
- 3) Detailed feasibility report and DPR shall be prepared by engaging expert services and for implementation of the remediation programme, based on the polluter pays principle. A suitable expert agency may be appointed by TNPCB as project management consultant (PMC) for the purpose.

Independent of the above programme the SCMC suggests the following contributions by HLL as a social rehabilitation package:

- a) Health Clinic: In order to provide the necessary health facilities to enable genuinely affected people recover from the ill effects of mercury poisoning, a health clinic shall be set up with appropriate facilities and manpower. The clinic will also deal with the persons from the scrap yard so affected. The life of the clinic will be decided by TNPCB.
- b) Establishment of a new, non-polluting enterprise, preferably based on locally available resources, and especially for employees who have become jobless due to closure.

In order to monitor the compliance of the various directions of the Supreme Court as well implementation of the action plan prepared by the TN Board, a Local Area Environment Committee (LEAC) shall be constituted for facilitating and monitoring programme implementation. The Committee shall consist of independent members from the local area who enjoy public respect and confidence. The existing committee set up by TNPCB may be reassigned this task by making suitable amendments in its TOR. CPCB and MoEF shall also be associated with the remediation/restoration programme and they shall bring in the expertise available with them particularly in various bilateral programmes. This will be helpful to the TNPCB to mount expeditious and serious implementation.

2. Tamilnadu Chromates and Chemicals, Ranipet, Vellore Dt.

Though the SCMC was unable to visit this unit, it is seriously concerned that there has not been much progress regarding the extremely hazardous wastes dumped by the unit in the open environment in violation of the HW Rules since the matter was last reported to the SCMC in January 2004. The contamination of the environment is similar to the case of Hema Chemicals in Vadodara, where the SCMC has already issued a detailed set of directions to the Gujarat government. The Geological Survey of India has reported contamination of ground water upto a distance of 2.5 kms from the dumping site of the unit. In this connection, TNPCB is to inform the SCMC in writing a) whether any survey has been done of the people affected by such contamination of ground water and b) if so, whether a register of affected facilities can be created and submitted to the SCMC for further action.

TN Board is to ensure that the rehabilitation proposal from NEERI or NPC or any other competent body for the highly toxic hexavalent chromium wastes is completed and approved by December 31, 2004. The tender system may not be advisable in the circumstances of this case, as implementation of the Supreme Court's order dated 14.10.2003 has to be done within a time-bound period.

The TN Board is therefore directed to recover costs from all the parties involved in the factory from its inception for the purposes of implementing clause 16 (2) of the Hazardous Waste Rules, 1989 as amended. Progress on actions must be communicated to the Member Secretary SCMC on a monthly basis.

In no event should the factory be allowed to reopen for business, as before.

DAY TWO: September 21, 2004:

1. Visit to M/s Sterlite Industries Ltd, Tuticorin.

During the visit to M/s Sterlite, the Committee observed that the unit has not provided adequate infrastructure and facilities for management of the wastes generated. The Committee was particularly concerned with the issues relating to the disposal of arsenic containing slag which is dumped in the factory premises and is in the range of several thousands of tonnes. In fact, there is a mountain of arsenic-bearing slag as also one of phospho-gypsum. Phospho-gypsum, if not contained properly, occasionally becomes airborne and may cause severe respiratory disorders in the surrounding vulnerable population. Moreover, there are some issues still to be resolved in terms of the hazardous nature of the arsenic-bearing ETP wastes which were earlier contained in an inadequately designed hazardous waste landfill and require disposal as per CPCB Guidelines.

The industry, as reported to the SCMC during the visit, is also emitting sulphur dioxide far in excess of the permissible standards particularly when the sulphuric acid plant is not operating.

The inadequacies observed in the environmentally sound management of wastes have resulted in adverse impact on the recipient environment including the health of the people in the area.

The SCMC, therefore, direct the concerned TN authority to undertake a detailed environmental audit of the unit and to assess the efficacy of its environmental management practices by an independent agency.

SCMC was also informed that the said unit is proceeding for about three times expansion of its existing capacity i.e. from 70,000 tpa to 1.8 lakh tpa.

When the existing waste management practices of the unit are not in compliance with the environmental standards and the solid hazardous wastes generated also require to be properly managed, particularly in terms of available space and infrastructure, it would be inadvisable to consider expansion of the unit at this stage.

The SCMC is of the opinion that without proper assessment of the infrastructure for the management of these hazardous wastes in compliance of the directions of the Supreme Court, the environmental clearance for the proposed expansion should not be granted by the MoEF. If it has been granted, it shall be revoked.

