



**um** usha martin

An  
integrated  
speciality  
steel

&

global  
wire rope  
company

annual report  
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What is it that empowers us with a great vision and a higher purpose? What are our distinct values and unwavering commitment based on? What is the invincible stimulus that we draw our spirit and willpower from? What is it that our genesis and life forces take birth from? It's called the DNA. The absolute, all-embracing, yet most fundamental entity that has stood us where we are today. And shall take us where we want to go tomorrow.

At Usha Martin, our DNA is as strong as steel. As agile as steel.

## Product basket and applications

### Wires

- Needle wires
- Watch springs
- Automobile components

### Wire Ropes

- Oil Rigs
- Cranes
- Elevators
- Mines
- Ropeways
- Bridges
- Shipping
- Other Construction Purpose

### Strands

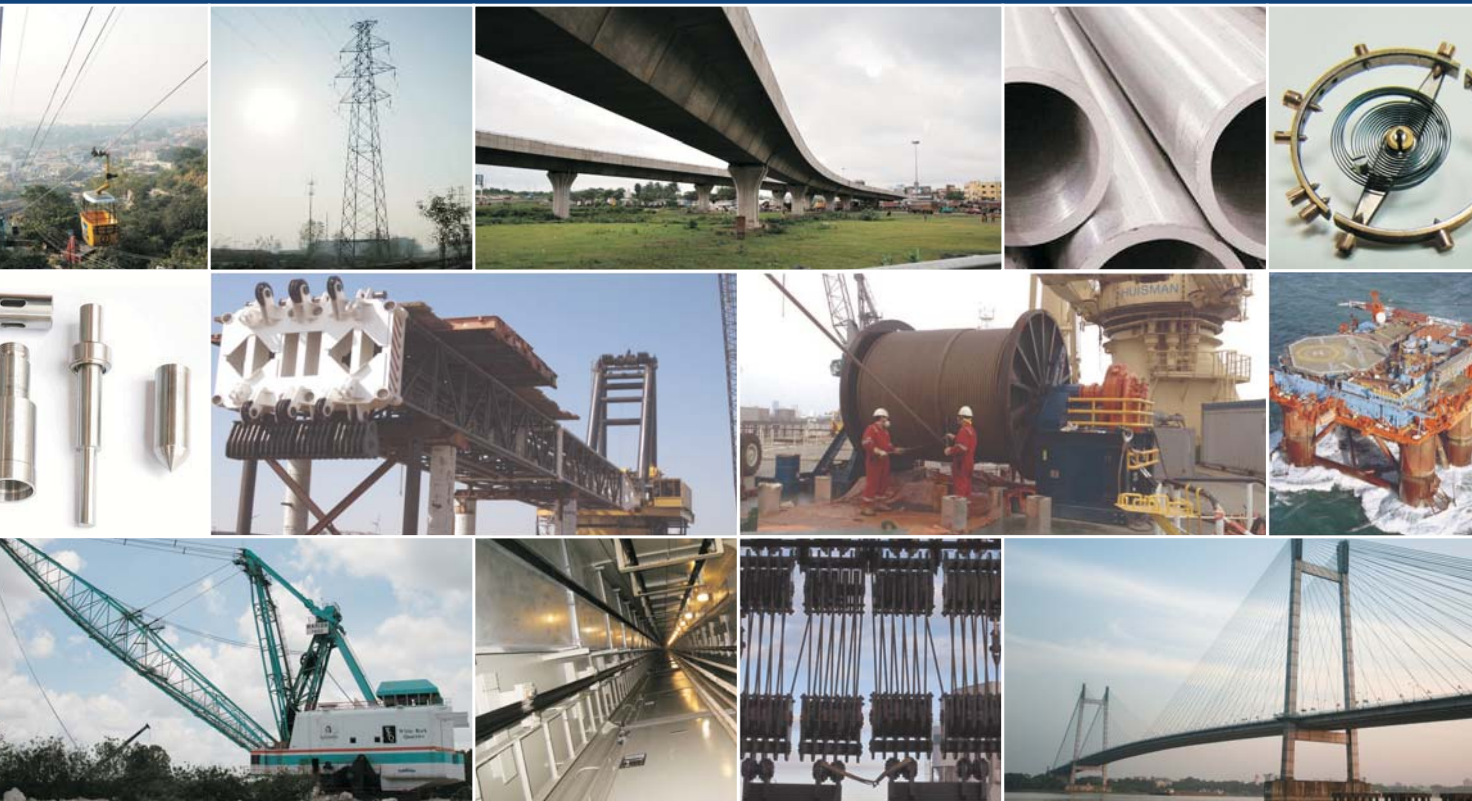
- Power Transmission
- Bridge ( LRPC)
- Flyovers ( LRPC)
- Buildings( LRPC)
- Fishing Ropes

