Rashtriya Ispat Nigam Limited - Visakhapatnam Steel Plant (RINL-VSP), a Navratna PSE, is the country’s first shore based integrated steel plant. The company is 100% owned by GoI. The plant is a 3 Million ton Integrated Steel Plant being expanded to 6.3 Million tons and is a market leader in long products.

First Integrated Steel Plant to be certified for Quality, Health & Safety, Environment & Energy– ISO 9001, OHSAS 18001, ISO 14001 & ISO 50001

First Steel plant in India to be certified for CMMI Level 3 for Information Technology
COMPLIANCE REPORT ON IMPLEMENTATION OF CONDITIONS LAID DOWN BY THE DEPARTMENT OF ENVIRONMENT WHILE ACCORDING CLEARANCE TO VSP AS PER DEPARTMENT OF ENVIRONMENT LETTER NO. 11011/1/87-IA

Condition:
I. a) ENVIRONMENT MANAGEMENT PLAN (EMP) MUST BE PREPARED WHICH AMONG OTHERS, SHOULD CONTAIN RESULTS OF AIR AND WATER QUALITY MONITORING TO BE DONE IN THE PROJECT AREA.

Status:
Environment management plan which contains results of air and water quality monitoring along with the other details was provided and submitted. Besides, half-yearly reports are being submitted with the results, regularly.

Condition:
b) CONTINUOUS MONITORING OF AIR AND WATER QUALITY MUST BE INITIATED IMMEDIATELY. WATER TO BE MONITORED MUST INCLUDE BOTH MARINE AND INLAND WATERS.

Status:
Monitoring of air & water quality including marine water is being done regularly. Results of Ambient air, effluents, stack emissions, fugitive emissions from coke oven batteries, etc are enclosed at Annexure I to V respectively.

Condition:
c) MINIMUM THREE AMBIENT AIR MONITORING STATIONS MUST BE INSTALLED.

Status:
3 nos (three) continuous ambient air quality monitoring stations within the plant premises and 4th station at Pedagantyada residential area (down wind direction of the plant) have been installed.

Condition:
d) AN AIR MONITORING STATION IN THE ZOOLOGICAL PARK IN THE NORTH EAST MUST BE INSTALLED.

Status:
An ambient air monitoring station (Respirable dust sampler) is installed in the zoo park and monitoring being done regularly.
**Condition:**
e. **TWO MONITORING STATIONS** - ONE FOR AIR AND OTHER FOR WATER MUST BE SET UP AT KONDAKARLA LAKE TOWARDS THE SOUTH OF VISAKHAPATNAM.

**Status:**
Monitoring of Air quality *(Ref. Annexure-I)* and Water Quality *(Refer Annexure-V)* at Konda-karla Lake towards South of VSP is being carried out regularly.

**Condition:**
II. **THE PROJECT AUTHORITIES (VSP) MUST CONSIDER USING LOW SULPHUR GAS/OIL. IF SUCH USE IS NOT POSSIBLE, APPROPRIATE FLUE GAS DESULPHURISATION DEVICES MUST BE INSTALLED AT THE RELEVANT UNIT.**

**Status:**
VSP is using low sulphur fuels and composition of these fuels has been submitted earlier. The power plant of VSP is using Talcher coal which has sulphur content of 0.17%. The Calcinining & Refractory Material Plant of VSP is using coal tar fuel (A by-product of Coke oven & Coal Chemical Dept.) with sulphur content of 0.5%.

**Condition:**
III. **VSP AUTHORITIES MUST RECYCLE EFFLUENTS TO THE EXTENT POSSIBLE. IN ANY CASE, THE TREATED EFFLUENTS MUST BE USED FOR IRRIGATION OF AFFORESTED AREA.**

**Status:**
Township sewage water is being used as makeup water in Rolling mills & SMS (250 m3/hr) after treatment in Ultra-filtration plant since Dec’2005. ‘Near Zero Water Discharge Scheme’ under implementation incurring an expenditure of Rs 115 cr and it is at various stages of completion. As part of this scheme Appikonda Waste Water Treatment Plant using RO system is commissioned. Also Balachervu Waste Water Treatment Plant is commissioned and put in use. Water savings from these schemes is as given here:

