CHAPTER-II
CHAPTER -II
SALEM STEEL PLANT -A PROFILE

AND INTRODUCTION TO SAIL AND ITS UNITS:

SAIL -Steel authority of India limited, is one of the "Navarathas" and the India's no 1 corporate entity. It is the "life line of india's Economy with an approximate investment of Rs 14,000 corers and a sales turnover of about RS 14,760 corers. SAIL ranks 9\textsuperscript{Th} position among the steel producer's of the world and it has the capacity to produce India's most precious raw material - 12.4 million tonnes of crude steel.

STEEL INDUSTRY IN INDIA AND SAIL:

Whether it is power, water, irrigation, railways, petroleum, housing defence or industry the country's het economic capability depends on steel. SAIL produces over 50\% of India's steel requirements. A part from steel, number of by-products, that are critical inputs in making vital sector of economy are produced by SAIL. "RAJA & SONA" the two brand of fertilizers produced by SAIL have contributed their mite to where in the green revolution. SAIL-the integrated company comprises the following units/subsidiaries.

UNITS:

2. Bokaro Steel Plant, Bokaro, Bihar.
3. Durgapur Steel Plant, Durgapur, West Bengal.

4. Rourkela Steel Plant, Rourkela, Orissa.

5. Alloy Steel Plant, Durgapur, West Bengal.


7. Central marketing organisation, Calcutta, West Bengal.

8. Research & development center for iron and steel, Ranchi.

9. Management Training Institute, Ranchi.

10. Center for engineering and technology.

11. SAIL, Safety organisation.

12. Raw materials Division, Calcutta.

13. SAIL consultancy Division.


15. Growth Division, Calcutta.

SUBSIDIARIES:

1. INDIAN iron & Steel Company, Burnpur, West Bengal.

2. Maharashtra Elektrosmelt LTD, Chondrapur, Maharashtra.

3. Visveswarayya iron & Steel Ltd, Bhadravathi.

MAJOR UNITS:

Rourkela Steel Plant:

Tolourkela goes the credit of having been the first steel plant in the public sector to come into production. The first coke oven battery was lighted on December 3, 1956 and the first blast furnace was commissioned on February 3,
1959. The first heat of LD oxygen blown steel was made on December 27, 1959. The hot strip mill was commissioned on February 28, 1961.

Rourkela steel plant has the unique distinction of being the trend setter with regard to the technology of iron and steel in the country. It was here that laoxygen steel making was adopted at a time when ever leading steel producers of the world had not opted for it. A singular feature of Rourkela is its fertilizer plant, which was specially conceived to utilize the nitrogen available from the our separation units of oxygen plant and hydrogen to be separated from the coke oven gas. It was the first integrated steel plant in India designed to produce only flat products. With the recent modernization activities the plant's production capacity has been enhanced to 1.9 MT of crude steel.

BHILAI STEEL PLANT:

The plant began its operation on January 31, 1959 when coke oven battery no.1 was commissioned. The first blast furnace was inaugurated on February 4, 1959 and production of steel started on October 12, 1959 with the commissioning of open health furnace no 1. The million tonne plant was completed in 1961. Bhilai has the unique distinction of being the first public sector steel plant to have reached the rated level of production of one million tonne of ingot steel during 1962-63. The expansion of the plant to 2.5 million tonnes of got steel was taken up during the sixties. A significant features was the installation of 500 tonne capacity open hearth furnaces. The last unit of the
expansion was a high speed multistrand wire rod mill commissioned in September 1987.

The plant has already been expanded to a capacity of 4.0 million tonnes of ingot steel. The new stream has the BOF process of steel making, continuous casting and a 3600 mm wide plate mill, which is one of the biggest of its kind in Asia. Bhilai steel plant won the prime minister's Trophy for "The best integrated steel plant" in the country thrice in four years once inception of the award.

DURGAPUR STEEL PLANT:

Erected in west Bengal in the late fifties, the plant started, with a capacity of one million tonne of ingot steel per annum. Production of iron began on December 29, 1959 and the first steel ingot was made on April 24, 1960. It was subsequently expanded to 1.6 million tonne capacity in sixties. The plant is a major producer of railway materials like wheels and axies, fish plates and sleepers. It also produces light and medium section merchant sections and skelp, the production capacity of durgapur steel plant has been augmented to 1.802 MT Crude steel.

BOKARO STEEL PLANT:

Bokaro steel plant limited (BSL) was formed on January 29, 1964 to carry out the project. The project took off with the signing of an agreement with the government of USSR on January 25, 1963. The construction started on
April 6, 1968. The first coke oven battery was commissioned on September 9, 1972. The first blast furnace on October 3, 1972 and the first converter was commissioned on January 3, 1974. The Indian Engineering and equipment suppliers played a major role in setting up of this plant. The plant was envisaged with an initial capacity of 1.7 million tonnes of ingot steel. The expansion of the plant to 4.0 million tonnes has already been completed. The plant is designed to produce hot and cold rolled sheets coils and slit coils in many specifications and sizes.