### Conveyor Cords

- Mining
- Other heavy industry

### Steel

- Automobile/ Auto Component Industry
- Aluminium Smealtors
- Bearings
- Hand Tools
- Heavy Earth Moving Equipments
- Oil & Gas Industry
- Railways
- Seamless Tubes
- Tractors



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# Corporate Information

## Board of Directors

Mr. B K Jhavar	- Chairman Emeritus
Mr. Prashant Jhavar	- Chairman
Mr. Brij K Jhavar	- Director
Mr. A K Chaudhri	- Director
Mr. S Singhal	- Director
Mrs. Ramni Nirula	- Director
Mr. G N Bajpai	- Director
Mr. Nripendra Misra	- Director
Mr. Jitender Balakrishnan	- Director
Mr. Rajeev Jhavar	- Managing Director
Dr. Vijay Sharma	- Jt. Managing Director [Steel Business]
Mr. P K Jain	- Jt. Managing Director [Wire & Wire Ropes Business]

## Senior Management Team

### India

Mr. A K Somani	- Chief Financial Officer & Company Secretary
Mr. Debasish Mazumder	- Associate President [Steel]
Mr. Sanjay Nath	- Sr. Vice President [Sales & Marketing]
Mr. D J Basu	- Sr. Vice President [HR]
Mr. S K Jala	- Sr. Vice President [IT]
Mr. Rajesh Sharma	- Sr. Vice President [Wire & Wire Rope Division]
Mr. Sunil Gupta	- Sr. Vice President [Commercial]
Mr. Anjan Kumar Dey	- Sr. Vice President [Iron Making]
Mr. Malay Kumar De	- Sr. Vice President [Metallurgical Services]
Mr. Arvind Kapoor	- Vice President [Marketing]

### Europe

Mr. S Jodhawat	- Chief Executive Officer – Usha Martin International Limited
Mr. Paul Scutt	- Managing Director – European Marine & Management
Mr. Len Allen	- Director Operations – Brunton Shaw UK
Mr. Henk Steenbergen	- General Manager – De Ruiters Staalkabel B.V.

### South East Asia

Mr. Amogh Sharma	- Managing Director – Usha Siam Steel Industries Public Co. Ltd.
Mr. Tapas Ganguly	- Chief Executive Officer – Usha Martin Singapore Pte Ltd.

### Middle East

Mr. S. Mazumder	- Sr. DGM, Sales & Marketing – Brunton Wolf Wire Ropes, Fzco.
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### United States of America

Mr. Sunil Sadani	- Vice President – Usha Martin Americas Inc.
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## Registered & Corporate Office :

2A, Shakespeare Sarani  
Kolkata – 700 071, India  
Phone : 033 – 39800300  
Fax : 033 – 39800400  
Email : investor\_relation@ushamartin.co.in  
Website : www.ushamartin.com

## Works :

Adityapur, Jamshedpur  
Tatilswai, Ranchi  
Hoshiarpur, Punjab  
Nawalganj, Agra, UP  
Sri Perumbudur, Tamil Nadu

## Mines :

Barajamda, Jharkhand  
Daltonganj, Jharkhand

## Bankers :

State Bank of India  
Axis Bank Limited  
ICICI Bank Limited  
HDFC Bank Limited  
IndusInd Bank Limited  
Yes Bank Limited

