No. TSL/KPH/ENV/2026/59
Date: 21st May, 2026

The Director,
Ministry of Environment, Forests & Climate Change, Integrated Regional Office, Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur-440001

Sub: Submission of half-yearly compliance report of Environmental Clearance Conditions for the period "Oct ,25 to March,26" in respect of M/s. Tata Steel Limited, Khopoli.

Ref: EC-IdentificationNo.EC24B000MH163028, File-no.SIA/MH/IND/68047/2021dated 05/01/2024

Dear Sir,

In view of the above -referred subject, please find enclosed the **Six-Monthly Compliance Report** regarding the stipulated **Environmental Clearance** conditions received from **SEIAA on January 5th, 2024.**

This report pertains to the **"Regularization of existing rolling mills"** for the production of cold-rolled products(Coils,Sheets&Tubes) of **7,80,000MT/A**; Tubes, API Pipes, Casting pipe, Pipe for low pressure service Round pipe & Tube for Mechanical and Structural Pipe and Square Structural Pipe **2,85,000MT/A** and Captive Power Plant **24 MW**(DG based) .

This facility is located at **Village-Savroli, Post -Sajgaon, Tehsil-Khalapur, District-Raigad** and is operated by **M/s. Tata Steel Limited, Khopoli.**

We trust that the measures taken toward environmental safeguards are in full compliance with the stipulated environmental conditions. This is for your kind perusal and records.

Thanking you.

F:M/s. Tata Steel Limited, Khopoli

Shashi Bhushan
Chief CRM &Tubes, Khopoli and Hosur

CC to:

1.State Environmental Impact Assessment Authority (SEIAA); Department of Environment, Govt. of Maharashtra 15" Floor, New Administrative Building, Mantra Laya; Mumbai- 400 032

2.The Member Secretary; Maharashtra Pollution Control Board; Kalpataru Point, 2nd - 4th Floor Opp. PVR Cinema, Near Sion Circle; Sion (E), Mumbai – 400 022

3. SRO-I, MPCB, Raigad Bhavan,6" Floor, Sec-11, C.B.D. Belapur, NaviMumbai-400614

4.Regional Officer (RO), MPCB, Raigad Bhavan, C.B.D. Belapur, Navi Mumbai–400614

Six Monthly EC Compliance Report

EC Identification No. EC24B000MH163028, Dated: 05/01/2024)

(Oct,25 to March,26)



TATA Steel Limited, Khopoli

At. Isamba Fata, Po. Savroli, Tal. Khalapur, Dist. Raigad,
Maharashtra - 410203

SEAC Conditions (Specific Conditions)

1	PP to ensure that there shall not be any increase in the capacity of rolling mill/coils/sheets/pipes & tubes etc. as presently consented by the Maharashtra Pollution Control Board	We are ensuring that, we will not increase the capacity of the rolling mill/coils/sheets/pipes tubes etc. from present valid consent given by Maharashtra Pollution Control Board.
2	PP to carryout soil and ground water sampling analysis based on the identification of control site outside the premises and collect soil and ground water samples in and around the proposed site. PP to choose parameters to be analyzed based on the use of raw materials and finished products by their earlier owner of the site and all other parameters including heavy metals. PP to compare these results with the control site result and prepare and implement appropriate mitigation plan to address soil and ground water contamination issue. PP to carry out this study by the reputed credible Government Institute.	Study of soil and ground water sampling analysis based on the identification of control site, outside the premises (collect soil and ground water samples in and around of 10KM site of the proposed site including heavy metals). Order placed in a reputed credible Government Institute to NEERI, Nagpur and work has been started for this. After getting report, if any we will act. Accordingly. **(NEERI PO No. 3000176361/K05 dated 8.10.2024)**
3	PP to submit certified copy of certified compliance of existing Consent to Operate to be obtained from the Maharashtra Pollution Control Board.	We have obtained a CTO compliance report from MPCB office vide letter no. MPCB/ROR/TB/Compliance-221102-F1S-0215 dated 02.11.2022 basing on requirement of TOR of SEIAA during processing of EC and also obtained in 2024 CTO renewal report from MPCB RO office (All certified CTO compliance from MPCB is attached in **Annexure-I .**
4	PP to carryout soil sampling analysis based on the identification of control site outside the premises and collect soil samples in and around the proposed site. PP to choose parameters to be analyzed based on the use of raw materials and finished products by their earlier owner of the site and all other parameters including heavy metals. PP to compare these results with the control site result and prepare and implement appropriate mitigation plan to address soil contamination issue. PP to carry out this study by the reputed credible Government Institute.	Study of soil and ground water sampling analysis based on the identification of control site, outside the premises (collect soil and ground water samples in and around the proposed site including heavy metals) order placed in a reputed credible Government Institute to NEERI, Nagpur and work has been started for this. After getting report, if any we will act. Accordingly. **(NEERI PO No. 3000176361/K05 dated 8.10.2024)**
5	PP to provide Zero Liquid Discharge Effluent Treatment Plant. PP to get ZLD design vetted by reputed Govt. Institution like IITs/NITs	We have installed Zero Liquid Discharge Effluent Treatment Plant. The total existing ZLD system is vetted by IIT, Mumbai. The study report is attached in **Annexure-II.** We have also taken NOC from MPCB for setting of new MEEP by replacing old one. PO placed for starting new MEEP project in the month of May,26
6	PP to obtain permission for Rainwater Harvesting bore pit from the Competent Authority.	Obtained CTO from MPCB vide letter no.Format1.0/CAC/UANNo.MPCB-CONSENT-0000220081/CR/2501001062 dated 13.01.2025 valid up to 28/02/2030 in 21.06.2023, point no.2 under Scheduled-IV of General Condition stipulated for compliance that, **"to harvest the rainwater and recharge the ground water and utilize the same for different industrial application"**.

