

**Minutes of the nineteenth meeting of the Task Force – set up in compliance with the Orders of the High Court of Madhya Pradesh at Jabalpur dated 30<sup>th</sup> March, 2005, 13<sup>th</sup> May, 2005 and 15<sup>th</sup> March, 2007 respectively – held on 28<sup>th</sup> October, 2009 at 10.00 a.m. in Room No.501-A, Wing, Shastri Bhavan, New Delhi.**

The nineteenth meeting of the Task Force was held on 28<sup>th</sup> October, 2009 at New Delhi, to review the progress of removal/remediation of toxic waste from the Union Carbide India Ltd. (UCIL) plant site at Bhopal. 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**.

2. After welcoming the members and participants of the Task Force, the Chairman requested the Joint Secretary(Chemicals) to recapitulate the decisions taken in the last meeting of the Task Force held on 20th July, 2009. The JS stated that the following decisions were taken in the last meeting:-

(i) In regard to the Study assigned to NEERI for remediation of ground water and soil of UCIL plant site, as the hot spots identified by NEERI in their earlier report of 1996 were not sufficient, more hot spots were to be identified after the drilling of the wells is done by NGRI. **The expert from NEERI to give an update to the Task Force on the progress made in this regard.**

(ii) NGRI would furnish to the State Government of M.P. the Utilisation Certificate of fund released earlier in the standard format. **The Expert from NGRI, along with Secretary, BGTR&R Department to apprise the Task Force on compliance in this regard.**

(iii) IICT would visit CBI Office in Bhopal on 30.07.2009 to get copies of relevant drawings of the plan. IICT would submit their report with the Draft Tender Document by the end of August, 2009. **The Expert from IICT, along with the Secretary, BGTR&R Department to apprise the Task Force on compliance in this regard.**

(iv) It was decided to set up an Expert Group with Dr. S.P. Gautam, Chairman as Convenor with five other technical experts as its Members. The Terms of Reference of the Expert Group were to reassess/assess the technical capabilities, readiness and feasibility of incinerating toxic wastes of the UCIL at either of the two facilities at Ankleshwar, Gujarat or at Pithampur, Madhya Pradesh or at any other facility/incinerator which may be available for carrying out this task. After such assessment, the Expert Group was to make a clear recommendation on the most suitable facilities for this purpose, by ranking atleast 5 facilities in order of preference. The Report of the Expert Group has since been received, a copy of which was circulated to the participants in the meeting.

3. The Chairman requested the Director, NEERI to apprise the progress of the Study carried out by the Institute. Director, NEERI informed that they had revisited the hot spots identified in 1996 and taken samples, and based on a preliminary analysis, a report has been prepared by NEERI, in which it is indicated that no

significant toxicity has been found in any of the samples taken. He also informed that no signs of toxicity were detected in the flora and fauna growing on the UCIL Plant site. **He stated that this was only a preliminary assessment, and based on a detailed assessment to be made, NEERI will bring out the final Report by June, 2010.**

4. The expert from NGRI informed that the geophysical study has been carried out by the Institute. However, for carrying out the major work of drilling of wells, they required funds. Secretary, BGTR&R Department, Government of Madhya Pradesh informed that the required funds would be released by 31.10.2009. **NGRI stated that they would be able to submit the Report within the scheduled time limit of June, 2010.**

5. The expert from IICT informed that soon after the last meeting of the Task Force, he had gone to the CBI office in New Delhi and seen the required drawings/documents, however, these were not found to be very relevant. He also went to the CBI Office in Bhopal, where the documents/drawings accessed were found to be quite relevant. **The Chairman requested the expert from IICT to submit their Report, as per the TOR of the Study assigned to them, to the Government of Madhya Pradesh positively by the middle of November, 2009. The representative of IICT agreed to do this.**

6. The Chairman requested Dr. D.D. Basu, CPCB to give a brief presentation on the Report prepared by the Expert Group. The following were some of the salient points in Dr. Basu's presentation:

(i) The Expert Group visited 5 TSDF sites which were all having state-of-art incinerators. After taking into consideration the various parameters such as technology employed, storage facility, incineration capacity, compliance with prescribed emission standards etc., the Expert Group recommended/ranked three incinerators as under:-

- (i) TSDF at Ankleshwar, Gujarat.
- (ii) TSDF at Dungigal, Hyderabad.
- (iii) TSDF at Talaja, Mumbai.

TSDF at Indore and Nagpur have not been ranked as these facilities are still not operational.

(ii) The Expert Group also explored the technical feasibility of incineration of the wastes in cement kilns, as an alternate option. The CPCB through the National Council for Cement and Building Materials (NCB) conducted technical study of co-processing of the sludge of UCIL in a cement kiln. The NCB has recommended to blend all the UCIL sludge materials thoroughly and then feed the blended sludge at the rate of 2 per cent along with coal in the kiln through a well designed feeding system for their safe disposal in the cement kiln. The report, therefore, recommended that keeping in view all the options available for disposal of wastes, co-processing of the wastes in a cement kiln may be technically feasible and an environmentally sound option. It has been suggested in the report that a cement plant may be identified which is willing to conduct the trial run for co-processing of UCIL sludges in cement kiln. If

the trial run is found successful, further decision for co-processing of the whole amount of wastes may be taken.

7. After detailed deliberations, the following options for further course of action emerged:-

(i) Considering the position indicated by Government of Gujarat in the SLP filed in the Supreme Court, it may not be feasible to incinerate the waste at the incinerating facility at Ankleshwar in face of local resistance.

(ii) The physical distance of the incinerator facility at Dingigul, Hyderabad from Bhopal is approximately 839 km and that of Talaja, Maharashtra is approximately 779 km. Thus, both these facilities are quite far off from Bhopal. It may not, therefore, be the best option to incinerate the wastes in the above two facilities as transportation of these wastes over long distances may encounter administrative problems. In addition, Government of Madhya Pradesh /MPPCB will also have to seek NOC from the concerned State Pollution Control Boards/State Governments before incinerating these wastes at these facilities.

(iii) The recommendation of the Expert Group contained in the Report for co-processing of the UCIL waste in a cement kiln as per the prescribed method and procedure appeared to be the most feasible option at this stage. As per the recommendation contained in the report, MPPCB has to first carry out a trial test of co-processing of two tonnes of the toxic waste in a suitable cement kiln in the State, to be identified for the purpose, under the over-all technical supervision of the CPCB. While conducting the trial run, it must be ensured that such co-processing does not cause adverse impact on the environment. The expert from CPCB stated that since the trial run would require only 2 tonnes of waste to be co-processed in the cement kiln, any adverse impact on the environment is highly unlikely.

(iv) Government of Madhya Pradesh/ MPPCB may make all efforts to facilitate the incinerator facility at Pithampur, Madhya Pradesh to become operational at the earliest. The Chairman mentioned that the Parliamentary Standing Committee on Chemicals and Fertilizers during its tour of Bhopal in February, 2009, had been apprised that the incinerator facility at Pithampur would be operational by November, 2009. The Chairman also requested the Government of Madhya Pradesh to expedite and facilitate all necessary clearances to be given by MPPCB.

8. In conclusion it was decided that:

(i) The Government of Madhya Pradesh and MPPCB will take action as follows:

(a) MPPCB with the help of Government of Madhya Pradesh will carry out a trial run of co-processing of the waste in a cement kiln under technical supervision of CPCB. The trial run will be completed within a period of two months viz. by end of December, 2009 and a report on the results submitted to the Task Force in the next meeting to be convened in the first week of January, 2010.

(b) The Government of Madhya Pradesh and MPPCB will extend all necessary support to the TSDF at Pithampur (near Indore) to become operational at the earliest.

(ii) The NEERI would submit its final report to Government of M.P. by June, 2010.

(iii) The NGRI would submit its report by June, 2010.

(iv) The ICT would submit its report to the Government of Madhya Pradesh positively by the middle of November, 2009.

9. 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 organizations present in the nineteenth meeting of the Task Force held on 28<sup>th</sup> October, 2009 at 10.00 a.m. in Room No. 501, 'A' Wing, Shastri Bhavan, New Delhi.**

**Department of Chemicals and Petrochemicals:**

- (i) Shri Bijoy Chatterjee, Secretary.
- (ii) Shri B.P.Pandey, Joint Secretary.
- (iii) Mrs. Geeta Menon, Director.
- (iv) Shri Sanjay Bansal, Director.
- (v) Ms. Bandana Banerjee, Under Secretary.

**Government of Madhya Pradesh:**

- (vi) Shri S.R. Mohanty, Secretary, BGTR&R Department
- (vii) Shri K.K. Dubey, Deputy Secretary, BGTR&R Department.

**Madhya Pradesh Pollution Control Board (MPPCB):**

- (viii) Shri R.K. Jain, Member Secretary.

**Ministry of Environment and Forests:**

- (ix) Dr. (Ms.) Chhanda Chowdhury, Director

**Central Pollution Control Board (CPCB):**

- (x) Dr. D.D. Basu, Sr. Scientist.

**National Environmental Engineering Research Institute (NEERI):**

- (xi) Dr. Tapan Chakrabarti, Acting Director.

**National Geophysical Research Institute(NGRI), Hyderabad:**

- (xii) Dr. V.P. Dimri, Director
- (xiii) Dr. V.S. Singh, Emeritus Scientist.

**Indian Institute of Chemical Technology (IICT):**

- (xiv) Dr. A. Krishna Reddy, Scientist-F (Retd.)

Annexure-R-3

**Minutes of the eighteenth meeting of the Task Force – set up in compliance with the Orders of the High Court of Madhya Pradesh at Jabalpur dated 30<sup>th</sup> March, 2005, 13<sup>th</sup> May, 2005 and 15<sup>th</sup> March, 2007 respectively – held on 20<sup>th</sup> July, 2009 at 12.00 Noon in Room No.501-A, Wing, Shastri Bhavan, New Delhi.**

The eighteenth meeting of the Task Force was held on 20<sup>th</sup> July, 2009 at New Delhi, to review the progress of removal/remediation of toxic waste from the Union Carbide India Ltd. (UCIL) plant site at Bhopal. 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**.

2. After a brief introduction, the Chairman briefly explained the developments that have taken place relating to the SLP filed by the Government of Gujarat in the Supreme Court against the Order of the High Court of M.P. dated 16.12.2008. The Supreme Court heard the matter on 13<sup>th</sup> April, 2009. On behalf of the Government of Gujarat, it was indicated to the Court that in response to the affidavit filed by the Union of India on 4<sup>th</sup> April, 2009, an affidavit was being filed on the same day. The affidavit subsequently filed by the Government of Gujarat on 13.4.2009 raised certain legal and technical issues on the readiness of the BEIL incinerator at Ankleshwar for incinerating the approx. 350 MT of toxic waste of UCIL plant at Bhopal. The Supreme Court was requested by the Union of India on 24.4.2009 to grant eight weeks' time in order to examine the issues raised in the affidavit of the Government of Gujarat. The Hon'ble Court granted two months' time and directed to list the matter in the last week of July, 2009.

3. A meeting was convened by Secretary(C&PC) with the Secretary, M/o Environment and Forests and the Chairman, Central Pollution Control Board (CPCB) on 22<sup>nd</sup> May, 2009 and the CPCB was asked to give a status report on the two facilities at the TSDF, Pithampur, MP and the BEIL incinerator at Ankleshwar, Gujarat. The CPCB submitted its report on the status of these two incinerators, however, no clear course of action emerged from the report. In this context, MOEF separately suggested that the matter may be deliberated in a meeting of the Task Force. It is in the light of these developments that the meeting of the Task Force had been convened.

4. After detailed deliberations, the Task Force decided to set up an Expert Group with the following composition:-

- |    |   |   |          |
|----|---|---|----------|
| 1. | Dr. S.P. Gautam, Chairman, CPCB                 | - | Convenor |
| 2. | Shri R.K. Jain, Member Secretary, MPPCB         | - | Member   |
| 3. | Dr. Tapan Chakrabarti, Acting Director, NEERI   | - | Member   |
| 4. | Dr. A. Krishna Reddy, Scientist E.II, IICT      | - | Member   |
| 5. | Dr. (Ms.) Chhanda Chowdhury, Director, M/o E&F  | - | Member   |
| 6. | Shri Jasbir Singh, Industrial Advisor, D/o C&PC | - | Member   |

5. The Expert Group will have the following Terms of Reference:-

(i) Having regard to the inputs provided by CPCB in their report on the two incinerators at Ankleshwar, Gujarat and Pithampur, Madhya Pradesh, the Group will reassess the technical capabilities, readiness and feasibility of incinerating/disposing

of the toxic wastes of the UCIL at either of these two facilities or at any other facility/incinerator which may be available for carrying out this task, and to make clear recommendation on the most suitable facilities for this purpose keeping in view the practical aspects such as the distance of each incinerator/facility from Bhopal, etc.

(ii) To rank at least five facilities in order of preference.

6. Since the Expert Group would need to visit several potential incineration plants to assess their state of readiness and capabilities, it was decided that the Group must submit its report to the Task Force within a period of 3 months.

7. On the progress made by the three institutes viz., NEERI, NGRI and the IICT in regard to the studies assigned to them for remediation of ground water and soil and decommissioning and dismantling of the structures respectively, the representative of NEERI informed that the preliminary site investigation is over. The hotspots identified by NEERI in their earlier report of 1996 may not be sufficient, hence, more hotspots would be identified after the drilling of wells is done by NGRI. The Chairman stated that the copies of the DRDO reports on the toxicity of the UCIL waste would be provided to NEERI for reference.

8. NGRI was requested to furnish to the State Govt. of MP the Utilization Certificates of funds released earlier in the standard format.

9. IICT was requested to visit CBI office in Bhopal on 30.7.2009 to get copies of relevant drawings of the Plant. IICT assured that they would give their report by the end of August, 2009 subject to availability of the drawings from CBI.

10. The following decisions were taken by the Task Force:

- (i) An Expert Group to be set up under the convenorship of Chairman, CPCB.
- (ii) The Terms of Reference of the Expert Group would be as given in para 5 above.
- (iii) The time frame of the Expert Group to give its clear recommendations would be 3 months.

11. The meeting ended with a vote of thanks.

**Annexure-1**

**List of officials of the Government of India, Government of M.P. and other organizations present in the eighteenth meeting of the Task Force held on 20<sup>th</sup> July, 2009 at 12.00 Noon in Room No. 501, 'A' Wing, Shastri Bhavan, New Delhi.**

**Department of Chemicals and Petrochemicals:**

- (i) Shri Bijoy Chatterjee, Secretary.
- (ii) Shri B.P.Pandey, Joint Secretary.
- (iii) Shri Yashvir Singh, Deputy Secretary.
- (iv) Ms. Bandana Banerjee, Under Secretary.

**Government of Madhya Pradesh:**

- (v) Shri R.C. Sahni, Chief Secretary.
- (vi) Shri J.T. Ekka, Commissioner, BGTR&R Department.
- (vii) Shri A.K. Jain, Special Commissioner.
- (viii) Shri K.K. Dubey, Deputy Secretary, BGTR&R Department.

**Ministry of Environment and Forests:**

- (ix) Dr. (Ms.) Chhanda Chowdhury, Director

**Central Pollution Control Board (CPCB):**

- (x) Dr. S.P. Gautam, Chairman.

**Madhya Pradesh Pollution Control Board (MPPCB):**

- (xi) Shri R.K. Jain, Member Secretary.

**Council of Scientific and Industrial Research (CSIR):**

- (xii) Shri V.K. Gupta, Director's Grade Scientist.

**National Environmental Engineering Research Institute (NEERI):**

- (xiii) Dr. Tapan Chakrabarti, Acting Director.
- (xiv) Shri M.P. Patil, Scientist.
- (xv) Dr. A.N. Vaidya, Scientist-E.II.

**National Geophysical Research Institute(NGRI), Hyderabad:**

- (xvi) Dr. V.S. Singh, Emeritus Scientist.

**Indian Institute of Chemical Technology (IICT):**

- (xvii) Dr. A. Krishna Reddy, Scientist-E.II
- (xviii) Shri Pradeep Kumar, Scientist-F.

**Minutes of the seventeenth Meeting of the Task Force - set up in compliance with the Orders of the High Court of Madhya Pradesh, at Jabalpur dated 30<sup>th</sup> March, 2005, 13<sup>th</sup> May, 2005 and 15<sup>th</sup> March, 2007 respectively - held on 9<sup>th</sup> June, 2009 at 11.30 A.M. in Room No. 501- A-Wing, Shastri Bhawan, New Delhi.**

The seventeenth meeting of the Task Force was held on 9<sup>th</sup> June, 2009 at New Delhi, to review the progress of the removal/ remediation of toxic wastes from the Union Carbide India Ltd. (UCIL) plant site at Bhopal. 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**.

2. After a brief introduction, the Chairman requested the Joint Secretary (C&PC) to present the agenda for the meeting. The Joint Secretary briefly stated that as decided in the 16<sup>th</sup> meeting of the Task Force held on 19<sup>th</sup> January, 2009, the Govt. of MP was to issue a Work Order to all the three institutes viz., Indian Institute of Chemical Technology (IICT), National Environmental Engineering Research Institute (NEERI) and National Geophysical Research Institute (NGRI) specifying the terms & conditions for undertaking the studies assigned to them. For this purpose, a kick-off meeting was to be held at Bhopal on 5<sup>th</sup> February, 2009 to which representatives of the three institutes were to be invited. It was also stated that IICT had assured to submit their report alongwith the draft Tender Document by the end of February 2009 to the Govt. of MP. It was requested that the Task Force may be apprised of the action taken on all these points.

3. The Task Force was informed by the scientists of NEERI that the kick-off meeting held on 5<sup>th</sup> February 2009 went off very well. The Govt. of MP had issued the Work Orders in March, 2009 and the team of NEERI had started work in the third week of April, 2009. Analysis of samples of the soil was going on, and field studies had been completed. The Task Force requested NEERI to give a clear technical advice on remediation of the soil and groundwater with supporting data/ analysis and duly substantiated with scientific evidence, so that the report can be filed in the High Court of MP.

4. Scientists from NGRI reported that the team of the institute working at the site had carried out the task of identifying the saturated and unsaturated spots for presence of contaminated groundwater. They had gathered information from the Central Pollution Control Board (CPCB) as well as the Town and Country Planning Department of the Govt. of MP. NGRI had prepared a clear map after preparing accurate profiles of the site with state-of-the-art instruments imported from Sweden. Based on the geophysical profiling done by NEERI certain benchmarks were needed to be set. Based on data received from the Survey of India, Dehradun, Resistivity Imaging of the area had been carried out, and they were now required to drill around 8-10 wells at the site, for which they needed the permission of the Govt. of MP.

Also, for taking up the work of digging/ drilling the wells, before the start of monsoon, NGRI would like to avail the services of a government contractor. The Commissioner, Gas Rahat, Govt. of MP assured that the Municipal Corporation of Bhopal would be requested to provide the services of a government approved contractor. The Task Force decided that NGRI should depute an Officer to Bhopal in the next one week to tie up all these loose ends.

5. The representatives of IICT informed that a team of eight scientists has been working at the UCIL plant site at Bhopal since the second week of February 2009. They needed to examine some more drawings of the plant structure, which were in the custody of the CBI. The Under Secretary, Bhopal Gas Tragedy, Relief and Rehabilitation Department, Govt. of MP informed that a letter dated 1.6.2009 had been received from the SP, CBI in which it had been agreed that the drawings will be shown to the authorized officers/scientists of the IICT at the CBI office at New Delhi. IICT also wanted the locks of the two MIC tanks to be opened, which had been sealed by the CBI. The Chairman requested the Government of MP to write to the CBI for opening the locks of the MIC tanks, so that the task of IICT is not delayed. The scientists of IICT assured that the Tender Document and the report on the decommissioning and dismantling of the plant structure would be finalized within four weeks after the CBI allows access to the drawings and opens the locks of the MIC tanks. The Task Force decided that the IICT scientists should meet with the officers concerned of the CBI at their Delhi office on the same day, and should submit their report by the end of July, 2009 positively. The report should also cover the earlier task assigned to IICT regarding the feasibility of retention or otherwise, of some of the parts of the plant structure for the purpose of building a memorial and submit a report giving an objective assessment with supporting data which is duly substantiated with scientific evidence.