## Auditors :

Price Waterhouse  
Plot No.Y-14, Block EP  
Salt Lake Electronic Complex  
Sector V, Bidhan Nagar  
Kolkata – 700 091

## Share Listings :

NSE – Scripcode – USHAMART  
BSE – Scripcode – 517146  
Societe de la Bourse de Luxembourg - GDRs  
ISIN No.INE228A01035

## Registrar & Transfer Agent :

MCS Limited  
77/2A, Hazra Road, Kolkata – 700 029  
Phone : 033 – 24541892-93 / 40724051-53  
Fax : 033 – 24541961 / 24747674 / 40724050  
Email : mcskol@rediffmail.com



# Directors' Report

## *Dear Shareholders,*

The Board of Directors of your Company takes pleasure in presenting 26th Annual Report and audited accounts of your Company for the financial year ended 31st March, 2012.

(Rs. in Cr.)

Financial Results	Stand Alone		Consolidated	
	31 March, 2012	31 March, 2011	31 March, 2012	31 March, 2011
Gross Sales including inter company/division sales and excise duty	3920.16	3475.71	4932.00	4406.66
Less: Excise Duty	243.87	215.53	253.92	221.83
Less : Inter company/ division sales	839.40	735.47	1317.26	1140.24
Net Sales excluding excise duty and inter company/division sales	2836.89	2524.71	3360.82	3044.59
Other Income	42.64	48.81	63.94	43.02
Net Sales and Other Income	2879.53	2573.52	3424.76	3087.61
Profit Before Depreciation & Tax	153.95	321.79	234.11	405.03
Depreciation	197.76	176.49	222.71	200.96
Profit Before Tax	(-)43.81	145.30	11.40	204.07
Tax expenses (including deferred tax)	(-)11.04	45.77	4.78	64.04
Profit After Tax	(-)32.77	99.53	6.62	140.03
Minority Interest			(-)3.01	(-)3.00
Profit after Taxation and Minority interest			3.61	137.03
Profit Brought Forward from Previous Year	55.44	41.11	263.86	212.14
Appropriations are made as under:				
-General Reserve		50.00		50.01
-Transfer to Capital Redemption Reserve				
-Proposed Dividend on Equity Shares and tax thereon		35.20	0.09	35.30
-Balance Carried Forward to next year	22.67	55.44	267.38	263.86

### Review of Operations

During the financial year 2011-12, the Company has faced challenges of high cost of inputs which could not be passed on to customers due to difficult business environment. In addition, Usha Siam Steel Industries Public Company Limited, a subsidiary of the Company remained out of operation for sizeable part in second half of year due to unprecedented floods in Thailand.

As a result, the Company's operating profit reduced to Rs.497.76 Crs. on consolidated basis and Rs.408.80 Crs on standalone basis from Rs.595.03 Crs and Rs.504.05 Crs respectively. The impact on profit before and after tax

was even more severe. On consolidated basis, the Company could achieve profit after tax and minority interest of Rs.3.61 Crs. against Rs.137.03 Crs. in previous year. On standalone basis, there was loss after tax of Rs.32.77 Crs against profit after tax of Rs.99.53 Crs. in the previous year.

The turnover, however, increased to Rs.3360.82 Crs on consolidated basis and Rs.2836.89 Crs on standalone basis during the year against Rs.3044.59 Crs and Rs.2524.71 Crs respectively in the previous year.

### Dividend

Under the circumstances, the Board of Directors express

their inability to recommend payment of any dividend to shareholders for the year ended 31st March, 2012.

### Projects

The capex plans undertaken by the Company to further perpetuate the advantage of cost competitiveness are under various stages of implementation and are expected to be commissioned in phases over FY 2012-13 and 2013-14. The projects under implementation include pelletisation plant, coke oven, 2 DRI plants and Waste Heat based 65 MW Captive Power plants and other related projects. Upon completion, these projects would significantly strengthen cost base, which in turn would enhance profitability and competitiveness.