		We have developed two rainwater harvesting storage system from rooftop and utilizing the same in our process. However, we are in the process of bore pit recharging of rainwater from roof top and utilizing the same. We will intimate latter after completing all rainwater bore pit recharging. Also, we are in process of storing and utilising 20000m3 rainwater pond project, which will be complete by June,26.
7	PP to submit details of proposed solar power use envisaged in the project along with cost estimations.	Tata Steel has signed an purchase agreement with tata power trading company limited effecting from 1st April,26 for purchasing 35MW green power (RE) to KHOPOLI unit valid up to 31st March,2027 . Now, we have started using green power (RE) from 1st April,26 at KHOPOLI unit.
8	PP to submit adequacy report of all the stacks exists on site w.r.t type of fuel, equipment design and height of stack to ensure all emission are under prescribed limits all the time.	Adequacy study of the existing stack conducted by IIT, Mumbai and found emissions are within the limit. The detail stack adequacy study report of IIT, Mumbai attached in **Annexure-III.**
9	PP to carry out detailed Quantitative Risk Assessment and submit report along with proposed mitigation measures.	Detailed Quantitative Risk Assessment with mitigation plan were identified by various departments and captured centrally in Business Risk Identification under BRISK online.
10	PP to prepare and submit VOCs monitoring and control management plan	We are monitoring 12 parameters of ambient air quality as per NAAQM, including VOC parameters as mentioned in NAAQM ,through a NABL/MOEF&CC approved third party lab and submitting report in quarterly CTO compliance to MPCB..
11	PP to submit copy of MOU executed with the authorized vendors for disposal of wastes (Hazardous/Non-hazardous) generated on site.	We have taken life membership from Resu stainability pvt limited and did an MOU with Resustainability limited . The valid certificate of Resustainability membership is attached in **Annexure-IV.** From feb,26 we are in zero land filling of all kinds of HW. All HW is going to pre-processor as an alternative fuel use**.**
12	PP to obtain necessary tree cutting permission from the competent authority before taking any effective steps on site if any tree cutting is envisaged.	Noted and will take necessary permission, if any tree cutting is required.
13	PP to submit adequacy report of all the stacks exists on site w.r.t type of fuel, equipment design and height of stack to ensure all emission are under prescribed limits all the time.	Adequacy study of the existing stack conducted by IIT, Mumbai and found emissions are within the limit. The detail stack adequacy report of IIT, Mumbai attached in **Annexure-III.**
14	PP to ensure to deploy well trained regular employees on all critical/hazardous operations and storages of hazardous chemicals instead of contract workers. Regular safety training to be provided to all such employees.	Well trained employees are engaged for hazardous operation and storage of hazardous Chemicals. Regular safety training is provided in each shift employees.
15	PP to prepare chemical compatibility chart of all chemicals handles, stored on site and ensure its storage/handling as per compatibility.	Chemical compatibility chart provided at all chemicals handling sites, which is stored in different areas at site and displayed its MSDS .

16	PP to provide Continuous Online Monitoring System connected to the servers of CPCB and MPCB. PP to include VOCs monitoring in the scheduled ambient air monitoring plan.	We have provided 2 CAAQMS, 1CEMS in DG stack; 3 CEMS of HCL analysers connected at ARP stack ,TUBE-STP stack and WCRM , NCRM Pickling stacks , . Also 1 EQMS at ETP outlet and two EQMS at STP out le provided.. All are connected to MPCB and CPCB server. We have included VOCs in scheduled ambient Monitoring like Benzene, Benzo(a)pyrene in ambient. The Latest Ambient air monitoring report for the is attached in **Annexure- V**
17	PP ensure to provide adequate space for parking of all types of vehicles including external vehicles carrying raw materials and finished products. No vehicle shall be parked on the public road.	We have provided separate designated space, exclusively for parking of all types of vehicles, including external vehicle carrying raw material and finished products. No vehicles are parking in public road.
18	PP to ensure to prepare and implement On-site and Off-Site emergency handling plan . The plan shall be prepared based in the Job Safety Analysis, Risk Assessment etc. Required training to all employees be provided on the emergency handling plans.	We have On-site emergency plan approved by the director of factory and safety, Maharashtra. We are following and implementing the same at our site involving all employees, to handle the emergency. Detail Onsite emergency Preparedness Plan is attached in **Annexure-VI**
19	PP to complete rainwater harvesting facility before the commission of the manufacturing activity.	We have developed rainwater harvesting facilities (19*10,000L) =1,90,000 lit. and 300 m3 storage capacity of rainwater. All rain water utilizing in plant process during rainy session. Another 20,000m3 rain water harvesting pond will be ready by June,26 and will start utilization of rain water .

SEIAA Conditions (Specific)

1	PP submitted undertaking dated 31.10.2023 stating that, they have proposed green belt having area of 20.82 Ha. Which is 33% of total plot area. Planning authority to ensure the compliance of the same.	We have developed 35.56%green belt by covering 55100 no's inside the plant and total cumulative 73050 no's saplings planted inside and outside as on date of the plant covering 47.1% in 29.75hect. of land area. We have also got official 33% green belt compliance certificate from MPCB vide letter no. MPCB/SROR-I/250417-FTS-0263 dated 17.04.2025. Greenbelt compliance certificate from MPCB is attached in an **Annexure-VII**
2	PP to undertake Miyawaki plantation of native and indigenous trees such as Banyan, Peeple, Neem, Jamun and other suitable trees as per the Forest Department, Govt of Maharashtra circular no Sa VaVi-2019/C.R.3/F-11, dated 25th June 2019. The said plantation to be completed in the first year of operation of Environmental Clearance under expert guidance of Miyawaki experts/arborist.	We have planted native and indigenous plants, taking from forest departmental approved nurseries.
3	PP to strictly observe the Solid Waste Management Rules, 2016 as amended time to time.	We are strictly following the solid waste management Rule,2016 as amended time to time.