The SCMC is also directing the TNPCB to make a detailed visit to the plant to ascertain whether the unit has already proceeded with the expansion of the project without prior permission from the appropriate authority(ies) in which case the TNPCB shall take suitable action under the provisions of the EIA notification as well as the Water Act, 1974, Air Act,1981 and the Hazardous Waste (Management and Handling) Rules, 2003. The TNPCB will examine both plant equipment and production data in this connection and submit a detailed report to the SCMC within a space of 15 days from the receipt of this report.

2. Visit to Southern Petrochemical Industries Corporation, Tuticorin.

The SCMC visited the SPIC plant which manufactures chemical fertilizers. The SCMC was informed that the unit had several hundred tonnes of hazardous wastes (including chrome and arsenic containing wastes) stored within the premises. These wastes were being maintained since 1988 when the company stopped using certain processes that required these materials in its production processes.

The TNPCB is directed to ensure that the arsenic-bearing wastes are disposed of in hermit storage in the same fashion as is being done in case of M/s Zuari Industries Ltd, Goa, within three months of the date of receipt of this report.

It was suggested to the company to take a lead and go in for on-line display of pollution control data. It was directed to relocate the existing display board providing information about the unit in Tamil and English to a gate which was closer to the main road, for easier access to the public.

DAY THREE: September 22, 2004:

1. Presentation to SCMC on actions taken by TNPCB to implement the Supreme Court order dated 14.10.2003

The TNPCB Chairperson made a presentation to the SCMC regarding actions taken by the TNPCB as per the orders of the Supreme Court and the directions given by the Chairman, SCMC, to the State of TN for compliance with the order.

The hazardous waste scenario in the State of TN is as under:

- Total HW units : 2196
- Total Qty HWs : 3.77 lakhs tonnes per year
 - SLF : 1.84 lakhs tonnes/year
 - Incineration : 0.18 lakhs tonnes/ year
 - Recyclable : 1.75 lakhs tonnes/year
- TSDF/Landfill : 3 sites identified.
- Public hearing : Two completed, one to go.
- Inventory : Completed and submitted to CPCB

Comments by Chairman SCMC on the presentation are highlighted as below:

- Technology changes/developments are nowadays taking place so fast that SPCBs have to keep running if they wish to stay where they are.
- The Board must use technology, knowledge and legal force for securing compliance of apex court orders and HW Rules.
- A regulatory body need not be timid. Some Boards in the country are sluggish and not keeping pace with developments in the field. They are several years behind in awareness of technology issues and solutions.
- Surprise checks/vigilance squads should be made a routine exercise of Board functions. Occasional aerial inspection would also be a good idea.
- The Chairman, SCMC challenged the Board's officers to rededicate themselves, use modern techniques, study and absorb all provisions available under law and make use of them for securing compliance of environmental standards. He particularly recommended designing and putting in place an electronic system to maintain a database on HW in the State, to fingerprint and identify units which dodge or violate laws and rules, to check veracity of data provided by industrial units and to carry out research and analysis as relevant for foresight planning.
- The Chairman, SCMC appreciated the qualities of the Chairperson of the TNPCB particularly her intellectual vigour, her excellent articulation of the issues affecting the State and the Board, and her energetic efforts to enforce proper management of hazardous wastes and implementation of directions of the Hon'ble Apex Court.

The SCMC noted that in contrast with the situation in January, inventorisation of hazardous waste units and wastes generated had been completed. The total number of HW units had increased from 1742 noted in January 2004 to 2196. On the other hand, total quantum of hazardous wastes had come down by 30,000 tonnes.

SCMC members expressed the view that the inventorisation process based on Form 4 data would not provide an accurate or even credible picture of total quantities of hazardous wastes generated in the State. It was necessary to verify the information with actual visits to units and to ensure that the Supreme Court is provided with realistic data on such units.

The members also referred to the report “Gas Trouble” generated by an NGO and said that in their opinion, such studies ought to be carried out by the Board. While the reliance on computerization and electronic data was desirable, the Board ought to seriously respect the “data” provided in the complaints by human beings and the living sensors of human ears, throats and skin to industrial pollution. The kind of complaints registered by the public against the sulphur dioxide pollution from M/s Sterlite Industries ought to have been taken seriously by the Board and in such cases it might be better if the officers of the Board were made to sleep on a bed outside the factory gates, if this were necessary to ensure compliance.