### Business Outlook

The business conditions continue to remain sub-optimal amidst global and domestic challenges. While in inflationary economy, costs may rise further, uncertain business environment (which disturbs chain of economic activities) reduces ability to resist against such adverse pressures. However, the Company believes that with the hope of Government taking suitable initiatives to restore confidence and environment conducive for growth, the inherent advantages of business model, would enable the Company to improve its performance in FY 12-13 and subsequent years.

### Subsidiaries

The international subsidiaries provide significant synergy and support to the Company's business and performance. All the operating subsidiaries of the Company have continued to perform reasonably well during the year under review.

The facilities of Usha Siam Steel Industries Public Company Limited [USSIL], a key subsidiary of the Company became in-operational due to unprecedented floods in Thailand in October'11 which inundated all major industrial areas of Thailand for over 2 months. The Navanakorn Industrial Area, where USSIL's facilities are located, had water accumulation of more than 6 ft. The industrial activities and other operations suffered for over 4 months. After receding of water, the restoration of normalcy in industrial activities is still under way in other parts, USSIL could start partial operations in February'12. Full level of activities are expected to be resumed by second quarter of FY 12-13. The insurance policy taken by USSIL covers consequential losses to assets and profits out of flood and other perils.

The Statement under Section 212 of the Companies Act, 1956 in respect of subsidiaries of the Company is given separately.

### Joint Ventures

All the key joint ventures formed by the Company namely, Pengg Usha Martin Wires Pvt. Ltd., Gustav Wolf Specialty Cords Ltd. and Dove Airlines Pvt. Ltd., have done reasonably well in the year under review.

### TPM & Quality

The Company attaches high importance to quality and TPM in all its operations for achieving tangible and intangible benefits to ensure operational excellence.

Steel Division and Wire Ropes & Speciality Products Division continue to have certification for its quality management systems being in accordance with ISO 9001 2000 from BVQI.

Both Steel Division & Wire Ropes and Speciality Products Division had received consistency awards for Total Productive Maintenance from JIPM.

### Environment

All manufacturing plants have a focus on workplace health and safety.

Steel Division and Wire Ropes & Speciality Products Division continue to enjoy Certification under ISO 14001 Environment Management Systems (EMS) Standards from Det Norske Veritas (DNV), of U.K. The effectiveness of these systems is evident from reduced oil and water consumption, reuse of waste oils and water, utilization of iron containing wastes and improved green cover in steel plant site.

Wire Rope & Specialty Products Division has been achieving significant improvements in effluent treatment plant to eliminate sludge carry over by incorporation of filter press, the output of which is being used for non critical applications, and continues to target zero discharge condition. This Division has also reduced air pollution by converting from oil to LPG and eliminating emission of un-burnt fuels in atmosphere.

### Human Resources

The Board of Directors express their appreciation for sincere efforts made by employees of your Company at all levels during 2011-12 and their co-operation in maintaining cordial relations.

Your directors believe and affirm importance of development

## Directors' Report

of human resources, which is most valuable and key element in bringing all round improvement and achieving growth of business.

USSIL, subsidiary of the Company, was awarded 'Outstanding Establishment on Labour Relation & Welfare' by Ministry of Labour, Royal Thai Government for the years 2008, 2009, 2010 and 2011.

The information required under Section 217(2A) of the Companies Act, 1956 read with Companies (Particulars of Employees) Rules, 1975, forms part of this Report.

### Deposits

As on 31st March, 2012, there are unclaimed deposits of Rs.0.04 Crs.

### Corporate Governance

Your Company has complied with requirements of Clause 49 of Listing Agreement and followed practice of getting disclosures from directors and senior management personnel relating to any material financial and commercial transactions where they have any personal interest with a potential conflict of interest with the Company at large. Your Company recognizes importance of good Corporate Governance as a step for building stakeholders' confidence, improving investor protection and enhancing long-term enterprise value.

A detailed report on Corporate Governance is annexed.

### Directors

Mr. B K Jhawar, Mr Brij K Jhawar, Mr P K Jain and Mr A K Chaudhri are retiring by rotation.