4	PP to strictly observe the Hazardous and Other wastes (Management and Trans Boundary Movement) Rules, 2016 as amended time to time.	We are strictly following the Hazardous and Other wastes (Management and Transboundary Movement) Rule, 2016 as amended time to time.
5	PP to identify all sources of Fugitive air pollution on site and provide pollution control measures to mitigate pollution and meet the standard parameters stipulated in the Environment (Protection) Rules, 1986 amended time to time& Air (Prevention and Control of Pollution) Act, 1981 amended time to time.	We have identified the fugitive air pollution site and monitoring through a NABL accredited lab and meeting the standard.
6	PP to ensure storage of chemicals as per the Manufacturer, Storage and Import of Hazardous Chemical Rules, 1989 amended time to time to ensure no release of any chemical to the atmosphere and leakage to the soil.	We are strictly following the Hazardous Chemical Rules.1989 and amended time to time. There is no release of any chemical to the atmosphere and leakage to the soil.
7	PP to ensure transport, storage, handling and use of the flammable /toxic chemicals as per conditions stipulated in License/Approval of the Petroleum & Explosive Safety Organization (PESO)	We have two PESO License and complied all the conditions.
8	PP to obtain approval and License from the Directorate of Industrial Health & Safety (DIHS) for proposed project and implement all conditions stipulated therein. PP to carry out Safety Audit as stipulated in the Maharashtra Factories Rules, 1963 and ensure compliance of recommendations of the Audit.	We have obtained approval and license from the Directorate of Industrial Health and Safety (DIHS) for proposed project and implemented all conditions stipulated therein. We have carried out a safety audit as stipulated in the Maharashtra Factories Rules, 1963 and complied of recommendations of the audit. Safety Audit Report with compliances is attached in **Annexure -VIII**
9	PP to provide solar energy for illumination of Administrative Building, Street Lights, and parking area.	We have provided a natural exposure path to sunlight directly through transparency sheet in middle of the administrative building and using solar agreement power for illumination of Administrative building . Rest streetlight and parking area also utilizing RE purchase power agreement with Tata Power...
10	PP to ensure use of briquette/bio-coal/pellets/or and such suitable product derived from scientific processing of appropriate stream of dry waste/agricultural waste, not less than 50% of the total fuel requirement to the boiler.	At present we are not operating reheating furnace. We do not have any solid fuel causing pollution such as coal. Only RLNG based is used as fuel in our boiler and process. This project is not applicable/feasible to us to use dry waste/agricultural waste/bio-coal/briquette. as received, a letter from MPCB only required gas-based boiler. Letter from MPCB is attached in **Annexure-IX.** We have also received NOC from MPCB for setting of 10TPH gas-based Boiler by replacing the WHRB from DG Power.
11	PP to provide roof top rainwater harvesting facility.	We have provided rooftop rainwater harvesting and utilization facility at LDP and NCRM.
12	PP to ensure that, proposed project is ZLD unit.	Complied, online EQMS installed and data transmitting to MPCB

General Conditions

1	The project proponent shall advertise at least in two local newspapers widely circulated in the region around the project , one of which shall be in the Marathi language of the local concerned within seven days of issue of this letter, informing that the project has been accorded Environmental Clearance and copies of Environmental Clearance letter are available with the Maharashtra Pollution Control Board, website of the company and may also be seen at Website at http://parivesh.nic.in	We have advertised two local newspapers on 9.1.2024, which is widely circulated in Maharashtra region within 7 days of issued EC letter on 9.1.2024. one is in Marathi and the other one is in English. Copy of the advertisement is attached in **Annexure-X (a)(English-Indian Express) and Annexure-X (b)(Marathi-Loksatta)**
2	The project Proponent shall upload the status of compliance (soft copies) of the conditions stipulated Environmental Clearance letter including monitoring data of air, water, soil and noise etc on their website and shall update the same periodically. The half yearly compliance report shall simultaneously be submitted to the Maharashtra Pollution Control Board, SEIAA and the Regional Office off MoEF&CC at Nagpur on 1st June & 1st December of each calendar year.	Uploaded the status of compliance of EC letter including monitoring data in our website and the half yearly compliance report submitted to the Maharashtra Pollution Control Board, SEIAA and the Regional Office of MOEF&CC at Nagpur.
3	Separate fund shall be allocated for the implementation of Environmental Management Plan along with item wise break up and specific timeline for its completion. The cost shall be included as part of the project cost. The funds earmarked for the environmental protection measures shall not be diverted for other purpose and year –wise expenditure should be reported to the MPCB and SEIAA.	Separate fund is allocating to implement the Environmental Management Plan, along with timeline to complete the project. This fund is exclusively for environment management plan.
4	A separate Environmental Management Cell with qualified personnel shall be set up for implementation of the stipulated environmental safeguards.	A separate Environmental Management Cell with qualified personnel is already set up for implementation of the stipulated environmental safeguards.
5	In the event of failure of any pollution control equipment, the manufacturing activity shall be immediately stopped safely till the effective functioning of pollution control equipment's is regained.	Noted and agreed.
6	PP to strictly follow conditions stipulated in the Consent to Establish/Operate issued by the Maharashtra Pollution Control Board.	Strictly following the conditions stipulated in CTO/CTE issued by MPCB
7	PP to provide separate drains for storm water and effluent, and ensure that, the storm water drains are dry all the time and in no case the effluent shall mix with the storm water drain.	We have separate drain for storm water and effluents. Our effluents are collected separately through pipeline directly from operational unit sumps to ETP. No way the trade effluents are mixed with storm water drain.
8	Periodic monitoring of ground water in the study area as marked in the Environmental Impact Assessment Report shall be undertaken and results analyzed to ascertain any change in the quality of water. Results shall be regularly submitted to the Maharashtra Pollution Control Board.	Periodic monitoring of peripheral ground water is carried out as per EIA report and the result is regularly submitting to Maharashtra Pollution Control Board. The last ground water monitoring is attached in **Annexure-XI**
9	The overall noise levels in and around the factory premises shall be kept within the prescribed standard under the Environment (Protection) Act, 1986 and Rule 1989 as amended from time to time by providing adequate noise control measures and protective equipment's like earmuff and ear plug etc.	We have provided adequate noise control measures and protective equipment's like earmuff and ear plug etc. Noise monitoring in and around the plant premises monitored and the latest third-party ambient noise monitoring report is attached in **Annexure-XII**

10	Adequate safety measures shall be ensured to limit the risk zone within the factory premises. Leak detection system shall be installed for early detection and mitigation purpose.	We have provided safety measures to mitigate the identified risk. As requested, we have provided leak detection system at ammonia storage area for mitigation purposes.
11	PP to scrupulously follow the requirements of Maharashtra Factories Act, 1948 & Rules 1963 as amended from time to time.	Agreed and following
12	The Environmental Statement for each financial year ending on 31st March in Form-V as is amended to be submitted by the Project Proponent to the concerned Pollution Control Board as prescribed under the Environment (Protection) Rule, 1989 as amended from time to time, it shall also be put on the website of the company along with the status of the compliance of the conditions stipulated in the Environmental Clearance letter.	We have regularly submitted the Environmental Statement in Form-V to Maharashtra Pollution Control Board (MPCB). Copy of last year's Environmental Statement is attached in **Annexure-XIII**

Date: 30.08.2024

M/s. Tata Steel Ltd.- 0000220081.

