

1986

Delhi's Bhopal

The recent gas leaks in Delhi, which have killed two persons and injured several hundred others, are yet more grim reminders of the dangers posed by chemical industries all over India. And once again the sordid pattern of the Bhopal tragedy has been revealed: the utter lack of social responsibility of some industrialists, the indifference of the authorities to public safety, and the absence of emergency safety and hearty health measures in the wake of the disaster.

ON November 21st, an as-yet unidentified industrialist dumped two cylinders of chlorine into the Hindon Cut Canal in East Delhi, near the U.P. township of NOIDA. The cylinders leaked and wrought havoc in the nearby colony of poor labourers, New Ashok Nagar—one person was killed and over 150 injured.

On December 4, an oleum tank at the West Delhi chemical plant of Sriram Foods and Fertilizer Industries (SFFI) collapsed, letting loose tons of acid which reacted with water to form a dense cloud of sulphuric acid mist, sulphur dioxide and sulphur trioxide. This dangerous cloud travelled literally along the ground for a distance of over ten km. causing severe discomfort and panic among tens of thousands of people. Over seven hundred people were hospitalized, one of whom died two days later. The long-term health consequences on the people severely exposed that day are as yet not fully known they could range from moderate reduction in lung capacity to irreversible fibrosis.

Neither of the two leaks really came as a surprise to those who had been observing the situation for some time. The NOIDA industrial estate is known to contain several dangerous chemical units, many of them unlicensed. Safety measures in these units are thoroughly inadequate, and they often dump their chemical wastes onto open land. Allegedly the U.P. State Pollution Control Board has to date not thoroughly inspected even one of these factories. Indeed, it must be recognized that the Government of U.P. is equally to blame for this situation along with the individual industrialists—the latter, being small-scale, may have little real economic choice as far as pollution checking measures are concerned. In such a case it is the Government's responsibility to ensure installation of economically feasible measures, such as common treatment plants. The incident of November is thus not entirely unexpected, even though the circumstances under which it occurred are as yet unclear.

The same applies, in a much stronger way, to the SFFI leak. December 4 was by no means the first time gas leaked from this 44 year old industrial complex. Residents of several colonies near by have

for some years been complaining about the irritating smell of gas and have frequently reported discharges from the SFFI. On December 1st, 1982, forty school-children fell sick and some lost consciousness, on inhaling chlorine gas near the factory. On September, 10, 1985 a leak from the sulphuric acid plant (most probably of sulphurdioxide) affected hundreds of nearby residents. Other minor leaks have been frequently reported, and even two days after the December 4 incident there was a leak from the sulphuric acid plant.

Like at NOIDA, therefore, the SFFI leak was by no means a surprise. But in its case the circumstances are fairly clear; the SFFI plant is known to have awful safety measures and maintenance. This has been repeatedly pointed out by workers of SFFI (members of the Lokahit Congress Union), by independent environmentalists, by Government reports, and even by SFFI's internal notes (see box "some incriminating letters") Being the kind of giant profit-making Company that is, in this case, as perhaps different from the NOIDA case, the responsibility for the tragedy lies squarely on SFFI. For it had the economic means, and the expertise, to minimise hazards in its factory, yet did not bother to even investigate safety conditions till the government started pressuring it.

Two teams of experts commissioned by Delhi Administration and one team set up by the petitioner in the Supreme Court case against SFFI, have all strongly indicated the SFFI management for utterly inadequate safety measures (see box "what the experts say") They have pointed out that in the event of a major leakage of chlorine from SFFI's caustic soda-chlorine unit, tens of thousands of people in Delhi could be badly affected.

The atrocious safety record of SFFI is a testimony to the kind of negligence shown by its management and its owners. But they are by no means the sole culprits; a certain degree of negligence has been shown by various Government agencies too, as in the NOIDA case. It is, after all, the Government (in this case the Union Government as well as the Delhi Administration) which is ultimately responsible for the health and safety of citizens, especially if it has allowed the setting up of or continued functioning of a hazardous industry in the midst of densely populated areas. Yet, barring a few notably exceptional steps; and despite knowledge of the dangers of SFFI and NOIDA's hazardous units the Government did not act to eliminate these dangers.

More specifically, one can pinpoint some agencies or officials who are responsible for not discharging their duty properly. Under the Factories Act 1948 and the Delhi Factories Rules 1950, an Inspector of

Some Incriminating Letters

These two internal notes of SFFI speak for themselves.