<table>
<thead>
<tr>
<th>Waste water recycling scheme</th>
<th>Water saved(2013-14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balacheruvu recycling</td>
<td>10.1</td>
</tr>
<tr>
<td>Appikonda WWTP</td>
<td>190.12</td>
</tr>
<tr>
<td>Ultra filtration plant</td>
<td>278.65</td>
</tr>
</tbody>
</table>

Units: MGD
**Condition:**

V. VSP AUTHORITIES MUST RELOCATE SLUDGE/DEBRIS DUMP, THE ASH POND, THE LABOR AND STAFF COLONY SHOWN IN THE SOUTH WEST CORNER AWAY FROM THE SEA SHORE. REVISED PLAN IN THIS REGARD MUST BE SUBMITTED TO THIS MINISTRY FOR APPROVAL.

**Status:**

New slag dump yard area has already been constructed away from sea-shore as per the advice of Prof. Dave and Department of Environment. Revised plan was submitted vide letter no. 869/DE dt.30.7.88.

**Condition:**

VI. PRESENT AND FUTURE LINKAGE FOR COAL MUST BE ESTABLISHED AND REPORTED TO THE MINISTRY.

**Status:**

The coal linkage for VSP is as follows.
1. Steam coal is from collieries of Talcher & Ib Valley of M/s Mahanadi Coal Fields
2. Coking coal is imported from Australia, New Zealand and USA etc., through Ganganvaram Port limited.
3. Medium coking coal is from washeries -Rajarappa, Swang and Kathara of M/s Central Coal fields

**Condition:**

VII. a) VSP AUTHORITIES MUST PROVIDE A GREEN BELT OF 3600 HECTARES.

b) ABOVE GREEN BELT WILL INCLUDE 500 M WIDE GREEN BELT ON THE BOUNDARY OF THE ACQUIRED LAND.

**Status:**

The status is as given below:

- Total acquired land = 8,827 Hectares
- Area earmarked for Afforestation = 3,600 Hectares
- Area of Green Belt (500 mt. wide) = 1,970 Hectares

[Layout showing Afforestation at Vizag Steel]
Afforestation done in green belt = 1801 Hectares
Afforestation done in areas other than green belt = 1630 Hectares
Total No. of trees planted = over 50.10 lakh trees
Balance to be afforested is 169 Ha. Out of this, 135 Ha has been handed over to Govt. of AP for construction of Gangavaram port. The balance area of 34 Hectares will be taken up in future after resolving the land dispute by the State government. During the period from Oct’13 to Mar’14 around 2,05,000 saplings were planted.

**Condition:**


**Status:**
- Earlier, the proposal to notify the green belt as a "Reserve Forest" under the control of VSP was not agreed to by the Divisional Forest Officer, Visakhapatnam on the ground that such notification would be preceded by handing over the land to State Forest Department by VSP. Subsequently, the Chief Conservator of Forests, Vide his letter No: EP/1201/30/AD/Vol-5 dt.7.11.97 has clarified that such a declaration is feasible. In this regard Principle Chief Conservator of forests wrote a letter to Principal Secretary to the Govt. of AP vide RC No. 52548/97/51 dated. 12.4.2004. VSP requested the Principle Chief Conservator of forests vide letter no. TA/aff-22/2004/539 dated 8.06.04 to expedite the matter.

![Park at Coke Ovens—Battery 4](image)
Condition:
d) 2809 HECTARES OF SALT LANDS MUST BE AFFORESTED WITH APPROPRIATE FLORAL SPECIES. THIS AREA WILL BE REGARDED AS PERMANENT RESERVE FOREST UNDER THE CONTROL OF VSP AND WILL BE GOVERNED BY THE FOREST (CONSERVATION) ACT, 1980.

Status:
It was brought to the notice of Secretary (E&F) vide letter No.CMD -3(6)36/78, dated 9th April, 1993 that the area of salt land is 160 Ha.
For afforestation of 160 hectares of salt lands (saline area) Central Salt and Marine Chemical Research Institute (CSMCRI) Bhavnagar, have already completed plantation of Salvadora plants in 25 Ha as a pilot project. The balance 135 Ha has been handed over to Govt. of Andhra Pradesh for construction of Gangavaram Port.