**INDIAN IRON AND STEEL COMPANY:**

IISCO is the second oldest integrated steel plant in India next to TISCO. The plant was taken over by the government of India on July 14, 1972. Now it is a fully owned subsidiary of SAIL.

The plant has a capacity of producing 0.4 million tonne of ingot steel per annum. Steel is made by duplex process using acid bessemer converters and basic open hearth furnaces. It has a wide range of products including structurals, special section, rails, bars, hot rolled and galvanised sheets, spun iron pipes are produced in its units at kulti and ujjain. Efforts are being continuously made to modernise the plant.

**ALLOY STEEL PLANT:**

Alloy steel plant was installed at durgapur with 1,00,000 tonnes of ingot steel capacity in 1960, with japanese assistance. This is the largest alloy
steel producing unit in the country, the plant was subsequently expanded to a capacity of 1,60,000 tonnes. The plant is being further expanded under the stage 11-expansion programme to augment the crude steel capacity to 2,60,000 tonnes per year. The plant has one slab cum-twin bloom continuous casting machine the only of its kind in India.

SALEM STEEL PLANT:

The plant was designed to roll out 32,000 tonnes of cold rolled stainless steel strips and wide sheets per annum in the first phase. Situated in Tamilnadu, the plant brings to India the latest sophistication in cold rolling technology. In the second phase, the production capacity was increased to 70,000 tonnes per annum by installing the second sendzimir mill, stainless steel from salem finds application in many industries --nuclear, petroleum, chemicals, fertilizer, food processing, pharmaceuticals, dairy, house hold appliances and cutiery. The plant is actively pursuing development activities to promote use of stainless steel in new areas such as coinage, railway coaches, building, furniture, automobile, etc. In addition to the cold rolling mills, blanking line was commissioned during the year 1993 with a capacity to producing 3000 T coin blanks per annum and the provision is there to make utility blanks.
As one step ahead in reaching the goal of backward integration. Hot rolling steckel mill was commissioned during September 1995 with an installed capacity of 1,66,000 tonnes with an approximate investment of RS 839 crores. This mill is capable of rolling both stainless and non-stainless steels.

THE INDIAN STEEL SCENARIO:

From a modest presence in 1947, the steel sector in India has acquired a significant place in the economy 5 years down the line. India is currently ranked as the 10th largest steel producer in the world. The supply of finished steel in India increased from a level of around 0.86 million tonnes in 1996-97. The sector has a whole accounts for approximately 1 percent of India's GDP and 6 percent of the manufacturing sectors output. Iron and steel contributes 2.4 percent of the weight in the wholesale price index and is one of the biggest revenue earners for the Indian railways.

The Indian steel sector comprises the integrated steel plants under steel authority of India (SAIL) which is the ninth largest steel company in the world-tata iron and steel company (TISCO) and Rashtriya Ispat Nigam Ltd (RINL) besides a vast number of units operating as Electro are furnace units and re-rollers. In response to economic liberalization, a large number of green field capacities are getting commissioned. Those already commissioned include essar steel LTD with a capacity of 2 million tonnes per annum (0.6 mtpa) jindal steel India ltd. (0.6 mtpa) lineal strips (l) ltd.(0.5 mtpa) etc. The total capacity of
units at various stages of implementation, or awaiting appraisal of financial institutions, is around 13 million tonnes.

**EVOLUTION OF MODERN STEEL INDUSTRY:**

The history of modern steel industry in India can be traced back to 1907, when the house of Tata floated TISCO to produce 1,20,000 tonnes of pig iron of which 85,000 tonnes was to be converted to 72,000 tonnes of mild steel. Located at Jamshedpur, TISCO produced its first tonne of hot metal at the end of 1911 in 1923, Mysore state set up a much smaller unit, the Mysore Iron and Steel Works Limited (MISW). In 1936, the Steel Corporation of Bengal set up a steel plant near Asansol and three years later tapped its first tonne of steel. This plant was later amalgamated with the Indian Iron and Steel Company (IISCO). Thus on the eve of independence, India had three integrated steel plants: TISCO, MISW and IISCO.

**COMPETITIVENESS OF INDIAN STEEL:**

Overall, the Indian steel prices were competitive, in relation produced by SAIL were priced lower than the spot prices up to 1978. The plates produced by SAIL were priced lower than the spot prices at Antwerp up to 1978.