1. Ref. PH/W-1/85. Date : 9-5 '85. From : Plant Superintendent Power House. To: Plant Superintendent Superphosphate

"Sub :—Pollution of Water in Reservoirs"

"At 7.30 AM on 8-5-'85 the canal water flowing to the reservoirs was found to be highly acidic due to overflowing of acidic effluent from your plant. As a result the raw water quality in Reservoir No. 2, 3, and 4 has badly deteriorated with its PH value going down to 4 units.

Such highly acidic water is very damaging both to the plant equipment as well as to boilers. Even the Caustic Soda Plant Water system is getting corroded.

You may please ensure that completely foolproof steps are taken to avoid such contamination in future as such incidents are repeating from time to time".

2. Ref : ALK/G-24. Date : 04-05-1984.
From : Alkali Division Manager Vijay Mehta
To : Plant Superintendents of S.P.B., H.T.H., Caustic Soda plants.

"Central Effluent Board may be taking random samples of Najafgark Nullah on 7th & 8th instant. Please make sure that you do not drain anything objectionable on these dates".

Factories is appointed who is supposed to ensure that all industrial units in Delhi comply with rules concerning labour, environmental safety, and working conditions. Records of the Factories Inspector, Delhi Administration, reveal that periodic checks of SFFI had unearthed several specific violations of the rules in the last few years. What is significant, however, is that though the last inspection of the sulphuric acid plant, on 28th May, 1985 revealed several violations, it did not expose the dangerously weakened support structure of the oleum tank which collapsed on December 4th. A thorough inspection was evidently not undertaken.

Similarly, the Central Pollution Control Board is supposed to ensure that an industry's air and water emissions do not exceed permissible limits. The Board has been pursuing this issue with SFFI for several years. But despite knowledge of continued violation of its standards, as indicated by records of emission measurements it has carried out by the correspondence between it and SFFI, it did *not* use its power to comply. It only repeatedly threatened to withdraw

its consent order. Interestingly, when Kalpavriksh members had talked to the Board's officials in October 1985, the latter explicitly stated that barring SFFI's vanaspati unit, all its units *were complying* with the set standards. The real truth has come out only now when the Supreme Court directed the Board to furnish all documents relating to SFFI. In this connection the internal note of SFFI (see box 'some incriminating letters') about the impending visit of the Board also indicate a degree of complicity on part of the Board or of someone inside it, though the Board has denied this.

The Union Government too is to blame. One instance of this that the fact that the Union Minister of Chemicals and Fertilisers, Veerendra Patil, in a Lok Sabha discussion on SFFI's chlorine unit in March 1985, flatly rejected the demand by two MP's to shift the unit despite recent reports by a British chemical expert D. H. Slater and by the then Secretary (Labour), Delhi Administration, Nita Bali, both of whom explicitly recommended shifting of the chlorine unit. Patil vaguely stated that the licence of a factory, once given, was not so easy to revoke. This sounds strikingly similar to the statement, made in the Madhya Pradesh Vidhan Sabha before the Bhopal Tragedy, that the Union Carbide plant was not a mere 'stone' that it could be translocated.

Yet another facet of the negligence of the authorities is the total absence of an emergency safety and evacuation strategy for those living around SFFI, or in and near NOIDA's industrial belt. Such a strategy requires that the surrounding population be fully aware of the potential hazards of a factory, and of how to react in case of an emergency like the one created on December 4th. It also requires that all local hospitals, police stations, fire brigades, and other such essential service agencies know how to react. That there is no such strategy was amply demonstrated by the total chaos and panic which followed the December 4th leak: many hospitals didn't know what line of treatment would be most effective, the fire brigade was misinformed about how to stem the leak (they sprayed water on oleum, which only reacted and aggravated the situation); the traffic police was thrown into total disarray; All India Radio broadcast appealing for calm came only 2 hours after the leak, and so on. In the NOIDA leak case the situation was somewhat better—victims were quickly rushed to hospitals by an alert and efficient police party, but the subsequent hospital treatment was terrible, and the apathy of officials to the continued plight of the victims shameful.

Apart from some officials of the Central Pollution Control Board and the Inspectorate of Factories, Delhi, who conducted some honest studies, the only Government officials who took bold steps regarding SFFI is the former Secretary (Labour), Delhi Administration, Miss Nita Bali. She highlighted the dangers posed by SFFI in Chlorine Unit way back in March 1985, based on a study in February by Mr. Slater, an expert (See box on "What the experts say"). Indeed,