6. The Commissioner, Gas Rahat, Govt. of MP informed the Task Force that the requests for further release of funds to the three institutes would be considered once the Utilization Certificates are submitted by them. The Head IT Division, CSIR was of the opinion that on the lines of the kick-off meeting held on 5<sup>th</sup> February 2009 at Bhopal, a similar meeting may be convened to sort out the problems being faced by the institutes for carrying out the project work related to the studies, at the UCIL plant site at Bhopal. The Task Force decided that a meeting should be held on 24<sup>th</sup> June, 2009 (Wednesday) in the office of the Commissioner, Gas Rahat, Govt. of MP, at Bhopal, and the representatives of all the three institutes should be invited to attend.

7. The Chairman of the Task Force observed that the Task Force may put on record its appreciation for the invaluable support provided by Shri Yashvir Singh, Deputy Secretary, Deptt. of Chemicals & Petrochemicals, to the Task Force constituted by the High Court of M.P. for implementation of the

Roadmap for environmental remediation of the UCIL plant site, since the first meeting of the Task Force held in May, 2005 till date, as he would be relinquishing the charge on completion of his tenure with the Department of C&PC, in July, 2009. The Task Force decided that the next meeting would be held after IICT submits its report by the end of July, 2009, to the Task Force.

**8. The following decisions were taken by the Task Force:**

- (i) NEERI should give a very objective report on the toxicity and remediation of soil and groundwater with supporting data/ analysis, duly substantiated with scientific evidence, as their report has to be filed in the High Court of MP.
- (ii) NGRI should depute an officer to meet the Commissioner, Gas Rahat, Govt. of MP for engaging a Govt. contractor for carrying out the work of drilling the 8-10 wells in the UCIL premises. The NGRI officer will visit Bhopal within the next one week, in this regard.
- (iii) IICT scientists should meet the officers concerned of the CBI in their Delhi office the same day (i.e. 9<sup>th</sup> June, 2009) to sort out the matters mentioned in para 5 above. IICT should submit the draft Tender Document and their report by the end of July, 2009 positively. The report should also cover the earlier task assigned to IICT regarding the feasibility of retention or otherwise, of some of the parts of the plant structure for the purpose of building a memorial. IICT should give an objective assessment with supporting data, and duly substantiated with scientific evidence, on this issue.
- (iv) A meeting would be held on 24<sup>th</sup> June, 2009 (Wednesday) in the office of the Commissioner, Gas Rahat, Govt. of M.P., at Bhopal and the representatives of all the three institutes would attend it, for sorting out the problems related to the projects for completion of the studies being carried out by the three institutes.
- (v) The next meeting would be held after IICT submits its report by the end of July, 2009, to the Task Force.

**9. 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 seventeenth Meeting of the Task Force held on 9th June, 2009 at 11.30 AM. in Room No. 501, 'A' Wing, Shastri Bhawan, New Delhi.**

**Department of Chemicals & Petrochemicals:**

- (i) Shri Bijoy Chatterjee, Secretary.
- (ii) Shri B.P. Pandey, Joint Secretary.
- (iii) Shri Yashvir Singh, Deputy Secretary.
- (iv) Ms. Bandana Banerjee, Under Secretary.

**Ministry of Environment and Forests:**

- (v) Ms. Chhanda Choudhury, Director.

**Council of Scientific and Industrial Research (CSIR):**

- (vi) Shri V.K. Gupta, Head IT & Coordination.

**Central Pollution Control Board (CPCB):**

- (vii) Shri D.D. Basu, Senior Scientist.

**Government of Madhya Pradesh:**

- (viii) Dr. J.T. Ekka, Commissioner, BGTR&R Department.
- (ix) Shri K.K. Dubey, Under Secretary, BGTR&R Department.

**National Environmental Engineering Research Institute (NEERI):**

- (x) Shri A.N. Vaidya, Scientist.
- (xi) Shri M.P. Patil, Scientist.

**National Geophysical Research Institute (NGRI), Hyderabad:**

- (xii) Dr. V.S. Singh, Emeritus Scientist.

**M.P. Pollution Control Board (MPPCB):**

- (xiii) Shri R.K. Jain, Member Secretary.

**Indian Institute of Chemical Technology (IICT):**

- (xiv) Dr. A. Krishna Reddy, Scientist.
- (xv) Dr. V.V. Narayana Reddy, Scientist 'G'.
- (xvi) Shri Pradeep Kumar, Scientist.

**Minutes of the sixteenth Meeting of the Task Force - set up in compliance with the Orders of the High Court of Madhya Pradesh at Jabalpur dated 30<sup>th</sup> March, 2005, 13<sup>th</sup> May, 2005 and 15<sup>th</sup> March, 2007 respectively - held on 19<sup>th</sup> January, 2009 at 3.30 P.M. in Room No. 501- A-Wing, Shastri Bhawan, New Delhi.**

The sixteenth meeting of the Task Force was held on 19<sup>th</sup> January, 2009 at New Delhi, to review the progress of the removal/ remediation of toxic wastes from the Union Carbide India Ltd. (UCIL) plant site at Bhopal. 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**.

2. After a brief introduction, the Chairman requested the Secretary, Bhopal Gas Tragedy, Relief and Rehabilitation Department (BGTR&R), Government of M.P. to apprise the Task Force on the action taken for transportation and disposal of the 350 MT of Toxic Wastes at Ankleshwar in the background of the decisions taken in the fifteenth meeting of the Task Force, held on 17<sup>th</sup> June, 2008 and the directions issued by the High Court of MP on 16<sup>th</sup> December, 2008. The Secretary, BGTR&R informed that in response to the letter written by the Government of M.P. for compliance of the directions issued by the High Court of MP vide their order dated 16<sup>th</sup> December, 2008, the Government of Gujarat had informed that they were filing a fresh SLP in the Supreme Court of India against the said order and their response would be based on the outcome of the SLP.

3. The Task Force was informed that the earlier SLP (No.21936 of 2008) filed by the Government of Gujarat against the order of the High Court of MP dated 15<sup>th</sup> July, 2008 and the fresh SLP (No. CC 292 of 2009) filed by the Government of Gujarat against the order of the High Court of MP dated 16<sup>th</sup> December, 2008 came up for hearing today in the Supreme Court and the Court had issued directions that the Union of India (Ministry of Chemicals and Fertilizers) will call a High Level Meeting and discuss with the representatives of the States of Gujarat and Madhya Pradesh and shall take a decision at the earliest. The Court had also ordered that the advice of the Central Pollution Control Board and the State Pollution Control Board may be taken for taking an appropriate decision and that the Union of India should report to the Court by 20<sup>th</sup> February, 2009. The Chairman decided that a meeting will be called in the last week of January, 2009 with the Chief Secretaries of both the States and Officers of the Central Pollution Control Board and respective State Pollution Control Boards.

4. On the progress made by the three institutes viz. Indian Institute of Chemical Technology (IICT), National Environmental Engineering Research Institute (NEERI) and National Geophysical Research Institute (NGRI) in regard to the studies assigned to them for decommissioning and dismantling of the plant structure and ground water and soil remediation respectively, the Head (IT), Council of Scientific Industrial Research (CSIR) informed that though the sanctions for releasing the funds to the institutes had been issued and the funds had also been received by these institutes but as per the CSIR norms a specific Work Order was needed to be provided by the Government of MP to all the three institutes separately. This was mandatory for fulfilling the requirements of the internal finance of the institutes to actually draw the money awarded to them. After discussions, it was decided that the Government of MP would issue a letter in the form of a Work Order before 28<sup>th</sup> January, 2009 to all the three institutes specifying the terms and conditions on which the studies were to be carried out.

5. On the request of the representatives of the NEERI and NGRI, it was agreed that a kick-off meeting be held by the Government of M.P. on 5<sup>th</sup> February, 2009 at Bhopal to sort out all the pending issues between the State Government and the institutes including the clearance of bushes etc. in order to expedite the studies to be undertaken by the latter for implementation of Phase-III of the Road Map for environmental remediation of the former UCIL plant site. It was also decided that the time-frame for completing the studies by NEERI and NGRI would remain unchanged, i.e. 24 months from 17.6.2008 i.e. by 16<sup>th</sup> June, 2010. It was further decided that IICT would submit their report with the draft tender document by the end of February, 2009 to the Govt. of M.P.

6. The representative of NGRI requested that as decided in the last meeting of the Task Force, the Government of M.P. were to provide images on Remote Sensing for carrying out their studies on soil and groundwater remediation maps. However, the Govt. of M.P. had informed that the same could not be made available by the Agency concerned due to issues related to confidentiality. In view of this, it was decided that the Govt. of M.P. would provide maps available with the Land & Revenue Deptt. and/ or the Town & Country Development Deptt. of the State Govt. to NGRI before the kick-off meeting to be held on 5<sup>th</sup> Feb., 2009. The representatives of NGRI agreed to accept these maps. The Director, NGRI stated that they would depute Dr. Mandal, the Scientist dealing with the study to collect the maps from the Govt. of M.P.

**7. The following decisions were taken by the Task Force:**

- (i) A meeting would be called in the last week of January, 2009, in compliance with the orders issued by the Supreme Court and the Chief Secretaries of both the States (Gujarat and M.P.) and Officers of the Central Pollution Control Board and respective State Pollution Control Boards would be invited for resolving the issue of transportation and disposal of 350 MT toxic wastes at the incinerator at Ankleshwar.
  - (ii) The Government of MP would issue a letter in the form of a Work Order before 28<sup>th</sup> January, 2009 to all the three institutes, viz., IICT, NEERI and NGRI specifying the terms and conditions on which the studies were to be carried out for implementation of Phase-III of the Road Map for environmental remediation of the former UCIL Plant site.
  - (iii) A kick-off meeting would be held on 5<sup>th</sup> February, 2009 at Bhopal to sort out all the pending issues including clearance of bushes etc. between the Government of M.P and the institutes in order to expedite the studies to be undertaken by these institutes for implementation of Phase-III of the Road Map for environmental remediation of the former UCIL plant site.
  - (iv) The time-frame for completing the studies of NEERI and NGRI would remain unchanged, i.e. 24 months and they had to be completed by 16<sup>th</sup> June, 2010.
  - (v) IICT would submit their report with the draft tender document by the end of February, 2009 to the Govt. of M.P.
  - (vi) The Govt. of M.P. would provide maps available with the Land & Revenue Deptt. and/ or the Town & Country Development Deptt. of the State Govt. to NGRI, before the kick-off meeting to be held on 5<sup>th</sup> Feb., 2009.
8. 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 sixteenth Meeting of the Task Force held on 19<sup>th</sup> January, 2009 at 3.30 PM. in Room No. 501, 'A' Wing, Shastri Bhawan, New Delhi.**

**Department of Chemicals & Petrochemicals:**

- (i) Shri Bijoy Chatterjee, Secretary.
- (ii) Shri Yashvir Singh, Deputy Secretary.
- (iii) Ms. Bandana Banerjee, Under Secretary.
- (iv) Shri C.P. Singh, Section Officer

**Ministry of Environment and Forests:**

- (v) Dr. Manoranjan Hota, Additional Director.

**Council of Scientific and Industrial Research (CSIR):**

- (vi) Shri V.K. Gupta, Head IT & Coordination.

**Central Pollution Control Board (CPCB):**

- (vii) Shri D.D. Basu, Senior Scientist.
- (viii) Shri J.S. Kamyotra, Member Secretary

**Government of Madhya Pradesh:**

- (ix) Shri Omesh Mundra, Secretary, BGTR&R Department.
- (x) Shri J.T. Ekka, Commissioner, BGTR&R Department.
- (xi) Shri K.K. Dubey, Under Secretary, BGTR&R Department.

**National Environmental Engineering Research Institute (NEERI):**

- (xii) Dr. Tapan Chakrabarti, Acting Director
- (xiii) Shri M.P. Patil, Scientist.

**National Geophysical Research Institute (NGRI), Hyderabad:**

- (xiv) Shri V.P. Dimpri, Director
- (xv) Shri V.S. Singh, Emeritus Scientist

**M.P. Pollution Control Board (MPPCB):**

- (xvi) Dr. S.P. Gautam, Chairman.
- (xvii) Dr. A.K. Saxena, Chief Chemist.

**Indian Institute of Chemical Technology (IICT):**

- (xviii) Shri A. Krishna Reddy, Scientist.
- (xix) Dr. V.V. Narayana Reddy, Scientist 'G'.
- (xx) Shri Pradeep Kumar, Head, Business.

**Minutes of the fifteenth Meeting of the Task Force - set up in compliance with the Orders of the High Court of Madhya Pradesh at Jabalpur dated 30<sup>th</sup> March, 2005, 13<sup>th</sup> May, 2005 and 15<sup>th</sup> March, 2007 respectively - held on 17<sup>th</sup> June, 2008 at 11.30 A.M. in Room No. 501- A-Wing, Shastri Bhawan, New Delhi.**

The fifteenth meeting of the Task Force was held on 17<sup>th</sup> June, 2008 at New Delhi, to review the progress of the removal/ remediation of toxic wastes from the Union Carbide India Ltd. (UCIL) plant site at Bhopal. 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**.

2. While welcoming all, the Chairman of the Task Force stated that the issue was engaging serious attention of the Government at the highest level and there was a need to expedite the actions to be taken on the basis of the decisions taken on 9<sup>th</sup> June, 2008 by the Task Force. The response of the Government of M.P. and agencies concerned on the decisions taken by the Task Force in its meeting held on 9<sup>th</sup> June, 2008 was as follows:

(i) **The Government of M.P. was asked to ensure that the transportation of Lime Sludge, weighing approximately 40 MT, to the TSDF at Pithampur may be completed by the end of June, 2008.** The Secretary, Bhopal Gas Tragedy, Relief & Rehabilitation (BGTR&R) Department, Government of M.P. informed that the contract with the operator of the Transportation, Storage and Disposal Facility (TSDF) at Pithampur, M/s Ramky Enviro Engineers Ltd. had been signed and the contract with the transporter would be signed in the next two-three days by the State Government. Preparations were under way for transportation and disposal of 40 MT of Lime Sludge at the TSDF, Pithampur by end of June, 2008 or latest by 1<sup>st</sup> week of July, 2008.

(ii) **The Government of M.P. was asked to apprise the High Court about the correspondence they have had with the Government of Gujarat and the submission made by the operator of the incinerator at Ankleshwar about the fitness of the incinerator and also bring to the notice of the Court that the Government of Gujarat may be issued necessary directions for complying with the orders of the Court dated 21<sup>st</sup> November, 2007.** The Secretary and Under Secretary, BGTR&R, Department, Government of M.P. assured the Task Force that the entire matter would be placed before the High Court on the next date of hearing. The Chairman directed that CPCB would furnish information to

the Task Force immediately to clarify whether the Gujarat Government's reasons/ objections for withdrawal of their permission for incineration of 350 MT of the toxic wastes at the incinerator at Ankleshwar were tenable. The Task Force decided that despite communicating the Order of the High Court of M.P. dated 21.11.2007, the Government of Gujarat had not explained to the High Court the objections it had in this matter, therefore, it may be asked by Government of M.P. to submit its view before the High Court directly.

**(iii) The Chairman of the Task Force had directed that the Director General, CSIR and the Directors of IICT, NEERI and NGRI respectively may be invited at the earliest to sort out the issue of the time frame and financial estimates of the studies/activities to be carried out by these institutes for implementation of Phase-III of the Roadmap prepared by the Government of M.P., in consultation with MPPCB for the environmental remediation of the former UCIL plant site at Bhopal.** The Head, IT & Coordination, Council of Scientific & Industrial Research (CSIR) informed that the estimates furnished by the three Institutes, viz. IICT, NEERI and NGRI were based on the norms for intellectual property charges, as prescribed by the CSIR. The Chairman directed that the CSIR may take up the job of analyzing these study proposals to come out with revised costs and time-lines. CSIR agreed to revise them to bring them to reasonable levels. The Chairman further directed that CSIR may discuss various components by holding a meeting with the Heads of the three Institutes and the Government of M.P. At the same time, it may be ensured that the remuneration of the persons involved in carrying out the studies and activities related thereto are not affected and other items may be pruned to bring down the overall costs. CSIR may prepare a work sheet for this whole exercise and provide it to the Government of M.P.

The Task Force had discussed the time-frame for the studies to be conducted by NEERI and NGRI in its last meeting held on 9<sup>th</sup> June, 2008, which was stated by the experts to be 42 months. After detailed deliberations, the Chairman of the Task Force and the Head, IT, CSIR decided that the activities of these Institutes would be concurrent to each other and NEERI would set up a mini laboratory at Bhopal for carrying out the study. The revised time frame would be as follows:

<b>NEERI and NGRI concurrent studies, collection of samples etc.</b>	<b>- 12 months</b>
<b>Analysis by NEERI</b>	<b>- 6 months</b>
<b><u>Formulation of remediation strategy by NEERI</u></b>	<b><u>- 6 months</u></b>
<b>Total time</b>	<b>- 24 months.</b>

The experts from the 3 Institutes informed the Task Force that their teams had faced hostility from the NGOs and persons living near the UCIL plant site during their earlier visits, therefore, they may be provided with adequate security when they visit the UCIL plant site again. The Chairman of the Task Force directed that the State Government should ensure full cooperation and adequate security to the teams of the 3 Institutes, when they undertake visits to the UCIL plant for conducting their studies. The Secretary, BGTR&R Department, Government of M.P. stated that the Director, Gas Relief, BGTR&R Department would be the nodal officer for law and order and logistics, from the Government of M.P.

The Chairman also directed that the Government of M.P. should make immediate ad-hoc releases, in the form of advances, to the three institutes for initiating their studies and related activities as follows:

<b>IICT, Hyderabad</b>	-	<b>Rs.50 lakh.</b>
<b>NGRI, Hyderabad</b>	-	<b>Rs.30 lakh.</b>
<b>NEERI, Nagpur</b>	-	<b>Rs.20 lakh.</b>
<b>Total:</b>	-	<b>Rs.100 lakh or Rs.1.00 crore.</b>

The Secretary, BGTR&R Department, Government of M.P. informed the Task Force that funds were available and would be released immediately to the Institutes. The Chairman also directed that the date of initiation of the studies would be 17<sup>th</sup> June, 2008, for all the three Institutes and they should start work in right earnest.

**(iv) The Government of M.P. would file a report on the study proposals submitted by IICT, NEERI and NGRI, well ahead of time before the next hearing due in the High Court on 3<sup>rd</sup> July, 2008.** The Chairman directed that the Government of M.P. should prepare a detailed report and file in the High Court on the next date, after finalising the cost estimates and the time-lines, in consultation with CSIR, on the study proposals of the 3 institutes.

**(v) The Government of M.P. would inform in the next meeting of the Task Force to be held on 17<sup>th</sup> June, 2008 about the alternative site for incineration identified or explored by them in view of the stand taken by the Government of Gujarat.** The representative of CPCB informed that incinerators were available at Taluja, near Mumbai, and Hyderabad and a new facility was also coming up at Visakhapatnam, which was expected to be commissioned in one month's time. The Chairman suggested that the CPCB should ascertain from the respective State Pollution Control Boards about the readiness of these incinerators to incinerate the 350 MT of toxic wastes from UCIL, Bhopal, in the

eventuality that the Government of Gujarat does not finally agree for incineration at Ankleshwar. The CPCB would also comment on the storage capacity of the BEIL incinerator at Ankleshwar and verify the correctness of the statement that its storage was full and it could not accept more quantities of wastes, as reported by the Government of Gujarat. The Secretary, BGTR&R Department informed that M/s Ramky was also putting up an incinerator in Madhya Pradesh. The Chairman directed that Government of M.P. may ascertain when it would be ready and also keep on exploring the alternatives. Regarding the detoxification, decommissioning and dismantling of the abandoned plant and other soil and groundwater remediation, it was suggested to find out a precedence of such exercises having been done elsewhere in the world on a turnkey basis. It would be worthwhile adopting unconventional methods like 'Swiss Challenge' method, subject to legality and constitutionality.

3. The Secretary, BGTR&R Department informed the Task Force that a team of scientists from the Defence Research and Development Establishment (DRDE), Gwalior had recently visited Bhopal and collected samples from the UCIL plant site. They would give a report to the State Government on the toxicity levels and methods of safe transportation and disposal of the different toxic material. The Chairman directed that the State Government may request the DRDE to give a Preliminary Report in the next one week and give its Final Report by the end of July, 2008. The Chairman also directed that the three Institutes should build up counter-arguments with substantiating documents/ reports on the levels of toxicity claimed by some organizations, to be present in the toxic wastes lying at the former UCIL plant site, which reportedly make them highly dangerous to handle or remove.