Mr. A K Basu retired by rotation in last annual general meeting. Your directors place on record their warm appreciation for contribution made by him in progress and growth of the Company.

During the year, Dr P Bhattacharya, Jt Managing Director retired from the services of the Company on attaining the age of superannuation. Your directors place on record their warm appreciation for contribution made by him in progress and growth of the Company.

With effect from 1st February, 2012, Dr. Vijay Sharma and Mr. P K Jain, Executive Directors were designated as Jt. Managing Director [Steel Business] and Jt. Managing Director [Wire & Wire Ropes Business] respectively.

### Directors' Responsibility Statement

Pursuant to requirements under Section 217 (2AA) of the Companies Act, 1956 with respect to Directors Responsibility Statement, it is hereby confirmed that:

- (i) the applicable accounting standards have been followed in preparation of annual accounts for financial year ended 31st March, 2012 and proper explanations have been furnished relating to material departures ;

- (ii) the accounting policies have been selected and applied consistently and reasonably except to the extent of change in Accounting Policy mentioned hereinafter, and prudent judgments and estimates have been made so as to give a true and fair view of state of affairs of the Company at end of financial year and of profit of the Company for year under review ;

- (iii) the proper and sufficient care has been taken for maintenance of adequate accounting records in accordance with provisions of the Companies Act, 1956 for safeguarding assets of the Company and for preventing and detecting fraud and other irregularities; and

- (iv) the annual accounts for financial year ended 31st March, 2012 have been prepared on a going concern basis.

### Accounting Policy

During the year, there has been a sharp depreciation in value of INR against US \$ and other global currencies. Recognising severity of the impact, Ministry of Corporate Affairs has amended AS-11, allowing an option to corporates to account for change in value of long term loans to respective fixed assets and depreciate over life of such assets if the loan is for acquisition of fixed assets, and in case of other loans, to Foreign Currency Monetary Item Translation Difference Account and amortise over balance period of liability. The Company has decided to exercise this option and accordingly there has been a change in Accounting Policy.

### CEO / CFO Certification

The Managing Director and Chief Financial Officer of the Company submitted a certificate to Board of Directors as required under Clause 49 of Listing Agreement for the year ended 31st March, 2012.

### Additional Disclosures

In line with requirements of Listing Agreements and Accounting Standards issued by the Institute of Chartered Accountants of India, your Company made additional disclosures in respect of Consolidated Financial Statements, Related Party Transactions and Segmental Reporting.

### Auditors

The auditors, M/s. Price Waterhouse, Chartered Accountants, retire at conclusion of forthcoming Annual General Meeting and being eligible, have offered themselves for re-appointment.

Your directors invite your attention to note 41 to the accounts, referred to by Auditors in para 4 of their report. These notes are self explanatory and along with explanations given hereinabove under respective heads, provide required clarifications on references made by Auditors.

### Cost Auditors

During the year, Board appointed M/s. Guha, Ghosh, Kar

& Associates, Cost Accountants, to conduct cost audit of the Company. The Company filed application with Central Government for financial year 2011-12 for appointment of Cost Auditor and the approval is deemed to have been received.

### Energy Conservation

As required under Section 217(1)(e) of the Companies Act, 1956, details regarding conservation of energy, technology absorption and foreign exchange earning and outgo are given in the Annexure attached hereto and form part of this Report.

### Corporate Social Responsibility

Your Company has always been alive to its' responsibility to the society and accordingly been giving very high priority and commitment towards discharge of the same.

USSIL was awarded TLS 8001-2010 Certificate for having achieved requirements of Thai Corporate Social Responsibility by Ministry of Labour, Royal Thai Government.

A detailed report on various initiatives in this regard is attached and forms part of this Report.

### Appreciation

Your directors place on record their appreciation for valuable co-operation and support of customers, suppliers, contractors, shareholders, investors, government authorities, financial institutions, banks, partners and collaborators.