However, the oil crises in the early 1970s initiated a technological transformation of the world steel sector. The newer technologies also improved quality through higher automation and better process controls.
The Indian steel sector, under pressure of an administered prices regime could not generate resources for modernization and technological upgradation. To add to its woes, the prices of domestic input materials started escalating rapidly, eroding its competitive edge.

THE REFORMS OF 1990's:

Current projections of steel demand by the year 2001-02 in estimated at 31 million tonnes. The estimated domestic supply on the other hand is projected at 34 million tonnes. The government of India has identified the export potential of the steel sector at 6 million tonnes by the year 2001. The steel sector in India does present a picture of hope and opportunities. The graph of all India consumption of finished steel shows that we are on the upward rising curve.

India's per capita consumption of finished steel of 26 kgs against a world average of around 150 kgs. Implies a huge potential for increasing the domestic consumption. The opportunities provided by the infrastructure sector and rural sectors in promoting consumption of steel augur well for the domestic steel industry.

SAIL AS AN EMPLOYER:

By number SAIL is one of the biggest families in India, the total strength being around 1.86 lakhs quality wise SAIL is a store-house of well qualified and well-trained group of people. This is considered as one of the biggest strengths
of SAIL, however, this strength is not reflected in the manpower productivity which remains one of the lowest even amongst the developing countries. It is planned to raise manpower productivity measured in tonnes of crude steel per man year from the existing level of 50-60 to 150 by 2000 AD. The salaries and wages in SAIL are among the best in India even though on international comparison it is still low. Modern townships and community facilities, schooling, medical and development of the areas peripheral to the steel plants are continuing commitments of SAIL.

AN INTRODUCTION TO SALEM AND SALEM STEEL PLANT:

Salem is located at an altitude of 270 Meter above MSL which is a major city and capital of salem district. It has a population over 5 lakhs. The temperature ranges from 19 c to 40 c with an average rainfall of 965 mm. Salem enjoys moderately dry climate and humidity ranges from 40 % to 80 % from dry month to rainy season.

Popular as steel city, Salem is known for handloom textiles, magnesite, mines, sago products, silver filigree works, sculptures and terra coltas, among others. It is particularly famous for a variety of hybrid mangoes. Salem town has Engineering colleges, Arts colleges, medical colleges, polytechnics, Dental colleges, ITI 's and the indian institute of handloom technology, the second of its kind in India.
Salem is well connected with the state capital and major industrial cities. It is 330 km away from Chennai on Chennai - Cochin broad gauge railway line, 200 km away from Bangalore by and has an airport at Kamalapuram. Salem steel plant, a special steels unit of Steel Authority of India Ltd., pioneered the supply of wider width stainless steel sheets/coils in India. The plant has an installed capacity of 70,000 tonnes of cold rolled stainless steel and 1,86,000 tonnes of hot rolled stainless steel/carbon steel flat products. The country's first top-of-the-line stainless steel blanking facility with a capacity of 3600 tonnes of coin blanks and utility blanks/circles adds to the credit of this ISO 9002 certified plant. Salem steel's products popularly known as "Salem stainless", are well received in national and international markets for its quality standards. The products are exported to industrially advanced markets spanning over thirty-seven countries.

The state-of-art hot rolling mill which can roll stainless and carbon steels as well enables the plant to meet the stringent customer requirements. The mill caters mainly to the input needs of stainless steel coils for the cold rolling mills facilities at HRM complex viz. Walking beam re-heating furnace, primary descaler, 4-hi reversing roughing mill, laminar cooling and roll grinding machines, produced from world renowned suppliers.

Hot rolling stackel mill, the mother unit of hot rolling with level-2 automation is provided with hydraulic gauge setting and automatic gauge control.
The continuously variable crown which controls the profile and flatness of the strip by work roll shifting and bending, further improves flatness. Special grades of carbon steels rolled out from the facility include is 1079D/DD/EDD IS 2062 Gr.B.IS 6240 (4PG) IS 10748 GR I SAILCOR, etc which find extensive application in industrial sectors.

Cold rolling mills of the plant are equipped with the Most modern stainless steel production lines. Sourced from leading manufactures the world over. Backed by the french technical know-how the operations of the cold rolling mills are spearheaded by the sophisticated computerized 20-hi sendzimir mills. The plant can produce austentific martenstistic and ferrific types of stainless steel in the form of coils and sheets that are characterized by their superior quality, precise dimensional tolerances, high degree of flatness with superior metallurgical characteristics.

