

# Action plan unveiled for Union Carbide waste disposal

**BRAINSTORMING** CSE analyses 15 studies; consults experts and NGOs

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**BHOPAL:** The New Delhi-based Centre for Science and Environment (CSE) has formulated an action plan in consultation with experts and representatives of NGOs working on Bhopal gas tragedy issues, which suggests immediate, medium and long-term strategies for disposal and remediation of the wastes of Union Carbide factory.

The report underscores the urgent need of disposal and remediation of the entire waste in the defunct Union Carbide factory and the nearby solar

evaporation pond premises and not just the 350 metric tonnes of the packaged waste that has become almost the sole point of focus during last decade or so.

The action plan was unveiled on Thursday here with the deputy director of CSE, Chandra Bhushan emphasising that the report was quite implementable and the MP government should swiftly act to solve the public health concern. He said that though the state government representatives failed to participate in the consultation process despite repeated invitations, if they sincerely looked at the report, they would find it extremely useful.

The Bhopal Group for Information and Action (BGIA),



Former MIC plant operator TR Chouhan showing mercury on Sevin reactor inside the plant in Bhopal on Thursday. MUJEEB FARUQUI/HT

one of the participating NGO has meanwhile decided to present the report in Supreme Court, which is hearing the issue of the Union Carbide waste disposal, with a request to get it

implemented.

Before formulating the action plan, the CSE undertook in-depth analyses of the different studies conducted by different

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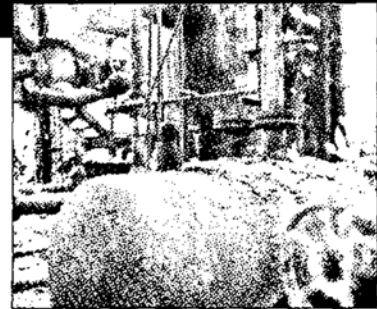
## THE ACTION PLAN

### IMMEDIATE MEASURES (ONE TO SIX MONTHS)

- Securing the factory site and SEP area by fencing and guarding to prevent access of people, especially children, hence their exposure to toxic chemicals; stopping construction in the SEP area; and protecting annual surface water runoff from the site during monsoon
- Excavation and recovery of all the waste from the site; characterisation and inventorisation of the collected waste for proper treatment and disposal
- Characterisation of the 350MT waste stored at the site and the results to be shared with public. Under the supervision of the CPCB and affected community, incinerable waste to be incinerated after the stabilisation of the trial results at Pithampur

### MEDIUM AND LONG-TERM MEASURES (ONE TO FIVE YEARS)

- Groundwater contamination assessment through detailed field investigation and lab analysis to develop a remediation plan. Possibility of hydraulic containment is to be explored as an interim containment measure
- Characterisation and remediation of the waste dumped in SEP area, particularly the landfill to prevent continued contamination of the groundwater in the local area
- Detoxification, dismantling and decommissioning of the plant after preserving structures such as MIC plant including the vent, vent scrubber, storage tanks and control room
- Remediation of the UCIL site that involves building a memorial and centre of excellence for industrial disaster management after decontaminating the site



A part of the plant with crusting due to seepage of chemicals. MUJEEB FARUQUI/HT

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scientific and technical agencies on contamination of soil and groundwater in and around the defunct Union Carbide factory during the last three decades (see box).

Based on the analyses and the consequent consultation with experts, the CSE came to conclusion that the waste lying at various dumpsites within the defunct factory premises and the solar evaporation pond (SEP) in its vicinity was far greater and dangerous source of contamination than the 350 metric tonne (MT) of waste kept packed within a storeroom on the factory premises.

However, during the last decade or so, the focus has been on disposal of the 350MT, while the huge quantity of waste lying in open continued to contaminate groundwater and soil rampantly. Chandra Bhushan said while addressing the media persons before whom the action plan was unveiled.

He mentioned that the CSE representatives would try to meet the state government authorities and present the

## Unaddressed issues

WHILE THE detailed action plan has been formulated, unless there is a sincere initiative on its implementation, it is likely to remain another stack of document in the files of authorities. While the CSE thinks that state government that should take initiative, the fact that the government has been dilly-dallying on the disposal plan of even the 350MT identified waste despite Supreme Court intervention, puts a question mark on the usability of the action plan.

report to them during the next two days.

In addition, the report would be presented to various ministries concerned in New Delhi with request for implementation.

He said that the most important aspect of formulation of the plan was that different agencies

## SUMMARY OF ANALYSIS OF DIFFERENT STUDIES

▪ Eight studies conducted on organic contamination in soil and waste from Union Carbide site. Analysis shows significant presence of dangerous toxins like carbaryl, aldicarb, hydrochlorocyclohexane (HCH) isomers and dichlorobenzene. Some spots like formulation plan and neutralisation pits found heavily contaminated

▪ Eight studies conducted

on presence of heavy metals in soil and waste samples. Mercury, chromium and lead were among the most common heavy metal found

▪ Groundwater was found contaminated with HCH isomers and chlorinated benzenes and with multiple heavy metals like mercury, cadmium, chromium, manganese, zinc, lead and nickel

and different NGOs that have continued to work separately and often failed to see eye-to-eye, decided to come together to find a common solution to the three-decade old contagious issue.

He said that now the action plan needs to be implemented in time-bound manner through a fast-track transparent mechanism with the Central Pollution Control Board (CPCB) as the nodal supervisory agency and with involvement of local community.

Speaking on the occasion, convener of the Bhopal Gas

Peedit Mahila Udyog Sangathan (BGP MUS) and Balkrishna Namdeo of Bhopal Gas Peedit Nirashrit Pension Bhogi Sangharsh Morcha, both highlighted the point that the huge amount of toxic waste lying on the factory premises and SEP required much more attention for disposal than the 350MT waste and it was high time the state and union governments took the issue seriously.

Amit Khurana, programme manager, food safety and toxins programme made a presentation on the analysis of the different studies.