



**SECTION-7**  
**ANNEXURES**

**CONTENT INDEX**

• Annexure-I (Global Compact)	A2
• Annexure-II (Tata Code of Conduct)	A2
• Annexure-III (CoRE Charter)	A4
• Annexure-IV (Grievance Procedure)	A5
• Annexure-V (Abbreviations & Glossary)	A8
• Annexure-VI Procedure for estimation of air emissions from stacks	A13



## TATA STEEL – CORPORATE SUSTAINABILITY REPORT (2002-2003)

### Annexure-I

#### GLOBAL COMPACT - THE NINE PRINCIPLES

At the World Economic Forum, Davos, on 31<sup>st</sup> January 1999, UN Secretary-General Kofi A. Annan challenged world business leaders to “embrace and enact” the Global Compact, both in their individual corporate practices and by supporting appropriate public policies. These principles cover topics in human rights, labour and environment:

#### Human Rights

The Secretary-General asked world business to:

**Principle 1:** support and respect the protection of international human rights within their sphere of influence; and

**Principle 2:** make sure their own corporations are not complicit in human rights abuses.

#### Labour

The Secretary-General asked world business to uphold;

**Principle 3:** freedom of association and the effective recognition of the right to collective bargaining;

**Principle 4:** the elimination of all forms of forced and compulsory labour;

**Principle 5:** the effective abolition of child labour, and

**Principle 6:** the elimination of discrimination in respect of employment and occupation.

#### Environment

The Secretary-General asked world business to:

**Principle 7:** support a precautionary approach to environmental challenges;

**Principle 8:** undertake initiatives to promote greater environmental responsibility; and

**Principle 9:** encourage the development and diffusion of environmentally friendly technologies.

### Annexure-II

#### CODE OF CONDUCT (adopted across the Tata Group in 1998-99) (visit [www.tatasteel.com](http://www.tatasteel.com) for complete CoC)

Clauses pertaining to sustainability from Tata Code of Conduct (25 numbers total) are highlighted below;

#### National Interest (Clause#1)

A Tata Company shall be committed in all its actions to benefit the economic development of the countries in which it operates and shall not engage in any activity that would adversely affect such objective. It shall not undertake any project or activity to the detriment of the Nation's interests or those that will have any adverse impact on the social and cultural life patterns of its citizens. A Tata Company shall conduct its business affairs in accordance with the economic, development and foreign policies, objectives and priorities of the Nation's government and shall strive to make a positive contribution to the achievement of such goals at the international, national and regional level as appropriate.

#### Competition (Clause#3)

A Tata Company shall fully strive for the establishment and support of a competitive open market economy in India and abroad and shall co-operate in the efforts to promote progressive and judicious liberalisation of trade and investment by a country.

Specially, a Tata Company shall not engage in activities, which generate or support the formation of monopolies, dominant market positions, cartels and similar unfair trade practices.

A Tata Company shall market its products and services on its own merits and shall not make unfair and misleading statements about competitors' products and services. Any collection of competitive information shall be made only in the normal course of business and shall be obtained only through legally permitted sources and means.



**Annexure-II (Contd....)**

**Equal-Opportunities Employer (Clause#4)**

A Tata Company shall provide equal opportunities to all its employees and all qualified applicants for employment without regard to their race, caste, religion, colour, ancestry, marital status, sex, age, nationality, disability and veteran status. Employees of a Tata Company shall be treated with dignity and in accordance with the Tata Policy to maintain a work environment free of sexual harassment, whether physical, verbal or psychological. Employee policies and practices shall be administered in a manner that would ensure that in all matters equal opportunity is provided to those eligible and the decisions are merit-based.

**Health, Safety and Environment (Clause#8)**

A Tata Company shall strive to provide a safe and healthy working environment and comply, in the conduct of its business affairs, with all regulations regarding the preservation of the environment of the territory in operates in. A Tata Company shall be committed to prevent the wasteful use of natural resources and minimise any hazardous impact of the development, production, use and disposal of any of its products and services on the ecological environment.

**Quality of Products and Services (Clause#9)**

A Tata Company shall be committed to supply goods and services of the highest quality standards backed by efficient after sales service consistent with the requirements of the customers to ensure their total satisfaction. The quality standards of the Company's goods and services should at least meet the required national standards and the company should endeavour to achieve international standards.