Salem steel plant's cold rolling mills also include special production facilities like a 300tonnes stretcher leveller that produces sheets of a high degree of flatness, a resquaring shear, a recoiling line, a packing line for slit products and wider coils. In addition to the common No.1 2D and 2B finishes, a wide range of finishes including No.3 4 and 8 (mirror) can be produced. Also available are other special finishes like moonrock, hammertone, striped, chequered etc.
INCEPTION AND GROWTH OF SALEM STEEL PLANT:

DECISION TAKEN TO SET UP SALEM STEEL PLANT:

A steel plant in Salem was a long cherished dream. Government of India decided in May 15, 1972 to set up an integrated special steels plant at Salem in the state of Tamil Nadu for the production of sheets and strips of electrical, stainless and other special and mild steels on the basis of sound techno-economic considerations in the broader national interests of regional development through the dispersal of key industries like steel. The techno-economic feasibility report was prepared by M/s MN Dastur & Co(p) Ltd, consulting Engineers.

COMPANY FORMED:

The construction of the plant was inaugurated in June 13, 1972 by the late Shri Mohan Kumaramangalam, the then minister for steel & mines. Thus a dream of having a steel plant in Salem had started taking a shape in the foot-hills of Kanjamalai. The company "Salem steel limited" was registered on October 25, 1972. It was a government of India undertaking and subsidiary of steel authority of India limited (SAIL). Shri V. Subramanian was the managing director of the Salem steel limited.

IMPLEMENTATION OF THE PROJECT:

Originally it was planned to implement the project in two stages.
(a) In the first stage—works stage—a part of the stainless steel cold rolling mill complex with requisite process and finishing lines and ancillary facilities to produce 32,000 tonnes per year of cold rolled stainless steel sheets and strips will be installed based on the use of imported hot rolled coils.

(b) In the second stage all the facilities required for iron making, steel making and continuous casting. Hot rolling and Expansion of cold rolling facilities to complete the plant for production of 2,20,000 tonnes per year of sheets and strips of stainless, electrical and other special and carbon sheets would be installed.

The government of India based on the recommendation of the public investment Board, sanctioned the immediate construction of the first phase of the project at a cost of Rs127 crores. It was planned to commission the first stage of the plant in September 1981, This was successfully done on September 13, 1981.

DETAILED PROJECT REPORT:

Detailed project report on the establishment of Salem steel project was submitted by M/S MN Dastur Engineering (P) Ltd on December 30, 1974 and it was also approved by the government of India.
MARKET SURVEY:

On behalf of salem steel limited. M/s Manavasi consultants (P) Ltd. New Delhi, prepared the market survey reports for stainless steels and electrical steels. On the basis of these reports and data, and detailed break up of the product-mix into different categories, types sizes and finish was prepared.

KANJAMALAI IRON ORE:

Kanjamalai iron ore deposits are located at about 4km south of Salem town in tamilnadu situated in close proximity to the Salem steel plant site. Kanjamalai hills extend for a length of about 7km with an average width of about 4km.

Kanjamalai iron ore have been classified as magnetite quartzite. The overall average iron content is 35.57 percent. The total mineable reserves have been estimated at 75 million tonnes. The average grade of iron are in the northern flank is as follows.

<table>
<thead>
<tr>
<th></th>
<th>Fe  %</th>
<th>FeD %</th>
<th>SiD₂ %</th>
<th>Al₂D₃ %</th>
<th>P  %</th>
<th>S  %</th>
<th>Ti D₂ %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>34.89</td>
<td>9.66</td>
<td>47.28</td>
<td>1.89</td>
<td>0.059</td>
<td>0.060</td>
<td>0.108</td>
</tr>
</tbody>
</table>

Kanjamalai iron or because of its low grade, has to be beneficated to obtain a concentrate with high Fe content and low gauge materials and then pelleticed. Large
scale tests on using fluxed pellets of kanjamalai one conducted by M/Llurgi gesellschaft fur cheme and huffenwesen, west Germany have revealed favourable indications of the process.

**PLANT CAPACITY AND PRODUCT-MIX:**

The Product-mix of the integrated steel plant at salem envisaged a total annual output of 2,20,000 tonnes finished sheets and strips as shown in the following table.

<table>
<thead>
<tr>
<th>Grade of Steel</th>
<th>Steel Strip</th>
<th>Annual Production (tones)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Steels</td>
<td>Cold rolled</td>
<td>75,000</td>
</tr>
<tr>
<td>Stainless Steels</td>
<td>Hot rolled</td>
<td>5,000</td>
</tr>
<tr>
<td></td>
<td>Cold rolled</td>
<td>65,000</td>
</tr>
<tr>
<td>Other Special Steels</td>
<td>Hot rolled</td>
<td>55,000</td>
</tr>
<tr>
<td>Mild Steels</td>
<td>Hot rolled</td>
<td>20,000</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2,20,000</td>
</tr>
</tbody>
</table>

**THE SCHEME OF REVERSE INTEGRATION:**

This method of reverse integration provides for the revenues from the first stage of the project to finance the construction of the second stage. If not fully, at least partially. This also helps in establishing the infrastructure required for a larger plant, development of skilled manpower and managerial talents in advance and generally creating an industrial culture and base which will met the challenges of production of a larger plant this approach has been successfully adopted in several countries such as spain, south korea and mexico.
SALEM STEEL LIMITED MERGED WITH SAIL:

After a review of the working of steel authority of India limited, government came to the conclusion that the management and development problem of the steel industry could best be taken by.