The Board has granted consent to operate on 21.06.2023 which is valid upto: 28.02.2025 for manufacturing of –

1) CR Coils & Sheets – 180000 MT/A.
2) Galvanised /Galume Coils & Sheets – 360000 MT/A.
3) Colour Coated (Pre-painted) Coils & Sheets – 120000 MT/A.
4) Pipes & Tubes – 120000 MT/A.
5) API Pipe, Casting Pipe, Pipe for Low Pressure Service, Round Pipe 7 Tube for Mechanical and Structural Pipe and Square Structure Pipe – 285000 MT/A.
6) Captive Power – 24 MW.

- As per existing consent capital investment of the industry is Rs. 2239.87 Cr.
- In the said consent at sr. no. 12, mentioned that PP shall obtain Environmental Clearnce for their cold mill process as per MoEF & CC notification.

Further, as per the consent condition at sr. 12, industry has obtained environment clearance for same production capacity as granted in existing consent vide EC Identification No. EC24B000MH163028 on 05.01.2024 which is granted by SEIAA authority for manufacturing of the following products-

1) Cold rolled products (Coils, Sheet & Tubes) – 780000 MT/A.
2) Tubes, API Pipe, Casting Pipe, Pipe for low pressure service, Round Pipe & Tube for Mechanical and Structural Pipe and Square Structure Pipe – 285000 MT/A.
3) Captive Power Plant – 24 MW.

Now, as per the Environmental Clearance industry has submitted prior application for grant of renewal of consent to operate in line with EC for same production capacity with minor changes and increased capital investment of Rs. 2247.54 Cr., i.e., capital investment increased by Rs. 7.67 Cr., towards improvement of plant and machinery.

The industry wants to renew the consent as per below.

1) Cold rolled products (Coils, Sheet & Tubes) – 780000 MT/A.
2) Tubes, API Pipe, Casting Pipe, Pipe for low pressure service, Round Pipe & Tube for Mechanical and Structural Pipe and Square Structure Pipe – 285000 MT/A.
3) Captive Power Plant – 24 MW.

Water consumption Aspects: As per existing consent dated 21.06.2023 water consumption granted for industrial purposes as below.

1) Industrial Cooling, Spraying in mine pits or boiler feed – 835.00 CMD.
2) Domestic purposes - 255.00 CMD.
3) Processing whereby water gets polluted & pollutants are easily biodegradable – 340.00 CMD.
4) Others – 200 CMD.

The Irrigation Department Kolad Division Raigad has granted total water consumption quantity to the industry is 4540 CMD, accordingly, the industry has submitted water consumption for various industrial purposes and below of the EC conditions which is as below.

1) Industrial Cooling, Spraying in mine pits or boiler feed – 1160.00 CMD.
2) Domestic purposes - 400.00 CMD.
3) Processing whereby water gets polluted & pollutants are easily biodegradable – 1500.00 CMD.
4) Others – 1470 CMD.

Water Pollution Control Aspects:

1) Total trade effluent generation qty. to the tune of 290 CMD, for that industry has installed ETP (RO-MEE based) with design capacity 450 CMD. ETP consisting of primary, secondary, and tertiary treatment followed by UF and 3- Stage RO plant with total design capacity 450 CMD. Around 65- 70 % RO permeate is used for back into process like cooling tower water make up and RO reject around 25 – 30 % sending to 3- Stage MEE to achieve ZLD.

2) As per existing consent domestic effluent generation qty. 185 CMD and now the domestic effluent generation quantity is 300 CMD which is less as per EC for that industry has installed MBR technology STP with design capacity 500 CMD, consisting of primary, secondary, and tertiary treatment and treated effluent partly recycling and remaining using for gardening purpose in the factory premises, as industry has developed green belt on the open area of

factory and planted various types of indigenous trees in the factory premises about 70000 nos.

Air Pollution Control Aspects: Industry having total 31 numbers of process stack (major- 6 nos and minor- 25 nos) and 1 no of DG power stack which is as below.

1) Industry has installed- Non-OX Furnace, GP -I – 15 TPH Capacity with stack height 13 mtr provided. Natural Gas – 60 Kg/Hr., used as a fuel. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.
2) Industry has installed – Non-OX Furnace, GP -II – 25 TPH Capacity with stack height 13 mtr provided. Natural Gas – 350 Kg/Hr., used as a fuel. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.
3) Industry has installed – Pot Furnace, Galvanizing -I, - 15 TPH Capacity with stack height 13 mtr provided. Natural Gas – 60 Kg/Hr., used as a fuel. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.
4) Industry has installed – RTF Section, Galvanizing -II, - 25 TPH Capacity, with stack height 13 mtr provided. Natural Gas – 350 Kg/Hr., used as a fuel. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.
5) Industry has installed - Coated Section (Colour Coating) - 28 TPH, with stack height 13 mtr provided. Natural Gas – 550 Kg/Hr., used as a fuel. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.
6) Industry has installed two numbers of D.G. Set – 12 MW each and 4.8 TPH waste recovery boiler, attached to each D.G. Set for steam generation which is used in the process. Industry has installed chimney of height 110 Mtr., LSHS – 6250 Kg/Hr., used as a fuel. Also, industry has provided continuous online monitoring system which is connected to CPCB/MPCB Server. At Present since last September – 21, D.G. Sets are not in operation.
7) Industry has installed Sheet Annealing – 2 TPH Capacity with stack height 16 mtr., provided. Natural Gas – 3.0 Kg/Hr., used as a fuel.
8) Industry has installed – Hardening Furnace (H & T) -I, 1.2 TPH Capacity, with stack height 13 mtr provided. Natural Gas – 35 Kg/Hr., used as a fuel. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.
9) Industry has installed – Hardening Furnace (H & T) -II, 0.5 TPH Capacity, with stack height 13 mtr provided. Natural Gas – 27 Kg/Hr., used as a fuel. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.

10) Industry has installed – Hardening Furnace (H & T) III, 0.5 TPH Capacity, with stack height 13 mtr provided. Natural Gas – 27 Kg/Hr., used as a fuel. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.

11) Industry has installed - Hardening Furnace (H & T) IV – 1.2 TPH Capacity, with stack height 13 mtr provided. Natural Gas – 35 Kg/Hr., used as a fuel. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.

12) Industry has installed – Tube Annealing-I, 5.0 TPH Capacity, with stack height 13 mtr provided. Natural Gas – 100 Kg/Hr., used as a fuel. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.

13) Industry has installed – Tube Annealing -II, 5.0 TPH Capacity, with stack height 13 mtr provided. Natural Gas – 100 Kg/Hr., used as a fuel. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.