**Corporate Citizenship (Clause#10)**

A Tata Company shall be committed to be a good corporate citizen not only in compliance with all relevant laws and regulations but also by actively assisting in the improvement of the quality of life of the people in the communities in which it operates with the objective of making them self reliant. Such social responsibility

would comprises, to initiate and support community initiatives in the field of community health and family welfare, water management, vocational training, education and literacy and encourage application of modern scientific and managerial techniques and expertise. This will be reviewed periodically in consonance with national and regional priorities. The company would also not treat these activities as optional ones but would strive to incorporate them as integral part of its business plan. The company would also encourage volunteering amongst its employees and help them to work in the communities. Tata companies are encouraged to develop social accounting systems and to carry out social audit of their operations.

**Public Representation of the Company and the Group (Clause#12)**

The Tata Group honours the information requirements of the public and its stakeholders. In all its public appearance with respect to disclosing company and business information to public constituencies such as the media, the financial community, employees and shareholders, only specifically specifically authorized directors and employees shall represent a Tata Company or the Tata Group. It will be the sole responsibility of these authorized representative to disclose information on the company.

**Ethical Conduct (Clause#17)**

Every employee of a Tata Company, which shall include whole-time Directors and the Managing Director, shall deal on behalf of the Company with professionalism, honesty, integrity as well as high moral and ethical standards. Such conduct shall be fair and transparent and be perceived to be as such by third parties.

Every employee shall be responsible for the implementation of and compliance with the Code in his professional environment. Failure to adhere to the Code could attract the most severe consequences including termination of employment.



**Annexure-II (Contd....)**

**Regulatory Compliance (Clause#18)**

Every employee of a Tata Company shall, in his business conduct, comply with all applicable laws and regulations, both in letter and in spirit, in all the territories in which he operates. If the ethical and professional standards set out in the applicable laws and regulations are below that of the Code then the standards of the Code shall prevail.

**Political Non-Alignment (Clause#7)**

A Tata Company shall be committed to and support a functioning democratic constitution and system with a transparent and fair electoral system in India. A Tata Company shall not support directly or indirectly any specific political party or candidate for political office. The Company shall not offer or give any company funds or property as donations, directly or indirectly, to any specific political party, candidate or campaign.

**Annexure-III**

**CoRE SUSTAINABILITY CHARTER**

**Objective of the Charter:**

To express support publicly for these principles and to provide a basis for pursuing environmental improvements at the corporate level.

**Principles:**

**Corporate Priority:**

To recognise environmental management as among the highest corporate priorities and as a key determinant to sustainable development; to establish policies, programs and practices for conducting operations in an environmentally sound manner.

**Process of Improvement:**

To continue to improve corporate policies, programs and environmental performance, taking into account technical development, scientific understanding, consumer needs and community expectations, with legal regulations as a starting point.

**Annexure-III (Contd....)**

**Integrated Management:**

To integrate these policies, programs and practices into each business as an essential element of management in all its functions.

**Employee Education:**

To educate, train and motivate employees to conduct their activities in an environmentally responsible manner.

**Prior Assessment:**

To assess environmental impacts before starting a new activity or project and before decommissioning a facility or leaving a site.

**Products and Services:**

To develop and provide products or services those have no undue environmental impacts and are safe in their intended use, that are efficient in their consumption of energy and natural resources, and that can be recycled, reused, or disposed of safely.

**Customer Advice:**

To advise, and where relevant educate, customers, distributors and the public in the safe use, transportation, storage and disposal of products provided; and to apply similar considerations to the provision of services.

**Facilities and Operations:**

To develop, design and operate facilities and conduct activities taking into consideration the efficient use of energy and materials, the sustainable use of renewable resources, the minimisation of adverse environmental impact and waste generation, and the safe and responsible disposal of residual wastes.

**Research:**

To conduct or support research on the environmental impacts of raw materials, products, processes, emissions and wastes associated with the enterprise and on the means of minimizing such adverse impacts.



## TATA STEEL – CORPORATE SUSTAINABILITY REPORT (2002-2003)

### Annexure-III (Contd...)

#### ***Precautionary Approach:***

To modify the manufacture, marketing or use of products or services or the conduct of activities, consistent with scientific and technical understanding, to prevent serious or irreversible environmental degradation.

#### ***Contractors and Suppliers:***

To promote the adoption of these principles by contractors acting on behalf of the enterprise, encouraging and, where appropriate, requiring improvements in their practices to make them consistent with those of the enterprise, and to encourage the wider adoption of these principles by suppliers.

#### ***Emergency Preparedness:***

To develop and maintain, where significant hazards exist, emergency preparedness plans in conjunction with the emergency services, relevant authorities and the local community, recognizing potential trans-boundary impacts.