3 Leaves awarded to VSP by Centre for Science and Environment, New Delhi - as part of the Green Rating Project of the Indian Steel Industry
According to environmental clearance given to Visakhapatnam Steel Plant's revised cost estimate vide letter No: 11011/75/90-IA - II section, dated 3.5.1993 the present status of conditions are as follows:

**Condition:**
1. THE EFFICIENCY/PERFORMANCE OF 2 DEDUSTING SYSTEMS WILL BE AUGMENTED TO COMPLY WITH THE STANDARDS BY DEC’93.

**Status:**
The DE Systems are augmented and are working satisfactorily since December, 1993 after effecting necessary modifications.

**Condition:**
2. LIQUID EFFLUENTS FOR AMMONICAL NITROGEN AND PHENOLS WILL BE TREATED TO MEET THE STANDARDS BY DEC’93.

**Status:**
Mechanical, Biological and Chemical Treatment Plant at Coke Ovens is upgraded at cost of Rs 46 Crores. All parameters such as Amm.N2, phenols, O&G, COD etc of the effluent are within norms.

**Upgraded Mechanical Biological & Chemical Treatment Plant at Coke Ovens**
Condition:
3. WATER CONSUMPTION SHOULD BE BROUGHT DOWN FROM 39.05 cum/tonne of liquid steel (tLS) to 20 cum/tLS. ACTION TAKEN AND THE TIME FRAME REQUIRED TO IMPLEMENT THE ABOVE SHOULD BE INDICATED BY VSP WITHIN A PERIOD OF 3 MONTHS.

Status:
Complied. The present specific water consumption (2013-14) is 2.19 cum/tonne of liquid steel.
A. SPECIFIC CONDITIONS

Condition:
I. GASEOUS EMISSIONS SHALL CONFORM TO THE LOAD/MASS BASED STANDARDS AND NOT TO EXCEED THE LIMITS PRESCRIBED BY THE STATE BOARD

Status:
To be complied shortly. Air Pollution Control equipment are being upgraded to meet the SPM norm of 50 mg/Nm3. These projects are at various stages of implementation. Plan of upgradation of these equipment is submitted to Andhra Pradesh Pollution Control

Condition:
II. ADOPT CLOSED LOOP RE-CIRCULATING SYSTEMS

Status:
All the re-circulating water systems existing at VSP are closed loop only. The same are being adopted in all expansion units. Also total water recycling schemes at a cost of Rs 115 cr. is under implementation in the following 4 packages

Skids at Ultra Filtration Plant used for Treating Sewage water from Township for use as make up in Rolling Mills
1. BC gate & Gangavaram outfall water - Two separate ponds with pump house, treatment plant and RO plant for treated sewage is under implementation.
2. Appikonda sewage treatment plant to treat the sewage from expansion units is completed.
3. Appikonda outfall water – A pond with pump house and RO plant is commissioned.
4. Marine pipeline to discharge the surplus effluents and reject water from RO plants is under progress.

- **RECYCLE DIRECT CONTAMINATING COOLING WATER IN TO SLAG GRANULATION & DUST SUPPRESSION**
  Already in practice. The same is being adopted in expansion units.

- **THE WASTE WATER FROM GAS CLEANING PLANTS, MILLS, POWER PLANT & CT BLOW DOWNS SHALL BE TREATED IN WASTE WATER TREATMENT PLANTS**
  Already in practice. The same is being adopted in expansion units.

- **THE COKE OVEN EFFLUENT SHALL NOT EXCEED 2880 CUM/DAY (120 CUM/HR)**
  The coke oven effluent is not exceeding 120 m³/hr.

- **THE SURPLUS WASTE WATER SHALL BE STORED IN THE HOLDING POND FOR USE IN THE LEAN PERIOD**
  Separate ponds and treatment facilities are envisaged as explained above.