14) Industry has installed – Wider Pickling – 55 TPH Capacity, with stack height 20 mtr. with wet scrubber arrangement provided, for discharging of gases into atmosphere.

15) Industry has installed – Narrow Pickling – 22 TPH Capacity, with stack height 20 mtr., with wet scrubber arrangement provided, for discharging of gases into atmosphere.

16) Industry has installed – 6 Hi Mill-I, Wider – 17 TPH Capacity, with stack height 13 mtr provided. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.

17) Industry has installed - 6 Hi Mill-II, Wider – 25 TPH Capacity, with stack height 13 mtr provided. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.

18) Industry has installed - 4 Hi Mill-I, (Narrow) – 6.0 TPH Capacity, with stack height 13 mtr provided. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.

19) Industry has installed - 4 Hi Mill-II, (Narrow) – 6.0 TPH Capacity, with stack height 13 mtr provided. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.

20) Industry has installed - 4 Hi Mill-III, (Narrow) – 10 TPH Capacity, with stack height 13 mtr provided. For fume extraction system ID fan ducting attached to chimney for discharging of gases into atmosphere.

21) Industry has installed - Alkali Fume Scrubber (Wider) – 28 TPH Capacity, with stack height 13 mtr., with wet scrubber provided.

22) Industry has installed – Hot Air Dryer – GP -I, Wider – 15 TPH Capacity, with stack height 13 mtr., with wet scrubber provided.
23) Industry has installed – Hot Air Dryer -GP -II, Wider – 25 TPH Capacity, with stack height 13 mtr., with fume extraction system provided.
24) Industry has installed – Acid Fume Scrubber, ARP – 2.5 TPH Capacity, Natural Gas – 160 Kg/Hr., used as a fuel, with stack height 30 mtr., with wet scrubber arrangement provided.
25) Industry has installed – Acid Fume Scrubber, Tube – 4.0 TPH Capacity, with stack height 13 mtr., with wet scrubber provided.
26) Industry has installed – Phosphate Scrubber, Tube – 4.0 TPH Capacity, with stack height 13 mtr., and wet scrubber provided.
27) Industry has installed – Lead Bath-I, Strapping Line – 1.4 TPH Capacity, with stack height 13 mtr., with fume extraction system provided.
28) Industry has installed – Lead Bath – II, 1.4 TPH Capacity, with stack height 13 mtr., with fume extraction system provided.
29) Industry has installed – Coating Plant -I, Pipe Plant – 5.0 TPH Capacity, with stack height 22 mtr., with bag filters and dust collector arrangement provided.
30) Industry has installed - – Coating Plant -II, Pipe Plant – 5.0 TPH Capacity, with stack height 22 mtr., with bag filters and dust collector arrangement provided.
31) Industry has installed - – Coating Plant -III, Pipe Plant – 5.0 TPH Capacity, with stack height 22 mtr., with bag filters and dust collector arrangement provided.
32) Industry has installed - Coating Plant -IV, Pipe Plant – 5.0 TPH Capacity, with stack height 22 mtr., with bag filters and dust collector arrangement provided.

Industry has provided energy meter and flow meter to all pollution control equipment.

Hazardous Waste Aspects:

1) Industry has obtained membership from MWML Taloja for disposal of hazardous waste, and industry regularly sending hazardous waste to MWML Taloja. Industry has submitted annual return in form IV. Industry has provided isolated closed shed for category wise storage of hazardous waste.

Non-Hazardous Waste Aspects:

1) Industry sending non-hazardous waste to MPCB authorized recycler/re-processor/vendors.

Green Belt Development Aspects:

1) Industry has done plantation on 224400 Sq. mtr. area in the factory premises and planted various types of indigenous trees about 700000 nos.
2) Industry has awarded confederation of Indian Industry (CII) energy efficient unit and excellency in energy management.
3) Industry awarded CII – ITC corporate excellency award.
4) Industry awarded Greentech and apex environment award too.

Bank Guarantee Status:

1) As per existing consent dated 21.06.2023 BG of Rs. 25.0 Lakhs, imposed towards operation and maintenance of pollution control system to achieve consented standards. Accordingly, industry has submitted the said BG to Board which is valid upto: 31.08.2025.

Other Achievement made by the industry:

1) Industry has set up bio-gas plant for utilization 150 Kg food waste per day and saving 40 Ton of CO2 per annum.
2) Industry started using 15 MW renewable solar energy from July 2024.
3) Industry has set up butterfly gardening for biodiversity conservative management plant around 30000 Sq. ft area.
4) Industry has set up and utilize roof top rainwater harvesting 190 CMD at LDP roof top, 300 CMD at NCRM roof top, 10 CMD for at power plant boiler roof top.
5) Industry starting using STP treated water 8 CMD in process.
6) Industry also started transportation of all goods through e-trucks (LNG power truck).
7) Industry has set up two online AAQM stations, and OCEMS in D.G. Stack, four online HCL monitoring system, one EQMS at ETP connected to MPCB server.

In view of above, application of the industry may be considered for grant of renewal of consent to operate as per in line with EC conditions for further period upto: 28.02.2030, with an overriding effect to the earlier consent granted by the Board vide No. Format1.0/CAC/UAN No. 0000160053/CR/230600150 dated 21.06.2023, if approved please as industry has submitted fees of Rs. 22475400/-

30.08.2024

MAHARASHTRA POLLUTION CONTROL BOARD
Regional Office, Raigad

Phone: - (022) - 2757 6034
Fax.: - (022) - 2756 2132
E-mail: - roraigad@mpcb.gov.in
Website: - http//mpcb.gov.in

Raigad Bhavan, 6th Floor,
Sec-11, C.B.D. Belapur,
Navi Mumbai- 400 614.

No. MPCB/ROR/TB/Compliance- 221102-FTS-0215 **Date:** 02/11/2022

To,
M/s. Tata Steel Limited.
Isamba Phata, Khopoli-Pen Road,
Village:- Savroli,
Tal.-Khalapur, Dist.:- Raigad.

Sub:- **Verification of Consent to Operate w.r.t. TOR issued by SEIAA.**

Ref:-
1. Consent to Operate obtained from Board vide Format 1.0/ BO/UAN No. 0000039991-18/CAC-Cell 1909000459 dated: 16.09.2019 which is valid up to 28/02/2023.
2. TOR issued by SEIAA vide File No. SIA/MH/IND3/68047/2021 dtd. 30.09.2021.
3. Your request letter dtd. 03.10.2022.
4. Visit of Board officials to industry on 17.10.2022.