(1) Forming an integral company having the main production units as divisions and not as subsidiary components under it and

(2) Removing from the purview of SAIL certain companies (like HSCL, MECON and NMDC whose activities are hot directly connected with steel production) Which were subsidiaries and consequently bringing them under the direct control of the ministry.

Legislation to the this effect was approved by parliament and came in to effect from Mar 1, 1978.

In the pursuance of the public sector iron and steel companies (Restructuring) and miscellaneous provisions Act 1970. Salem steel limited was merged with steel authority of India limited [SAIL] with effect from may 1, 1978.

PHASE I OF STAGE I:

As per the directive from the government of India, Salem steel plant was restricted to only the activities related to the cold rolling mill complex with requisite process and finishing lines and ancillary facilities to produce 32,000 tonnes per year of stainless steel coils and sheets with a large investment to about RS 180/- cores.
PHASE II EXPANSION OF STAGE I:

While the phase I facility with one sendzimir mill had a rolling capacity of 32,000 tonnes with an average gauge of 1 mm, the in-built facilities other than cold rolling provided for doubling the capacity, with an investment of around RS 76 crores.

PRESENT INPUT MATERIAL AND PRODUCTS:

To start with, hot bonds (hot rolled stainless steel coils) of 4mm to 6mm thickness as input materials are imported to produce cold rolled stainless steel coils and sheets.

As part of reverse integration, the hot rolling steckel mill supplies the required hot rolled coils [HRC] input to CRM and also produces HRC of non-stainless steels (carbon steel)

The product-mix of the plant is so designed as to meet the growing needs of sophisticated industries like petroleum, chemicals, pharmaceuticals, fertilizers, paper and pulp making, textiles and dairy equipment’s, besides railway requirements, electrical appliances, domestic utensils and decorative materials.

Salem steel plant is producing cold rolled stainless steel coils and sheets of thickness ranging from 0.3 mm to 6.00 mm with a width up to 1250 mm in austenitic, Ferritic and martansitic grades.

Apart from cold rolled (CR) products, of stainless steel of different thickness and HR product of non stainless steel (carbon steel ) are also produced.
ORGANIZATION STRUCTURE:

Organisation is where a hub of different activities are planned and executed to achieve a common corporate goal. In Salem steel plant, its corporate goal is manufacturing various grades of stainless steel sheets and coils of having different surface finishes based on the customers requirements.

An organization structure clearly indicates the individual's responsibility to achieve the organization's goal. It is designed to clarify who is to do what and who is responsible for what results and to remove obstacles caused by confusion and uncertainty of assignment and to furnish decision-making. The communication networks, which reflects and supports enterprise objectives.

An organization is a purposeful system. Purpose or mission is the reason for the creation, existence, continuance and functioning of any organization. The primary and overall objective of any organization are reflected in its mission.

Organizational objective are the designed results, which an organisation attempts to achieve. There objectives are influenced by the external environment, resource and human values of that particular organisation.

Organization objectives are not more good intentions or policy wishes they were committed to action and to attain specific performance levels over a definite period of time.
As a structure, organization is the network of horizontal and vertical relationships among the number of groups designed to accomplish the common objectives.

It is a system or pattern of formal relationship that govern the activities of the people. The horizontal dimension depicts differentiation of jobs into departments and divisions. The vertical dimension reflects the hierarchy of authority relationship with a number of levels from top to bottom.

It is the structure of duties and responsibilities, which are necessary for the achievement of objectives. An organization provides birds-eye view of the relationship between people at various levels.

Executive Director is the chief executive of Salem steel plant. Next to ED, GH (works) is the vice caption of Salem steel plant. The enclosed sketch shows the hierarchy of Salem steel plant organization structure. Total manpower of Salem steel plant is 1544 at present.

In order to ensure smooth functioning of the enterprise, various departments a given below have set up departmentalization is the efficient and effective grouping of jobs into meaningful work units to achieve the organizational objectives.

