

**GOVERNMENT OF INDIA
STEEL
LOK SABHA**

UNSTARRED QUESTION NO:4664
ANSWERED ON:06.08.2009
RESEARCH AND DEVELOPMENT IN STEEL SECTOR
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Will the Minister of STEEL be pleased to state:

- (a) the investment made for research and development on Steel by Public Sector Steel plants during each of the last three years and the current year, State-wise and Plant-wise;
- (b) the results achieved in terms of process optimization, increase in productivity, improvement in quality reduction of cost of production and utilization and solid work etc.;
- (c) whether the Government proposes to invest on R&D works for improving the quality of steel etc.;
- (d) if so, the details thereof; and
- (e) the present status of on-going R&D projects and the projects which are under consideration of the Government?

Answer

MINISTER OF THE STATE IN THE MINISTRY OF STEEL (SHRI A. SAI PRATHAP)

(a) There are two public sector steel producing companies namely Steel Authority of India Ltd.(SAIL) and Rashtriya Ispat Nigam Ltd. (RINL). In various plants of SAIL, Research & Developments (R&D) activities are mainly pursued through Research & Development Centre for Iron & Steel (RDCIS), SAIL, Ranchi. The investment made for research and development on steel by Public Sector Steel plants during last three years and the current year are as under:

(Rs.in crores)

Year R&D Expenditure

SAIL RINL

2006-07	76.85	11.68
2007-08	101.86	17.93
2008-09	118.20	17.35
2009-10 (Apr.-June)	25.52	2.07

(b) Major achievements in the areas of process utilization, productivity, quality improvement, cost reduction and solid waste utilisation in SAIL and RINL are annexed.

(c)&(d): Yes, Madam. Government has made a budgetary allocation of Rs.118 crore during the 11th Five Year Plan Period for the first time for promoting R&D activities which inter-alia includes quality upgradation also.

(e) Indian steel companies have taken up a large number of R&D projects which primarily focus on following areas:

- (i) Productivity improvements
- (ii) Energy conservation
- (iii) Beneficiation of raw material
- (iv) Product development
- (v) Quality improvement

Annexure

Major achievements in R&D in public sector steel plants

Steel Authority of India Ltd.

RDCIS has developed a technology for beneficiation of Iron ore slimes which otherwise were being dumped as a waste material. Through this technology, waste material with 49-50 % Fe, is being enriched to 62-65% Fe for use in sinter making.

RDCIS has developed "Curtain Flame Ignition System" for heating the sinter-mix. This technology has been introduced in Sinter plants of SAIL. This has resulted in reduction of specific gas consumption and the furnace start-up time reduced. In addition, improvement in productivity has also been achieved.

Modified lining design developed by R&D centre using in-house developed bricks resulted in highest-ever lining life of 129 heats against the avg. life of 90 heats at Rourkela Steel Plant.

A new rail steel chemistry was developed by R&D Centre through micro alloying with vanadium. This has resulted in improvement in yield strength accompanied by other mechanical and metallurgical properties of rails.

SAIL has developed process technology for producing TMT bars of higher yield strength through indigenous R&D efforts. In addition to this, another variety called Earthquake resistant TMT bars (TMT EQR) has also been developed recently.

Rashtriya Ispat Nigam Ltd.

Optimization of coal blend with different sources and type of coal.

Maximization of usage of micro fine iron ore in sinter making.

Improving the yield and Metallurgical performance of Vizag Steel's 4-strand Tundish by water Modeling.

Technical Analysis and Optimization of Continuous Casting at VSP using existing Plant facilities.

Briquetting of SMS Gas Cleaning Plant Sludge as a replacement of sized iron ore.

Briquetting of Solid Metallurgical Waste generated in the plant for usage in blast furnace.