Sir,

With reference to above subject matter, Board has granted Consent to Operate to your manufacturing unit vide 1.0/ BO/UAN No. 0000039991-18/CAC-Cell 1909000459 dated: 16.09.2019 which is valid up to 28/02/2023.

As per TOR issued by SEIAA vide File No. SIA/MH/IND3/68047/2021 dtd. 30.09.2021 and your request letter dtd. 03.10.2022, the pointwise Consent to Operate verification report is enclosed as **"Annex-I"**.

Maharashtra Pollution Control Board
Sub Regional Officer Raigad-I

For and on behalf of
Maharashtra Pollution Control Board

02/11/2022

(V.V. Killedar)
I/c. Regional Officer, Raigad.

Copy submitted for favor of information to:-
1. The Regional Officer (BMW), MPC Board, Mumbai

5	Coater section (cooler Coating)	S-5	As per schedule -II
6	D.G & Boiler	S-6	As per schedule -II
7	Sheet Annealing	S-7	As per schedule -II
8	Hardening Furnaces - I	S-8	As per schedule -II
9	Hardening Furnaces – II	S-9	As per schedule -II
10	Hardening Furnaces – III	S-10	As per schedule -II
11	Hardening Furnaces - IV	S-11	As per schedule -II
12	Tube Annealing – I	S-12	As per schedule -II
13	Tube Annealing – II	S-13	As per schedule -II
14	Wider Pickling	S-14	As per schedule -II
15	Narrow Pickling	S-15	As per schedule -II
16	6 Hi mills - I, Wider	S-16	As per schedule -II
17	6 Hi mills - II, Wider	S-17	As per schedule -II
18	4 Hi mills - I, Narrow	S-18	As per schedule -II
19	4 Hi mills - II, Narrow	S-19	As per schedule -II
20	4 Hi mills - III, Narrow	S-20	As per schedule -II
21	Alkali Fumes Scrubber, Wider	S-21	As per schedule -II
22	Hot air dryer GP – I, Wider	S-22	As per schedule -II
23	Hot air dryer GP – II, Wider	S-23	As per schedule -II
24	Acid Fumes Scrubber, ARP	S-24	As per schedule -II
25	Acid Fumes Scrubber, Tube	S-25	As per schedule -II
26	Phosphate Scrubber, Tube	S-26	As per schedule -II
27	Lead Bath – I, Strapping Line	S-27	As per schedule -II
28	Lead Bath – II, Strapping Line	S-28	As per schedule -II
29	Coating Plant – I, Pipe Plant	S-29	As per schedule -II
30	Coating Plant – II, Pipe Plant	S-30	As per schedule -II
31	Coating Plant – III, Pipe Plant	S-31	As per schedule -II
32	Coating Plant - IV, Pipe Plant	S-32	As per schedule -II

6. Conditions about Non Hazardous Wastes:

Sr. no	Type of Waste	Quantity & UoM	Treatment	Disposal
1	Metal scrap, Strip cut pieces, Edge Milling Scrap, inside outside cutting scrap & Tube / Pipes	3400 MT/M	---	Sale to party
2	Iron Oxide	250 MT/M	---	Sale to party
3	Empty Drums	1000 Nos/M	---	Sale to party

Being complied with
Reusable Non-Hazardous waste is being collected and sent to parties for further process or reuse.

Maharashtra Pollution Control Board
Sub Regional Officer Raigad-I

7.	Conditions Under Hazardous Waste (M & TM) Rules, 2016 for treatment and disposal of hazardous waste:	Being Complied with Company is following the Hazardous Waste (MH&TM) rules, 2016 for collection and safe disposal of hazardous waste generated within the premises. While other recyclable waste is being sent to Authorized preprocessor/ recycler. Online form 10 is submitted at each time of waste movement. Company also filing the HW Return in Form IV on regular basis to MPCB in every year.

Sr. No	Type of Waste	Category	Quantity	UOM	Treatment	Disposal
1	Sludge and filters contaminated with oil.	3.3	15	MT/M	---	Sale to Registered & Authorized re-processor/ recycler/ CHWTSDF
2	Used or spent oil	5.1	7.5	MT/M	---	
3	Waste or residue containing oil	5.2	66	MT/M	---	
4	Spent Solvents	20.2	2.6	MT/M	---	
5	Process wastes, residue and sludges	21.1	0.5	MT/M	---	
6	Zinc fines or dust or ash or skimming's in dispersible form	6.2	97	MT/M	---	
7	Lead bearing residues	9.1	3	MT/M	---	
8	Acidic and alkaline residues	12.1	40	KL/day	Regeneration (ARP)	--
9	Phosphate sludge	12.5	3	MT/M	---	CHWTSDF
10	Chemical Sludge from wastewater treatment	35.3	164	MT/M	---	CHWTSDF
11	Sludge from bath containing organic solvents	12.4	3.0	MT/M	--	CHWTSDF
12	Contaminated cotton rags or other cleaning materials	33.2	15	MT/M	Incineration	CHWTSDF
13	Empty barrels/ containers/liners contaminated with hazardous chemicals/ wastes	33.1	1550	No/M	Decontamination	Send to Authorized Recycler

Maharashtra Pollution Control Board
Sub Regional Officer Raigad-I

8.	The Board reserves the right to review, amend, suspend, revoke, etc. This consent and the same shall be binding on the industry.	Noted and agreed by the industry.
9.	This consent should not be construed as an exemption from obtaining necessary NOC/ permission from any other Government authorities.	Noted and agreed by the industry.
10	Industry shall submit the details of the pollution control system and its optimum load capacities within a month.	Noted and agreed with the condition. Industry has submitted the requested information in time at MPCB. Also, we have engaged the

		third-party (IIT, MUMBAI) for detail study and further improvement in this regard if any. We have received report and working on it for future prospective.
11.	This consent is issued with overriding effect on earlier Consent to Establish / Operate granted by the Board vide no. Consent No. BO/UAN No. 0000039991-18/CAC-Cell/1909000459 dtd. 16.09.2019.	Noted and agreed by the industry.