On behalf of the Board of Directors

Kolkata  
10th May 2012

**P Jhawar**  
Chairman

## Annexure to the Directors' Report

Information as per Section 217(1) (e) of the Companies Act, 1956 read with Companies (Disclosure of Particulars in the Report of Board of Directors) Rules, 1988, and forming part of the Directors' Report for the year ended 31st March, 2012

### 1. Conservation of Energy

#### a) Energy conservation measures taken:

- i. Use of BF gas in place of liquid fuel in rolling mills.
- ii. Coal Injection to replace coke by 100 kg/thm in Blast Furnace.
- iii. Use of washed Iron Ore Fines in sinter resulting in higher Fe in sinter leading to 10 kg/thm saving in fuel rate in Blast furnace
- iv. Commissioning of Hot Blast Stove in BF 1 to increase Hot Blast temperature thereby reducing coke rate by 30kg/thm.
- v. Use of oxygen in electric arc furnace resulting in lower power consumption
- vi. Improved heat recovery by installing new Recuperator with modified design at rolling mill heating furnace.
- vii. Replacing heavier metallic blades by lighter FRP blades & hollow hub for cooling tower fans.
- viii. Lighting control has been automated through timer switch.
- ix. Installed water flow meter for monitoring & judicious utilization of water thereby reducing pumping requirement.
- x. Replacement of control cooling conveyors DC

drives with AC drives in Rolling Mill improving process efficiency.

- xi. Cooling tower fan operation at CPP has been interlocked with water temperature at CPP resulting in saving of power.
- xii. Variable Frequency Drives (VFD) has been installed in various blowers in the Wire Rod Mill and also in ID Fans and Vibro Feeder in Captive Power Plants.
- xiii. Use of soft starters for heavy duty fan application.
- xiv. Replacement of drive arrangements and old motors & pumps in furnace area resulting in conservation of power.

#### b) Additional investments and proposals, if any, being implemented for reduction of consumption of energy:

- i. The Company is in expansion mode including installation of 2 Nos. 30 MW CPP, 0.4 MTPA non recovery Coke Plant, DRI-4&5 and up-gradation of BF-1. and 1.2 MTPA Pellet Plant. The Captive Power Plants are based on waste heat recovery from Coke and DRI plants.
- ii. Various steps are being taken in SMS to reduce power consumption through process improvements.
- iii. The Company is investing in Producer Gas which will reduce furnace oil consumption in rolling mills.
- iv. The Company is investing in Char Beneficiation

## Annexure to the Directors' Report (Contd.)

Project. This processed char will replace part coal consumption in Captive Power Plants.

- v. The Company has been selected by Bureau of Energy Efficiency (BEE) as a designated consumer under the Government Perform, Achieve and Trade (PAT) Scheme whereby it has been given target to reduce specific energy consumption in the year 2012-13 to 2014-15.
- vi. Retrofitting of lighting saver in lighting loads and AC saver to reduce power consumption.

Energy conservation is an ongoing process and there is a continuous programme to create awareness and motivate the employees to conserve energy through small group activities.

### **c) Impact of measures at (a) and (b) above for reduction of energy consumption and consequent impact on the cost of production of goods :**

With the implementation of the above measures, energy cost is expected to be reduced and consequently there will be impact on the cost of production.

### **d) Total energy consumption and energy consumption per unit of production as per Form-A of the Annexure to the Rules in respect of industries specified in the Schedule thereto annexed.**

## **2. Technology Absorption**

### **1) Research and Development (R&D)**

#### **a) Specified areas in which R & D carried out by the Company :**

The Company is constantly striving to set global benchmark in terms of Quality, Cost & Performance and remains committed to TPM. The improvement and development activities carried out are:

- i. Development of various grades of steel required by Auto, Auto Ancillaries, Engineering Application, Defense and Railways including rolling and further processing.
- ii. Development of Steel Bars for anode & cathode bar application used in Aluminum Smelters.
- iii. Development of CHQ Wire for high end wire application for various OEM's
- iv. Higher utilization of steel plant waste like Mill scale, BF Flue dust, ESP dust, DRI fines in sinter.
- v. Beneficiation of Iron ore fines to upgrade Fe content in iron ore.
- vi. Development of steel products with improved surface integrity.
- vii. Production of cleaner steel with low residual.