#### ***Transfer of Technology:***

To contribute to the transfer of environmentally sound technology and management methods throughout the industrial and public sectors.

#### ***Contributing to the common effort:***

To contribute to the development of public policy and to business, governmental and intergovernmental programs and educational initiatives that will enhance environmental awareness and protection.

#### **Openness to concerns :**

To foster openness and dialogue with employees and the public, anticipating and responding to their concerns about the potential hazards and impacts of operations, products, wastes or services, including those of trans-boundary or global significance.

### Annexure-III (Contd...)

#### ***Compliance and Reporting:***

To measure environmental performance; to conduct regular environmental audits and assessments of compliance with company requirements, legal requirements and these principles; and periodically to provide appropriate information to the Board of Directors, shareholders, employees, the authorities and the public.

***{Drawn from ICC's (International Chamber of Commerce) Business Charter for Sustainable Development}***

### Annexure-IV

#### **Grievance Redressal Procedure**

- The Grievance Procedure aims at settlement of grievances of permanent employees, other than supervisors and fresh employees on probation, in the shortest possible time and at the lowest possible level. It is a three-stage procedure with an appropriate grievance form for each stage.
- Individual grievances and complaints shall not be discussed at any level other than that specified in this procedure except that, if the Union so desires, such cases may be put up for discussion at the Central Works Committee.
- Policy matters and their interpretation shall not be discussed at any level except with the top management. The Union, however, can take up such matters at the Central Works Committee.

Representations for the redressal of grievances from employees to the various authorities either directly or through the Union, when their cases are pending with any Works Committee, are not conducive to the working of those committees. Hence, no representation will be entertained for discussion at any level of the management if the case is already referred to and pending with any Works Committee, until the same is either disposed of or withdrawn from the Works Committee.



## TATA STEEL – CORPORATE SUSTAINABILITY REPORT (2002-2003)

### Annexure-IV (Contd...)

- In exceptional cases, however, involving grievances of a number of workmen other than routine grievances or questions of principle or policy or any other important matter where immediate action is necessary, the Union may take up the case with the appropriate level of management. In cases of importance the President of the General Secretary of the Union may ask the management for a joint enquiry.

The following subjects come under the purview of this procedure;

- i) Acting
- ii) Amenities and/or facilities
- iii) Continuity of service
- iv) Compensation
- v) Discharge/dismissal
- vi) Fines
- vii) Increment
- viii) Leave
- ix) Medical
- x) Misconduct
- xi) Nature of job
- xii) Promotion (excluding selection by interview)
- xiii) Safety appliances
- xiv) Suspension
- xv) Transfer
- xvi) Victimisation
- xvii) Warning letter

#### State One:

- If an employee has a grievance, he should meet his shift-in-charge or equivalent and talk it over with him. In cases of appeal against punishments excluding suspension, discharge or dismissal, the employee should meet his General Foreman or equivalent. If necessary he should obtain a copy of Grievance Form-I. This should be filled in and submitted within one week of the date on which he knew the facts, on the basis of which the grievance has arisen, except that in the case of promotions a time limit of six weeks from the date of the promotion in question will be allowed.

- The grievance form should be handed over to the shift-in-charge, General Foreman or equivalent, as the case may be, who will arrange to issue an acknowledgement receipt. He will make the necessary enquiries and return the form to the employee concerned with his remarks in the space provided for this purpose or, with the remarks of the head of the department (where the matter is beyond the jurisdiction of the General Foreman or the shift-in-charge or equivalent), within the next two working days from the receipt of the form. In cases requiring reference to higher authorities this time limit will be relaxed. If necessary, the employee can discuss the case further with the supervisor concerned in the light of his remarks. If so desired, the employee can take the help of the Union representative in presenting or discussing the case at this and/or the next stage.

#### Stage Two:

- If the employee is not satisfied with the reply at stage one, he may obtain from the General Foreman or the shift-in-charge or equivalent, as the case may be, a copy of Grievance Form-II, enter therein the reasons for reconsideration of the case, and submit this form to the head of his department within three working days of the receipt of the reply at stage one and obtain an acknowledgement receipt thereof.
- Appeals against suspension should be addressed to the head of the department on Grievance Form-II or on ordinary paper, within seven days of the receipt of orders or after the last date of suspension, whichever is later, and these will be considered at stage two, in the first instance. If the appeal is time-barred, it must be clearly mentioned in the reply.
- The head of the department will discuss the issue with the employee and the supervisor concerned and return this Form with his remarks within three working days of receipt of the Form. In cases requiring reference to higher authorities or to another department this time limit will be relaxed.