- **THE OVER FLOW FROM POND SHALL BE DISCHARGED THROUGH MARINE OUTFALL INTO SEA**
  Marine pipeline to discharge the surplus effluents is under progress.
THE DISCHARGE POINT SHALL BE DECIDED IN CONSULTATION WITH NIO
NIO has already conducted the studies and suggested the route for marine outfall
and is being done as per their recommendations

MARINE ECOLOGICAL STUDY SHALL BE CARRIED OUT TO STUDY THE IMPACT OF
WASTE WATER ON MARINE ECOLOGY
Done. Report submitted to MoEF& APPCB

THE SEWAGE WATER AFTER TREATMENT SHALL BE USED IN MILLS / SMS FOR
COOLING PURPOSE
Already township sewage is being recycled in SMS & Mills after ultra filtration.
Sewage from plant shall also be recycled

Condition:

iii PROVIDE CONTROL MEASURES FOR CHECKING FUGITIVE EMISSIONS. PROVIDE DUST
EXTRACTION / SUPPRESSION SYSTEMS IN RAW MATERIAL HANDLING & WATER SPRIN-
KLING SYSTEM AT THE STOCK YARDS

Status:
Pollution control measures are extensively planned and implemented in existing plant and
in expansion area.

Electro Static Precipitators provided at various process units to control emissions
 PROVIDE DRY FOGGING SYSTEM IN CRUSHING & SCREENING PLANT, MATERIAL TRANSFER POINTS ETC.

Dry Fog System’s are installed in RMHP, SP-3 & BF-3, located at 55 Junction Houses and comprising of 625 application points, 320 flow control systems, 10 compressors, 15 pump houses and about 2000 precision nozzles.

DATA ON FUGITIVE EMISSIONS SHALL BE MONITORED & RECORDS ARE MAINTAINED

Work zone air quality at more than 50 locations is regularly monitored and data is recorded as per EMS. The same shall be continued.

Condition:
iv. COMPLY WITH THE STANDARDS NOTIFIED VIDE GSR.631(E) DATED 31ST OCT 1997 TO CONTROL FUGITIVE EMISSIONS FROM BATTERIES

Status:
Fugitive emissions PLD, PLO, PLL, BaP and charging emissions from coke oven batteries are monitored regularly and are below the norms except charging emissions.

Condition:
v. PARTICULATE EMISSIONS SHOULD BE <50 MG/NM3

ESP of Blast Furnace-1 ESP : Under Up gradation
Existing ESPs to be upgraded to limit emission levels to below 50 mg/Nm3 during capital repairs as per the following schedule:
- ESP’s of Sinter Plant –1 by July 2017
- ESP’s of Sinter Plant-2 by July 2018
- ESP’s of Blast Furnace-1 by Dec’2014 (Nearing Completion)
- ESP’s of Blast Furnace-2 by July 2017
- ESP’s of Power Plant-one boiler by Jan 2017 and remaining by Mar 2019

- PROVIDE CAST HOUSE FUME EXTRACTION SYSTEM WITH ESP/BAG FILTER
  The existing two blast furnace cast houses and BF-3 (Expn.) are provided with ESPs.

- INSTALL LOW-NOX BURNERS TO CONTROL NOX EMISSIONS
  Low Nox burners are provided and all necessary measures are taken to reduce NOx emissions in Sinter plant-2. These measures shall be adopted for the existing sinter machines 1 & 2 during their revamping in 2016-18

Condition:
vi  ENHANCE EFFORTS TO RE-USE OF SOLID WASTES AS PER PLAN SUBMITTED TO MINISTRY (BF & LD SLAG, FLYASH, REFRACTORY BRICKS, MILL SCALES ETC.)

Status:
Being done. Utilisation at Annexure-7

- ALL HAZARDOUS WASTES SHALL BE CHARGED INTO COKE OVEN BATTERIES
  All hazardous wastes like tar sludge, Benzol muck, acid tar, MBC sludge etc. are charged in to batteries along with charge coal since 1999. The same shall be continued.

- SPENT OIL SHALL BE SOLD TO AUTHORIZED REPROCESSORS
  Being done
Condition:
vii DEVELOP GREEN BELT IN BALANCE 34 HA. SELECTION OF SPECIES SHALL BE AS PER CPCB GUIDE LINES

Status:
The balance area of 34 Hectares in green belt will be taken up after the land dispute is resolved by the State government.

