

## Homi N. Sethna (1923–2010)

Homi Nasserwanji Sethna was born in Mumbai on 24 August 1923. He completed B Sc (Tech) degree from the University Department of Chemical Technology (UDCT), Mumbai, in 1944 and Master of Science in Engineering (MSE) degree in 1946 from the University of Michigan, Ann Arbor, USA. In 1947, he joined the Imperial Chemical Industries (ICI) as a trainee under the TATA-ICI scheme.

Sethna's first encounter with Homi Bhabha influenced his career. It started with an argument on how to make absolute alcohol. In 1949, Bhabha appointed him as the Works Manager at the Indian Rare Earths (IRE), Alwaye. Sethna's first contact with nuclear materials happened at Alwaye.

During the conference on 'Development of atomic energy for peaceful purposes in India' held in November 1954 at New Delhi, Sethna presented a paper titled, 'Uranium and thorium extraction and purification'. This conference was in response to the widespread criticism that much progress had not been made in five years since the establishment of the Atomic Energy Commission (AEC) in 1948. IRE was then processing 1500 tonnes monazite annually with a provision to double the capacity. The delegates including several outstanding scientists, industrialists and ministers realized that it was a curtain-raiser for future technological and scientific developments in the nascent field of atomic energy.

Sethna attended the First Geneva Conference on 'Peaceful uses of atomic energy' in 1955. He was the Deputy Secretary General of the Second Geneva Conference in 1958. He joined the Atomic Energy Establishment (now the Bhabha Atomic Research Centre (BARC)) in 1959 as the Chief Scientific Officer and in 1966 became its Director. He headed BARC until 1972, when he became the Chairman of AEC and Secretary to the Government of India, Department of Atomic Energy (DAE). He continued in this position till his formal retirement in 1983. Subsequently, he worked as the Chairman and the Managing Director of Andhra Valley Power Supply Company Ltd and Chancellor of the North-Eastern University.

Sethna was a member of the committee that designed the APSARA reactor,

the first of its kind in India. He was instrumental in setting up thorium and uranium plants at Trombay. He was the Project Manager of CIRUS, the 40 MW research reactor at Trombay during 1956–58. He was responsible for designing and constructing India's first plutonium plant. In 1967, Sethna supervised the erection of the Uranium Mill at Jaduguda. His contribution to the peaceful nuclear explosion project in 1974 was legendary. He was awarded Padma Vibhushan in 1975.



Sethna did not endorse an important decision taken by his predecessor, Vikram Sarabhai. In 1963, Bhabha established the Directorate of Radiation Protection (DRP) in BARC to enforce radiation safety provisions in non-DAE Units. In 1971, as decided by Sarabhai, DRP was constituted as a separate constituent unit of the DAE. He wanted to set it up as Directorate of Health and Safety under an Atomic Energy Regulatory Authority (AERA). But, Sarabhai died before AERA was set up. Sethna brought DRP back to BARC. Interestingly, in 1981, a committee set up by Sethna recommended constitution of the Atomic Energy Regulatory Board (AERB), if necessary, by amending the Atomic Energy Act (1962), to make it a statutory organization. In November 1983, 12 years after the initial decision, Raja Ramanna implemented the committee's decision and set up AERB as a separate agency.

Sethna's associates paid glowing tributes to his memory: 'He was a great leader of men; he delegated wide powers

to his associates, trusted them and gave due credit and recognition for the work they did... He was a very efficient manager, quick in taking decisions...he was interested only in the work to be done and objective to be achieved; thus the work moved much faster', Fareeduddin, a long-term associate said.

'Go-getter, hard task master, committed to his work and above all a wonderful human being', R. K. Garg (former Chairman and Managing Director, IREL) confirmed. Sethna, the 'promoter' of nuclear technology had occasional fights and vociferous arguments with A. K. Ganguly (Formerly Director, Chemical Group, BARC), the 'regulator'. Ganguly never yielded on matters of safety. Sethna would concede ground to him over a cup of tea!

S. Vasankumar (former Vice Chairman, AERB) worked with Sethna from his first day at Trombay. He recalls that they used to tidy up the process cells at the Plutonium Plant soon before Sethna visited them. 'He told us not to bother and waste time...things would be scattered only when you are working!', Sethna would tell them.

Sethna fulfilled his mentor's wishes by creating the facilities to produce nuclear materials such as uranium, zirconium, thorium, heavy water and plutonium for the first time in the country, mostly using know-how developed indigenously. Following his retirement, he was a member of the board of various industrial institutions from 1984 to 2000.

'We belong to Dr (Homi) Bhabha's school of thought, you see. We are disciplined to take up any challenge. Dr Bhabha taught us to be ageless. So here I am, working more than 12 hours a day, pooh-poohing failing health', Sethna confided in his eighties to a journalist, reading her mind.

Sethna passed away on 5 September 2010. He was among the titans of our atomic energy programme.

K. S. PARTHASARATHY

*Flat 302, Mangal Prabha,  
(Opposite Dr D. Y. Patil Hospital and  
Research Centre),  
Sector 9, Nerul,  
Navi Mumbai 400 706, India  
e-mail: ksparth@gmail.com*