## TATA STEEL – CORPORATE SUSTAINABILITY REPORT (2002-2003)

### Annexure-IV (Contd...)

#### Stage Three:

- If the employee is still not satisfied with the reply, he may appeal to the Chairman of the Zonal Works Committee concerned, on Grievance Form-III, within seven working days of the receipt of the reply at stage two.
- Appeals against orders of discharge or dismissal should be addressed to the Chairman of the Zonal Works Committee concerned, on Grievance Form-III (Copies of which are available at the Employment Bureau), or on ordinary paper, and these will be considered at stage three, in the first instance. This should be done within six weeks of the receipt of the orders, except that in cases where employees discharged or dismissed are out of Jamshedpur at the time the order is issued, the time limit should be three months from the date of issue of such orders.
- The decision reached by the management after due consideration of the recommendations of the Zonal Works Committee will be communicated to the employee on Grievance Form-III through proper channels. The Zonal Works Committee's unanimous recommendations, to which the Management or the Union raises no objection within 10 days of the receipt of such recommendations, shall be final.
- Where such recommendations are not unanimous or have not been accepted by the management or the Union, the Zonal Works Committee will refer the case to the Central Works Committee or the Special Central Works Committee for consideration.

#### Grouping of Zonal Works Committees:

**Zonal Works Committee #I** – Blast Furnace & Coke Ovens, Ore Crushing & Sintering Plant, Refractories Department (Production), Refractories Department (Maintenance, including Works Masonary), and Industrial Engineering Department.

**Zonal Works Committee #II:** Steel Melting Shops (Nos. 1&3), L D Shop, Canteen Services, Materials Reclaiming Department, Energy & Economy Department, Metallurgical Department, Chemical Laboratory, Research & Development Department, and Electronics Department.

**Zonal Works Committee #III:** Sheet Mill, Plate Mill, Strip Mill, Bar Forging & Tyre Mill, Ring Plant, and Bar & Rod Mill.

**Zonal Works Committee #IV:** Rolling Mill No.1 (including Rail Finishing and New Shipping), Rolling Mill No.2, Merchant Mills, Medium & Light Structural Mills, Lubrication, Production Scheduling and RT Shop.

**Zonal Works Committee #V:** Electrical Department (Power, Operation, Mills, Services, Inspection and Tele-Communication) General Maintenance, Stores, Power Engineering Department and Building Inspection & Maintenance Department.

**Zonal Works Committee #VI:** Shops, Loco & Loco Crane Department, Works General Services, Agrico, Foundries & Pattern Shop, Transportation Department, Material Handling Services, Works Garden, Production Planning (Shops), Plant Design and Mechanical Maintenance Department, Central Inspection, and Standardisation Department.

**Non-Factory Employees' Works Committee** : All ministerial staff of Works and non-Works departments, all outside works departments.

#### References:

DIC's Circular of 15.06.56 (GSL/2493/64 of 25.02.64)  
LP/8322/56 of 17.08.56 (AO/7073/64 of 14.08.64)  
AO/7592/58 of 21.10.58 (AO/1626/67 of 20.02.67)  
AO/8013/59 of 04.09.59 (AO/14819/71 of 08.12.71)  
AOC/1198/61 of 08.09.61 (AO/15480/71 of 23.12.71)  
AO/7684/61 of 11.09.61 (AO/10429/76 of 27.10.76)  
AOC/1324/61 of 03.10.61 (AO/9954/80 of 04.09.80)  
DPL/Con/843/62 of 08.05.62