- viii. Mining & Processing of Iron Ore from captive mines and productive utilization of the same in Blast Furnace & DRI plants. A detailed study was also conducted jointly with Institute of Mineral & Materials Technology, Bhubaneswar.
- ix. Developed extra high strength Anchor Mooring Ropes having higher breaking load per unit steel content within the rope.

#### **b) Benefits derived as a result of above R&D :**

- i. Development and supply of critical steel for medium & heavy commercial vehicles and auto ancillary producers which is a fast growing sector in India.
- ii. Micro alloyed steel developed has higher strength to weight ratio enabling production of wire ropes with increased load carrying capacity, higher product life cycle, etc.
- iii. Cleaner steel development has enabled manufacturing products having higher field life specifically with improved fatigue properties.
- iv. Higher productivity and reduction of processing cost during wire drawing.
- v. Efficient and productive utilization of iron Ore through conventional DRI & BF plants
- vi. Introduction of new & improved products to stay ahead of competition and technology driven obsolescence.
- vii. Increase in the consistency & reliability of our products.
- viii. Improvement in product performance resulting in increase of customer satisfaction in high end product segment.

#### **c) Future plan of action :**

- i. A new finishing line for alloy steel rolled bars comprising of Roller Strengtheners and automatic ultra sonic testing machine of rolled product. This will ensure defect free bar to the customer.
- ii. Installed annealing furnace for wire rods based on cracked ammonia technology for zero decarburization control in annealed condition alloy with shot blasting machine. This will ensure no pickling for scale removal of coils.
- iii. EAF 1 will be modified to EBT type from existing slide gate system of tapping. This will lead to consistent slag free tapping and improve steel quality
- iv. In CCM-1, existing 2 strand caster to be modified to 3 strand caster to reduce casting time from 80 minutes to 60 minutes, machine radius to be



increased from 4 mtrs. to 6 mtrs. This will lead to improvement in surface & internal quality of billet.

- v. Additional vacuum degassing system in SMS-1 & 2 shop will reduce ladle holding time and improve steel quality.
- vi. 4 strand caster in SMS-3 to improve shop productivity and improve billet / bloom quality.
- vii. Introduction of induction heating of tundish in CCM-3 will facilitate casting of critical clogging prone grades at a constant superheat thus improving blooms internal quality.
- viii. In CCM-3 trials with different quality and different designs (four port) of black refractory are being planned to avoid clogging in medium carbon resulphurized grades to improve steel quality and productivity.
- ix. Installation of Orbis Gauge at Wire Rod Mill (2 nos.) for improved section control.
- x. Refurbish existing eddy current setup for increasing effectiveness of detecting surface defect of wire rods at high speed rolling.
- xi. Additional De-scaler at Wire Rod Mill to avoid secondary scale & better surface quality.
- xii. To Install Induction heating coil at Wire Rod Mill before Stand No.6 to homogenize the temperature of rolled bars and to roll spring steel at lower temperature for controlling decarburization without damaging the plant equipment.
- xiii. Addition of rollers in between the nozzles at Wire Rod Mill for controlling scratches of coils during garret rolling.
- xiv. Installation of Orbis Gauge at Blooming Mill and additional De-scaler for improved section control and to avoid secondary scale for better surface quality.
- xv. Introduction of guides in Reversing Mill (Blooming Mill) to control collaring and kink bend.
- xvi. Replacement of friction guide by roller guide (Blooming Mill) to control twisting of bars during RCS rolling.
- xvii Capital Repair of BF1 with increased volume for higher hot metal production and improved cooling technology to improve furnace campaign life. Introduction of pulverized coal injection to replace coke in BF1.
- xviii Commissioning of producer gas units to replace usage of oil in reheating furnaces in rolling mills.
- xix. Beneficiation of iron ore fines to upgrade Fe

content in sinter & pellet.

- xx. Introduced improved (compact and platicated) products and increase capability and volume of special wire ropes particularly for crane industry.
- xxi. Development of products and increase of market share of special products for use in crane, fishing, elevator, structural and mining industry in both domestic and overseas markets.