- Computer & Information Technology
- Finance & Accounts
- General Administration
- Human resource department
ORGANISATION CHART FOR SALEM STEEL PLANT, SALEM

ED

GM
GM
GM
(MARKETING & COMMERCIAL)

DGM
AGM
DGM

(Marketing) PAD
(Material Management)

Purchase store

Chief Finance

Chief Medical & Health Services

Additional Vigilance

Chief & Personal Administration

Town Administration Manager

Senior Manager for Town Admin

Deputy Chief Personnel Manager

Senior Manager for HRDC

Deputy Chief Manager for Workes

Deputy Chief Manager for AGM for DGM for AGM for DGM for AGM for DGM for AGM for DGM for AGM for DGM for AGM for DGM for AGM for DGM for AGM for DGM for AGM for DGM for AGM for DGM for AGM for DGM for AGM for DGM for AGM for

AGM
AGM
AGM

Electrical Electrical & Maintenance Mechanical
• Maintenance
• Marketing management's
• Materials Management
• Operations (CRM & HRM)
• Personnel
• Production Planning & Control
• Public relations.
• Town administration

Quality control department etc,

FUNCTIONING DEPARTMENTS IN SALEM STEEL PLANT:
• Business planning
• Central electrical maintenance
• Central mechanical maintenance
• Computer and information technology
• Electrical (CRM & HRM)
• Finance & Accounts
• General Administration
• Industrial Engineering department (IED)
• Law
• Materials management's
• Mechanical (CRM & HRM)
• Medical Department.
• Metallurgical services.
• Operation (CRM & HRM)
• Personnel
• Production planning & control
• Public relations
• Safety engineering
• Technical administration
• Total quality management
• Town administration
• Traffic department
• Training department
• Vigilance department

(Water supply, civil maintenance, Environment Maintenance)

MAJOR ACTIVITIES OF PLANT PERSONNEL SECTION OF SALEM STEEL PLANT:
TAMIL NADU LABOUR WELFARE FUND (TN LWF) SCOPE:

1. Covers all non-executives who have put in 30 days of attendance in a calendar year.

2. Payment of employee's and employer's contributions to the fund for every calendar year.

3. Contribution is payable to the secretary of Tamil Nadu labour welfare Board, chennai.
4 Contribution is payable by demand draft by 31st January.

RENEWAL OF FACTORY LICENCE (REL) SCOPE:

As per the provisions in chapter 1, sections 6 & 7 of the factories act 1948, and vide rule 7 of the Tamil Nadu factories rules (TNFR) 1950, We are required to renew the license of the factory annually.

Renewal of license has to be done by 31st October of the previous year.

HALF YEARLY REPORT TO THE FACTORIES INSPECTORATE

Industrial establishments (conferment of permanent status of workmen) Act 1981 and rule 100(1) of the TNFR 1950, we are required to submit a half yearly report.

Report to be sent to DCIF Salem before 31st July every year.

ANNUAL REPORT TO THE FACTORIES INSPECTION (ARFI):

1. Prescribed under sub rule (2), of rule 100, of INFR 1950 (FORM No.22)
2. Prescribed under rule-18 of the payment of wages Act 1936. (FORM NO.IV)
3. Prescribed under the minimum wages (TN) rules 1953 (FORM NO III)
5. Annual report to be submitted before 31st January every year.
WELFARE FACILITIES AVAILABLE IN SSP:

(A). MEDICAL BENEFITS:

Salem Steel Plant has got a main hospital situated in the township where employees and their family members can take treatment for the illness. Treatment for almost all types of disease is given at the main hospital. For certain specific chronic cases, the chief of medical services refer such causes specialized hospitals. The amount to spend for taking the treatment at the referred hospital shall be remised through or medical reimbursement scheme for employees who avail ayurvedic and homeopathy treatment reimbursement is made based on claims made by the employee subject to eligibility.

(B). MEDICAL AND HEALTH SERVICES:

The medical and health services unit of Salem steel plant has a well establishment 40 beds and ICU 2, main hospital with modern equipment and facilities and highly qualified medical professional and staff offering round the clock service. It also has an occupational health center situated with in the plant primes to value care of the occupational health of the employment and also extend first aid service in case of emergencies.

In main hospital 83 employees are working, number of 12 permanent doctors, 5 specialist, and 7 medical officers are appointed in this main hospital. 24 nurses and other ward boy's and ayas.
**STATISTICS:**

<table>
<thead>
<tr>
<th>Members</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Officers</td>
<td>07</td>
</tr>
<tr>
<td>Specialists</td>
<td>05</td>
</tr>
<tr>
<td>Nursing Staff</td>
<td>24</td>
</tr>
<tr>
<td>Administrative Staffs</td>
<td>04</td>
</tr>
<tr>
<td>Paramedical Staffs, pathology, microbiology,</td>
<td>13</td>
</tr>
<tr>
<td>Biochemistry and lab tech</td>
<td></td>
</tr>
<tr>
<td>Blood bank</td>
<td>01</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>04</td>
</tr>
<tr>
<td>X-ray Technicians</td>
<td>02</td>
</tr>
<tr>
<td>Attendant(Ward boy and aayas)</td>
<td>20</td>
</tr>
<tr>
<td>Sweepers</td>
<td>07</td>
</tr>
<tr>
<td>Part time doctors</td>
<td>06</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8393</strong></td>
</tr>
</tbody>
</table>

**TYPES OF MEDICAL FACILITIES:**

There are three types of medical facilities.