Condition:
viii UNDERTAKE RAIN WATER HARVESTING MEASURES

Status:
Complied. 12 masonry check dams, 1 Earthen check dam, 112 Percolation pits and recharging, wells have been constructed so far. In addition to the above 2 major rain harvesting schemes are under implementation at an expenditure of Rs 1304 Lakhs and resulting in total water saving of : 3.3 MGD

Condition:
ix OCCUPATIONAL HEALTH SURVEILLANCE OF WORKERS SHOULD BE DONE ON REGULAR BASIS AND RECORDS TO BE MAINTAINED

Status:
A full fledged OHS&RC is functioning since 1992 doing man maintenance programs, toxicological studies, noise surveys, hygiene surveys etc. Records are maintained as per OHSAS: 18001.
Condition:
X CREP RECOMMENDATIONS TO BE IMPLEMENTED
Status:
All points are being complied

B. GENERAL CONDITIONS
Condition:
   i  ADHERE TO STIPULATIONS MADE BY APPCB AND APSG
Status:
   Being followed.

Condition:
   ii  NO FURTHER EXPANSION OR MODIFICATIONS SHALL BE CARRIED OUT WITHOUT PRIOR APPROVAL
Status:
   Noted and will be followed

Condition:
   iii AT LEAST 4 AMBIENT AIR QUALITY MONITORING STATIONS SHALL BE ESTABLISHED IN THE DOWNWARD DIRECTION Status:
3 CAAQM stations have been established within plant premises and fourth station is installed at pedagantyada village in the downwind direction of plant. All stations are working. Data from the stations being posted in dedicated server for environmental data. Real time status made available to all concerned by use of software 'ENVISION'. Also hourly data from the stations is being posted real time to website of APPCB. ENVISION has been developed in-house for Environment Management.
DATA ON AMBIENT AIR, STACK EMISSIONS SHOULD BE SUBMITTED TO APPCB, CPCB, MOEF ONCE IN EVERY SIX MONTHS

**Status:**
Being done

iv THE WASTE WATER SHALL BE PROPERLY COLLECTED AND TREATED SO AS TO CONFORM TO NORMS AND SHOULD BE UTILIZED FOR MAKE UP OR PLANTATION

**Status:**
Separate treatment facilities are provided to collect the waste water and effluents and recycle them as make-up after treatment. Refer point A ii of special conditions above.

**Condition:**

Condition:
v PROVIDE NOISE CONTROL MEASURES TO LIMIT NOISE LEVELS WITHIN 85 db(A) ON ALL SOURCES

**Status:**
Adequate noise control measures are provided.
THE AMBIENT NOISE LEVELS 75 DBA (DAY TIME) & 70 DBA (NIGHT TIME)
Noise limits are within norms.

UNDERTAKE SOCIO-DEVELOPMENT ACTIVITIES IN THE SURROUNDING VILLAGES
Being done

Eye testing and cancer detection camps nearby Chepalapalem village

COMPLY ALL RECOMMENDATIONS MADE IN THE REPORTS OF EIA-1994 & EMP.

Status:
Complied.

Condition:
vi PROVIDE REQUISITE FUNDS TO IMPLEMENT CONDITIONS STIPULATED BY MOEF, STATE GOVT.

Status:
Already VSP has spent over Rs 468 cr for pollution control measures. Also ~Rs1283 cr. expenditure is earmarked for pollution control measures in the expansion units.
In addition to the above VSP is incurring over Rs 315 cr. (12-13) yearly towards operating expenses of all its pollution control systems
Condition:
A SIX-MONTHLY COMPLIANCE REPORT SHOULD BE SUBMITTED TO MOEF, REGIONAL OFFICE, BANGALORE

Status:
Being done

Condition:
INFORM THE PUBLIC THAT THE ENVIRONMENTAL CLEARANCE OF THE PROJECT HAS BEEN ACCORDED BY MOEF. ADVERTISE THIS IN TWO NEWS PAPERS WITHIN 7 DAYS FROM THE DATE OF CLEARANCE

Status:
Complied

END