**d) Expenditure on R & D:** (Rs. in lacs)

(i)	Capital	649
(ii)	Recurring	93
(iii)	<b>Total</b>	<b>742</b>
(iv)	Percentage of total turnover	0.24%

**2) Technology absorption, adoption and innovation :**

**(i) Technology absorption, adoption and innovation include the following :**

- Bloom casting through continuous casting machine for production of special grade alloy steel and carbon steel. Caster standardized and taken into commercial production.
- Static Var Compensation (SVC) installed in the main power distribution system for improving power factor.
- Installation and stabilization of continuous cold drawing machine for production of bars from wire rod coils through on line descaling system and on line surface quality evaluating system.

**(ii) Benefits derived as a result of the above efforts :**

- (a) Approvals received from various OEM such as Arvind Meritor, Caterpillar, International Tractor, WIPRO, Automotive Axle, Graziano Application for supply of bars (including bright bars) for the forging & machining industry.
- (b) Metallurgical preparedness for the future business of alloy & specialty steel.

**(iii) Information regarding technology imported during last 5 years: Nil**

**3. Foreign Exchange earnings and outgo:**

- (i) Activities relating to exports, initiatives taken to increase exports, development of new export market for products and services and export plans already explained in Directors' Report and MD & A.
- (ii) Total Foreign exchange earned and used for the year is as follows: (Rs. in lacs)

Foreign exchange earned	47074
Foreign exchange used	64243

# FORM A

## Conservation of Energy

Annexure to Directors' Report-Information under Section 217 (1)(e) of the Companies Act, 1956 read with Companies (Disclosure of Particulars in the Report of Board of Directors) Rules, 1988 and forming part of Directors' Report.

### A) Power and Fuel Consumption

	31st March, 2012	31st March, 2011
<b>(1) Electricity</b>		
<b>a) Purchased</b>		
Units ( Thousand KWH)	266,302	256,934
Total amount (Rs.in Lacs)	14,640	12,799
Average Rate/Unit (Rs./KWH)	5.50	4.98
<b>b) Own Generation</b>		
<b>(i) Through Diesel Generator</b>		
Units ( Thousand KWH)	3,940	4,317
Units per ltr. of Diesel Oil (KWH)	3.05	3.16
Average Cost/Unit (Rs./KWH)	16.20	13.61
<b>(ii) Through Coal based Power Plant</b>		
Units ( Thousand KWH)	507,760	484,961
Units per kg. of Coal/Char	1.03	0.96
Average Cost/Unit (Rs./KWH)	1.70	1.39
<b>(iii) Through Steam Turbine/Generator</b>		
Units ( Thousand KWH)	18,953	24,839
Units per ltr. of Fuel Oil/BF Gas	35.85	138.38
Average Cost/Unit (Rs./KWH)	1.59	0.33
<b>(iv) Through Natural Gas</b>		
Units ( Thousand KWH)	-	-
Units per CuM. of Natural Gas	-	-
Average Cost/Unit (Rs./CuM)	-	-

	31st March, 2012			31st March, 2011		
	Process	Power		Process	Power	
<b>(2) Coal</b>						
(Specify Quality & Where Used)						
(Grade 'A', 'B', 'D', 'E', 'F' & 'Char/Fines')						
Quantity (M.T.)	420,029	494,880	914,909	506,591	506,060	1,012,651
Total Cost (Rs.in Lacs)			20,177			17,488
Avg. Rate (Rs./Tonne)			2,205.39			1,726.96
<b>(3) Furnace Oil</b>						
Quantity (Kilo Ltrs.)			21,340			24,940
Total Cost (Rs.in Lacs)			8,090			7,012
Avg. Rate (Rs./Litre)			37.91			28.11
<b>(4) Light Diesel Oil /HSD Oil</b>						
Quantity (Kilo. Ltrs.)			4,474			4,211
Total Cost (Rs.in Lacs)			2,413			1,832
Avg. Rate (Rs./Litre)			53.93			43.49