

## IN QUEST OF SELF RELIANCE: NML'S STEEL DEVELOPMENT PROGRAM

V. RAJINIKANTH, P. MUNDA, R. K. MINZ, S. GHOSH CHOWDHURY#

---

*Driven by the prophecy "Necessity is the Mother of Invention", CSIR-NML's indigenous substitute steel development program centered around replacing the scarce nickel in a variety of steels, mainly with the abundantly available manganese. This article captures the glimpses of steel development activities vis-à-vis the requirements of the country, undertaken at National Metallurgical Laboratory through the last sixty years. These include the classic development of Ni-free stainless steel (Thackeron Steel), heat resistant steels, tool and die-steels, HSLA steels and more recently the silt erosion resistant steel.*

---