Schedule -I

Terms & Conditions for compliance of Water pollution Control:

1)	A)	As per your application you have provided the Effluent Treatment Plant (ETP) with a design capacity of 300 CMD along with RO total capacity 430 CMD & MEE system of capacity 100 CMD & ARP.	Plant already equipped with ETP with treatment capacity of 300 CMD along with RO treating capacity 430 CMD & MEE with treating capacity 100 CMD and ARP. New polishing RO installed at the plant to reduce the load on MEE Plant. Total system is ZLD. All generated effluents are being treated and reuse inside the plant for cooling purposes.
	B)	The applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent and recycle the entire treated effluent in to the process for various purpose such as for cooling. Process & scrubbing so as to achieve Zero Liquid Discharge. There shall be no discharge on land or outside factory premises.	All effluents are being treated and reutilize in our plant for cooling purposes and the plant is maintaining ZLD in all seasons.
	C)	The treated effluent shall be recycled for secondary purpose to the maximum extent and remaining shall be discharged on land for gardening within premises after confirming above standards, in no case effluent shall finds its way for outside factory premises.	The generated effluent is treated with ETP followed by RO and MEE. All the treated water is being utilize for the process and no treated effluent is discharged on land or for gardening. Spent acid is treated in Acid Regeneration Plant and being reused in pickling bath with buffer or fresh acid as per requirement. ARP is maintaining Recycle, Reuse, Regenerate, Reduce .
2)	A)	As per your application you have provided the Sewage Treatment Plant (STP)with the design capacity of 350 CMD & STP 1000 CMD	Sewage water is properly treated at Sewage treatment Plant (STP) of capacity 1000 CMD in colony. In industry 350KLD STP is being treated all the sewage water. Every month inlet and outlet water quality is monitored by a NABL accredited and MOEF&CC empaneled laboratory.
	B)	The applicant shall operate the sewage treatment system to treat the sewage so as to achieve the following standards / prescribed under EP Act, 1986 and Rules made there under from time to time, whichever is stringent	Industry has submitted the STP outlet reports, while going through the same, it has been observed that, the results are within the limit.

1	Suspended Solids	Not to Exceed	50	mg/L
2	BOD 3 days 27oC	Not to Exceed	30	mg/L
3	COD	Not to Exceed	100	mg/L

	C) The treated sewage shall be recycled for secondary purposes to the maximum extent and remaining shall be discharged on land for gardening within premises after confirming above standards. In no case, sewage shall find its way for gardening / outside factory premises.	Treated sewage is utilized for gardening and plantation within plant premises.
3)	The Board reserves the right to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The application shall obtain prior consent of the board to take steps to establish the unit or establish any treatment and disposal system or and extension or addition thereto.	Noted and agreed by the industry
4)	The industry shall ensure replacement of pollution control system	Noted and agreed by the industry

Maharashtra Pollution Control Board
Sub Regional Officer Raigad-I

	or its parts after expiry of its expected life as defined by the manufacturer so as to ensure the compliance of standards and safety of the operation thereof.	
5)	The applicant shall comply with the provision of Water (Prevention & Control of pollution) Cess Act, 1977 and as amended, by installing water meters, filling water cess returns in form-1 and other provisions as contained in the said act.	As per CTO permitted water consumption is for various activities. Actual consumption of the water is within the consented limits.

Sr. No.	Purpose for Water Consumed	Water Consur Quantity (CM
1	Industrial cooling, spraying in mine pits or boiler feed	835
2	Domestic purpose	255
3.	Processing whereby water gets polluted & pollutants are easily biodegradable.	0.00
4	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	340
5	Agriculture/gardening	200

6)	The applicant shall provide specific Water pollution control system as per the conditions of EP Act, 1986 and rules made there under from time / Environmental Clearance / CREP guidelines.	Noted and Agree by the industry.

Schedule - II

Terms & Conditions for compliance of Air pollution Control:

1) As per your application, you have proposed to install/ provide the air pollution control (APC) system and also proposed to erect / erected following stack (s) and to observe the following fuel pattern-

Sr. No.	Stack Attached To	APC system	Ht in meter	Type of Fuel	Quantity & UoM	S%	SO2 Kg/ Day
1	Non ox furnace (Galvanizing - I)	Fume Exhaust	13	Natural Gas	60 Kg/Hr	---	---
2	Non ox furnace (Galvanizing - II)	Fume Exhaust	13	Natural Gas	350 Kg/Hr	---	---
3	Pot Furnace Galvanizing -I	Fume Exhaust	13	Natural Gas	60 Kg/Hr	---	---
4	RTF section Galvanizing II	Fume Exhaust	13	Natural Gas	350 Kg/Hr	---	---
5	Coater section (cooler Coating)	Fume Exhaust	13	Natural Gas	550 Kg/Hr	---	---
6	D.G & Boiler	---	110	Furnace oil	6250 Kg/Hr	4.50	400.00
7	Sheet Annealing	Fume Exhaust	16	Natural Gas	3 Kg/Hr	---	---
8	Hardening Furnace - I	Fume Exhaust	13	Nat	35	---	---

All the necessary pollution control systems have been provided as per the CTO. Fuel consumption is within the consented limits.

Necessary acoustic enclosures followed by Stack as per the consent is provided.

All the stacks are in place for the heating units and the scrubbers.

Similarly, all the stacks attached to the scrubbers were installed.

The third-party stacks emission regularly through NABL certified laboratory reports submitted by the industry. While going through, it has been observed that, all the parameters are within the Consented limits.

Maharashtra Pollution Control Board
Sub Regional Officer Raigad-I

				ural Gas	Kg/Hr		
9	Hardening Furnace - II	Fume Exhaust	13	Natural Gas	27 Kg/Hr	---	---
10	Hardening Furnace - III	Fume Exhaust	13	Natural Gas	27 Kg/Hr	---	---
11	Hardening Furnace - IV	Fume Exhaust	13	Natural Gas	35 Kg/Hr	---	---
12	Tube Annealing - I	Fume Exhaust	13	Natural Gas	100 Kg/Hr	---	---
13	Tube Annealing - II	Fume Exhaust	13	Natural Gas	100 Kg/Hr	---	---
14	Wider Pickling	Wet Scrubber	20	---		---	---
15	Narrow Pickling	Wet Scrubber	20	---		---	---
16	6 Hi mill - I, Wider	Fume Exhaust	13	---		---	---
17	6 Hi mill - II, Wider	Fume Exhaust	13	---		---	---
18	4 Hi mill - I, Narrow	Fume Exhaust	13	---		---	---
19	4 Hi mill - II, Narrow	Fume Exhaust	13	---		---	---
20	4 Hi mill - III, Narrow	Fume Exhaust	13	---		---	---
21	Alkali Fumes Scrubber, Wider	Wet Scrubber	13	---		---	---
22	Hot Air Dryer GP – I, Wider	Fume Exhaust	13		60 Kg/Hr		
23	Hot Air Dryer GP – II, Wider	Fume Exhaust	13	---	60 Kg/Hr	---	---
24	Acid Fumes Scrubber, ARP	Wet Scrubber	30	Natural Gas	160 Kg/Hr	---	---
25	Acid Fumes Scrubber, Tube	Wet Scrubber		---		---	---
26	Phosphate FumeScrubber Tube	Wet Scrubber		---		---	---
27	Lead Bath - I, Strapping Line	Fume Exhaust		---		---	---

