

**Minutes of the ninth meeting of the Task Force - set up in compliance with the Orders of the High Court of Madhya Pradesh at Jabalpur dated 30th March, 2005 and 13th May, 2005 respectively - held on 16<sup>th</sup> October 2006 at 11.30a.m. in Conference Hall, 1<sup>st</sup> Floor, I.I.C.T., Hyderabad.**

The ninth meeting of the Task Force was held on 16<sup>th</sup> October, 2006 at Indian Institute of Chemical Technology (IICT), Hyderabad to review the progress of the removal/remediation of toxic wastes from the Union Carbide (I) Ltd. (UCIL) plant site at Bhopal.

2. A list of the officials of the Government of India, Government of Madhya Pradesh (M.P.) and other organizations, who attended the meeting, is at **Annexure-I**.

3. The Secretary, Department of Chemicals & Petrochemicals (C&PC) welcomed the members of the Task Force and officials of the agencies/organizations concerned. She introduced Shri B.P. Pandey, Joint Secretary (C&PC) to the Task Force. She was also introduced to Shri P.D. Meena, Chairman, Madhya Pradesh Pollution Control Board (MPPCB) and Principal Secretary, Department of Housing and Environment, Government of Madhya Pradesh.

4. The Chairman, MPPCB informed that as decided in the eighth meeting of the Task Force held on 18<sup>th</sup> April, 2006 at Bhopal, the report presented by National Environmental Engineering Research Institute (NEERI) was examined by the Central Pollution Control Board (CPCB) on the basis of guidelines of CPCB. The report of NEERI along with the comments of the CPCB was filed in the High Court of Madhya Pradesh on 18<sup>th</sup> May, 2006.

5. The Principal Secretary, Bhopal Gas Tragedy Relief and Rehabilitation (BGTR&R) Department, Government of Madhya Pradesh apprised the Task Force that the next date of hearing in the High Court of M.P. had been fixed on 9<sup>th</sup> November, 2006 as the final recommendations of the Technical Sub-committee of the Task Force could not be finalized and presented on the last hearing.

6. The Principal Secretary, BGTR&R Department and Member Secretary, MPPCB apprised the Task Force that the construction of the Transportation, Storage and Disposal Facility (TSDF) had been completed at Pithampur (M.P.) and it was ready to take the industrial waste from all over the State of Madhya Pradesh. The authorization under Hazardous Wastes (Management & Handling) Rules, 1989 and Amendments thereto had been

issued in this regard by the MPPCB vide their letter No. 2780 dated 4<sup>th</sup> October, 2006. The MPPCB had also issued consents under Water and Air Acts for the TSDF, vide their letter No. 7526 dated 7<sup>th</sup> October, 2006.

7. The Member Secretary, MPPCB gave a detailed account of the activities to be covered under Phase-II of the Roadmap to the Task Force. The actions pertaining to the activities: (i) identification of SLF site, (ii) selection of Expert Consultant/Agency for undertaking the stabilization, encapsulation etc. studies along with construction of the SLF based on CPCB guidelines, and (iii) the rapid EIA study and public hearing had already been completed, which had also been reported to the High Court while submitting the Minutes of the earlier meetings of the Task Force. Since the construction of the TSDF was completed in October, 2006, the monitoring of the Piezometric holes/ bore holes at various points would start by November, 2006. As regards capping of SLF, which was to be completed by 31.03.2006, it was stated that the capping of wastes from the UCIL will be done by putting a thick liner over the wastes in the secured land fill and stitching it with liner lying at the bottom. However, the capping of the SLF would be done at a later stage, as the final capping of any SLF is done when it is completely filled with hazardous wastes. The process of capping would take around one month's time after the SLF is fully filled up. The Cell No. 1 at Pithampur TSDF had a capacity to accomodate around 50,000 tonnes of waste, while the estimated quantity of wastes to be brought from the UCIL was only about 250 MT. It was stated that the assigned wastes lying at UCIL plant site would be taken to the SLF whenever it is directed by the High Court of M.P., on the recommendation of the Task Force. The monitoring of the Piezometric holes/ bore holes would be done under the supervision of the MPPCB as per laid down guidelines and procedures under the Environment Protection Act, 1985 and Hazardous Wastes (Management and Handling) Rules, 1989. The Task Force emphasized that the wastes from UCIL should be placed in SLF in a separate hole in an identifiable manner, not to be mixed with other toxic wastes, which was agreed to by the MPPCB.