4. In response to a specific request of NEERI and NGRI, the Chairman directed that the State Government would provide images on Remote Sensing these Institutes for carrying out their studies on soil and groundwater remediation. NEERI would collect samples independently and start analysis thereof and NGRI would identify the hot-spots immediately, from where NEERI would collect samples later.

**5. The following decisions were taken by the Task Force:**

- (i) CPCB would furnish information to the Task Force immediately clarifying whether the Gujarat Government's reasons/ objections for withdrawal of permission for

incineration of 350 MT of the toxic wastes at the incinerator at Ankleshwar were tenable.

- (ii) Despite communicating the Order of the High Court of M.P. dated 21<sup>st</sup> November, 2007, the Government of Gujarat had not explained to the High Court the objections it had in this matter, therefore, the Government of Gujarat may be asked by Government of M.P. to submit its view before the High Court directly.
- (iii) The estimates of Studies to be conducted by IICT, NEERI and NGRI may be worked out on cost-basis and CSIR may take up the job of analyzing these studies to come out with revised costs and time-lines to bring them to reasonable levels.
- (iv) The activities of NEERI and NGRI would be concurrent to each other and NEERI would set up a mini laboratory at Bhopal for carrying out the study. The revised time frame for these two Institutes would be as follows:

<b>NEERI and NGRI concurrent studies, collection of samples etc.</b>	<b>- 12 months</b>
<b>Analysis by NEERI</b>	<b>- 6 months</b>
<b><u>Formulation of remediation strategy by NEERI</u></b>	<b>- 6 months</b>
<b>Total time</b>	<b>- 24 months.</b>

- (v) The date of initiation of the studies would be 17<sup>th</sup> June, 2008, for all the three Institutes and they should start work in right earnest.
  - (vi) The Government of M.P. would prepare a detailed report and file in the High Court on the next date, after finalising the cost estimates and the time-lines, in consultation with CSIR, on the study proposals of the 3 institutes.
  - (vii) The Government of M.P. would ascertain readiness of the incinerator being put up by M/s. Ramky Enviro Engineers Ltd. and also keep on exploring other alternatives.
  - (viii) The Government of M.P. may request the DRDE to give a Preliminary Report in the next one week and give its Final Report by the end of July, 2008, on the toxicity levels and methods of handling and transporting the different toxic wastes.
  - (ix) The three Institutes viz. IICT, NEERI and NGRI would build up counter-arguments with substantiating documents/ reports on the levels of toxicity claimed by some organizations, to be present in the toxic wastes lying at the former UCIL plant site, which reportedly make them highly dangerous to handle or remove.
  - (x) The Government of M.P. would provide images on Remote Sensing to the three Institutes for carrying out their studies on soil and groundwater remediation.
6. 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 fifteenth Meeting of the Task Force held on 17<sup>th</sup> June, 2008 at 11.30 A.M. in Room No. 501, 'A' Wing, Shastri Bhawan, New Delhi.**

**Government of India**

**Department of Chemicals & Petrochemicals:**

- (i) Shri V.S. Sampath, Secretary.
- (ii) Shri Kumaresh C. Misra, Joint Secretary
- (iii) Shri Yashvir Singh, Deputy Secretary.
- (iv) Ms. Bandana Banerjee, Under Secretary.

**Ministry of Environment and Forests:**

- (v) Ms. Chhanda Chowdhry, Director.

**Council of Scientific and Industrial Research (CSIR):**

- (vi) Shri V.K. Gupta, Head IT & Coordination.

**Central Pollution Control Board (CPCB):**

- (vii) Shri P.M. Ansari, Addl. Director.

**Government of Madhya Pradesh:**

- (viii) Shri Omesh Mundra, Secretary, BGTR&R Department.
- (ix) Shri K.K. Dubey, Under Secretary, BGTR&R Department.

**National Environmental Engineering Research Institute (NEERI):**

- (x) Dr. Tapan Chakrabarti, Acting Director
- (xi) Shri M.P. Patil, Scientist.
- (xii) Shri J.K. Bassin, Deputy Director & Head, NEERI, Delhi

**National Geophysical Research Institute (NGRI), Hyderabad:**

- (xiii) Shri V.P. Dimpri, Director
- (xiv) Shri V.S. Singh.

**M.P. Pollution Control Board (MPPCB):**

- (xv) Dr. A.K. Saxena, Chief Chemist.

**Indian Institute of Chemical Technology (IICT):**

- (xvi) Shri A. Krishna Reddy.

**Minutes of the fourteenth Meeting of the Task Force - set up in compliance with the Orders of the High Court of Madhya Pradesh at Jabalpur dated 30<sup>th</sup> March, 2005, 13<sup>th</sup> May, 2005 and 15<sup>th</sup> March, 2007 respectively - held on 9<sup>th</sup> June, 2008 at 3.30 P.M. in Room No. 501- A-Wing, Shastri Bhawan, New Delhi.**

The fourteenth meeting of the Task Force was held on 9<sup>th</sup> June, 2008 at New Delhi, to review the progress of the removal/ remediation of toxic wastes from the Union Carbide India 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 Chairman of the Task Force welcomed the members of the Task Force and officials of the Government of India, State Government of M.P. and other agencies/ organizations concerned.
  
4. Based on the decision taken by the Task Force in its thirteenth meeting held on 7<sup>th</sup> March, 2008, the Principal Secretary, Bhopal Gas Tragedy Relief and Rehabilitation (BGTR&R) Department, Govt. of M.P. was asked to give an update on the information obtained on transporters of hazardous material and steps taken to solicit the cooperation of the Government of Gujarat so that the approximately 350 MT of different toxic wastes could be transported to Ankleshwar and incinerated in the incineration facility there. The Principal Secretary, BGTR&R Department informed the Task Force that the transporter had been finalized on the basis of a single tender received by the State Government and a formal contract would be signed with the transporter in the next few days. The Chairman directed that it may be ensured that the transportation of Lime Sludge weighing approximately 40 MT to the TSDF at Pithampur may be completed by the end of June, 2008. The Principal Secretary informed that the Chief Secretary, Government of Gujarat had conveyed to the Chief Secretary, Government of M.P. that the Government of Gujarat had decided that approx. 350 MT of other hazardous wastes to be incinerated at Ankleshwar may not be possible in view of the recent fire in the storage of the incinerator and the opposition by the local NGOs for the incineration of the toxic waste of Bhopal. The Chairman observed that the Chief Secretary of Gujarat had also written to him citing the same reasons for withdrawal of the NOC given by the State Government / State Pollution Control Board earlier. However, the operator of the facility had also written to the Chairman that the incinerator was operating

finely and having a capacity of 10,000 MT per annum, the 350 MT of toxic wastes from Bhopal could be incinerated within a week's time. In view of the recent incident of fire in the storage of the incinerator the operator had taken immediate steps for prevention of such incidents in future and had also enhanced the capacity of the storage.

5. The Chairman directed that the Principal Secretary, BGTR&R may apprise the High Court about this development and also bring to the notice of the Court that the Government of Gujarat may be issued necessary directions for complying with the orders of the Court dated 21<sup>st</sup> November,2007.

6. Based upon the decision taken by the Task Force in its last meeting the representatives of NEERI was asked to give an update on the break up of costs and a detailed time frame for their study proposals. The Scientist from NEERI informed that they had furnished their proposal to the BGTR& R Department, Government of M.P. The study proposal submitted had the following time frame and financial estimates :

- (i) NGRI to identify the hot spots of contaminated water and soil in 18 months ;
- (ii) NEERI to collect and analyse samples from these hot spots in 15 months;
- (iii) NEERI to design the remedial strategy in 9 months.

Therefore, a total time of 42 months would be required by NEERI and NGRI to give a final report on the remedial strategy to be adopted for remediation of contaminated ground water and soil. The financial estimates for the task to be undertaken by NGRI were Rs.1.45 crore and for the work to be carried out by NEERI Rs. 80 lakhs, both amounts were inclusive of service tax.

7. The Joint Secretary(C&PC) inquired whether these activities to be undertaken by NEERI and NGRI were parallel activities or could be done sequentially. The expert from CPCB clarified that all these activities were sequential and could be performed only one after the other but the time frame suggested by NEERI and the estimates of the funds for carrying out these studies/activities were both longer and higher respectively. The Joint Secretary(C&PC) suggested that both NEERI and NGRI could compress the time frame of the studies/activities as 42 months would be a too long period to wait for the reports.

8. The Principal Secretary, BGTR&R informed that the proposal submitted by the IICT on 31<sup>st</sup> May,2008 gave an estimate of Rs.2.40 crore plus 12.36 percent service tax extra. The

Chairman of the Task Force directed that the Director General, CSIR and the Directors of IICT, NEERI and NGRI respectively may be invited at the earliest to sort out the issue of the time frame and financial estimates of the studies/activities to be carried out by these institutes for implementation of Phase-III of the Roadmap prepared by the Government of M.P., in consultation with MPPCB for the environmental remediation of the former UCIL plant site at Bhopal.

9. The Government of Madhya Pradesh had requested the High Court on the last hearing that it may be given a time of two months to finalize a report on the progress made in finalizing the transporter, the study proposals of IICT, NEERI and NGRI. The Chairman directed that the Government of M.P. may file this report well ahead of time before the next hearing due in the High Court on 3<sup>rd</sup> July, 2008.

10. On the issue of identifying alternative sites for incineration of the approximately 350 MT of different types of toxic wastes, the Chairman requested the CPCB to help the Government of M.P. and MPPCB by providing a list of incinerators in the neighboring states. The expert from CPCB informed that Taluja in Raigad District and Tarapore near Mumbai in the State of Maharashtra and Hyderabad in A.P. had incineration facilities and could be identified as the alternatives. However, the consent of the respective State Pollution Control Boards/ State Government may be obtained by the Government of M.P. for transportation and incineration of the said toxic wastes at these facilities. The Principal Secretary, BGTR&R Department stated that the Government of M.P. would take up the issue with the Government of Gujarat at the highest level and in case the Government of Gujarat does not agree for withdrawing its objections, they will explore the possibilities of the alternative incinerators and take suitable necessary action in this regard, at the earliest. The Chairman directed that in the next meeting of the Task Force to be held on 17<sup>th</sup> June, 2008 the Government of M.P. would inform about the alternative site for incineration identified or explored by them in view of the stand taken by the Government of Gujarat.

**11. The Task Force took the following decisions:**

- (i) The Government of M.P. may ensure that the transportation of Lime Sludge weighing approximately 40 MT to the TSDF at Pithampur may be completed by the end of June, 2008.

- (ii) The Government of M.P. may apprise the High Court about the correspondence had with the Government of Gujarat and the submission made by the operator of the incinerator at Ankleshwar and also bring to the notice of the Court that the Government of Gujarat may be issued necessary directions for complying with the orders of the Court dated 21<sup>st</sup> November,2007.
  - (iii) The Chairman of the Task Force directed that the Director General, CSIR and the Directors of IICT, NEERI and NGRI respectively may be invited at the earliest to sort out the issue of the time frame and financial estimates of the studies/activities to be carried out by these institutes for implementation of Phase-III of the Roadmap prepared by the Government of M.P., in consultation with MPPCB for the environmental remediation of the former UCIL plant site at Bhopal.
  - (iv) The Government of M.P. would file a report on the study proposals submitted by IICT, NEERI and NGRI, well ahead of time before the next hearing due in the High Court on 3<sup>rd</sup> July,2008.
  - (v) The Government of M.P. would inform in the next meeting of the Task Force to be held on 17<sup>th</sup> June,2008 about the alternative site for incineration identified or explored by them in view of the stand taken by the Government of Gujarat.
12. 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 thirteenth meeting of the Task Force held on 9<sup>th</sup> June, 2008 in Room No. 501, 'A' Wing, Shastri Bhawan, New Delhi.**

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

- (i) Shri V.S. Sampath, Secretary.
- (ii) Shri Kumaresh C Misra, Joint Secretary
- (iii) Shri Yashvir Singh, Deputy Secretary.
- (iv) Ms. Bandana Banerjee, Under Secretary.

**Government of Madhya Pradesh:**

- (v) Dr. Dev Raj Birdi, Principal Secretary, Bhopal Gas Tragedy Relief & Rehabilitation Department.

**Central Pollution Control Board:**

- (vi) Shri P.M. Ansari, Addl. Director.
- (vii) Shri Paritosh Kumar, SEE.

**National Environmental Engineering Research Institute**

- (viii) Shri M.P. Patil, Scientist.

**Minutes of the Thirteenth Meeting of the Task Force - set up in compliance with the Orders of the High Court of Madhya Pradesh at Jabalpur dated 30<sup>th</sup> March, 2005, 13<sup>th</sup> May, 2005 and 15<sup>th</sup> March, 2007 respectively - held on 7<sup>th</sup> March, 2008 at 3.00 P.M. in Room No. 501- A-Wing, Shastri Bhawan, New Delhi.**

The thirteenth meeting of the Task Force was held on 7<sup>th</sup> March, 2008 at New Delhi, to review the progress of the removal/ remediation of toxic wastes from the Union Carbide India 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 Deputy Secretary, Department of Chemicals & Petrochemicals (C&PC) introduced Shri V.S. Sampath, who took over as the Secretary (C&PC) in January, 2008, to the members of the Task Force and requested all present to give their brief introduction to the Chairman. The Chairman welcomed the members of the Task Force and officials of the Government of India, State Government of M.P. and other agencies/organizations concerned.

4. Based on the decision taken by the Task Force in its twelfth meeting held on 16<sup>th</sup> October, 2007, the Principal Secretary, Bhopal Gas Tragedy Relief and Rehabilitation (BGTR&R) Department, Govt. of M.P. was asked to give an update on the progress of selection of a transporter for transporting the approx. 40 MT of lime sludge to Pithampur and approx. 350 MT of hazardous wastes to Ankleshwar. The Principal Secretary informed that the reply of the Central Pollution Control Board (CPCB) had been received only two days back wherein they had advised that the Government of MP may consult the State Pollution Control Boards of other States to get a list of transporters engaged in the transportation of hazardous material. The technical expert from CPCB also reiterated that the State Pollution Control Boards may be having information on such transporters, who may be contacted by the Government of M.P. The Advisor, Ministry of Environment and Forests proposed that Incinerator Operators have their own trucks, who may also be contacted for this purpose. The Chairman observed that there has been significant delay in finalizing the transportation issue on account of procedures to be followed, therefore, he directed the Principal Secretary, BGTR&R Department not to allow further delay on account of procedures and exercise the option of nomination of a suitable transporter at reasonable cost, who has necessary experience and expertise in transporting hazardous material of high toxicity levels. He

directed that the entire process of finalizing the transporter may be completed within one month and the actual transportation may start immediately after that, to Pithampur and Ankleshwar respectively.

5. In view of the directions issued by the High Court of Madhya Pradesh vide their order dated 10<sup>th</sup> January, 2008, that the orders of the High Court have to be complied with by all concerned, the Chairman directed that the approximately 350 MT of the stored toxic wastes may be transported and incinerated at the Incineration Facility at Ankleshwar, as soon as the transporter is finalized. Since the Government of Gujarat had already been intimated that the High Court had passed such directions, and there has been no response from the Government of Gujarat so far, therefore, the Government of M.P. may go ahead with the compliance of the orders of the High Court of Madhya Pradesh. They may, however, solicit the cooperation of the Government of Gujarat.

6. The Director, IICT explained to the Chairman that IICT would provide consultancy for the project management related to the detoxification, decommissioning and dismantling (3Ds) of the UCIL plant. IICT was in the preparation stage for the study to be carried out for suggesting the actual 3Ds and it would need a time of about six months to finalize its study and recommendations. The Institute would prepare a tender document, assist the Government of M.P. in inviting the tenders and monitoring of the activities to be carried out by the Agency which would actually execute the 3Ds.

7. The expert from NEERI also informed the Chairman that the role of NEERI had been divided into three phases, i.e. (i) Geo-physical and Hydrological Analysis within a radius of around five kms. for samples of soil and ground water; (ii) Estimation of the spread of contaminants affecting the ground water; and (iii) Preparation of a remediation strategy for remediation of soil and ground water contamination. He explained that the role of NEERI would be similar to that of IICT as consultants for the project management and the actual remediation work would be carried out by the Agency to be engaged through the tender.

8. The Chairman directed that IICT and NEERI would furnish the break-up of the costs involved and detailed time-frame of their Study proposals to the BGTR&R Department, Government of M.P., within 2 weeks and the BGTR&R Department would issue work orders to both the institutes immediately after submission of this information. He also directed that

the two Institutes would ensure that while phasing-out their Studies, specific deliverables are assigned for every six months of the Study period, so as to have a monitoring mechanism for the Task Force to review the progress made in carrying out the studies.

**9. The Task Force took the following decisions:**

- (i) The BGTR&R Department would obtain the information on transporters of hazardous material within a period of one month and solicit the cooperation of the Government of Gujarat so that the approximately 350 MT of different toxic wastes are transported to Ankleshwar and incinerated in the incineration facility there.
- (ii) The BGTR&R Department would also ensure transportation of approximately 40 MT of Lime Sludge to TSDF at Pithampur and disposal thereof, at the earliest.
- (iii) The Government of Gujarat to be again asked by the BGTR&R Department, Government of Madhya Pradesh to cooperate in complying with the order of the High Court of Madhya Pradesh dated 21<sup>st</sup> November, 2007.
- (iv) IICT and NEERI to furnish the break up of costs and a detailed time frame for their study proposals within two weeks time and the BGTR&R Department to issue work orders to these Institutes immediately after that.
- (v) IICT and NEERI to ensure that while phasing out their Studies, specific deliverables would be assigned for every six months of the Study period.

10. 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 thirteenth meeting of the Task Force held on 7<sup>th</sup> March, 2008 in Room No. 501, 'A' Wing, Shastri Bhawan, New Delhi.**

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

- (i) Shri V.S. Sampath, Secretary.
- (ii) Shri Yashvir Singh, Deputy Secretary.
- (iii) Ms. Bandana Banerjee, Under Secretary.

**Ministry of Environment & Forests:**

- (iv) Shri G.K. Pandey, Advisor.

**Government of Madhya Pradesh:**

- (v) Shri I.S. Dani, Principal Secretary, Bhopal Gas Tragedy Relief & Rehabilitation Department.

**Madhya Pradesh Pollution Control Board:**

- (vi) Prof. S.P. Gautam, Chairman.
- (vii) Dr. (Smt) Rita Kori, Senior Scientific Officer.
- (viii) Dr. Abhaya Kumar Saxena, Chief Chemist.

**Central Pollution Control Board:**

- (ix) Shri P.N. Ansari, Addl. Director.

**Indian Institute of Chemical Technology:**

- (x) Dr. J.S. Yadav, Director.
- (xi) Dr. A. Krishna Reddy, Deputy Director (Retd.).

**National Environmental Engineering Research Institute**

- (xii) Shri M.P. Patil, Scientist.

**Minutes of the Twelfth meeting of the Task Force - set up in compliance with the Orders of the High Court of Madhya Pradesh at Jabalpur dated 30<sup>th</sup> March, 2005, 13<sup>th</sup> May, 2005 and 15<sup>th</sup> March, 2007 respectively - held on 16<sup>th</sup> October, 2007 at 11.00 a.m. in Room No. 501- A-Wing, Shastri Bhawan, New Delhi.**

The Twelfth meeting of the Task Force was held on 16<sup>th</sup> October, 2007 at New Delhi to review the progress of the removal/ remediation of toxic wastes from the Union Carbide India 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), Chairman, welcomed the members of the Task Force and officials of the Government of India, State Government of Madhya Pradesh and other agencies/organizations concerned.