**ELIGIBLE:**

The eligible scheme for employee's wife or husband, unmarried sons, father and mother.
CREDIT:

The credit scheme for employees married daughter, married son, daughter-in-law, son-in-law and all married sisters and brothers.

TO PAY:

The pay scheme for local people and irrespective of relation of employees.

They are maintaining two conditions of their medical treatment is extended for minor brother and minor sister.

(I). For employee on the rolls of salem steel plant as on 31.08.1996 the eligibility is

Brothers up to 21 years

Sisters up to marriage

(II). For employee joined salem steel plant on or after 01.09.1996 the, eligibility,

Brothers up to 21 years

Sisters up to 21 years shall be UN married.

MEDICAL SERVICE:

Conducting frequent medical camps around the plant area, there are included in 22 villages, demonstration with low cost nutritious food. (Material & child health care)

(A). SCHOOL CHECK UP:

Free medical checkup are provided in blind school, dumb and duff school in co-ordination with state government health service, conduction eye camps and donation
blood 10-15 members in a camp, conducting family planning operation. They have spending, 1000 rupees per head and maximum 300 cases per year.

(B). RESIDENTIAL QUARTERS:

Salem steel plant has got town ship just 3 kms away from the main plant (with in its compound) which provides well designed and modern houses for accommodation to the employees. Allotment is based on seniority and availability. There are four types of houses namely A type, B type and C type, D type. Based on the scale of paying and other level of posting etc. The allotment is made on the type wise. The town ship has about 780 dwelling units as of now and town administration department is taking care of its maintenance and allotment etc. In the town ship children's park, play ground, clubs, post office, bank employee's.

Co-operative stores are also there. Security to the men and materials of the town ship. In the town ship, a closed circuit cable TV system is available through which 32 entertainment programs are telecast. It has also got a dish antenna which brings in various channels on the TV screen like BBC, Star TV network, ZEE TV, SUN TV, RAJ TV, JAYA TV AND National channels and podhigai etc.

(C). Educational AIDs:

Salem Steel Plant provides educational aids for employees wards. School constant of primary sections in one campus and higher secondary in other campus, monthly tuition fee and the annual fee paid by the employees for their wards.
Education are remembered based on eligibility limit and claims. Educational awards are provided to the employees wards who are outstanding in their studies. Transport facilities are provided to the employees or to the employees wards who are studying in Salem town.

(d). Safety:

A separate department is functioning in Salem Steel Plant to take care of the safety equipment's like gloves, helmet, glasses, masks, ear muffs, belts, shields, shoes and etc. Provided to the employees and their agencies working in the plant well managed fire system is functioning in the plant under the central industrial security forces. There are installation of safety alarms, smoke detectors, water sprinkles and more, to care of emergency situation with regard to safety format orientation and also provided at that the time of appointment of the employees and refresher courses on safety from time to time at full range.

SALEM STEEL PLANT EMPLOYEES CO-OPERATIVE STORES LIMITED:

The co-operative store is started only for employees satisfaction. LPG facility is one of the important benefits. This is a place where only LPG is given by credit system used in India. One of the media door delivery. For one share Rs10 and maximum 500 shares can be bought from here. Costly items are for 4 installments due, Each and every things are cheap and best quality. Co-operative store has
divided into 6 sections. They are main go down cloths and vessels, sweets and stationery, rice and oil 3-6 percentage of increment is done in purchasing price.

PRODUCT RANGE:

(A) Hot rolled products.

<table>
<thead>
<tr>
<th>Steel</th>
<th>Stainless Steel</th>
<th>Carbon Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>2.0 - 8.0</td>
<td>1.6 - 12.7</td>
</tr>
<tr>
<td>Width</td>
<td>1200 - 1273</td>
<td>1250 - 1273</td>
</tr>
<tr>
<td>Coil ID</td>
<td>762</td>
<td>762</td>
</tr>
<tr>
<td>Coil OD (Max)</td>
<td>1800</td>
<td>1800</td>
</tr>
<tr>
<td>Maximum Weight</td>
<td>15</td>
<td>15</td>
</tr>
</tbody>
</table>