Dr Claude Alvares, member, SCMC, stated that there did not appear to be much progress between the time he visited TN as a member of the HPC under Prof. MGK Menon and his present visit. The order of the apex court was not being complied with fully. Secured landfills were not yet in sight anywhere and the result was illegal dumping of hazardous wastes alongside roads and in open areas in different industrial estates. The impression sought to be given by the Board that the only illegal and problematic hazardous dumps/wastes were those belonging to Tamilnadu Chromates and Hindustan Lever was unwarranted since there were many dumps in various parts of the State, some by roadsides. Unless the Board presented a precise picture of such dumps or an estimate of their quantities, no realistic plan of action for remediation of such sites could be obtained and in such circumstances the SCMC would not be able to assist the Board either. TNPCB had promised in January that it would also be inspecting closed and defunct units to identify contaminated sites and abandoned hazardous wastes. This information has not been supplied to the SCMC.

For purposes of clarification, the TNPCB is informed that the Supreme Court order requires a list of all abandoned, illegal, hazardous waste dumps in the state, including casual dumps by roadsides, ditches, nullahs etc. and their known or probable sources. The SCMC also wants inventory of stored hazardous wastes in units as per authorization, in addition to inventory of wastes abandoned in closed units. Such a survey has been conducted in Maharashtra and Gujarat. The SCMC has also initiated a pilot scheme for using satellite imagery to identify such sites and their quantities. TNPCB may take the benefit of those initiatives.

Dr Alvares stated that the SCMC would be bound to repeat the actions it had carried out in States like Kerala if the TNPCB were unable to bring down serious pollution like that of Cuddalore where hazardous wastes were being purged into the atmosphere and did not produce concrete results as far as disposal of hazardous wastes on land was concerned.

2. TSDF/Secured Engineered Landfills

The SCMC was informed that it could not visit Melakottaiyur due to public opposition to the proposed site for hazardous wastes. It later granted a hearing to persons and NGOs opposed to the site. The Board briefed the Committee on the various aspects of the problem including the public hearing process. The SCMC feels:

- 1) TNPCB may surrender or put on hold for the moment the option to construct a TSDF at Melakottaiyur and, in the proximate future, try and locate common landfills within the confines of industrial areas and industrial estates. Once public confidence about such facilities has been established, the search for a TSDF may be resumed.
- 2) The TNPCB will expedite the setting up of facilities for common hazardous waste disposal facilities. State of Tamilnadu is directed to complete the approval process for the Tiruppur site (quarry) within ten days of receipt of this report. The site should be operational by January 30, 2005. Costs would be borne on 50-50 basis, between the industrial units and the government.
- 3) The Karur disposal facility will be completed by February 28, 2005 or earlier. Decision of TN government approving the site will be made available before the end of October 2004.
- 4) Hazardous wastes destined for Melakottaiyur must be routed for the moment to possible common disposal sites within Gumidipoondi industrial estate or closeby. SCMC should be informed of all possible options in this connection within the space of one month from today.
- 5) TNPCB, SIPCOT and Department of Environment are collectively responsible for completion of these disposal facilities. SIPCOT is hereby informed that the SCMC is asking all industrial infrastructure development corporations to include setting up of CETPs and common disposal facilities for hazardous wastes as an integral component of all their estates. For secured landfills within industrial estates, SCMC has opined that it may not be necessary to conduct public hearings since the industrial estate is already an approved notified site. The Chairman SCMC agreed that he will request Member Secretary of SCMC to take up this issue in the MoEF for exemption of public hearing for common disposal facilities when located in conforming industrial estates/areas. Locating such landfills within such estates in fact meets the requirements of the "proximity" principle which demands that disposal of wastes shall be done as near as possible to the point of its generation.

3. Report titled "GAS TROUBLE" relating to air pollution by Cuddalore industrial estate

During the public hearing held on September 22, 2004 in the premises of TNPCB, a group of NGOs presented the SCMC with a copy of a detailed report entitled "Gas Trouble" regarding monitoring study of air quality in SIPCOT, Cuddalore, particularly for the presence of volatile organic compounds (VOCs). The residents living in and around the industrial estate have complained of intense chemical odour. According to them, the odour is due to chemical pollution and such VOCs are the cause for many health disorders.

The SCMC feels that the regulatory authorities ought to have investigated such complaints in a serious manner as that would have given authentic information regarding the nature and levels of toxic gases in the ambient air in the residential areas in and around SIPCOT. SCMC did not come across any health studies done to investigate the nature of health problems and the probable causes.