4. The Chairman asked the Director, Bhopal Gas Tragedy Relief and Rehabilitation (BGTR&R) Department, Govt. of M.P. to apprise the Task Force on the progress made by the State Government in the tendering process for transportation of the toxic wastes to Ankleshwar and Pithampur for incineration and disposal at the Secured landfill, respectively. The Director, BGTR&R Department, informed that the tenders were invited on 3<sup>rd</sup> August, 2007 but there was no response received, therefore, the State Govt. had invited fresh tenders through the re-tendering in the first week of October, 2007 and the last date for receipt of tenders was 27<sup>th</sup> October, 2007. He further informed that only one tender document had been sold till 15<sup>th</sup> October, 2007. The Chairman of the Task Force advised that the State Government may also start the process of obtaining quotations from transporters, in case, no response is received against the re-tendering. The process of transportation and disposal of 40 MT of lime sludge at the TSDF at Pithampur may be completed by the end of November, 2007. Meanwhile the State Government may discuss the matter relating to incinerator at Ankleshwar with the Government of Gujarat and in the meanwhile also explore the possibility of utilizing the services of other incinerators in the neighbouring States. The Joint Secretary, Ministry of Environment and Forests suggested that the incinerators at Taloja, Maharashtra and at Rangareddy, Andhra Pradesh could be the facilities that may also be considered in terms of distance from Bhopal.

5. The Chairman directed that the State Government should submit a special report to the Task Force by the 1<sup>st</sup> week of November, 2007, on the progress made after completion of the re-tendering process. The Director BGTR&R Deptt. agreed to submit a report accordingly.

6. The Chairman, Madhya Pradesh Pollution Control Board (MPPCB) apprised the Task Force that National Environmental Engineering Research Institute (NEERI) and National Geophysical Research Institute (NGRI) had submitted their report in the Department of Science and Technology's (DST's) format, while the Indian Institute of Chemical Technology (IICT) had furnished their report on 15<sup>th</sup> October, 2007 in the prescribed format. The report of NEERI and NGRI was discussed by the Technical Sub-Committee (TSC) in its last meeting held on 12<sup>th</sup> October, 2007 at Bhopal. The Chairman of the Task Force sought clarification on the NEERI report and whether it covered points raised by Dr. P.M. Bhargava. He was informed by the Chairman, MPPCB that the letter of Dr. Bhargava was received on 15<sup>th</sup> October, 2007 after the meeting of the Technical Sub Committee.

7. The Chairman informed that the observations of Dr. P.M. Bhargava were discussed which was concurred by the members of the TSC present and it was reported that all his concerns had been addressed. Dr. Bhargava had observed that the proposal submitted by NEERI, Nagpur was almost there in terms of intent. The other suggestions made by Dr. Bhargava had been taken care of. It was decided that as NEERI, Nagpur was a laboratory of national repute, thus, it would adhere to international standards. As regards wells, model, disposal area etc. this will depend on the preliminary study by NGRI for determining the extent of contamination. The Committee Members also discussed the proposal submitted by IICT, Hyderabad in DST format. It was decided that the TSC would meet shortly to examine in detail the proposal of IICT and send a report to the Chairman of the Task Force

8. The Chairman, MPPCB apprised the Task Force that technically the proposal of NEERI/NGRI was found acceptable by the Technical Sub-Committee and the study approach of the Institute was approved 'in principle' and also the technical expertise of NEERI was recognized for undertaking the studies for Phase III of the roadmap. The Joint Secretary, Chemicals and Petrochemicals observed that the Institutes had mentioned in their proposals that they would need around two year's time for completing their studies, therefore,

there was a need to set milestones for enabling periodic review of the progress made by the Institutes in implementation of the activities to be covered under the project. The Chairman of the Task Force directed that the time frame indicated by the two Institutes needs to be elaborated upon by mentioning the milestones to be achieved within the proposed time frame.

9. The amount quoted by NEERI for the studies proposal was noted by the Task Force as Rs.1.87 crore and that of IICT as Rs.2.40 crore. However, the Chairman and members of the Task Force felt that these estimates need to be further examined for deleting items which were adding to the expenditure over and above the actual activities to be performed at the ground level and linked to activities and milestones. The Chairman of the Task Force directed that a Sub-Committee consisting of Joint Secretary(C&PC), Principal Secretary, BGTR&R Department, Government of MP and the technical expert from Central Pollution Control Board may look into the financial estimates furnished by the Institutes and identify where the expenditure could be curtailed. The Sub-Committee may also obtain the details of phasing the expenditure from the two Institutes and examine the justification for such a large intellectual fee proposed by IICT after the Technical Sub-Committee found the proposal of IICT fit.

10. The Task Force considered the Press Note issued by the Government of Gujarat and the letter of the Principal Secretary, Department of Environment, Government of Gujarat conveying that the Government of Gujarat had decided that the toxic wastes lying at the UCIL plant site at Bhopal may not be allowed to be incinerated at the incinerator installed at Ankleshwar and the Government of India and Government of Madhya Pradesh may explore other alternative sites for incineration of the same. The Chairman of the Task Force was of the opinion that the issue may be taken up again with the Government of Gujarat by the Government of Madhya Pradesh and by the MPPCB with the Gujarat State Pollution Control Board. The Ministry of Environment & Forests would also take it up with the Government of Gujarat with a request to reconsider the decision as the permission granted earlier both by the Government of Gujarat and the Gujarat Pollution Control Board had been placed on record before the High Court of Madhya Pradesh.

11. The Task Force also observed that the representatives of NEERI and IICT had not attended the meeting of the Task Force. The Chairman of the Task Force felt that considering the gravity of the matter their presence would have been fruitful for the discussions. It was

decided that the Chairman of the Task Force would take it up with the respective Institutes as well as their controlling Ministries/Departments to ensure that the representatives of the Institutes attend the meetings of the Task Force regularly.

**Decisions taken in the meeting:**

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

- (i) The Govt. of M.P. would initiate the process of inviting quotations for transportation of different type of toxic wastes for removal/ disposal thereof fix rates by negotiations at the TSDF and incinerator in the event of no fit applications being received in response to the re-tendering. The process of transportation and disposal of 40 MT of lime sludge to the TSDF at Pithampur may be completed by the end of the November,2007.
- (ii) The Govt. of M.P. would take up the matter of incineration of around 350 MT of toxic wastes at Ankleshwar with the Government of Gujarat. The Madhya Pradesh Pollution Control Board would take it up with the Gujarat State Pollution Control Board and the Ministry of Environment and Forests would also take it up with the Government of Gujarat. The Government of Madhya Pradesh would also explore the availability of alternative incinerator in the neighbouring States.
- (iii) The State Government would submit a special report to the Task Force by the 1<sup>st</sup> week of November,2007, on the progress made after completion of the re-tendering process.
- (iv) The Budgetary details of the proposals of NEERI/NGRI technically approved by the Technical Sub Committee would be looked into by a Sub-Committee comprising of Joint Secretary(C&PC), Principal Secretary, BGTR&R Department and technical expert of CPCB. The Committee may also obtain the details of phasing of expenditure from the institutes and the justification for such a long time line suggested for the study.
- (v) The Task Force noted with unhappiness that the representatives of the NEERI and IICT had not attended the meetings of the Task Force recently. The Chairman would take up this issue with the Institutes and their controlling Ministries/Departments.

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 eleventh meeting of the Task Force held on 27<sup>th</sup> July, 2007 at 12.00 noon in Conference Room No.220- A, Shastri Bhawan, New Delhi.**

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

- (i) Shri Arun Ramanathan, Secretary.
- (ii) Shri K.C. Misra, Joint Secretary.
- (iii) Shri Yashvir Singh, Deputy Secretary.

**Ministry of Environment & Forests:**

- (iv) Shri R.K. Vaish, Joint Secretary.
- (v) Dr. Indrani Chandrashekar, Director

**Government of Madhya Pradesh:**

- (vi) Shri M.K. Varshney, Director, Bhopal Gas Tragedy Relief & Rehabilitation Department.

**Madhya Pradesh Pollution Control Board:**

- (vii) Prof. S.P. Gautam, Chairman.
- (viii) Dr. Abhaya Kumar Saxena, Chief Chemist.

**Central Pollution Control Board:**

- (ix) Shri P.N. Ansari, Addl. Director.
- (x) Shri Paritosh Kumar, SEE.

**Confederation of Indian Industry:**

- (xi) Dr. Shraddha Dubey.

**Minutes of the eleventh meeting of the Task Force - set up in compliance with the Orders of the High Court of Madhya Pradesh at Jabalpur dated 30<sup>th</sup> March, 2005, 13<sup>th</sup> May, 2005 and 15<sup>th</sup> March, 2007 respectively - held on 27<sup>th</sup> July, 2007 at 12.00 noon in Conference Room No. 220-A, A-Wing, Shastri Bhawan, New Delhi.**

The eleventh meeting of the Task Force was held on 27<sup>th</sup> July, 2007 at New Delhi to review the progress of the removal/ remediation of toxic wastes from the Union Carbide India 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 Deputy Secretary, Department of Chemicals & Petrochemicals (C&PC) welcomed the members of the Task Force and officials of the agencies/organizations concerned and introduced Shri Arun Ramanathan, the new Chairman of the Task Force, who had assumed the charge of Secretary, Department of C&PC on 11<sup>th</sup> June, 2007. The Chairman was also introduced to the officers of the Government of M.P., Madhya Pradesh Pollution Control Board (MPPCB), Central Pollution Control Board (CPCB) and Indian Institute of Chemical Technology (IICT). The Joint Secretary (C&PC), Shri K.C. Misra, who recently took over the charge of Bhopal Cell, was also introduced to the Task Force.
  
4. The Chairman asked the Secretary, Bhopal Gas Tragedy Relief and Rehabilitation (BGTR&R) Department, Govt. of M.P. to apprise the Task Force on the progress made in obtaining the necessary authorizations/ permissions from the MPPCB. The Secretary, BGTR&R Department informed that the State Government was finalizing the tender documents which would be ready within next 2-3 days. The tenders were expected to be opened by the end of August, 2007 and the transportation of the toxic wastes was expected to begin by the end of September, 2007. The Chairman MPPCB informed that they had given all the necessary authorizations/ permissions to the State Govt. on 20<sup>th</sup> July, 2007. The Chairman noted that the Gujarat Pollution Control Board had accorded 'no objection' for the use of the incinerator facilities at Ankleshwar and there should be expeditious action.
  
5. On the issue of deputing officers of the CPCB, the Senior Scientist, CPCB stated that the Chairman of the Board had already informed the Task Force that the Zonal Officers of

CPCB would be present at the incinerator for overseeing/supervising the initiation of the process of incineration of the specified toxic wastes and they would thereafter visit the incinerator to conduct random tests, from time to time. However, the Officers of the MPPCB and the concerned State Pollution Control Board would be deputed to be present throughout the incineration process for ensuring the compliance of guidelines issued by the CPCB and the relevant international protocols. The Chairman MPPCB assured the Task Force that their officers would be deputed permanently at the incinerator for this purpose.

6. The Chairman, MPPCB informed that letters had been written to the operator of the Transportation, Storage and Disposal Facility (TSDF), at Pithampur, to ensure that the facility was ready in time before the Lime Sludge from the UCIL plant site is transported to the TSDF. He further stated that the map clearly showing the exact location of the cell where the Lime Sludge would be disposed at Pithampur, had been received from the operator.

7. The Secretary, BGTR&R Department was asked to spell out the time lines and commitments for the implementation of the remaining activities of the roadmap in accordance with the decisions taken by the Task Force and the Technical Sub-Committee thereof. He assured the Task Force that the transportation of the toxic wastes to the TSDF and the incinerator was likely to commence in the month of September, 2007, after the tendering process is over and contracts are awarded. On receipt of the proposals of the concerned institutes, for implementation of the phase-III of the roadmap the Technical Sub-Committee would give its recommendations. Phase III time lines could be spelled out then.

8. The Secretary, BGTR&R Department apprised the Task Force that adequate funds for implementation of the Phase II of the roadmap were available, as the Govt. of India had sanctioned and released Rs.1 crore for this purpose in May, 2007. The expenditure likely to be incurred for implementation of the Phase III of the roadmap would be estimated on receipt of the recommendations of the Technical Sub-Committee.

9. The Chairman, MPPCB informed the Task Force that the Technical Sub-Committee had held a preliminary meeting on 25<sup>th</sup> May, 2007 at Bhopal to discuss the implementation of the Phase III of the roadmap. A review meeting was held on 18<sup>th</sup> July, 2007 at New Delhi where the proposals of NEERI, National Geophysical Research Institute (NGRI) and IICT were discussed and it was decided that NEERI and NGRI would submit detailed proposals in

the format evolved by the Department of Science & Technology with comprehensive Terms of Reference, for consideration of the Technical Sub-Committee, within 3 weeks so that these could be further deliberated upon by the Technical Sub-Committee. The Chairman of the Task Force directed that the Technical Sub-Committee should hold the next meeting in the second half of August, 2007, to avoid any further delay.

10. The Secretary, BGTR&R Department apprised the Task Force that the Govt. of M.P., through their Advocate General had clarified before the High Court of M.P., on 21<sup>st</sup> June, 2007, in the presence of the Senior Advocate representing the Union of India and the Deputy Secretary, Department of C&PC that the estimated expenditure for removal/disposal of the stored toxic wastes was approx. Rs.2 crore and therefore, share of the Govt. of India was Rs.1 crore and not Rs.1.45 crore as mentioned in the Order of the High Court dated 15<sup>th</sup> March, 2007. The High Court accepted the clarification and issued suitable Orders on 21<sup>st</sup> June, 2007.

11. The Chairman of the Task Force directed that the next meeting of the Task Force be held in September, 2007 once the Govt. of M.P. initiates the process of actual removal/disposal of the stored toxic wastes lying at the UCIL Plant site, by award of contract.

**Decisions taken in the meeting:**

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

- (i) The Govt. of M.P. would invite tenders within the next 2-3 days for removal/ transportation/ disposal of the stored toxic wastes at the TSDF and incinerator and complete the entire process of opening the tenders and awarding of contract by the end of August, 2007.
- (ii) The actual removal/ transportation of the stored toxic waste to the TSDF and incinerator would start by end of September, 2007.
- (iii) The MPPCB would supervise the process of disposal at the TSDF and also at the incinerator, along with the concerned State Pollution Control Board. The CPCB would depute Zonal officers to be present at the incinerator for overseeing/supervising the initiation of the process of incineration of the specified toxic wastes and would thereafter visit the incinerator to conduct random tests, from time to time.

- (iv) The Technical Sub-Committee would meet before the end of August, 2007 to examine the detailed proposals and comprehensive Terms of Reference of the proposals of NEERI, NGRI and IICT, for implementation of phase-III of the Roadmap.
  - (v) The next meeting of the Task Force to be held in late September, 2007.
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 eleventh meeting of the Task Force held on 27<sup>th</sup> July, 2007 at 12.00 noon in Conference Room No.220- A, Shastri Bhawan, New Delhi.**

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

- (i) Shri Arun Ramanathan, Secretary.
- (ii) Shri K.C. Misra, Joint Secretary.
- (iii) Shri Yashvir Singh, Deputy Secretary.
- (iv) Shri Y.P. Gupta, Under Secretary.

**Government of Madhya Pradesh:**

- (v) Shri Ajit Kesari, Secretary, Bhopal Gas Tragedy Relief & Rehabilitation Department.

**Madhya Pradesh Pollution Control Board:**

- (vi) Prof. S.P. Gautam, Chairman.
- (vii) Dr. Reeta Kori, Senior Scientific Officer.
- (viii) Dr. Abhaya Kumar Saxena, Chief Chemist.

**Central Pollution Control Board:**

- (ix) Dr. D.D Basu, Senior Scientist.

**Indian Institute of Chemical Technology:**

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

**Minutes of the tenth 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 3<sup>rd</sup> May, 2007 at 11.00a.m. in Room No. 501-A, A-Wing, Shastri Bhawan, New Delhi.**

The tenth meeting of the Task Force was held on 3<sup>rd</sup> May, 2007 at New Delhi 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 P.V. Rajeev Sebastian, Economic Adviser (C&PC) to the Task Force. She was also introduced to the officers of the Ministry of Environment and Forests, Government of India, the Central Pollution Control Board, the Government of Madhya Pradesh and the Madhya Pradesh Pollution Control Board.
  
4. The Chairperson asked the Deputy Secretary (C&PC) to give a brief background of the work assigned to the Task Force by the High Court of Madhya Pradesh and the progress made so far, so that the officers of the Ministry of Environment and Forests attending the meeting of the Task Force for the first time could be apprised of the same. The Deputy Secretary gave a brief background of the Writ Petition filed in the High Court of Madhya Pradesh, constitution of the Task Force, the implementation of the roadmap prepared by the Govt. of Madhya Pradesh and MPPCB, the progress made in implementation of the Phase I and Phase II, so far, and the activities to be covered under the Phase III of the roadmap.
  
5. The Chairperson stated that the Phase I and Phase II of the roadmap could be implemented by the Task Force with the support from the Technical experts, who were members of the Technical sub-Committee of the Task Force. Since the activities to be covered under the Phase III were more technical and complex, therefore, a request was made to the High Court of MP to further expand the composition of the Task Force by including the Senior Officers of the Ministry of Environment and Forests which was noted by the High Court in its order of 15<sup>th</sup> March, 2007.

6. The Member Secretary, MPPCB informed the Task Force that the necessary preparations for sending the Lime Sludge to Pithampur, near Indore and the other five types of toxic wastes to the incineration facility at Ankleshwar, Gujarat had been initiated. The necessary authorizations, permissions and other formalities for availing the facilities of the TSDF at Pithampur and the incinerator at Ankleshwar were being coordinated with the Department concerned of the Government of Madhya Pradesh, Govt. of Gujarat and the operators of the facilities, respectively. The Secretary, BGTR&R Department, Govt. of MP added that the necessary formalities were being finalized and the Task Force would be apprised by them about the progress made in this regard, in the next two weeks. The MPPCB also assured the Task Force to apprise them with the progress achieved in the issuance of necessary authorizations/permissions within the next two weeks. Further, the Chairperson directed the MPPCB to coordinate with the Govt. of Gujarat, the operators of the facility at both Pithampur and Ankleshwar, the transporter, the occupier (the Govt. of MP) etc. so that the process of sending stored toxic wastes to these locations could be started at the earliest, preferably by the last week of May, 2007.

7. The expert from Central Pollution Control Board informed the Task Force that the various permissions/authorizations required for the transportation and disposal of the different types of toxic wastes would have to be obtained as per the forms available for this purpose, which bear different colours based upon the type of activity/purpose intended for. He also assured the Task Force that officers from the Zonal Offices of the CPCB would be deputed for overseeing/supervising the process of disposal of the toxic wastes in accordance with the guidelines issued by the CPCB and the International Protocols applicable in this regard.

8. The Member Secretary, MPPCB informed the Task Force that the Gujarat State Pollution Control Board had conveyed its 'no objection' vide their letter dated 26<sup>th</sup> December, 2006, to the revised quantity of toxic wastes weighing about 350 MT instead of 67 MT to be incinerated at the incinerator of M/s. Bharuch Enviro Infrastructure Limited, Ankleshwar.

9. The Member Secretary, MPPCB apprised that they had written to the operator of the TSDF at Pithampur intimating the decision taken by the Task Force in its ninth meeting held on 16<sup>th</sup> October, 2006 at Hyderabad that the Lime Sludge from the UCIL plant site would

have to be placed in a separate hole at an identifiable location at the TSDF, without mixing it with any other toxic wastes. However, he also expressed certain reservations in this regard as the TSDF at Pithampur would be used for all kinds of industrial wastes from all over the State of Madhya Pradesh, therefore, it would be difficult to keep the small quantity of Lime Sludge weighing about 40 MT separately at an identifiable location. The Director, Ministry of Environment and Forests was of the view that such separation can be done and necessary preparations need to be made before hand at the TSDF prior to the arrival of the Lime Sludge at Pithampur. The Chairperson directed the MPPCB to ensure that the facility should be ready before the Lime Sludge is transported to the TSDF. She also directed that to document the details, the location of the hole may be specified and the MPPCB may draw a map of the TSDF clearly showing the exact location of the cell where the Lime Sludge would be disposed. The MPPCB would report to the Task Force on the action taken in this regard within two weeks.

10. The Secretary, BGTR&R Department, Government of MP informed that the State Government had filed an application in the High Court of MP on 30<sup>th</sup> January, 2007, seeking the permission of the Court for construction of a memorial at the UCIL plant site. The High Court had not issued any directions/orders in this regard so far. The Chairperson observed that since the construction of memorial was linked to the implementation of phase-III of the Road Map it was important that the course of action to be adopted for implementation of the phase-III by the Task Force would have to be spelled out first, before the State Government of M.P. is granted permission for construction of a memorial at UCIL plant site.