2. STEELS & PLATES:

<table>
<thead>
<tr>
<th>Steel</th>
<th>Stainless Steel</th>
<th>Carbon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>2.0 - 0.16</td>
<td>1.6 - 16</td>
</tr>
<tr>
<td>Width</td>
<td>1025 - 1275</td>
<td>1250 - 1275</td>
</tr>
<tr>
<td>Length</td>
<td>2500-6000</td>
<td>2500 - 6000</td>
</tr>
</tbody>
</table>
1. Cold rolled stainless steel:

<table>
<thead>
<tr>
<th>Steel</th>
<th>Coils</th>
<th>Sheets</th>
<th>Carbon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thickness</td>
<td>0.3 – 6.0</td>
<td>Thickness</td>
<td>0.3</td>
</tr>
<tr>
<td>Width</td>
<td>50 – 1250</td>
<td>Width</td>
<td>600 – 1250</td>
</tr>
<tr>
<td>Coil ID</td>
<td>406(or)610</td>
<td>length</td>
<td>500 – 4000</td>
</tr>
</tbody>
</table>

COIN BLANKS:

The blanking line is imported and has a capital of producing 3000 tonnes per annum of coin blanks. Now that the government of India has decided to 80 in stainless steel coins instead of cuprous- nickel. The plant has installed facilities to supply coin-blanks in demorminate of 25p, 50p and RS 1 to government of India mint at Hyderabad, kolkatta, mumbai and Noida [In Delhi]. In addition utility blanks are supplied to various miniatures of cookers washing machines etc.

MAJOR PLANT AND MACHINERY EMPLOYED IN SALEM STEEL PLANT:

(I) HOT ROLLING MILL(HRM)

   Reheating furnace.
   Reversing Roughing mill.
   Steckle mill.
   Down coiler.
(2) COLD ROLLING MILL (CRM)

Coil build-up line
Annealing & picking lines.
Send zimer mill.
Shearing Line.
Slitting Lines.
Skin pass mill.

BLANKING LINE:
Punching Machine
Rimming Machine.
Counting Machine.

Most of the major plant and machinery are imparted and indigenous equipment's are also procured from loading manufactures like L&T, BHEL, REAVES, SIMENS Etc.

MAIN FEATUREES OF PLANT & MACHINERY:
• Fully automated.
• Less manned
• Maximum capacity
• Reliable and efficient
• Updated Technology, Salem Steel has three mills they
• Hot rolling mill.
• Cold rolling mill
• Coin blanking mill.
HOT ROLLING MILL (HRM)

HRM most modern technology is capable of rolling stainless steel as well as carbon steel grades. This facility has equipped the plant in meeting majority of the requirements of industrial sector in India. The specialized non stainless steel grades produced at the plant find extensive application in the fabrication of marine containers, railway coaches & wagons bright containers trunk by bodies, tube and pipes for use in oil gas industries, rigs, heavy, vehicle, lpg cylinders, boilers, pressure vessels, material handling & earth moving equipment’s etc. Hot rolling stickle mill, the mother unit for hot rolling facilities with level 11. automation is provided heavy hydraulic gauge satting & automatic gauge control (AGC). THE CONTINUOUSLY VARIABLE CROWN (CVC) which controls the profit & flatness. The equipment of HRM complex has been produced from world renowned supplier. The main 4 ligh steckel non strip mill, 4-hi reversing rough mill, and down coiler have been supplied by steel melting shop(SMS) schgivamann semag AG,AG Germany, The walking man, reheating furnace the roll grinding machines, the mail electric’s have been supplied respectively by Italy planthi, italy foshiba, Japan & siemens, Germany.

PROCESS OF FLOW OF HRM:

INPUT MATERIAL:

The slabs are the input material for HRM. These slabs are produced from the other steel plants. SAIL like Alloy steel plant, Bhilai steel plant, Bokaro steel plant etc.
SLAB YARD:

The slabs are arranged in piles in the slab yard. The iron picks up the slab according to rolling program & placer them on the slab receiving skids. The slab are transported to the recording furnace.

RE-HEATING FURNACE:

The re-heating furnace is a walking beams type using LPG gas as fuel with an average capacity 55 l/hr. After re-heating the slabs to about 1250 in the walking beam. They are discharged on the furnace delivery table of the slab contractor. The slabs then passed through the primary descaler.

PRIMARY DESCALOR:

The primary descaler is used for removing the scales on the slabs with high pressure water. After descaling slab same then transported to the universal roughing mill.

ROUGHING MILL:

The roughing mill consists of 4-LI revercing stand with a vertical edger a the rnty sids.

VERTICAL EDGER:

It controls the width of the hot rolled coil during rolling the housings cocks & mechanical adjustment system of vertical edger is designed for installations of automatic width control.