The report of the NGO has indicated presence of 22 toxic chemicals that are harmful to eyes, respiratory system, central nervous system, skin, liver, heart, kidney etc. Some of these chemicals are even known to cause cancer. Following is a list of toxic organic compounds reported in the report:

- Hydrogen sulphide
- Methyl mercaptan
- Dimethyl disulphide
- Ethanol
- Methylene chloride
- Trichloroethene
- Toluene
- Acetone
- Isopropyl alcohol
- n-Hexane
- Chloroform
- Carbon tetrachloride
- n-Butyl acetate
- Carbon disulphide
- Dimethyl disulphide
- Vinyl chloride
- Bromomethane
- Acetonitrile
- 1,2-Dichloroethane
- Benzene
- Acrolein
- Vinyl acetate

Air quality measurements conducted by NGOs at different locations have reportedly shown concentration of toxic gaseous compounds far in excess of standards permissible under the USEPA. For many of these compounds there is no Indian standard as yet.

The SCMC considered the said report carefully. The conceptual definition of hazardous waste as given in Vol. I of the final report submitted by the High Powered M.G.K. Menon Committee is reproduced below:

Hazardous waste means, any substance, whether in solid, liquid or gaseous form, which has no foreseeable use and which by reasons of any physical, chemical, reactive, toxic, flammable, explosive, corrosive, radioactive or infectious characteristics causes danger or is likely to cause danger to health or

environment, whether alone or when in contact with other wastes or environment, and should be considered as such when generated, handled, stored, transported, treated and disposed of. This definition includes any product that releases hazardous substance at the end of its life, if indiscriminately disposed of.

In view of the above, it is very much clear that the toxic organic compounds present in the ambient air are arising due to the improper management of the hazardous wastes and hazardous chemicals in the SIPCOT, Cuddalore industrial estate.

It is further felt that in the absence of proper facilities for treatment and disposal, such hazardous wastes/spent organic compounds are indiscriminately thrown by the user industries within the industrial area and outside which have resulted in the presence of such high concentrations.

The SCMC, therefore, issues following directions to address the problem of volatile compounds in the ambient air:

- 6) A detailed investigation including monitoring and inventorisation of use of such organic compounds and their methods of management and handling shall be done by TNPCB. For this purpose, Tamilnadu Board shall take the technical assistance from the expert agencies/organizations. CPCB may also be involved in the monitoring and assessment. The work should be completed within three months from the date of this Report.
- 7) CPCB shall accord high priority and lay down the standards for organic VOCs cited in the document produced by the said NGO (“Gas Trouble”). USEPA standards for VOCs could form a basis to begin with.
- 8) If the air pollution around Cuddalore is not reversed within three months, from the date of this Report, that is, by December 31, 2004, the entire Cuddalore industrial estate shall go for closure and units will be allowed to reopen only if they meet the currently available standards (applicable in this case) laid down under the USEPA for VOCs or CPCB standards if made available during this period.

4. Common Effluent Treatment Plants (CETPs):

The SCMC had sought prior information from the Board relating to the number of CETPs that were in compliance of the environmental standards for discharge of liquid effluent. The data on CETPs supplied by the Board during the SCMC’s visit is not adequate in terms of treatment system place, performance of the units and the characteristics of final treated effluent. The TNPCB is directed to make the information available within ten days.

5. Right to information issues:

The SCMC has received complaints during its hearings attended by citizen groups and NGOs that the specific directions relating to information regarding units in the apex court order dated 14.10.2003 are not fully complied with. While the presentation before the SCMC did show several examples of display (in English and in Tamil)

boards, many units are yet to display data relating to their units on boards outside factory gates. This needs to be intensively pursued.

The TNPCB is directed to maintain a register containing particulars of the conditions imposed in the consent/authorization issued under the Water Act/Air Act/HW Rules and it shall be kept open for inspection during office hours to any person interested or affected or a person authorized by him/her in this behalf. This is a requirement under the said Act as well as the HW Rules. With the progress in the computerization of consent management and completion of inventorisations, the said data will be made available on the website of the Board for public information and knowledge. The TN Board can also consider putting consent/authorization letters on the website as is being done by the MoEF in case of issue of environment/forest clearance letters.

Till such time this information is put on the website, all regional offices may be directed to make available xerox copies of the consents/authorization on payment, where specific requests are made for such documents.

In the end, the SCMC thanks the Chairperson and staff of the TNPCB for their cooperation, courtesies shown, excellent arrangements for field visits, and local hospitality.

Dated Wednesday, 29 September 2004.

Sd/
Dr. Claude Alvares
Member

Sd/
Dr. D.B. Boralkar
Member

Sd/
Dr. Tapan Chakrabarti
Member

Sd/
Prof. S.P.Mehrotra
Member

Dr. G. Thyagarajan
Chairman