11. Regarding the EFC note to be prepared by the BGTR&R Department for funding the activities covered/to be covered under the Road Map, for submission to the Planning Commission, in consultation with the MPPCB, it was unanimously felt by the members of the Task Force that there was a need to clearly spell out the time-lines and commitments for implementation of the remaining activities of the Road Map which need to be worked out by the BGTR&R Department and MPPCB in accordance with the decisions taken by the Task Force from time to time, particularly those emanating from the recommendations of the technical sub-committee of the Task Force. The Chairperson directed the BGTR&R Department to work out the time-lines and commitments for implementing the remaining activities of the road map and also to work out the details of the remaining activities of the road map, so as to ensure that the quantum of funds required for implementation of these

activities could be suitably estimated and incorporated in the EFC note before approaching the Planning Commission for providing the necessary funds, to be shared equally by the Central Government and the State Government of M.P. **(subject to fixation of liability by the High Court of M.P. )**.

12. The Member Secretary, MPPCB, the Secretary, BGTR&R and the expert from the CPCB apprised the Task Force that the activities related to the decommissioning and dismantling of the structure of the UCIL plant as part of the phase-III of the Road Map needed to be separated into three categories namely, (i) decommissioning and dismantling of the structure; (ii) Bio-remediation of the soil and (iii) examination of the extent of the contamination of ground water. The expert from IICT stated that IICT had already furnished a proposal to the Government of Madhya Pradesh on the activities to be covered under the phase-III along with the financial estimates thereof. On their part, NEERI had also submitted a proposal on the soil remediation and NGRI had been assigned the work related to the preparation of a report on ground water contamination. The Member Secretary, MPPCB also informed that the Board was also regularly carrying out sample analysis of the extent of contamination of the ground water from the UCIL plant site and recording the same. The MPPCB would provide an updated status of the studies done in this regard so far, by different agencies/organizations and the future course of action, within next two weeks.

13. The Chairperson, after listening to the views of all concerned, directed that the technical sub-committee of the Task Force should look into the issues related to the implementation of the phase-III and give clear recommendations on (i) decommissioning and dismantling of the structure; (ii) Bio-remediation of the soil and (iii) examination of the extent of the contamination of ground water. The technical sub-committee may hold a preliminary meeting in the month of May, 2007 itself and also specify whether further studies/analysis work was required for the activities to be taken up in the phase-III and all the necessary steps to be taken in this regard. The chairperson also directed that the Director, Ministry of Environment and Forests (Dr. Indrani Chandrasekharan) and the two representatives of the NGOs who were invited for the earlier meetings of the technical sub-committee should also be invited for the proposed meetings of the technical sub-committee for implementation of the phase-III of the Road Map. The Technical sub-committee would consider the composite proposal for the phase-III and give clear recommendations on all the aspects related to the activities to be covered under the phase-III. The recommendations of

the technical sub-committee would be examined by the Task Force after they are finalized by them. However, the activities which have been covered under phase-II as part of the parallel activities should be considered as preparatory to the phase-III.

14. The Government of Madhya Pradesh would be clarifying before the High Court of M.P. on the next date of hearing i.e. 8<sup>th</sup> May, 2007 that the estimated expenditure for removal/disposal of the stored toxic wastes at the TSDF at Pithampur and the incinerator at Ankleshwar was Rs.2 crore and the share of the Government of India thus comes to Rs.1 crore and not Rs.1.45 crore as mentioned in the order of the High Court dated 15<sup>th</sup> March, 2007.

15. In compliance with the orders of the High Court dated 15<sup>th</sup> March,2007, the Ministry of Environment and Forests was invited for attending the tenth meeting of the Task Force and the Joint Secretary and Director were present during the meeting. The Department of C&PC would request the High Court on the next date of hearing to issue formal orders reconstituting the Task Force accordingly.

16. The Deputy Secretary(C&PC) informed the Task Force that the Chairperson, Smt. Satwant Reddy, Secretary(C&PC) is due to superannuate on 31<sup>st</sup> May, 2007, therefore, this would perhaps be the last meeting of the Task Force chaired by her. It may be put on record that under her able leadership and focused guidance the Task Force could tread the path leading to the implementation of the first two phases of the Road Map for removal/disposal of the toxic wastes lying in and around the UCIL plant site at Bhopal. Her dynamic approach and zeal for getting the decisions of the Task Force implemented by the agencies/organizations concerned had contributed immensely in bringing the Task Force to a stage where the actual removal/disposal of the stored toxic wastes was now imminent. The efforts she had personally put in for ensuring the speedy implementation of the decisions of the Task Force, particularly those related to obtaining permission of the Government of Gujarat for transportation and disposal of the different types of the toxic wastes in the incineration facility at Ankleshwar and pursuing the technical sub-committee to expedite its recommendations which were vital for the progress of implementation of the Road Map were laudable and worthy of being recorded. The Chairperson also expressed her thanks to the members of the Task Force and other officials associated with the Task Force during the last almost two years of her tenure for the support and cooperation extended to her not only

during the meetings of the Task Force but also in the follow up of the decisions taken during the meetings and she hoped that her successor would also get the same amount of support and cooperation from the members of the Task Force and all others associated with it.

**Decisions taken in the meeting:**

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

- (i) The Secretary, BGTR&R Department, Govt. of MP to apprise the Task Force about the progress made in regard to the necessary formalities to be finalized, in the next two weeks. The MPPCB would also apprise the Task Force on the progress achieved in the issuance of necessary authorizations/permissions within the next two weeks. The MPPCB to coordinate with the Govt. of Gujarat, the operators of the facility at both Pithampur and Ankleshwar, the transporter, the occupier (the Govt. of MP) etc. so that the process of sending stored toxic wastes to these locations could be started at the earliest, preferably by the last week of May, 2007.
- (ii) CPCB to issue necessary directions to its Zonal Offices for deputing officers for overseeing/supervising the process of disposal of the toxic wastes in accordance with the guidelines issued by the CPCB and the International Protocols applicable in this regard. Copies of the correspondence in this regard to be endorsed to the chairperson of the Task Force.
- (iii) The MPPCB to take up the issue of placing the Lime Sludge in a separate hole at an identifiable location at the TSDF without mixing it with any other toxic wastes, with the operator of the facility at Pithampur before hand, prior to the arrival of the Lime Sludge at Pithampur. MPPCB to also ensure that the facility should be ready in time before the Lime Sludge is transported to the TSDF.
- (iv) MPPCB to draw a map of the TSDF clearly showing the exact location of the Cell where the Lime Sludge would be disposed and report the action taken along with the copies of the map to the chairperson of the Task Force within next two weeks.
- (v) The BGTR&R Department to clearly spell out the time-lines and commitments for the implementation of the remaining activities of the roadmap in accordance with the decisions taken by the Task Force and the technical sub-committee.
- (vi) The BGTR&R Department to work out the details regarding the remaining activities of the road map so as to ensure that the quantum of funds required for the implementation of the roadmap could be suitably estimated and incorporated in the EFC note before approaching the Planning Commission.

- (vii) MPPCB to provide an updated status of the studies done by NEERI, NGRI and the MPPCB on soil and ground water remediation and the future course of action in this regard, to the members of the Technical Sub-Committee of the Task Force within two weeks.
  - (viii) The technical sub-committee to hold a preliminary meeting in the month of May, 2007, under the convenorship of the Chairman of the MPPCB to look into the issues related to the implementation of the phase-III and give clear recommendations on (i) decommissioning and dismantling of the structure; (ii) Bio-remediation of the soil and (iii) examination of the extent of the contamination of ground water.
  - (ix) The technical sub-committee to invite the Director, Ministry of Environment and Forests (Dr. Indrani Chandrasekharan) and the two representatives of the NGOs who were invited for the earlier meetings of the technical sub-committee for the proposed meetings for implementation of the phase-III of the Road Map.
  - (x) The Government of MP to clarify before the High Court of M.P. on the next date of hearing i.e. 8<sup>th</sup> May, 2007 that the estimated expenditure for removal/disposal of the stored toxic wastes at the TSDF at Pithampur and the incinerator at Ankleshwar was Rs.2 crore and the share of the Government of India thus comes to Rs.1 crore and not Rs.1.45 crore as mentioned in the order of the High Court dated 15<sup>th</sup> March, 2007.
18. 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 tenth meeting of the Task Force held on 3<sup>rd</sup> May, 2007 at 11.00 a.m. in Room No.501- A, Shastri Bhawan, New Delhi.**

**Government of India:**

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

- (i) Smt. Satwant Reddy, Secretary.
- (ii) Shri P.V. Rajeev Sebastian, Economic Adviser.
- (iii) Shri Yashvir Singh, Deputy Secretary.
- (iv) Shri Y.P. Gupta, Under Secretary.

**(Ministry of Environment and Forests):**

- (v) Dr. B.P. Nilaratna, Joint Secretary
- (vi) Dr. Indrani Chandrasekharan, Director

**Government of Madhya Pradesh. :**

- (vii) Shri Ajit Kesari, Secretary, Bhopal Gas Tragedy Relief & Rehabilitation Department.

**Madhya Pradesh Pollution Control Board:**

- (viii) Dr. M.L. Gupta, Member Secretary.
- (ix) Dr. Reeta Kori, Senior Scientific Officer

**Central Pollution Control Board:**

- (x) Dr. D.D Basu, Senior Scientist

**Indian Institute of Chemical Technology:**

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

**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 accommodate 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.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.

**Minutes of the eighth 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 18<sup>th</sup> April, 2006 at 11.00 a.m. in Committee Room No.315, Mantralaya, Vallabh Bhawan, Bhopal**

The eighth meeting of the Task Force was held in Bhopal 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-1**. The Chairman of Madhya Pradesh Pollution Control Board (MPPCB), Dr. P.S. Dubey could not attend the meeting due to the sudden demise of his father on the previous day. Dr. K.P. Nyati, the expert from Confederation of Indian Industry (CII) had sent a regret letter conveying his inability to attend the meeting of the Task Force.

3. The Secretary, Department of Chemicals & Petrochemicals (C&PC) welcomed the members of the Task Force and officials of the agencies/organizations concerned and asked them to briefly introduce themselves. Thereafter, she introduced Shri K.C. Misra, Joint Secretary (C&PC) to the Task Force. She also directed that the Task Force may put on record its appreciation for the invaluable help and support provided by Shri Mukesh Kacker, former Joint Secretary, who had since relinquished the charge on completion of his tenure with the Department of C&PC.

4. The Principal Secretary, Bhopal Gas Tragedy Relief and Rehabilitation (BGTR&R) Department, Government of Madhya Pradesh informed the Task Force that the MPPCB had submitted a report directly to the High Court before it could be discussed and examined by the Task Force. The representative of MPPCB clarified that the said report of MPPCB was based on the preliminary report of the National Environmental Engineering Research Institute (NEERI) and further investigations were being carried out before a final view could be taken by the MPPCB.

5. NEERI presented its final report to the Task Force during the meeting, which was referred to the expert from the Central Pollution Control Board (CPCB) to ensure that it was based on the guidelines issued by the CPCB. As the report of Indian Institute of Chemical Technology (IICT) was still awaited, the Chairperson of the Task Force took a serious view

on the delay in submission of the report by IICT. The expert from IICT explained that the delay was on account of collection of samples by IICT much later than NEERI. However, he assured the Task Force that the report would be finalized by 15<sup>th</sup> May, 2006. The Task Force decided that the report of NEERI presented during the meeting would be filed by the MPPCB in the High Court before the next date of hearing and the Government of M.P. would request the High Court to grant more time to IICT to finalise its report and would apprise the Court with the reasons for the delay.

6. The Principal Secretary, BGTR&R Department, Government of M.P. further submitted that due to the non-availability of the final reports of NEERI and IICT no clear stand could be taken on the issue of shifting or non shifting of the stored toxic waste lying at the UCIL plant site, which had consequently led to the delay in finalization of the estimates to finance the studies being carried out by IICT, NEERI and MPPCB and finalization of the project proposals for submission to the Planning Commission. The expert from IICT explained that they had requested the High Court on the previous date, i.e., 22<sup>nd</sup> February, 2006 to grant at least three months time for finalizing the report, which was declined by the High Court and they were directed to submit the report within a time of two months. The Task Force was of the view that they may explain the position and petition the High Court for extension of time as already decided.

7. The Director, NEERI and the Additional Director, CPCB explained that the stored toxic wastes would need pre-treatment before they are sent to the TSDF in case of non-tarry wastes. Since the TSDF being constructed by the State Government at Pithampur near Indore was yet to be commissioned, therefore, the stored toxic wastes could be kept in the present condition till the TSDF is constructed. However, the tarry wastes could be transported to Ankleshwar along with the containers in which they were kept at the UCIL plant site. The Principal Secretary, Housing & Environment, Government of M.P. informed that the work related to the construction of the TSDF had reportedly got delayed due to a stay order issued by the court while hearing a PIL in this regard. The facilities of the TSDF would be available on vacation of the stay order by the concerned court.

8. The Government of Madhya Pradesh reiterated that it could not firm up the estimates for the entire project as the Technical Sub-Committee of the Task Force was yet to make a clear recommendation on the issue of sending the toxic wastes to the TSDF/incinerator

respectively. As a result, the request to the Planning Commission to raise their plan ceiling and also to get a new scheme included in their State Plan for the remediation of UCIL plant site could not be taken up. The Principal Secretary, BGTR&R assured the Task Force that on receipt of the final estimates of the studies from IICT and NEERI and those of the MPPCB for activities covered under the road map by the agency identified by them, the State Government would finalize the estimates for the project.

9. It was observed by the Task Force that in view of the order of the High Court of M.P. dated 22<sup>nd</sup> February, 2006, the time limit for implementation of the phase-II of the road map had been extended as the High Court had asked IICT and NEERI to submit their reports by 24<sup>th</sup> April, 2006. However, the Government of M.P. would request the High Court to grant extension of time for implementation of phase-II, which was envisaged to be completed by 31<sup>st</sup> March, 2006.

10. The High Court, vide its order dated 22<sup>nd</sup> February, 2006 had directed that two experts referred by the NGOs would be co-opted in the Technical Sub-Committee of the Task Force after the NGOs obtain their consent to be members of the Sub-Committee. The Task Force was unanimous that it had no objection for co-opting the two experts in the Technical Sub-Committee for the purpose of evaluation of the reports of IICT and NEERI.

11. The Task Force observed that documentation of the reports of various agencies and the action taken by the Government of M.P. and the MPPCB needs to be done in a careful systematic manner not only for record purposes but also to ensure easy and clear referencing in future.

12. NEERI displayed before the Task Force a CD on immobilization and solidification of 10% Arsenic bearing waste which was carried out at Zuari Agrochemicals at Goa, in 2005. The CD showed that a cement concrete mix was used to mix the waste and binding matrices and the mixture was then disposed off in a lined landfill which was constructed in accordance with CPCB guidelines. The quantum of waste stabilized was 250 cubic metre of 10% Arsenic bearing vitrocake solution, 50 Metric Tonnes (MT) of solidified waste and 30 MT of Hexavalent Chromium bearing sludge, a hazardous waste under Schedule II of the Hazardous Wastes (Management & Handling) Rules, 1989.

**Decisions taken in the meeting:**

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

- (i) The final report presented to the Task Force by NEERI on 18<sup>th</sup> April, 2006 would be examined by the expert from CPCB to ensure that it was based on the guidelines issued by CPCB. The report would be filed by the MPPCB in the High Court before the next date of hearing in the High Court.
- (ii) The Government of M.P. would request the High Court to grant more time to IICT for finalizing its report and apprise the Court with the reasons for the delay.
- (iii) The IICT, on its part, would also request the High Court for extension of time to submit their report.
- (iv) The Government of M.P. would also explain the reasons for the delay in the construction of the TSDF to the Court.
- (v) The Government of Madhya Pradesh would request the High Court to grant extension of time for implementation of the phase-II of the road map, which was envisaged to be completed by 31<sup>st</sup> March,2006.
- (vi) The Task Force was unanimous on the issue of co-opting the two experts representing the NGOs in its Technical Sub-Committee and had no objection to this, if the two experts conveyed their consent to this effect.
- (vii) The BGTR&R Department would ensure proper documentation of all the reports and related documents received from various institutes, bodies etc. The MPPCB would ensure proper documentation of all the papers related to actual implementation of the activities covered/ to be covered as given in the road map.

14. The next meeting of the Task Force would be held after the Technical Sub-Committee gives its recommendations in consultation with the experts representing the NGOs.

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

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**Annexure-1**

**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 18<sup>th</sup> April, 2006 at 11.00 a.m. in Committee Room No. 315, Mantralaya, Vallabh Bhawan, Bhopal.**

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

- (i) Smt. Satwant Reddy, Secretary.
- (ii) Shri K.C. Misra, Joint Secretary.
- (iii) Shri Yashvir Singh, Deputy Secretary.

**Government of Madhya Pradesh. :**

- (iv) Shri P.D. Meena, Principal Secretary, Housing & Environment Department.
- (v) Shri M.M. Upadhyay, Principal Secretary, Bhopal Gas Tragedy Relief & Rehabilitation Department.
- (vi) Sh. K.S. Maran, Additional Secretary, Bhopal Gas Tragedy Relief & Rehabilitation Department.
- (vii) Shri S.. N. Misra, Secretary, Housing and Environment. Department.
- (viii) Shri Manish Singh, Commissioner, Bhopal Municipal Corporation, Bhopal.
- (ix) Dr. N. Banerjee, O.I.C, Centre for Rehabilitation Studies, Bhopal Gas Tragedy Relief & Rehabilitation Department.
- (x) Shri K.K. Dubey, Under Secretary, Gas Relief & Rehabilitation. Department.
- (xi) Dr. D.P. Agrawal, Chief Medical Officer, Gas Relief.
- (xii) Shri R.B. Rai, A.E., Bhopal Municipal Corporation.
- (xiii) Shri V.K. Mishra, C.E., Bhopal Municipal Corporation.

**Madhya Pradesh Pollution Control Board:**

- (xiv) Dr. Reeta Kori, Senior Scientific Officer.

**Central Pollution Control Board:**

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

**Indian Institute of Chemical Technology:**

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

**National Environmental Engineering Research Institute:**

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

**Minutes of the seventh 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 9th January, 2006 at 11.00 a.m. in Room No.501-A, Shastri Bhawan, New Delhi.**

The seventh meeting of the Task Force was held in New Delhi, to review the progress of the removal/ remediation of toxic wastes from the UCIL plant site at Bhopal.

2. A list of the officials of the Government of India, Government of M.P. and other organizations, who attended the meeting is at **Annexure-1**. The expert from the Confederation of Indian Industry (CII), Dr. K.P. Nyati, could not attend the meeting.

3. The Secretary, Department of Chemicals & Petrochemicals (C&PC) welcomed the members of the Task Force and asked them to apprise the Task Force of the actions taken as a follow-up of the decisions taken in the sixth meeting held on 17th November, 2005.

4. The Task Force perused the estimates prepared by the Government of Madhya Pradesh, adding to Rs.7.35 crore, which were furnished by the Principal Secretary, Bhopal Gas Tragedy Relief & Rehabilitation (BGTR&R) Department, Government of M.P. The Task Force noted that:

- (i) the State Government should submit the estimates to the Planning Commission directly; and
- (ii) the proposal containing the estimates cannot be sent to the Planning Commission in the present form and has to be well documented.

5. While discussing the components of this estimate of Rs.7.35 crore, Principal Secretary, BGTR&R Department informed the Task Force that the Indian Institute of Chemical Technology (IICT) has recommended that the waste lying in the shed is not toxic and need not be shifted. This matter was discussed and the representatives of Central Pollution Control Board (CPCB), National Environmental Engineering Research Institute (NEERI) and Madhya Pradesh Pollution Control Board (MPPCB) were not in agreement with this conclusion without looking at the entire report.

6. The Joint Secretary (C&PC) pointed out that on the question of whether to shift the waste to the secured landfill / incinerator, the technical members of the Task Force have to make a clear recommendation and this recommendation should be based on technical

arguments and supporting data and the existing position under the extant rules. It was also pointed out that the decision to shift or not to shift will be filed before the High Court of M.P. and therefore, the report should be technically sound from all aspects. It was, therefore, suggested that the Technical Sub-Committee of the Task Force should first meet after getting all related reports from NEERI and IICT and submit a clear recommendation to the Task Force on the following parameters:

- (i) complete comprehensive analysis of the materials, especially organics;
- (ii) water leachability test and TCLP;
- (iii) toxicity studies and levels, as per Hazardous Wastes (Management & Handling) Rules, 1989/ 2003.