8. The Chairman and Member Secretary, MPPCB further informed the Task Force that the Technical Sub-committee (TSC) had met on 26<sup>th</sup> August, 2006 at New Delhi to finalize its recommendations. The two co-opted members, namely Shri P.M. Bhargava, (Centre for Cellular & Molecular Biology), Hyderabad and Dr. J.P. Gupta, Director General, Gujarat Energy Research & Management Institute, Gujarat were invited by the Technical Sub-

committee in the meeting, in compliance with the order of High Court of M.P. As requested by them the report of NEERI analysis made available to them. The two co-opted members had given their opinion, which was duly recorded in the minutes of the meeting. A copy of the minutes of the meeting is enclosed as **Annexure-II**. As per the recommendations made by the TSC in its meeting held on 26.08.2006, the analysis of reactor residue sample was done by NEERI and their report was circulated to the members of the TSC, including the two co-opted members. None of the members raised any objections to the recommendations of the NEERI. The report of TSC has now been finalized.

9. The Task Force examined the final recommendations of the TSC for removal/disposal of toxic wastes, which were finalized in consultation with the two co-opted members representing the NGOs, in compliance with the orders of the High Court of Madhya Pradesh. The salient features of the recommendations made by the TSC, as discussed in the ninth meeting of the Task Force are as follows:

#### **Type-I**

The Type-I category includes the Sevin residues, Napthol and Reactor residue and the recommendations for their removal/disposal are as follows:

The Sevin and Napthol combined together weigh **approximately 95 MT**.

(i) **Sevin Residue:** The IICT and NEERI reported that this residue has calorific value of about 2252 K.cal/Kg. and Sevin (Pesticide) content as much as 2,40,000 mg/Kg. The TSC recommends incineration of Sevin residue. CPCB had submitted protocol for transportation and incineration of the Sevin residue.

(ii) **Napthol Residue:** The IICT had analyzed and found that the weight/weight of volatile solids of 70.04% indicated that Napthol Residue was also amenable to incineration. No further analysis was required, since the waste will be destroyed in a dedicated incinerator.

(iii) **Reactor Residue:** MPPCB had sent the sample of reactor residue to NEERI for characterization and the report of NEERI recommends that taking into consideration the magnitude of the concentration of volatile matter ( 40.6 % volatile solids in the sample) , calorific value ( 2083 K. cal/Kg.) and COD( 14.88 gm/Kg.), the reactor residue has to be sent

for incineration, with or without auxiliary fuel, in a dedicated hazardous waste incinerator. The reactor residue is **approximately 30 MT**, as per estimates of NEERI.

**Type-II**

(i) **Semi Processed Pesticides:** The amount of waste is **approximately 56 MT**. This waste contains Sevin Pesticides (55,000 mg/Kg.), beta BHC (2.6 mg/kg) and gama BHC (8.46 mg/kg.) with volatile solids of 23.18 %. Further, as per letter dated 08.08.2006 received from NEERI, since the concentration of absorbable halocarbons (present as alpha BHC- 10.93 mg/kg.) in the leachate of semi processed pesticides exceeds the criteria limit of less than 3 mg/lit. recommended for Secured Landfill, hence, NEERI had recommended semi processed pesticides for incineration, with or without auxiliary fuel. The TSC also recommended the same.

(ii) **Excavated Waste:** Dr. P.M. Bhargava was of the opinion that the term "contaminated soil" may be replaced with "excavated waste" which was agreed by TSC. The amount of excavated waste is **approximately 165 MT**. The NEERI indicated that the soil sample has high organic content (59.1 % volatile solids) with calorific value of 2832 K.cal/Kg., thus, it will be incinerated. However, if the excavated waste is in sizable quantity with calorific value less than 2500 K.cal/Kg., the waste will go to secured landfill. The pre treatment protocol suggested by NEERI is to reduce the volatiles by suitable thermal destruction to be followed by land filling.

It was clarified by the expert of the NEERI in the meeting of the Task Force that separation of excavated soil having less than 2500 K.cal/Kg. is not possible as it is mixed up and most of it has calorific value greater than 2500 K.cal/Kg., hence all of it has to go for incineration.

(iii) **Lime Sludge:** The quantity of Lime Sludge is **approximately 39.6 MT**. NEERI had vide its letter dated 08.08.2006 indicated that the Lime Sludge should be sent to the SLF, after pre treatment. NEERI had submitted a treatment protocol in this regard.

10. The Member Secretary, MPPCB assured the Task Force that proper documentation and maintenance of records were being carried out by MPPCB for the activities already undertaken and those yet to be undertaken as per the Roadmap prepared for the removal/disposal of toxic wastes lying at the UCIL plant site. The Principal Secretary,

BGTR&R Department, Government of Madhya Pradesh also reiterated that all the papers and reports were being properly documented. He emphasized that the costs involved in the transportation of the different types of toxic wastes would have to be worked out and compared for competitive rates. The Chairman, MPPCB and expert from CII clarified that as per the Basel Convention, the wastes have to be taken to the nearest TSDF, which in the present case is Pithampur and at the rates approved by the Madhya Pradesh State Industrial Development Corporation (MPSIDC) and the MPPCB. M/s. Ramky was the lowest bidder and had thus been awarded the contract for operating the TSDF for 30 years. The cost of TSDF is decided by the Government, Operator and Industry Associations.