ABBREVIATIONS, GLOSSARY & LIST OF RULES/ACTS

A&IG	Aspire and Improvement Group	COC	(Tata) Code of Conduct (Annexure-II)
ABP	Annual Business Plan (all operations of Tata Steel)	COD	Cost of Debt {Interest cost x (1-tax rate)}
AES	Application Engineering Support (products)	COMS	Customer Order Management System
AGM	Annual General Meeting (Shareholders)	CoRE	Corporate Round Table on Environment & Sustainable Development
AIWC	All Indian Women Conference	CRC (W)	Cold Rolling Complex (West)
AQUIP	Annual Quality Improvement Plan (A document prepared by each department by March end for next financial year)	CRM	Cold Rolling Mill
ASSOCHAM	Associated Chamber of Commerce	Crore	One Crore is Ten Million
BAH	Booz Allan Hamilton	CS	Corporate Services
BE	Business Excellence	CSD	Customer Service Department
BHP	Broken Hill Property	CSI	Customer Satisfaction Index (Points 1 to 5 scale based on customer feedback on issues like delivery compliance, service quality, product quality, etc.)
BIS	British Institute of Standards	CSMS	Corporate Sustainability Management System
BIS	Bureau of Indian Standards	CVM	Customer Value Management
Bl. Fce.	Blast Furnaces	CVR	Customer Visit Report
BM	Bar Mill	CV	Calorific Value
BOC	British Oxygen Company	DEP	Department
BOD	Biological Oxidation Plant	DER	Debt Equity Ratio (Debt/Equity; Equity = Equity Share Capital + Free Reserves)
BOD	Board of Directors	DIV	Dividend / Division
BOD	Board of Directors	DMD	Deputy Managing Director
BSC	Balance Score Card (Statement of objectives and targets in line with corporate strategy and objectives for each managerial function & Department)	DO	Dissolved Oxygen (in water, mg/l)
CAPEX	Capital Expenditure (five year plan document on capital expenditure approved by BOD)	DS	Desulpharisation Compound
CAS	Consignment Agent(s)	Dy.	Deputy
CCI	Corporate Citizenship Index (details are attached)	Dy. MD	Deputy Managing Director
CEDEP	European Centre for Continuing Education, France	EBIT	Earning Before Income Tax
CFC	Chloro Floro carbon	EHS	Environment Health & Safety
CFI	Centre for Family Initiatives	EIC	Executive Incharge
CGL	Continuous Galvanizing Line	EMS	Environmental Management System
Chief (CC)	Chief Corporate Communication	Engg.	Engineering
CIDA	Canadian International Development Agency	EP Act	Environment Protection Act
CII	Confederation of Indian Industry	EPA	External Processing Agent
CIO	Chief Information Officer	EVA	Economic Value Addition
CIP	Continuous Improvement Project (part of AQUIP document)	EXIM	{(Return on Invested Capital – Weighted Average Cost of Capital) x Capital Employed}
CMR	Child Mortality Rate	FAM	Export Import
CO	Carbon Monoxide	FAP	Ferro Alloys & Minerals
COB	Committee of Brand		Ferro Alloys Plant





**TATA STEEL – CORPORATE SUSTAINABILITY REPORT (2002-2003)**

FICCI	Federation of Indian Chamber of Commerce & Industry	KRA	Key Results Area (the performance contract signed by individuals related to the commitment for the financial year)
FP Plg.	Flat Product Planning		
FP	Flat Product		
FPTG	Flat Product Technology		
GAAP	General Accounting & Audit Protocol	KWH	Kilo Watt Hours
GDR	Global Depository Receipt	Lakh	Ten lakhs equal to One Million
GHG	Green House Gas (CO <sub>2</sub> , Methane, CFCs, N <sub>2</sub> O, etc.)	LCA	Life Cycle Analysis {only from cradle (Mines) to Gate of the Steel Works}
GM	General Manager		
GP	Gate Pass	LD#2&SC	Steel Melting Shop#2 and Slab Caster
HRC	Hot Rolled Coils		
HRM	Human Resource Management	LDO	Light Diesel Oil
HR/IR	Human Resource / Industrial Relations	LIC	Life Insurance Corporation
		LM/CM	Long Member / Cross Member
HSM	Hot Strip Mill	LP	Long Products
ICC	Indian Chamber of Commerce / International Chamber of Commerce	LPTG	Long Product Technology Group
		LT	Long Term
IDBI	Industrial Development Bank of India	MAKE	Most Admired Knowledge Enterprise
IFC	International Finance Corporation	M&S	Marketing & Sales
IIM	Indian Institute of Management	Maint.	Maintenance
ILO	International Labour Organization	MBA	Master of Business Administration
IMA	Indian Medical Association		
IMRB	Indian Market Research Bureau	MC/HC	Medium Carbon / High Carbon
IMTG	Iron Making Technology Group	MCM	Management Committee
IR	Industrial Relations		Meetings
IRQS	Indian Register Quality Shipping	MGD	Million Gallon Per Day – 4.54
ISO	International Standards Organization		Million Litres/day
IT	Information Technology	Mktg.	Marketing
ITD	International Trade Division	MNC	Multi National Companies
ITW	International Trade Wing	MM	Merchant Mill
JAMIPOL	Jamshedpur Injection Power Limited	MOR	Men on Roll
JCCM	Joint Committee of Consultative Management	MOU	Memorandum of Understanding
		MR	Management Representative
JDC	Joint Departmental Council	MRO	Maintenance, Repair and Operational Groups
JMA	Jamshedpur Management Association	MTP	Million Tonne (Metric Tonne) Production
JRDQV	JRD Tata Quality Value		
JWC	Joint Works Council	NA	Not Applicable
JWQC	Joint Works Quality Council	NE	Non Employee – those who do not work as permanent employees of Tata Steel
KM Index	Knowledge Management Index (points accumulated by individuals based on the quality, usefulness, originality, relevance of the knowledge piece contributed to the knowledge management web site)	NED	Non Executive Directors (the directors on the board who are not the employees of Tata Steel)
KM	Knowledge Management	NEDO	New Energy Development Organization, Japan
KPM	Key Performance Measures (the balance score card applicable to the Departmental Head)	NEERI	National Environmental Engineering Research Institute
		NGO	Non Governmental Organization
		No.	Number(s)
		NOx	Oxides of Nitrogen