After taking into consideration all these results, the reports should be discussed before the Technical Sub-Committee for working out a final recommendation.

7. The Task Force also noted that the Technical Sub-Committee, in its last meeting, had found the IICT's proposal for technical consultancy lacking in many respects. Therefore, the Technical Sub-Committee, when it meets again to discuss the issue of shifting stored toxic waste should also finalise the IICT proposal.

8. Since the issue of shifting of stored toxic waste is to be decided only after the report of the Technical Sub-Committee and since the estimate of Rs.7.35 crore submitted by the Principal Secretary, BGTR&R Department, includes this activity also, a question was raised as to how in these circumstances the Government of M.P. would project a figure to the Planning Commission. The Principal Secretary, BGTR&R Department was asked to look into this aspect and finalise a proposal to be submitted to the Planning Commission. The Secretary (C&PC) also pointed out that the Government of M.P. should get their Plan ceiling raised by the Planning Commission and get a new Scheme included in their Plan. She also said that a copy of the proposal to be submitted by the Government of Madhya Pradesh to the Planning Commission be sent to her so that she could recommend it directly to the Deputy Chairman, Planning Commission.

9. The technical Sub-Committee should meet in the first week of February, 2006 and the Chairman, MPPCB should finalise the date and call the meeting. Once this is done and the report of the Technical Sub-Committee is available, the next meeting of the Task Force would be organised.

**Decisions taken in the meeting:**

10. The following decisions were taken in the meeting:
- (i) The Technical Members of the Task Force would make a clear recommendation on the issue of whether or not the toxic waste has to be shifted to the SLF/incinerator based on technical arguments and supporting data and the existing position under the extant rules. The Technical Sub-Committee would make this recommendation after getting all the related reports from NEERI and IICT in this regard.
  - (ii) The Technical Sub-Committee of the Task Force will meet in the first week of February, 2006, for finalising the recommendation for shifting or not shifting the stored toxic wastes to the SLF/ incinerator. It would furnish its report to the Secretary, BGTR&R Department, Government of M.P., Coordinator of the Task Force, who would then finalise the estimates in accordance with the recommendation of the Technical Sub-Committee for submission to the Planning Commission.
  - (iii) The Government of M.P. would expedite the finalization of the estimates and prepare a well documented proposal for submission to the Planning Commission directly, with a copy of the same to be furnished to the Secretary (C&PC) for taking it up with the Deputy Chairman of Planning Commission.
  - (iv) The Government of Madhya Pradesh would request the Planning Commission to raise their Plan ceiling and would also get a new scheme included in their Plan for the remediation of the UCIL Plant site.
  - (v) The Government of Madhya Pradesh/ MPPCB will also request the M.P. High Court to extend the date for the removal of the stored toxic waste (31 March, 2006) in the light of (i) and (ii) above.
  - (vi) The next meeting of the Task Force would be organised after the receipt of the report of the Technical Sub-Committee.
11. The meeting ended with a vote of thanks to the Chair.

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Annexure-1

**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 9th January, 2006 at 11.00 a.m. in Room No.501-A, Shastri Bhawan, New Delhi.**

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

- (i) Smt. Satwant Reddy, Secretary.
- (ii) Shri Mukesh Kacker, Joint Secretary.
- (iii) Shri Yashvir Singh, Deputy Secretary.

**Government of Madhya Pradesh. :**

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

**Madhya Pradesh Pollution Control Board:**

- (v) Dr. P.S. Dubey, Chairman.

**Central Pollution Control Board:**

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

**Indian Institute of Chemical Technology:**

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

**National Environmental Engineering Research Institute:**

- (viii) Dr. S.D. Deshpande, Sr. Assistant Director.

**Minutes of the sixth 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 17th November, 2005 at 3.30 p.m. in Room No.501-A, Shastri Bhawan, New Delhi.**

The sixth meeting of the Task Force was held in New Delhi, to review the progress of the removal/ remediation of toxic wastes from the UCIL plant site at Bhopal.

2. A list of the officials of the Government of India, Government of M.P and other organizations, who attended the meeting is at **Annexure-1**. The expert from National Environmental Engineering Research Institute (NEERI) could not attend the meeting.

3. The Secretary, Department of Chemicals & Petrochemicals (C&PC) welcomed the members of the Task Force and asked them to apprise the Task Force of the actions taken as a follow-up of the decisions taken in the fifth meeting held on 18th October, 2005.

4. As decided in the last meeting of the Task Force, the Secretary (C&PC) had again written a D.O. letter on 3rd November, 2005, to the Chief Secretary, Government of Gujarat, asking him to expedite their formal permission to the Ministry of Environment & Forests, Government of India, for using the incinerator at Ankleshwar. The response of the Government of Gujarat is awaited.

5. The Secretary, Bhopal Gas Tragedy Relief & Rehabilitation (BGTR&R) Department, Government of M.P. informed the Task Force that the EFC Note for submission to the Planning Commission could not be finalized as the Institutes/ agencies concerned had not furnished the detailed cost estimates and had only conveyed broad estimates to the BGTR&R Department. Further, he stated that till the level of toxicity of the wastes is not ascertained by the testing agencies like NEERI and NGRI etc., the exact requirement of funds for carrying out the specific tasks cannot be arrived at, for inclusion in the EFC Note. The expert from Central Pollution Control Board (CPCB) observed that NEERI has been assigned the task of carrying out the study for recommending the treatment required for different constituents of the toxic wastes and their report was expected to be available in January, 2006. The expert from Confederation of Indian Industry (CII) added that NEERI would give a report on the kind of pre-treatment required for each kind of the stored toxic wastes along with the complete study of soil contamination at the UCIL plant site and the NGRI would undertake the water contamination study in and around the plant site. The Joint Secretary (C&PC)

clarified that in the absence of precise estimates, certain valid presumptions could be made on which the estimates for the EFC could be based. He emphasised that there was a need to sort out the issues related to cost estimates by the Government of Madhya Pradesh and the MPPCB along with the institutes/agencies concerned at the earliest, since the role of each agency had already been very clearly defined in the earlier meetings of the Task Force. Secretary (C&PC) directed that the preparation and submission of the EFC Note should be expedited by making use of the supportive figures available.

6. The expert from IICT assured the Task Force that cost details of dismantling the UCIL plant would be obtained from their Business Management Division and would be communicated to the Government of M.P., so that the EFC note could be finalized. He also informed the Task Force that some more time would be needed to complete the study regarding the feasibility of retaining a part of the structure as a memorial. The Government of Madhya Pradesh may seek the orders of the M.P. High Court after this feasibility report is made available by IICT. The Joint Secretary (C&PC) suggested that the Government of M.P., in consultation with the MPPCB and the expert from CII, may prepare a Programme Evaluation and Review Technique (PERT) chart for effective monitoring of the activities to be carried out by the different agencies involved in the implementation of the road map. His suggestion was well received and it was decided that a PERT chart would be prepared accordingly. Secretary (C&PC) directed that the Technical Sub-Committee of the Task Force should look into the whole project as per the CSIR's stringent norms and prepare its report for submission to the Government of M.P. at the earliest, so that work orders could be given to the agencies concerned accordingly. She also directed that the Technical Sub-Committee should meet on 26th November, 2005, at Bhopal to finalize its report. A written communication would be sent by the Convenor of the Technical Sub-Committee to IICT, NEERI and NGRI to make available all the details required for the preparation of the EFC Note and also to make a presentation on their project proposals on that day.

7. Regarding the request of the Government of M.P. to the Department of Revenue, Ministry of Finance, to provide 'in principle' exemption for payment of Service tax by the agencies concerned, viz. IICT, NEERI, NGRI, etc., the Secretary, BGTR&R Department, Government of M.P. informed that the letter in this regard had been sent on 14th November, 2005. A copy of the said letter was furnished to the Department of C&PC.

8. The Joint Secretary(C&PC) suggested that the State Government should move the High Court to get the properties of the erstwhile Union Carbide attached, particularly the bungalow and about 10.28 acres land at Shamla Hills, Bhopal.. The Secretary, BGTR&R Department, Government of M.P., provided a copy of the order of the Commissioner, Bhopal to the Joint Secretary (C&PC) to take up the issue with the Chief Secretary, Government of M.P. for seeking the directions of the High Court to attach the Shamla Hill property of Union Carbide and use the proceeds from its sale/ auction for meeting the expenses to be incurred for removal/ disposal of the toxic wastes lying at the plant site.

**Decisions taken in the meeting:**

9. The following decisions were taken in the meeting:
- (i) The Government of M.P. would expedite the finalization of the EFC Note for submission to the Planning Commission, with the estimates given by the agencies concerned, on the basis of valid presumptions, by early December, 2005.
  - (ii) To enable the Government of M.P. to prepare the EFC note, the IICT will obtain details of their cost estimates from their Business Management Division and send a clear, detailed estimate (regarding dismantling of the plant) to them immediately.
  - (iii) The Government of M.P. would prepare a PERT chart, in consultation with the MPPCB and the expert from CII for effective monitoring of the activities to be undertaken, as included in the road map.
  - (iv) The Government of M.P. would seek directions from the Court for construction of a memorial at the site, after receipt of the feasibility report from IICT.
  - (v) The Technical Sub-Committee of the Task Force will meet on 26th November, 2005, at Bhopal and invite the Institutes/ agencies concerned with details of financial estimates to make a presentation before it on their project proposals. It would furnish its report to the Secretary, BGTR&R Department, Government of M.P., Coordinator of the Task Force, who would then issue work orders to the agencies concerned accordingly.
  - (vi) The Joint Secretary (C&PC) will take up the issue of getting the Shamla Hill property of the erstwhile UCIL attached, with the Chief Secretary, Government of M.P., so that the proceeds from its sale/ auction could be used for removal/ disposal of the toxic wastes from the UCIL plant site.
10. The meeting ended with a vote of thanks to the Chair.

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**Annexure-1**

**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 17th November, 2005 at 3.30 p.m. in Room No.501-A, Shastri Bhawan, New Delhi.**

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

- (i) Smt. Satwant Reddy, Secretary.
- (ii) Shri Mukesh Kacker, Joint Secretary.
- (iii) Shri Yashvir Singh, Deputy Secretary.

**Government of Madhya Pradesh. :**

- (iv) Sh. M. M. Upadhyay, Secretary, Bhopal Gas Tragedy Relief & Rehabilitation Department.

**Madhya Pradesh Pollution Control Board:**

- (v) Dr. P.S. Dubey, Chairman.

**Central Pollution Control Board:**

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

**Indian Institute of Chemical Technology:**

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

**Confederation of Indian Industry:**

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

**Minutes of the fifth 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 18th October, 2005 at 11 a.m. in Room No.501-A, Shastri Bhawan, New Delhi.**

The fifth meeting of the Task Force was held in New Delhi, 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 M.P and other organisations, who attended the meeting is at **Annexure-1**.
3. The Secretary, Department of Chemicals & Petrochemicals (C&PC) welcomed the members of the Task Force and asked them to report on the actions taken as a follow-up of the decisions taken in the fourth meeting held on 9th September, 2005 at Bhopal.
4. The Secretary (C&PC) had taken up the issue of getting the permission of the Government of Gujarat for using their incinerator at Ankleshwar, during her visit to Gujarat on 12th & 13th September, 2005 and subsequently written a D.O. letter to the Chief Secretary, Government of Gujarat. The expert from the Central Pollution Control Board (CPCB) informed that the Gujarat Pollution Control Board (GPCB) had conveyed its 'no objection' to the Forest & Environment Department of the Government of Gujarat, for the transportation of tarry waste from former UCIL plant at Bhopal to the incineration facility at Ankleshwar for final disposal by incineration. A copy of the letter written by the GPCB was handed over to the Secretary (C&PC), who would take up the matter with the Government of Gujarat again, asking them to convey their consent to the Ministry of Environment & Forests, Government of India, at the earliest.
5. The Director, Bhopal Gas Tragedy Relief and Rehabilitation (BGTR&R) Department, Government of Madhya Pradesh informed the Task Force that the Notification for construction of the TSDF site near Indore had been issued by the Government of M.P. and a copy thereof had been provided to the Madhya Pradesh Pollution Control Board (MPPCB).
6. The Chairman, MPPCB, who was appointed as the Convenor of the Technical Sub-Committee in the fourth meeting of the Task Force, apprised the Task Force that a meeting of the Sub-committee had taken place at the National Environmental Engineering Research

Institute (NEERI), Nagpur on 27th September, 2005 and the issue of overlapping of certain items of work between NEERI and the National Geophysical Research Institute (NGRI) had been sorted out. The MPPCB had also provided NEERI with the samples requested by them. Based on the analysis of these samples, the estimated cost of immobilization, transportation and disposal of the stored toxic wastes (except Tarry residuals) would be worked out. He further informed that the Indian Institute of Chemical Technology (IICT) would also submit its Consultancy proposal to MPPCB with details of the financial estimates required and the protocol to be followed. The proposal of IICT would cover the chemical analysis, structural analysis, hazard and risk analysis and also include the tender documents. It was also clarified that IICT would only act as a Consultant and would not supervise the work of any other agency for actual dismantling and decommissioning of the UCIL Plant if the actual work was awarded to any other agency. The expert from IICT informed that the proposal had been finalized and would be submitted very shortly. The MPPCB would examine the proposal and forward it to the Government of M.P. for incorporating in the EFC Note. The Director, BGTR&R Department, Government of M.P. stated that the State Government had made a provision of Rs.40 lakh for enabling the agencies connected with the implementation of Phase II of the Roadmap to carry out their initial tasks at the earliest.

7. The Director, BGTR&R Department, Government of M.P., informed the Task Force that the concept plan prepared by a group of students of the School of Planning and Architecture (SPA), New Delhi for building a memorial at the UCIL Plant site, had been approved by the State Government recently. However, the project for building a memorial would be awarded only after the technical report of IICT and clearance by the High Court.. The Secretary (C&PC) directed that the Government of M.P. should finalize the EFC Note for submission to the Planning Commission by 10th November, 2005, as the technical and financial proposals of all the agencies concerned (with final cost estimates) would be received within next two weeks. The IICT was asked to submit a separate report on whether parts or whole of the plant structure could be retained for the construction of a memorial at the UCIL Plant site. The Government of M.P. should approach the Court for seeking directions for construction of the proposed Memorial at the site only after the receipt of the report from IICT.

8. Regarding the request of the Government of M.P. to the Department of Revenue, Ministry of Finance, to provide 'in principle' exemption for payment of Service tax by the

agencies concerned, viz. IICT, NEERI, NGRI, etc., the Director, BGTR&R Department, Government of M.P. informed that the letter in this regard had been drafted and referred to the Law Department of the State Government for vetting. Secretary (C&PC) asked the Government of M.P. to expedite the issuance of the letter.

9. The Director, BGTR&R Department, Government of M.P. stated that the State Government would provide information on the status of all assets of the UCIL in Bhopal, to the Task Force. The issue of payments to be made to M/s. Ramky for implementation of Phase-I would be sorted out by Government of M.P. and the MPPCB.

**Decisions taken in the meeting:**

10. The following decisions were taken in the meeting:
- (i) The Secretary (C&PC) would again write a D.O. Letter to the Chief Secretary, Government of Gujarat, asking them to expedite their formal permission to the Ministry of Environment & Forests for using the incinerator at Ankleshwar.
  - (ii) The Government of M.P. would finalize the EFC Note for submission to the Planning Commission by 10th November, 2005, as the technical and financial proposals of all the agencies concerned would be ready within next two weeks.
  - (iii) The IICT would furnish a separate report, at the earliest, on the feasibility of retaining parts or whole of the plant for construction of a memorial at the site.
  - (iv) The Government of M.P. would seek directions from the Court for construction of a memorial at the site, after receipt of the report from IICT.
  - (v) The Government of M.P. would expedite the letter to be written to the Department of Revenue, Ministry of Finance, to provide 'in principle' exemption for payment of Service tax by the agencies concerned, viz. IICT, NEERI, NGRI, etc.
  - (vi) The Government of M.P. would provide information on the status of all assets of the UCIL in Bhopal, to the Task Force.
11. The next meeting of the Task Force would be held on 21st November, 2005.
12. The meeting ended with a vote of thanks to the Chair.

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**Annexure-1**

**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 18th October, 2005 at 11 am in Room No.501-A, Shastri Bhawan, New Delhi.**

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

- (i) Smt. Satwant Reddy, Secretary.
- (ii) Shri Mukesh Kacker, Joint Secretary.
- (iii) Shri Yashvir Singh, Deputy Secretary.

**Government of Madhya Pradesh. :**

- (iv) Sh. Manoj Goyal, Director, Bhopal Gas Tragedy Relief & Rehabilitation Department.

**Madhya Pradesh Pollution Control Board:**

- (v) Dr. P.S. Dubey, Chairman.

**Central Pollution Control Board:**

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

**Indian Institute of Chemical Technology:**

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

**National Environmental Engineering Research Institute:**

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

**Confederation of Indian Industry:**

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

**Minutes of the fourth 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 9th September, 2005 at 2.00 p.m. in Committee Room No.315, Mantralaya, Vallabh Bhawan, Bhopal**

The fourth meeting of the Task Force was held in Bhopal to review the progress of the removal/ remediation of toxic wastes from the Union Carbide (I) Ltd. (UCIL) plant site at Bhopal. The meeting was preceded by a visit to the UCIL Plant site at Bhopal, by the Chairperson and members of the Task Force, accompanied by officials of Government of India, Government of M.P. and other agencies concerned.

2. A list of the officials of the Government of India, Government of M.P and other organisations, who attended the meeting is at **Annexure-1**.

3. The Secretary, Department of Chemicals & Petrochemicals (C&PC) welcomed the members of the Task Force and officials of the agencies/organisations concerned. The Government of M.P. made a brief presentation on the Bhopal Gas Leak Tragedy highlighting the issues related to the tragedy and remedial actions taken so far.

4. The Task Force then discussed the following issues relating to the remediation of the plant site:

**For removal of stored toxic wastes**

Source remediation - The Task Force observed that a major part of source remediation had been done as the toxic wastes lying in the open had been stored safely in the shed in new bags, containers etc. The Task Force had noted during its visit to the UCIL Plant that the repacked material had been covered with tarpaulin and was placed in a safe manner in the shed. The progress made in the implementation of **Phase I** of the roadmap was reported as follows:-

Sl. No.	Activity	Due Dates	Progress
1.	Collection of Soil, Water and Residue samples placed in bags.	31 <sup>st</sup> May, 2005	Done.
2(a)	Placing of all the material lying in bags in sheds in new bags, containers, etc.	20 <sup>th</sup> June, 2005	Completed on 20th June, 2005.
(b)	Keeping the repacked material and covering with tarpaulin and placing it in a shed under security.		
3.	Preliminary Analysis of these samples with available facilities and also through other Labs.	30 <sup>th</sup> June, 2005	Under process.
4.	Procurement of Equipments for regular analysis of these materials in details.	15 <sup>th</sup> July, 2005	MPPCB has placed orders.

Mitigation Activities - Most of the toxic wastes stored at the plant site have to be transported to the Transportation Storage & Disposal Facility (TSDF) being set up near Indore, while the tarry wastes would be transported to Gujarat for incineration. In this regard, the **phase II** of the roadmap prepared by the Govt. of M.P. was modified as follows:-

**Phase-II**

Sl.No.	Activity	Dates	
1. (a)	Identification of SLF site in the premises to be based on Geomorphological, Geohydrological, Edaphic and other Ecological evaluations to be done by an expert agency.	30 <sup>th</sup> September, 2005	Site identified in April, 2005. Notification is being issued by Govt. of M.P. shortly.
(b)	Selection of the expert consultant/agency, which can undertake stabilization, encapsulation, etc. studies along with construction of the SLF based on CPCB/EP guidelines.	15 <sup>th</sup> October, 2005	M/s.Ramky Enviro Engineers Ltd. selected.
(c)	Rapid EIA study and a public hearing to be conducted by the same agency identified in (b) or other agency	31 <sup>st</sup> December, 2005	EIA study done. Public hearing held on 6th July, 2005.
2. (a)	Construction of the SLF.	31st March, 2006	M/s.Ramky Enviro Engineers Ltd. entrusted with the work.
(b)	Initiation of Monitoring in peizometric holes.	-	Initiation of peizometric holes will be done on filling of the SLF.
(c)	Capping of the SLF.	-	No specific date for capping of SLF can be assigned as it will cater to other industrial wastes also.