11. The Deputy Secretary(C&PC) brought to the notice of the Task Force that the earlier permission obtained from the Government of Gujarat and the Gujarat State Pollution Control Board was for incineration of the tarry wastes but in the light of the final recommendations of the Technical Sub-Committee of the Task Force that except for *Lime Sludge* all other toxic wastes would be incinerated therefore there was a need to inform the Government of Gujarat and the Gujarat State Pollution Control Board that the quantity of the toxic waste to be incinerated would now be higher than what was informed to them earlier. The types of toxic wastes would also be more than the earlier identified tarry residuals and reactor residues only. The Task Force asked the M.P.P.C.B. and the State Government of Madhya Pradesh to take further necessary action in this regard.

12. The Task Force directed that the expenditure to be incurred on the transportation, treatment and disposal of the different types of toxic wastes whether in the TSDF at Pithampur or the incinerator at Ankleshwar, Gujarat would be estimated by the BGTR&R Department in consultation with MPPCB for preparation of final estimates to be included in the EFC note for Planning Commission to be prepared by the State Government for the removal/disposal of the toxic wastes lying in and around the UCIL plant at Bhopal. It was pointed out by the Deputy Secretary(C&PC) that the High Court of Madhya Pradesh had directed that the expenditure on the removal/disposal of the toxic wastes from the UCIL plant site has to be borne by the Central Government and the State Government of Madhya Pradesh in the ratio of 50 : 50, vide order dated 30<sup>th</sup> March, 2005.

**Decisions taken in the meeting:**

**11. The following decisions were taken:**

- (i) The final recommendations of the Technical Sub-committee were adopted and it was concurred that except for Lime Sludge all the 5 types of toxic wastes lying at the UCIL plant site would be sent for incineration to the incinerator at Ankleshwar, Gujarat. The Lime Sludge would be taken to the TSDF at Pithampur and would be put in the SLF, after treatment.
- (ii) The incineration would be carried out under the supervision of the MPPCB and Gujarat State Pollution Control Board, in accordance with the guidelines issued by CPCB.
- (iii) The MPPCB would clarify with the Gujarat State Pollution Control Board about the incineration of the Toxic Wastes at the incinerator at Ankleshwar for the toxic wastes other than tarry residue and reactor residue, as decided after the meeting of the Technical Sub-Committee.
- (iv) The Lime Sludge from the UCIL plant site would be placed in a separate hole at an identifiable location at the TSDF at Pithampur, without mixing it with any other toxic waste
- (v) The Government of Madhya Pradesh may seek the permission of the High Court for construction of a memorial at the UCIL plant site before taking further action in this regard.
- (vi) The EFC note to be prepared by the State Government for funding the activities covered under the Roadmap for submitting to the Planning Commission may be prepared in consultation with the MPPCB.
- (vii) The Agenda for the next meeting of the Task Force would include the activities related to the decommissioning and dismantling of the structure of the UCIL plant as part of Phase-III of the Roadmap.

12. The next meeting of the Task Force would be held at NEERI, Nagpur at a suitable date after the hearing is held on 9<sup>th</sup> November, 2006 in the High Court of M.P.

13. The meeting ended with a vote of thanks to the Chair.

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**Annexure-I**

**List of officials of the Government of India, Government of M.P. and other organisations present in the meeting of the Task Force held on 16<sup>th</sup> October , 2006 at 11.30 a.m. in Conference Hall, 1<sup>st</sup> Floor, I.I.C.T., Hyderabad.**

**Government of India (Department of Chemicals & Petrochemicals) :**

- (i) Smt. Satwant Reddy, Secretary.
- (ii) Shri B.P. Pandey, Joint Secretary.
- (iii) Shri Yashvir Singh, Deputy Secretary.
- (iv) Shri C.P. Singh, Section Officer.

**Government of Madhya Pradesh. :**

- (v) Shri M.M. Upadhyay, Principal Secretary, Bhopal Gas Tragedy Relief & Rehabilitation Department.

**Madhya Pradesh Pollution Control Board:**

- (vi) Shri P.D. Meena, Chairman & Principal Secretary, Housing & Environment Department.
- (vii) Shri B.K. Singh, Member Secretary.

**Central Pollution Control Board:**

- (viii) Shri N.K. Verma, Additional Director.

**Indian Institute of Chemical Technology:**

- (ix) Shri A. Krishna Reddy, Deputy Director.

**National Environmental Engineering Research Institute:**

- (x) Dr. Tapan Chakrabarti, Director Grade Scientist.

**Confederation of Indian Industry:**

- (xi) Dr. K.P. Nyati, Head, Environment Management Division.