TATA STEEL – CORPORATE SUSTAINABILITY REPORT (2002-2003)

NT	Not Traceable	SE	South East
NTTF	Nettur Technical Training Federation	SHE	Safety Health Environment
OG	Order Generation	SHG	Self Help Groups
OH&E	Occupational Health, Safety Audit System	SIS	Safety Information System
OHSMS	Occupational Health & Safety Management System	SMS	Steel Melting Shops
OM&E	Ore Mines & Quarries	SNTI	Shavak Nanavati Technical Institute
OPPRESS	Online Properly Projection System	SOP	Senior Officers Pay Role
OPR	Officers Pay Role	SO	Strategic Outsourcing
P/E	Price to Earning Ratio (Market price Per Share / Earning Per Share)	SP	Sinter Plant
PAN	Permanent Account Number (related to Income Tax Payment0	SPM	Skin Pass Mill / Suspended Particulate Matter
PAT	Profit After Tax	SPACM	Strategic Planning & Corporate Marketing
PDP	Personal Development Plan	Sr.	Senior
PEO	Principal Executive Officer	SRP	Supplier Relationship Management
PH	Power House	SS&FI	Social Services & Family Initiatives
PLD	Percent Leaking Door	SSI	Supplier Satisfaction Index (point on 1-5 scale from feedback from suppliers, on issues like timely payment, material rejects, etc.)
PLL	Percent Leaking Lids	ST/LT	Short Term / Long Term Services
PLO	Percent Leaking Offtakes	Sercs.	Tata GA Sheet
PM	Particulate Matter	Tata GA Sheet	Tata Galvanized Sheet
PPM	Parts Per Million	Tata SSL	Tata Special Steel Limited
PQI	Product Quality Index {composite score on 1 to 5 scale, designed to provide extra to the delivery conditions of a product "agreed by the customer" (e.g. quality, quantity, productivity, etc.)	TAYO	Tata Yodogawa Limited
QC	Quality Circle	TBEM	Tata Business Excellence Model
QMS	Quality Management System	TCCI	Tata Council for Community Initiatives
QIP	Quality Improvement Projects	TCTF	Thermal Coal Task Force
R&A	Rings & Agrico	TELCO	Tata Engineering & Locomotive Company (Now Tata Motors Limited)
R&D	Research & Development	TERI	The Energy Research Institute
ROIC	Return on Invested Capital = {Net Operating Profit after Tax / Invested Capital) or (Profit after Tax + Interest adjusted for Tax) / Invested Capital}	TGS	Tisco Growth Shop
RM&IM	Raw Material & Iron Making	TH	Total Hardness
ROM	Run of Mines	TIL	Tata International Limited
RPD	Refractories Production Department	TKM	Tata Korf Maritime
SAL	Saleable	TMDC	Tata Management Development
SAP	System, Analysis and Products for Data based Management	TMH	Tata Main Hospital
SBU	Steel Business Unit	TCS	Tribal Cultural Centre
SC	Supply Chain	TFA	Tata Foot Ball Academy
SC/ST	Scheduled Cast / Scheduled Tribe	TQMS	Tata Quality Management System
Sc. Svc.	Scientific Services	TO	Turn Over
SERT	Search, Evaluate, Register, Trial	TOP	Total Operating Programme
SEBI	Stock Exchange Board of India	TPL	Tata Projects Limited
		TPM	Total Productivity Management