5. With reference to 2(b) and (c) above, it was brought to the notice of the Task Force by the MPPCB that construction of TSDF is not related exclusively to wastes being removed from Bhopal; rather it is a facility being created for all industrial wastes of M.P. State and the toxic wastes of UCIL plant site were only a part of them.

6. The Task Force was informed that NEERI's study on pre-treatment of stored toxic wastes would be completed by March, 2006. The pre-treatment would be carried out at the UCIL plant site or at the SLF according to the protocol prescribed by NEERI and would be actually done by M/s Ramky Enviro Engineers Ltd..

7. The Central Pollution Control Board (CPCB) has already identified the incinerator at Ankleshwar, Gujarat for disposal of the tarry wastes. The Ministry of Environment & Forests, Govt. of India has written a letter to the Govt. of Gujarat to grant permission for using their incinerators. The Secretary (C&PC) said that she would take up the issue with the Govt. of Gujarat during her visit to the State, on 12th and 13th September, 2005 to expedite the permission to use the incinerators as the tarry wastes were ready for incineration and may be transported in November, 2005.

8. The Task Force reiterated that the overall project coordination for carrying out the activities of phase-I and phase-II was of the MPPCB, including the responsibility for tendering and awarding individual items of work.

**In situ remediation of contaminated soil and remediation of ground/ sub-soil water**

9. The NEERI and NGRI have already submitted their initial proposals to the Government of M.P., which have to be examined by the Technical Sub-Committee of the Task Force (referred to in para 13).

**For implementation of Phase III (dismantling and decommissioning of the plant)**

10. The IICT has already submitted its proposal to the M.P. Govt. It was decided that the Technical Sub-Committee of the Task Force will analyse the proposal quickly. In view of the desire of the Government of M.P. to construct a Memorial at the UCIL plant site, IICT would prepare a second proposal to include the issue of retaining parts of the UCIL plant. The decision to implement either of the two proposals, i.e., dismantling and decommissioning of the plant or decommissioning and construction of a memorial, would be taken after the Government of M.P. has sought a clarification from the Hon'ble High Court of M.P. Meanwhile, the Technical Sub-Committee may analyse the proposal already submitted by IICT. The Task Force emphasised that proper documentation of the entire procedure followed

in carrying out the activities in the roadmap has to be ensured, as it may be required for evidence and other legal requirements in future.

11. The issue of Service tax exemption for the proposals submitted by the different agencies was discussed and it was decided that while the Technical Sub-Committee analyses the technical and financial part of the proposals of NEERI, IICT, NGRI, advance action may be taken to obtain 'in principle' exemption from the Deptt. of Revenue. The Govt. of M.P. may send a composite proposal in this regard to the Deptt. of Revenue, Govt. of India, which the Deptt. of C&PC would pursue. Although IICT, NEERI, NGRI etc. are Central Govt. bodies but they are not exempt from service tax. In this case, the exemption would be sought specifically for the task to be done by these agencies for removal of toxic wastes from the UCIL plant site, for the Govt. of M.P.

**For financing of the project**

12. On the issue of preparation of a detailed project report in EFC format by the Government of M.P. for submission to the Planning Commission, the Secretary, Bhopal Gas Tragedy Relief and Rehabilitation Department informed the Task Force that the proposal submitted by IICT alone was a composite proposal including consultancy and actual work involved in the dismantling and decommissioning of the plant. The proposals of NEERI and NGRI covered the consultancy part only and the expenses actually to be incurred by the agency to be engaged for remediation of contaminated soil and ground/sub-soil water would have to be estimated on the basis of their reports. Further some areas of the reports of these institutes are overlapping with regard to some of the activities.

13. In view of the ambiguity and related overlapping of certain activities, the Task Force decided to set up a Technical Sub-Committee from amongst the members of the Task Force itself to analyse the proposals submitted by the institutes concerned. The Chairman of the Madhya Pradesh Pollution Control Board would be the Convenor of the Technical Sub-Committee and Dr. K.P. Nyati, Head, Environment Management Division, CII and Shri N.K. Verma, Addl. Director, Central Pollution Control Board would be its other Members. The Technical sub-Committee would (i) lay down in clear terms the Terms of Reference for each study/ proposal, so that there is no overlapping; (ii) ensure that the financial estimates of all agencies are as per CSIR format; (iii) examine the estimates submitted by each of the institutes so as to finalise the amount required for providing consultancy services/conducting studies and to firm up the estimates for actual removal/ disposal of the toxic wastes and

decommissioning/dismantling the plant; and (iv) prepare a detailed proposal in EFC format to be submitted to the Planning Commission..

14. It was also decided that instead of trying to include all possible expenditures in one EFC proposal, the firmed up estimates could be presented in an initial EFC proposal and the remaining ones could be brought up in another EFC proposal. Since the Planning Commission considers proposals received by it only by the 1st week of November, the Technical Sub-Committee and the Govt. of M.P. may expedite the submission of the EFC memo.

**Issues raised by some NGOs**

15. The Officer in-charge (OIC) of the Govt. of M.P. in the High Court informed the Task Force that the High Court of M.P. had issued notices to the NGOs on the last hearing of the case held on 11th & 12th August, 2005, directing them to give details of the suggestions which according to them need to be followed for the removal/disposal of the toxic wastes and environmental remediation of the UCIL Plant and adjoining areas.

**Decisions taken in the meeting:**

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

- (i) The Secretary C&PC would take up the issue of getting the permission of the Govt. of Gujarat for using their incinerator at Ankleshwar, during her visit to Gujarat on 12th & 13th September, 2005.
- (ii) The Government of M.P. would issue the notification for TSDF site near Indore by mid September, 2005.
- (iii) The Technical sub-Committee would (a) lay down in clear terms the Terms of Reference for each study/ proposal, so that there is no overlapping; (b) ensure that the financial estimates of all agencies are as per CSIR format; (c) examine the estimates submitted by each of the institutes so as to finalise the amount required for providing consultancy services/conducting studies and to firm up the estimates for actual removal/ disposal of the toxic wastes and decommissioning/dismantling the plant; and (d) prepare a detailed proposal in EFC format to be submitted to the Planning Commission..
- (iv) The IICT would prepare a second proposal to include the issue of retaining parts of the UCIL plant in view of the desire of Government of M.P. to construct a memorial at the site. The decision to implement either of the two proposals (dismantling and

decommissioning of the plant or decommissioning and construction of a memorial) would be taken after the Government of M.P. has sought a clarification from the Hon'ble High Court of M.P.

- (v) The Govt. of M.P. would request the Deptt. of Revenue to provide 'in principle' exemption for payment of Service tax by the agencies concerned, viz. IICT, NEERI, NGRI, etc. The Deptt. of C&PC would pursue this proposal with the Deptt. of Revenue.
  - (vi) Instead of trying to include all possible expenditures in one EFC proposal, the firmed up estimates could be presented in an initial EFC proposal and the remaining ones could be brought up in another EFC proposal. Since the Planning Commission considers proposals received by it only by the 1st week of November, the Technical Sub-Committee and the Govt. of M.P. may expedite the submission of the EFC memo.
17. The next meeting will be held in early October, 2005.
  18. The meeting ended with a vote of thanks to the Chair.

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Annexure-1

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 9th Sept., 2005 at 2.00 p.m. in Committee Room No. 315, Mantralaya, Vallabh Bhawan, Bhopal.

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

- (i) Smt. Satwant Reddy, Secretary.
- (ii) Shri Mukesh Kacker, Joint Secretary.
- (iii) Shri Yashvir Singh, Deputy Secretary.

**Government of Madhya Pradesh. :**

- (iv) Shri Satya Prakash, Principal Secretary, Housing & Environment & Urban Development Department.
- (v) Shri M.M. Upadhyay , Secretary, Bhopal Gas Tragedy Relief & Rehabilitation Department.
- (vi) Sh. Manoj Goyal, Director, Bhopal Gas Tragedy Relief & Rehabilitation Department.
- (vii) Shri Sanjay Kumar Shukla, Collector, Bhopal.
- (viii) Shri Manish Singh, Commissioner, Bhopal Municipal Corporation, Bhopal.
- (ix) Shri D.S. Peter, Deputy Secretary, Bhopal Gas Tragedy Relief & Rehabilitation Department.
- (x) Shri K.K. Dubey, Deputy Director, Gas Relief & Rehabilitation.
- (xi) Dr. D.P. Agrawal, Chief Medical Officer, Gas Relief.

**Madhya Pradesh Pollution Control Board:**

- (xii) Dr. P.S. Dubey, Chairman.

**Central Pollution Control Board:**

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

**Indian Institute of Chemical Technology:**

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

**National Environmental Engineering Research Institute:**

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

**Confederation of Indian Industry:**

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

**Indian Institute of Pesticide formulation Technology**

- (xvii) Dr. P.K. Pathanjali, Deputy Chief, Formulation and Head.
- (xviii) Shri K.N. Mishra, Scientist.

**National Geophysical Research Institute**

- (xix) Shri Ratnakar Dhakate, Scientist.

**Minutes of the third 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 3rd August, 2005 at 12.30 p.m. in Room No.501-A, Shastri Bhawan, New Delhi**

A list of the officials of the Government of India, Government of Madhya Pradesh (M.P.) and other organisations is at **Annexure-1**.

2. The Secretary, Department of Chemicals & Petrochemicals (C&PC) welcomed the members of the Task Force and requested them to briefly introduce themselves. She then asked them to report on the follow up of the decisions taken in the second meeting of the Task Force, held on 4th July, 2005. The submissions made in this regard were as follows:

(i) As decided in the last meeting, the Department of C&PC wrote a letter to the Ministry of Environment & Forests (E&F) on 18th July, 2005, with a request to ask the Government of Gujarat to allow transportation of tarry residuals from Bhopal to Gujarat for incineration in their incinerators. The expert from Central Pollution Control Board (CPCB) informed that the Ministry of E&F had written to the Government of Gujarat on these lines and their response was awaited. On their part, the CPCB had asked the Gujarat Pollution Control Board to issue the 'No Objection Certificate' (NOC) for this purpose and had also intimated the owner of the incinerator for necessary preparedness, in advance. Secretary (C&PC) asked CPCB to follow up with the Ministry of E&F for expediting the response of the Government of Gujarat.

(ii) The expert from Indian Institute of Chemical Technology (IICT) stated that the 35 drawings/plans obtained earlier were found adequate for preparation of their report and there was no immediate need to obtain more drawings/ plans.

(iii) The Department of C&PC had written a D.O. letter to the Institute of Pesticides Formulation Technology (IPFT) on 14th July, 2005, asking them to visit the Union Carbide India Ltd. (UCIL) plant site to conduct a study and give a report to the Bhopal Gas Tragedy Relief & Rehabilitation (BGTR&R) Department, Government of M.P. for dismantling/ decommissioning of the plant. The Director, BGTR&R Department, Government of M.P. informed that the team from IPFT had not visited Bhopal, so far, as per their information.

(iv) To comply with the orders of the High Court of Madhya Pradesh, IICT, National Environmental Engineering Research Institute (NEERI) etc. were to exclude items like Service tax from the financial estimates of their project proposals, as submitted to the BGTR&R Department, Government of M.P. In this context, Secretary (C&PC) directed the

Government of M.P. to approach the Department of Revenue, Government of India for seeking exemption from payment of Service tax, to these Government agencies.

(v) The Government of M.P. informed that the EFC Note would be finalised only after the agencies engaged, viz., IICT, NEERI, National Geophysical Research Institute (NGRI) etc. furnished their final estimates. Meanwhile, they had cleared payments worth Rs.9 lakh to M/s. Ramky Enviro Engineers Ltd. (REEL) for the work completed under Phase-I of the road map. The Chairman, Madhya Pradesh Pollution Control Board (MPPCB) informed that M/s REEL had furnished bills amounting to Rs.16 lakh, for this work, thus, the payment of balance was still due. Secretary (C&PC) observed that this issue may be sorted out by the Govt. of M.P. and MPPCB.

3. The Task Force then discussed the following issues relating to the implementation of the road map:

**For removal of stored toxic wastes**

4. The Chairman, MPPCB informed that M/s. REEL had handled 373 MT of toxic wastes while carrying out the activities covered under Phase-I, as against the earlier estimate of 192 MT, made by the Government of M.P. This included contaminated cement, lime and the contents of the reactor vessel, which had collapsed. The results of preliminary analysis of the samples indicated that contamination was to the extent of .175 bpl. The results of the GCMS, for ascertaining the toxicity of tarry wastes weighing approximately 142 MT were awaited. He informed that there were traces of Chromium in the samples of contaminated water, while some quantities of pesticides were found in other samples, however, their concentration was very low. MPPCB had placed orders for purchasing GCMS equipment to conduct regular analysis of these samples in detail. NEERI had been assigned the job of conducting studies on these samples and give a report for pre-treatment thereof.

5. For implementing Phase-II of the road map, the MPPCB had identified the secured landfill (SLF) site at Indore measuring approximately 60 acres. M/s. REEL had already started construction of the SLF since January, 2005 and the MPPCB had approved its design, in accordance with the guidelines issued by the CPCB. The MPPCB had issued a NOC for construction of the SLF and the Housing & Environment Department of Government of M.P. was to issue the requisite notification for the site. Secretary (C&PC) instructed the Director, Government of M.P. to ensure that the notification is issued by the end of August, 2005. Chairman, MPPCB clarified that M/s REEL would construct a temporary shed at the SLF site for storing the toxic wastes for pre-treatment. The MPPCB would monitor the progress of

transport, treatment, storage and dumping at the SLF site, after the monsoons. Secretary (C&PC) asked the MPPCB to provide a copy of the results of the EIA study and the record of deliberations of the public hearing held on 6th July, 2005, to the Task Force. Chairman MPPCB assured that the said copies would be supplied to the Task Force.

6. The Task Force was informed that the additional parallel activity related to soil sampling and analysis of the premises to quantify the level of contamination, which deserves bioremediation, would be carried out by NEERI. The expert from NEERI stated that, if awarded, their project proposal on "assessment and management of hazardous wastes, contaminated areas due to past waste disposal practices at UCIL, Bhopal" would be submitted to the Government of M.P. within 3 months. MPPCB would also submit a report to the Task Force on delinking the activities related to pre-treatment and disposal of the toxic wastes.

**For removal of contaminated soil and remediation of ground/ sub-soil water**

7. The proposal to be prepared by NEERI would also include the report for removal of contaminated soil and remediation of ground/sub-soil water. In this connection, National Geophysical Research Institute (NGRI) had also collected samples from the UCIL plant site for conducting a study. The Government of M.P. would decide the Terms of Reference (ToR) for conducting this study, in consultation with the MPPCB.

**For implementation of Phase III (dismantling and decommissioning of the plant)**

8. The expert from IICT informed the Task Force that as per their estimates there was 1500 tonnes of solid waste comprising of the instruments, machineries and other equipment in the Plant. In addition, there were nearly 20 tonnes of chemicals in some of the pipes. Since each equipment would need to be detoxified separately, IICT would set up a laboratory at the plant site for this purpose. The tentative estimates of the proposal submitted by IICT to the Government of M.P. for the Phase-III related work were Rs.107 crore. Secretary (C&PC) instructed that all the Council of Scientific and Industrial Research (CSIR) affiliated laboratories/ institutes engaged for the project should follow the same format for financial estimates, as formulated by CSIR. MPPCB would authenticate all the activities under the road map. The Director, Government of M.P. brought to the notice of the Task Force that due permission in specific terms needs to be obtained from the High Court of M.P. for dismantling of the plant, as it was an important piece of evidence in some of the pending court cases related to the Bhopal Gas Leak Tragedy. Secretary (C&PC) directed that IICT should go ahead with the study for implementation of Phase-III and the Government of M.P.

may meanwhile obtain necessary permission from the concerned courts for dismantling/ decommissioning of the plant. Further, she directed the Government of M.P. to obtain legal advice/opinion for implementation of Phase-I and Phase-II also to avoid any adverse implications in future.

**For financing of the project**

9. On the issue of preparation of a detailed project report in EFC format by the Government of M.P. for submission to the Planning Commission, Secretary (C&PC) suggested that it should cover estimates for actual removal/ disposal of the toxic wastes and for conducting the study for dismantling the plant. The actual dismantling may take place at a later stage, after obtaining permission from the concerned courts.

**Issues raised by some NGOs**

10. Department of C&PC informed the Task Force that recently some NGOs had submitted a representation opposing the project being implemented by the MPPCB for removal/disposal of toxic wastes on various grounds. Copies of the demands of the NGOs were circulated to all members of the Task Force. Secretary (C&PC) asked the Government of M.P. and MPPCB to get the comments of the agencies concerned on the issues raised in the representation and put them before the Task Force, in the next meeting.

11. The Director, Government of M.P. requested the Task Force to hold its next meeting at Bhopal. Secretary (C&PC) said that the Task Force would consider this proposal.

**Decisions taken in the meeting:**

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

- (i) The CPCB would follow up with the Ministry of E&F for expediting the response of the Government of Gujarat to allow transportation of tarry residuals from Bhopal to Gujarat for incineration, in their incinerators.
- (ii) The Government of M.P. would approach the Department of Revenue, Government of India, to seek exemption from payment of Service tax to Government agencies like IICT, NEERI etc.
- (iii) The Government of M.P. and the MPPCB would sort out the issue related to payments to be made to M/s. Ramky for the work completed under Phase-I.

- (iv) The Government of M.P. would issue the notification for the secured landfill (SLF), by the end of August, 2005.
  - (v) MPPCB would provide copies of the results of the EIA study and records of the public hearing held on 6th July, 2005, to the Task Force.
  - (vi) MPPCB would give a report to the Task Force on delinking the activities related to pre-treatment and disposal of toxic wastes.
  - (vii) The Government of M.P. would decide the Terms of Reference for the study to be conducted by NGRI, in consultation with the MPPCB.
  - (viii) All CSIR affiliated Laboratories/ Institutes engaged for the project would follow the format for financial estimates, as formulated by CSIR.
  - (ix) The Government of M.P. would obtain legal advice/ opinion for implementation of Phase-I and Phase-II of the road map and due permission from the concerned Courts for dismantling/ decommissioning of the plant.
  - (x) The Government of M.P. and MPPCB would obtain the comments of concerned agencies on the issues raised by the NGOs in their representation and put them before the Task Force in the next meeting.
13. The next meeting will be held in early September, 2005.
14. The meeting ended with a vote of thanks to the Chair.

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**Annexure-1**

**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 3rd August, 2005 at 12.30 p.m. in Room No. 501-A, Shastri Bhawan, New Delhi**

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

- (i) Smt. Satwant Reddy, Secretary.
- (ii) Shri Yashvir Singh, Deputy Secretary.

**Government of M.P. :**

- (iii) Sh. Manoj Goyal, Director, Bhopal Gas Tragedy Relief & Rehabilitation Department.

**Madhya Pradesh Pollution Control Board:**

- (iv) Dr. P.S. Dubey, Chairman.

**Central Pollution Control Board:**

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

**Indian Institute of Chemical Technology:**

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

**National Environmental Engineering Research Institute:**

- (vii) Dr. S.D. Deshpande, Sr. Assistant Director.

**Confederation of Indian Industry:**

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

**Minutes of the second 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 4th July, 2005 at 12.00 noon in Room No. 220-A, Shastri Bhawan, New Delhi**

The second meeting of the Task Force was scheduled to be held on 4th July, 2005 and notices were issued by the Department of Chemicals & Petrochemicals (C&PC) to all the members of the Task Force and other officials concerned. Meanwhile, Secretary, Department of C&PC, who is also the Chairman of the Task Force, had been transferred to the Ministry of Rural Development and the new Secretary was yet to assume charge. In this situation, the meeting needed to be rescheduled/ postponed. However, it was decided to hold it as per schedule as the High Court of Madhya Pradesh had directed vide its orders dated 23rd June, 2005 in the W.P. No.2802 of 2004 (Alok Pratap Singh vs. Union of India and others) that the next meeting of the Task Force should be held in the first week of July, 2005. Therefore, on behalf of the Secretary (C&PC) the meeting was chaired by the Joint Secretary (C&PC).

