

For CM/D

# IAL REPORT

The Hindu, N. Delhi

6/10/87

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1/1/87

## What Varadarajan report said about Metkem silicon

**P**ROBABLY there is no other technology for which the Government had constituted as many evaluation committees as for the technology evolved jointly by Mettur Chemicals and Industries Corporation (MCIC) and the scientists of the Indian Institute of Science (IISc), Bangalore, for the production of ultra-pure silicon. But no other committee got as much flak as the one man committee, if one wishes to call it, of Dr. S. Varadarajan, particularly from the press, for something which he is alleged to have written in the now famous 'Varadarajan Committee Report'.

This report has been widely cited by many people but probably not seen by any one of them, let alone the question of reading it. There was, in fact, no committee under Dr. Varadarajan. As an expert in chemical technology, purely as an individual, he was commissioned by the Department of Electronics (DoE) to evaluate the Mettur Chemicals process for production of high-purity silicon.

The refrain in the print media as to what the report is supposed to have said was the same: "According to the Varadarajan Committee, constituted by the Prime Minister, the Mettur Chemicals technology is elementary and still in the experimental stage. It does not have the capability to scale up to commercial level operations." If one goes through the report, there are no such remarks in it; it is, in fact, one of the most positive reports one could write on Mettur silicon when it was only in the pilot plant stage with only one 2.5 TPA reactor working.

The report was prepared by Dr. Varadarajan and Dr. S. Sivaram, an R&D scientist from Indian Petrochemicals Corporation Limited, who had accompanied Dr. Varadarajan to assist him in evaluating analytical and characterisation requirements in such a plant during the former's visit to the plant on January 13, 1985. During the visit the six-member Negotiating Committee for the selection of technology for the National Silicon Facility was also present. The report, submitted on February 13, 1985, is based on this visit and the meeting Dr. Varadarajan had with the Bangalore scientists a day earlier.

To quote: 'Mettur Chemicals have done commendable work to reach the present stage in

pilot scale production of polycrystalline silicon... Mettur Chemicals can produce a maximum of 25 TPA and it is estimated that they need to install several facilities to further improve current pilot plant technology.....With some changes and assistance, it would be possible for Mettur Chemicals to upgrade technology in the pilot plant in about a year for constant production of good material. It would be wise to perfect further the technology at pilot scale before proceeding to instal equipment for the production of 25 TPA. It is possible that large scale production of 25 TPA could be achieved by end 1986 or early 1987.'

The fact that Mettur began production in its nine-reactor scaled-up plant only in mid-1986 and achieved stable production of about 18 TPA by October-November 1986 is a vindication of Dr. Varadarajan's assessment. It is true that the report did recommend the acquisition of the 200 TPA Hemlock technology but, as has been discussed in the main article, for different reasons altogether. To quote again: "The CEL and the BHEL have together an assured requirement of over 190 TPA and hence their need has to be clearly taken into account in determining the capacity of the NSF....I strongly recommend the establishment of the NSF with 200 TPA capacity based on Hemlock technology..... All support must be given to the fuller delineation of technology of Mettur Chemicals and assistance and advice offered to them for production of pilot plant high quality material consistently and economically. They have been given assurance that their production of 25 TPA will be purchased by the CEL. Simultaneously, I recommend, the DoE may give support and grants for indigenous process development and facilities for analysis and characterisation".

What is, in fact, curious is that though the DoE had three copies of this report it seems to have desisted deliberately from falsifying the press reports that were appearing which had the clear stamp of a planted story. A quick enquiry with all those who are, or should be, aware of the silicon issue—in the Government and outside—reveals that nobody of any importance has read or seen the report. A scientist of repute, in fact, said: "I do have a copy of the report but I have not read it. I thought since I am not directly involved with the issue it is the concern of the others."