## TATA STEEL – CORPORATE SUSTAINABILITY REPORT (2002-2003)

TQM	Total Quality Management	UNIDO	United Nations Industrial Development Organization
TRF	Tata Robins Fraser		
TRL	Tata Refractories Limited	UTI	Unit Trust of India
TSFIF	Tata Steel Family Initiatives & Foundation	VP	Vice President
TSRDS	Tata Steel Rural Development Society	WACC	Weight Average Cost of Capital = {Weighted cost of Debt + Weighted cost of Equity} / {Debt + Equity}
ULC/LC	Ultra Low Carbon / Low Carbon		
UN	United Nations	WHO	World Health Organization

### Corporate Citizenship Index

Area	Initiatives	Measures	Agency	Weightage	Target Index
Health Care	Immunization of children in companies area of operation	% of children	Town	10%	1
	Rural immunization programme	No. of children covered	SS&FI	10%	1
Training for gainful employment	Employment oriented training	% employed (post training)	SS&FI (TCS) CD&SW	10%	1
Promoting economic growth in rural & urban areas	Savings generated through SHG Bank linkage	Rs. Lakhs	SS&FI	10%	1
Sports & Adventures	Beneficiaries under community and sports programme	Nos.	CD&SW	10%	1
EMS beyond compliance	Recycling of wastes at Jubilee Park	%	Town	10%	1
Promoting Art & Culture	Children/Adults trained at Jamshedpur School of Arts	Nos.	CD&SW	5%	0.5
Civic amenities	Rural area pani panchayat	Acreage brought under 2 <sup>nd</sup> crop	SS&FI	10%	1
Education	Scholarships For High School Students	Number of students	TCS	5%	0.5
	For college students	Number of students	TCS	5%	0.5
	Excellence in education	No. of schools facilities at Jamshedpur	SE	5%	0.5
Natural Calamities	Relief work	Construction of 11 school buildings for flood victims of Orissa	TRC	10%	1
<b>TOTAL</b>					<b>10</b>



**Annexure-V (Contd...)**

**A) Applicable Environmental Acts & Rules**

- 01 (a) The Water (Prevention & Control of Pollution) Act 1974, as amended up to 1988
- (b) The Water (Prevention & Control of Pollution) Rules 1975, as amended up to 1989
- 02 (a) The Water (Prevention & Control of Pollution) Cess Act 1977, as amended up to 1992
- (b) The Water (Prevention & Control of Pollution) Cess Rules 1978, as amended up to 1992
- 03 (a) The Air (Prevention & Control of Pollution) Act 1981, as amended up to 1987
- (b) The Air (Prevention & Control of Pollution) Rules 1982
- 04 (a) The Environment (Protection) Act 1986, as amended up to 1999
- (b) The Environment (Protection) Rules 1986, as amended up to 1999
- (c) The Environmental (Protection) Rules 1992 & 1993 – Environmental Statement
- (d) The Environmental (Protection) Rules 1994/1996 – Environmental Standards
- (e) The Environmental (Protection) Rules 1994 – Environmental Clearance
- (f) Amendments in the Environmental (Protection) Rules, 1994 – “Public Hearing”
- (g) The Noise Pollution (Regulation & Control) Rules 2000
- (h) Dumping and Disposal of Fly ash – Notification dated 14.09.1999 amended up to 2002
- 05 The Hazardous Waste (Management & Handling) Rules 1989, as amended up to 6<sup>th</sup> January 2000
- 06 Manufacture, Storage & Import of Hazardous Chemicals (Amendment) Rules 1989, as amended up to 19<sup>th</sup> January 2000
- 07 (a) The Public Liability Insurance Act 1991, as amended up to 1992
- (b) The Public Liability Insurance Rules 1991, as amended up to 1992
- 08 Ozone Depleting Substances (Regulation & Control) Rules, 2000
- 09 Batteries (Management & Handling) Rules, 2001
- 10 Bio-medical Waste (Management & Handling) Rules 1998 as amended till 2000

**B) Applicable Occupational Health & Safety Acts & Rules**

- 01 Gas Cylinder Rules, 1984, including Amendment Rules, 1993
- 02 The Static and Mobile Pressure Vessels (Unfired) Rules, 1981, including Amendment Rules, 1997
- 03 The Indian Electricity Act, 1910 & Rule, 1956
- 04 The Indian Railways act / Rule 1989
- 05 The Petroleum Act (as amended till 1997), 1934 & Rules (as amended till 2002)
- 06 The Factories Act (as amended till 1987), 1948
- The Bihar Factory Rules (as amended till 1988) 1950
- 07 The Insecticides Act (as amended till 1977), 1968 & Rule 1971 (as amended till 1999)
- 08 Contract labour (regulation & Abolition) Act, 1970 & Rule 1971
- 09 The Motor Vehicle Act 1988 (as amended in 2001) & Central Motor Vehicle Rule 1989
- 10 The Explosive Act, 1884
- The Explosive Rules, 1983, including Amendment Rules, 2002
- 11 The Indian Boiler Act, 1923 & Boiler Rules, 1950
- 12 Calcium Carbide Storage & Handling Rule, 1987
- 13 The Workmen Compensations act 1923 (as amended up to 2000) & Rule (as amended up to 2000)