2. The following members of the Task Force could not attend the meeting:
  - (i) Secretary, Bhopal Gas Tragedy Relief & Rehabilitation Department, Government of Madhya Pradesh - co-ordinator of the Task Force.
  - (ii) Dr. K.P. Nyati, Head, Environment Management Division, Confederation of Indian Industry, New Delhi.
  - (iii) Expert from National Environmental Engineering Research Institute, Nagpur.
3. A list of the officials of the Government of India, Government of Madhya Pradesh (M.P.) and other organisations who attended the meeting is at **Annexure-1**.
4. The Joint Secretary, Department of Chemicals & Petrochemicals (C&PC) welcomed the members of the Task Force and other officials and requested them to report on the progress made in the implementation of the road map, in pursuance of the decisions taken in the first meeting of the Task Force, held on 31st May, 2005.

**For removal of stored toxic wastes**

5. The Chairman, Madhya Pradesh Pollution Control Board (MPPCB) informed that Phase-I of the road map had been completed. He furnished a brief progress report in the following format:

**Phase-I**

Sl.No.	Activity	Due Dates	Progress
1.	Collection of Soil, Water and Residue samples placed in bags.	31 <sup>st</sup> May, 2005	Done.
2. (a)	Placing of all the material lying in bags in sheds in new bags, containers, etc.	20 <sup>th</sup> June, 2005	Completed on 20th June, 2005.
(b)	Keeping the repacked material and covering with tarpaulin and placing it in a shed under security.		
3.	Preliminary Analysis of these samples with available facilities and also through other Labs.	30 <sup>th</sup> June, 2005	Done.
4.	Procurement of Equipments for regular analysis of these materials in details.	15 <sup>th</sup> July, 2005	MPPCB is in process of order placement.

**Phase-II**

Sl.No.	Activity	Dates	
1. (a)	Identification of SLF site in the premises to be based on Geomorphological, Geohydrological, Edaphic and other Ecological evaluations to be done by an expert agency.	30 <sup>th</sup> September, 2005	Site identified in April, 2005 itself.
(b)	Selection of the expert consultant/agency, which can undertake stabilization, encapsulation, etc. studies along with construction of the SLF based on CPCB/EP guidelines.	15 <sup>th</sup> October, 2005	M/s. Ramky Enviro Engineers Ltd. selected.
(c)	Rapid EIA study and a public hearing to be conducted by the same agency identified in (b) or other agency	31 <sup>st</sup> December, 2005	EIA study done. Public hearing to be held on 6th July, 2005.
2. (a)	Construction of the SLF.	15 <sup>th</sup> March, 2006	Work to start after monsoons only.
(b)	Initiation of Monitoring in peizometric holes.		
(c)	Capping of the SLF.	31 <sup>st</sup> March, 2006	

6. The Director, Kamla Nehru Hospital, Government of Madhya Pradesh, informed that the National Environmental Engineering Research Institute (NEERI) had submitted a

proposal to the Government of M.P. for Rs.60 lakh. The State Government had asked NEERI to provide details of the proposal, which were awaited. NEERI's team was yet to visit Bhopal.

7. The expert from the Central Pollution Control Board (CPCB) informed that in pursuance of the letter written by the Department of C&PC, the CPCB had requested the Ministry of Environment & Forests (E&F) to ask the Government of Gujarat to allow transportation of Tarry wastes from Bhopal to Gujarat, for incineration. However, the action taken in this regard by the Ministry of E&F was not known. The Joint Secretary (C&PC) asked CPCB to provide a copy of their letter to the Department of C&PC so that the Ministry of E&F could be requested once again by the Department of C&PC for taking necessary action.

**For removal of contaminated soil and remediation of ground/ sub-soil water**

8. The Director, Government of M.P. informed that the State Government was awaiting details of the proposal submitted by NEERI. Meanwhile, the National Geophysical Research Institute (NGRI) had visited the UCIL plant site on 1st of July, 2005 and inspected the solar pond, the Secured Landfill (SLF) at the plant site, etc. The State Government had asked NGRI to give a report within a week's time.

**For implementation of Phase III (dismantling and decommissioning of the plant)**

9. The Government of M.P. had arranged for obtaining copies of the relevant plans and drawings of the UCIL plant and providing them to the Indian Institute of Chemical Technology (IICT). The Expert from the IICT confirmed that copies of 35 relevant drawings had been obtained from the CJM's Court, Bhopal, with assistance from the Central Bureau of Investigation (CBI). He also informed the Task Force that IICT had conducted a survey of the plant site and had prepared a project proposal for 'Detoxification and Decommissioning of M/s Union Carbide Plant at Bhopal' along with complete financial estimates. The estimated expenditure on the entire project, as calculated by IICT, would be Rs.121.22 crore (including Service tax of Rs.11.22 crore). The Director, Government of M.P., informed the Task Force that the State Government had asked the IICT to give further details of the proposal and that their reply was awaited.

10. The role of Engineers India Limited (E.I.L.) in the emerging scenario came up for discussion. The Joint Secretary (C&PC) observed that the EIL was making the issue of work order to them as a pre-condition to the procurement of the drawings/ plans from the CJM Bhopal's Court and the CBI's office at Bhopal. This attitude was not correct and no pre-condition could be attached in this manner. Moreover, the work order was to be issued by the State Government only after receipt of estimates/ proposal from different agencies. It was, therefore, decided that since the IICT was attending to the work of preparation of a report on the decommissioning/ dismantling of the UCIL plant and had already obtained copies of 35 relevant drawings, they may be given the responsibility of obtaining any other drawings, with the help of the State Government.

11. The Director, Government of Madhya Pradesh, informed that the Institute of Pesticides Formulation Technology (IPFT) had been requested by the State Government to study the plant site and give its suggestions regarding dismantling/ decommissioning of the plant but nothing had been heard from IPFT so far. The Joint Secretary (C&PC) directed that a D.O. letter from the Department of C&PC may be written to the Director, IPFT, to send a team to Bhopal and give a report expeditiously.

**For financing of the project**

12. On the issue of preparation of a detailed project report in EFC format by the Government of M.P., their Director stated that since firm estimates from all the concerned agencies were yet to be received, the detailed report was yet to be finalised.

**Issues arising in context of the Court's latest order, dated 23rd June, 2005**

13. In view of the observations of the High Court of M.P. that Government agencies should not include service tax etc. in their financial proposals, the State Government assured that all the agencies concerned would be requested to take into account the observations of the High Court before furnishing their revised estimates. The expert from IICT informed that in compliance of the directions issued by the High Court of M.P., IICT's proposal submitted to the Government of M.P. would be examined by their Business Management personnel.

**Construction of a memorial at the plant site**

14. The Director, Government of M.P. conveyed that the State Government was considering a view that the plant need not be dismantled and a memorial may be built at the UCIL plant site. The members of the Task Force were of the view that it was a purely technical issue which had to be addressed by the agencies engaged for carrying out the surveys and studies for dismantling and decommissioning the plant.

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

- (i) The CPCB would provide a copy of the letter written by them to the Ministry of E&F to ask the Government of Gujarat to allow transportation of tarry residuals from Bhopal to Gujarat for incineration, in their incinerators. The Department of C&PC would write to the Ministry of E&F for taking necessary action, if not already taken.
- (ii) IICT would obtain more drawings/ plans from the CJM Bhopal's Court and CBI's office, if required, and the same could be used by other agencies also.
- (iii) A letter would again be written to IPFT, by the Department of C&PC, to give its suggestions on the dismantling/ decommissioning of the UCIL plant.
- (iv) The proposals submitted by the agencies concerned, to the Government of M.P., would be revised in the light of the observations of the High Court of M.P. that items like service tax should not be included in their estimates.
- (v) The Government of M.P. would submit a detailed proposal in EFC format after obtaining the estimates from all the agencies concerned.

16. The next meeting will be held in the first week of August, 2005.

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

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**Annexure-1**

**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 4th July, 2005 at 12.00 noon in Room No. 220-A, Shastri Bhawan, New Delhi**

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

- (i) Shri Mukesh Kacker, Joint Secretary.
- (ii) Shri Yashvir Singh, Deputy Secretary.

**Government of M.P. :**

- (iii) Dr. B.S. Ohri, Director, Kamla Nehru Hospital.

**Madhya Pradesh Pollution Control Board:**

- (iv) Dr. P.S. Dubey, Chairman.

**Central Pollution Control Board:**

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

**Indian Institute of Chemical Technology:**

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

**Engineers India Limited:**

- (vii) Shri R.B. Singh, Deputy Manager - Environment.

**Minutes of the first 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 31st May, 2005 at 12.00 noon in Room No. 501, Shastri Bhawan, New Delhi**

A list of the officials of the Government of India, Government of Madhya Pradesh (M.P.) and other organisations is at **Annexure-1**.

2. The High Court of Madhya Pradesh, at Jabalpur, hearing the Writ Petition No. 2802 of 2004, had directed, vide its order dated 30th March, 2005, to set up a Task Force under the Chairmanship of the Secretary, Department of Chemicals and Petrochemicals (C&PC), Government of India, for the removal of toxic wastes from the former Union Carbide India Ltd. (UCIL) Plant at Bhopal. Further, vide its order dated 13th May, 2005, the High Court had directed to include Dr. K.P. Nyati, Head, Environment Management Division, Confederation of Indian Industry (CII) also in the Task Force and to hold the first meeting of the reconstituted Task Force before the first week of June, 2005.

3. In compliance with the orders of the High Court of M.P., the first meeting of the Task Force was held on 31st May, 2005 at the time and venue mentioned above, under the chairmanship of Secretary (C&PC). A representative of Engineers India Limited (EIL) was also invited to be present in the meeting.

4. The Joint Secretary (C&PC) welcomed the members of the Task Force and other officials and gave a brief background of the issues to be discussed in the meeting, which were as follows:

- (i) The methodology to be adopted and the progress made in the work outlined in Phase-I and II of the action plan submitted by the Government of M.P. in the High Court of M.P. at Jabalpur, being carried out by the Madhya Pradesh Pollution Control Board (MPPCB).
- (ii) Removal of contaminated soil and remediation of ground/sub-soil water.
- (iii) Finalisation of Phase-III of the action plan pertaining to dismantling and decommissioning of the UCIL Plant at Bhopal.
- (iv) Status of the proposal of the Government of M.P., in EFC format, for presenting a case before the Planning Commission for the funding of the entire project of removal/ remediation of toxic wastes and decommissioning/ dismantling of the plant.

**Methodology to be adopted for Phase-I and II of the action plan (treatment/ disposal of stored toxic wastes in SLF)**

4. The Chairman, MPPCB informed that MPPCB would act as the project coordinator for carrying out the tasks outlined in the action plan. However, the required

technology available with MPPCB was adequate for undertaking the tasks included in Phases I and II only, i.e., the tasks up to filling/ covering of the secured landfill (SLF). He informed the Task Force that the landfill approach had been opposed by some NGOs. The Principal Secretary (Environment) of the Government of M.P. clarified that the NGOs had opposed the landfill site being either in the UCIL premises or at any other location in Bhopal. This concern can be suitably addressed with the construction of a Treatment, Storage & Disposal Facility (TSDF) for the management of industrial waste at Indore, with the capabilities of handling wastes more toxic than those lying in the UCIL plant.

5. The expert from CII suggested that the agency engaged for TSDF at Indore may be used for pre-treatment of the toxic wastes before sending them to the SLF. Since pre-treatment involves stabilisation, the toxic wastes may be first immobilized by putting these in cement concrete matrix and then transporting these to Indore. He added that as per Central Pollution Control Board (CPCB) guidelines, after the SLF is closed, adequate security arrangements be made at the SLF site to prevent opening of the same by humans or animals.

6. The expert from National Environmental Engineering Research Institute (NEERI) submitted that toxic wastes like Temik and Sevin had completed more than half of their lives and were now almost non-toxic. However, the Tarry waste stored in drums needed to be incinerated as it had some contents of Mercury. Thus, the SLF approach was appropriate for all toxic wastes except Tarry residuals. It was also suggested that NEERI would advise MPPCB on the pre-treatment of the toxic wastes.

7. The representative of Engineers India Limited (E.I.L.) suggested that the project schedule for the construction of the SLF needed to be matched with the schedule planned for waste disposal activity. The Environment Impact Analysis (EIA) of the project may be done by NEERI.

8. The expert from CPCB informed that Gujarat and Maharashtra had world-class incinerators where the Tarry wastes containing Mercury could also be taken care of. Therefore, the Ministry of Environment & Forests, Government of India, may ask the Government of Gujarat to allow transportation of Tarry wastes from Bhopal to Gujarat, for incineration. He further suggested that the overall supervision of NEERI and EIL was necessary during the execution of the project.

9. There was unanimity among all the members of the Task Force that the TSDF, being created by the Government of M.P. at Indore, be used for the disposal of the toxic wastes. Joint Secretary (C&PC) pointed out that in its order dated 13th May, 2005, the High Court of M.P. had directed that the activities at Sl. Nos. 1 and 2 of the Phase-I may be started immediately by the MPPCB without any tendering process, in consultation with the AG's Office, so that they could be completed before the onset of monsoon. The actual work of removal/ disposal may be done by the agency finalised by MPPCB.

10. Joint Secretary (C&PC) brought to the notice of the Principal Secretary, Environment, M.P., Secretary Gas Relief, M.P. and Chairman MPPCB that a representative of the International Campaign for Justice in Bhopal had telephoned that morning and complained that some labourers had been sent inside the factory for clean-up work without protective clothing. These needed to be looked into by the MPPCB. The opposition of this organisation to any clean-up work by the Government was also brought to the notice of the Task Force.

**In situ remediation of contaminated soil and remediation of ground/sub-soil water**

11. On the issue of contaminated soil, the MPPCB wanted an agency to measure and quantify the contaminated soil. Secretary (C&PC) directed NEERI to undertake this work and to also advise MPPCB on pre-treatment of the toxic wastes. For this task, NEERI may take samples and carry out the requisite tests. The actual work of remediation of contaminated soil may be done by the agency finalised by MPPCB out of the three agencies already identified by it, viz., GE, PIL, Surat (Gujarat); Ramkey, Hyderabad (A.P.) and Bharich Enviro (Gujarat), or any other expert agency executing such works.

12. For assessing the level of contamination of ground/sub-soil water in the adjoining areas, CPCB suggested that the National Geophysical Research Institute (NGRI) may be engaged. Secretary (C&PC) asked the Government of M.P. to write to NGRI in this regard, so that the overall estimates for the entire project could be worked out.

**Methodology to be adopted for Phase-III of the action plan pertaining to dismantling and decommissioning of the UCIL Plant at Bhopal**

13. The EIL had earlier been asked to coordinate the procurement of drawings/plans of the plants from the court of CJM, Bhopal and CBI. The EIL representative was again directed to expedite the procurement of these drawings/plans. Secretary (C&PC) enquired as to what could be the course of action in the eventuality of the plans/drawings not being available and whether an Action Plan for dismantling could be drawn on the basis of fresh survey. The Expert from the IICT informed that this was indeed possible and that IICT could prepare an Action Plan on the basis of their own survey, as they had experience in commissioning Chemical Plants. He was also of the opinion that Indian contractors were technically capable of dismantling the plant and that there was no necessity to engage a foreign agency for this purpose. The Expert from CPCB also suggested that the Institute of Pesticides Formulation Technology (IPFT) can also give competent advice to EIL regarding dismantling the plant. It was decided that while EIL may procure the drawings/plans from the Court of CJM, Bhopal and CBI, the IICT may simultaneously survey the plant site and suggest fresh Action Plan for dismantling of the plant to the Government of Madhya Pradesh. The Department of Chemicals & Petrochemicals will also ask IPFT to advise EIL in this connection.

14. Principal Secretary, Environment, Govt. of M.P. informed the Task Force that Secretary, Department of Bhopal Gas Tragedy Relief and Rehabilitation will act as the Project Coordinator for the activity of dismantling/decommissioning of the plant. Based on the inputs received from EIL, IPFT & IICT, Department of Bhopal Gas Tragedy Relief and Rehabilitation will decide on the Executive Agency to carry out the task in the same way that MPPCB is doing for the activity of removal/disposal of toxic wastes.

**Status of the proposal of the Government of M.P., for submission to the Planning Commission, for funding the entire project of removal/ remediation of toxic wastes and decommissioning and dismantling of the UCIL Plant**

15. Secretary (C&PC) asked the State Government of M.P. to expedite the detailed project proposal in EFC format, including the estimates for dismantling the plant and for soil and ground water decontamination so that the Planning Commission could be approached for funds. He explained that the Department of Chemicals & Petrochemicals did not get any funds for this purpose and, therefore, approaching the Planning Commission was the only appropriate method. This issue was also brought to the notice of the Chief Minister of M.P. in the last meeting of the Group of Ministers (GoM) held on 11th May, 2005.

16. The Secretary, Bhopal Gas Tragedy Relief & Rehabilitation Department, Government of M.P., agreed to expedite the submission of the project report.

**Decisions taken in the meeting**

17. The following decisions were taken:

**For removal of stored toxic wastes**

- (i) The MPPCB to be the project coordinator for Phases I and II and to go ahead with the implementation of the road map.
- (ii) NEERI would undertake the study on pre-treatment and advise MPPCB on this issue.
- (iii) The pre-treatment work and disposal of all stored toxic wastes, except Tarry residuals, would be carried out by one of the agencies to be finalised by MPPCB.
- (iv) Post-treatment, all stored toxic wastes, except Tarry residuals, to be disposed of in the TSDF being created by the Government of M.P. at Indore.
- (v) For Tarry residuals, the Ministry of Environment & Forests to ask the Government of Gujarat to allow transportation of these toxic wastes to Gujarat and to incinerate them in their incinerators.

**For removal of contaminated soil and remediation of ground/ sub-soil water**

- (vi) NEERI to conduct studies of (a) samples for stabilization and immobilization; & (b) soil samples for ascertaining the extent of soil contamination. The remediation

work would be carried out by one of the agencies to be finalised by MPPCB out of the expert agencies executing such works.

- (vii) The Government of M.P. to engage NGRI, to assess the level of contamination of ground water and sub-soil in the adjoining areas of the plant site, and to suggest remedial measures.

**For implementation of Phase III (dismantling and decommissioning of the plant)**

- (viii) EIL would procure copies of the drawings/ plans from the CJM Bhopal's Court and the CBI's office at Bhopal.
- (ix) IICT to simultaneously carry out a survey and give a report to the Government of M.P. (Bhopal Gas Tragedy Relief & Rehabilitation Department).
- (x) IPFT also to be asked to study the plant site and give their suggestions.
- (xi) The Government of M.P., Bhopal Gas Tragedy Relief & Rehabilitation Department to act as project coordinator and based on the inputs received from EIL, IICT and IPFT decide on the executing agency to carry out the task.

**For financing of the project**

- (xii) As decided earlier, in order to make adequate provision of funds for carrying out the tasks included in the entire project, the Government of M.P. would prepare a detailed project report in EFC format and thereafter the Department of C&PC and the State Government would approach the Planning Commission.
- (xiii) The observations of the High Court of M.P. regarding provision of equal funding by the Central Government and State Government to be communicated to the Planning Commission.

18. The next meeting will be held in the first week of July, 2005.

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

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**Annexure-1**

**List of officials of the Government of India, Government of M.P. and other organisations attended the meeting of the Task Force held on 31st May, 2005 at 12.00 noon in Room No. 501, Shastri Bhawan, New Delhi**

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

- (i) Shri Pratyush Sinha, Secretary.
- (ii) Shri Mukesh Kacker, Joint Secretary.
- (iii) Shri Yashvir Singh, Deputy Secretary.

**Government of M.P. :**

- (iv) Shri Satya Prakash, Principal Secretary, Department of Environment.
- (v) Shri M.M. Upadhyay, Secretary, Bhopal Gas Tragedy Relief & Rehabilitation Department.

**Madhya Pradesh Pollution Control Board:**

- (vi) Dr. P.S. Dubey, Chairman.

**National Environmental Engineering Research Institute:**

- (vii) Dr. S.D. Deshpande, Senior Assistant Director.

**Central Pollution Control Board:**

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

**Indian Institute of Chemical Technology:**

- (ix) Shri A. Krishna Reddy, Head, P.P. Complex, Moula-Ali.

**Confederation of Indian Industry:**

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

**Engineers India Limited:**

- (xi) Shri R.B. Singh, Deputy Manager - Environment.