**C) Other Acts**

- 01 Mines Act, 1952
- 02 Wild Life Conservation Act, 1972
- 03 Forest Conservation Act (Amendment), 1980
- 04 Company Act, 1956
- 05 Bihar Shops & Establishment Act, 1956
- 06 Trade Union Act, 1926



### PROCEDURE FOR ESTIMATION OF AIR POLLUTANT EMISSIONS FROM STACKS IN STEEL WORKS

At Tata Steel, the emissions from point sources (stacks) are monitored using TMT Analyser for gaseous pollutants (SO<sub>2</sub>, NO<sub>x</sub>, etc.) and the stack monitoring kit for Particulate Matter (PM). The sampling rate for PM monitoring is decided based on isokinetic conditions. The stacks in Steel Works are constructed using two types of configuration i.e. cylindrical (tubular) and conical (inverted cone). The smaller diameter/short height stacks are cylindrical and large diameters and tall stacks are conical.

Actual measurement and that generally determine the flow of waste gases in cylindrical stacks in conical ones, by calculations based on carbon input and excess air volumes supplied in the combustion furnace. These volumes are used in the estimation of total PM emissions based on actual measurement of PM using stack-monitoring kits. Gaseous pollutant concentrations measured using TMT Analyser are likewise used in estimation of total gaseous pollution load for cylindrical as well as conical stacks.

These calculations are done every month using software developed in-house. The summary of stacks where actual measurement of waste gases is carried out and that of the ones where calculated values of waste gas volume are used is presented below:

**I. Stacks where flow of waste gases is measured:**

1. Sinter Plants (4 Stacks)
2. Finishing Mills (4 Stacks)
3. Slag Granulation Plant (2 Nos.)
4. Fume/Dust Extraction System at Blast Furnaces & L D Shops (7 Nos.)
5. Coke Quenching Tower & CGC Car in Coke Ovens
6. Lime Kilns (5 Nos.)

**II. Stacks where flow of flue gases is calculated:**

1. Blast Furnace Stove Stacks (7 Nos.)
2. Battery under firing stack (6 Nos.)
3. Boiler Stacks in Power Houses (15 Stacks)

The basis for calculation of waste gas volume is;

1. Blast Furnace (BF) Gas (10% excess air, multiplying factor –1.62)
2. Coke Oven (CO) Gas (20% excess air, multiplying factor – 5.74)
3. L D Gas (10% excess air, multiplying factor – 2.16)
4. Coal (Boilers) (75% excess air, multiplying factor – 10.1)



5. Waste Gas Volume (Nm<sup>3</sup>/hr) = Coal consumption (t/hr)x10.1x10<sup>3</sup> +  
BF gas consumption (Million Nm<sup>3</sup>/hr)x1.62x10<sup>6</sup> +  
CO gas consumption (Million Nm<sup>3</sup>/hr)x5.74x10<sup>6</sup> +  
LD gas consumption (Million Nm<sup>3</sup>/hr)x2.16x10<sup>6</sup>

### III Emissions due to Flare/Crude Gas Bleeding

Only PM values are estimated for these gases. SO<sub>2</sub>, NO<sub>x</sub> and other gaseous pollutants are not estimated as the average concentrations are not available from any source (internationally published data). The PM values are estimated based on the following parameters.

- Crude BF Gas Bleeding – 10 gms/Nm<sup>3</sup>
- Clean BF Gas Bleeding – Actual mg/Nm<sup>3</sup>
- LD Gas Bleeding – 10 mg/Nm<sup>3</sup>
- CO Gas Bleeding – 2 mg/Nm<sup>3</sup>

Quantity of BF and CO gas bled to atmosphere is continuously recorded and LD gas bleeding is estimated based on total LD gas made minus LD gas recovered.

**Note:** Data samples from every point source are taken twice every year as per the emission-monitoring plan. Hence, monthly emission load is calculated based on the most recent previous data sample test results. As a consequence, in the early parts of a FY, the monthly load estimates are based on test sample results of the preceding reporting period.