Maharashtra Pollution Control Board
Sub Regional Officer Raigad-I

	28	Lead Bath - II, Strapping Line	Fume Exhaust						
	29	Coating Plant – I, Pipe Plant	Dust Collector	22	Natural Gas	61 Kg/Hr	---	---	
	30	Coating Plant – I, Pipe Plant	Dust Collector	22	---	---	---	---	
	31	Coating Plant I, Pipe Plant	Dust Collector	22	---	---	---	---	
	32	Coating Plant – I, Pipe Plant 4	Dust Collector	22	---	---	---	---	

2)	The applicant shall provide specific Air Pollution control equipment's as per the conditions of the EP Act 1986 and rules made there under from time to time / Environmental Clearance / CERP guidelines. (Concern section shall mention specific control equipment's)	Company has already provided all the air pollution control equipment as per conditions of the EP Act 1986 and rules made there under from time to time.
3)	The applicant shall operate and maintain above air pollution control system, so as to achieve the level of pollutants to the following standards; Particulate matter | Not to exceed | 150 mg/Nm^3	Noted and being complied with the condition
4)	The Applicant shall obtain necessary prior permissions for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/ alteration well before its life comes to an end or erection of new pollution control equipment.	Noted and agreed by the industry.
5)	The Board reserves its rights to very all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).	Noted and agreed by the industry.

Schedule – III
Details of Bank Guarantees: -

1. BG Imposed

Sr. No.	Consent (C to E/O/R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity date
1	C to R	Rs. 5.0 lakh (to be extended)	15 days	O & M of Pollution control system so as to achieve the Consented standards	Continue	30.06.2023

BG Submitted (BG No. 16090100009508) and valid up to 28.02.2023.

Maharashtra Pollution Control Board
Sub Regional Officer Raigad-I

"Annex-I"

Conditions Compliance Report (April to June 2022) of Consent To Operate (CTO) for Tata Steel Limited, Khopoli

<table>
<tr><th>Sr. No.</th><th>CTO Condition</th><th>Compliance</th></tr>
<tr><td>1</td><td>The consent is granted for a period from 01.03.2018 to 28.02.2023</td><td>Noted and agreed by the industry. Name change of company has requested via online application (MPCB-CONSENT-0000039991)</td></tr>
<tr><td>2</td><td>The actual capital investment of the industry is Rs. 1872.54 Crs. (As per C.A. Certificate Submitted by industry</td><td>Noted and agreed by the industry.</td></tr>
<tr><td>3</td><td>The consent is valid for the manufacturer of
<table>
<tr><th>Sr. No.</th><th>Product/ By-Product name</th><th>Maximum Quantity in MT/A</th></tr>
<tr><td>1</td><td>C. R. Coils & Sheets</td><td>1,80,000 MT/A</td></tr>
<tr><td>2</td><td>Galvanized / Galume Coils & Sheets</td><td>3,60,000 MT/A</td></tr>
<tr><td>3</td><td>Colour Coated (Prepainted) Coils & Sheets</td><td>1,20,000 MT/A</td></tr>
<tr><td>4</td><td>Pipes & Tubes</td><td>1,20,000 MT/A</td></tr>
<tr><td>5</td><td>API Pipes, Casting Pipes, Pipe for low pressure service, Round Pipes & Tube for Mechanical & Structural Pipes & Square Structural Pipe.</td><td>2,85,000 MT/A</td></tr>
<tr><td>6</td><td>Captive Power</td><td>24 MW</td></tr>
</table></td><td>Agreed and being complied with the condition.
Monthly production is observed within the consent limit.</td></tr>
<tr><td>4</td><td>Conditions under Water (P&CP), 1974 Act for discharge of effluent:
<table>
<tr><th>Sr. no</th><th>Description</th><th>Permitted quantity of discharge (CMD)</th><th>Standard to be achieved</th><th>Disposal</th></tr>
<tr><td>1</td><td>Trade effluent</td><td>270</td><td>As per Schedule - 1</td><td>100 % recycle in to achieve ZLD</td></tr>
<tr><td>2</td><td>Domestic effluent</td><td>185</td><td>As per Schedule - 1</td><td>Partly recycled & remaining for Gardening</td></tr>
</table></td><td>Agreed and being complied with the condition.
Trade effluent is less than 270 CMD and all are recycled and reuse. The total system is ZLD. No effluent is going to outside.
STP having 350 KLD in plant and treated all industrial domestic effluents in plant and used for gardening.
In Colony 1000 KLD STP is also treating all sewage effluents and used for gardening. All STP and ETP inlet and outlet water meter is installed. Outlet of ETP, Online EQMS is installed and data transmitting to MPCB.</td></tr>
<tr><td>5.</td><td>Conditions under Air (P&CP) Act, 1981 for air emissions:
<table>
<tr><th>Sr. No.</th><th>Description of Stack / Source</th><th>Number of Stack</th><th>Standard to be Achieve</th></tr>
<tr><td>1</td><td>Non ox furnace (Galvanizing -I)</td><td>S-1</td><td>As per schedule -II</td></tr>
<tr><td>2</td><td>Non ox furnace (Galvanizing -II)</td><td>S-2</td><td>As per schedule -II</td></tr>
<tr><td>3</td><td>Pot Furnace Galvanizing - I</td><td>S-3</td><td>As per schedule -II</td></tr>
<tr><td>4</td><td>RTF section Galvanizing II</td><td>S-4</td><td>As per schedule -II</td></tr>
</table></td><td>Company has already installed all stacks as per conditions and standards. As a part of Environmental monitoring all stacks emission is being monitored by third party through NABL and MOEF&CC accredited laboratory. Quarterly compliance report also submitting to MPCB.</td></tr>
</table>

Annexure-II

Installed ZLD Design vetted by IIT, Mumbai

3.3 Effluent Treatment Plant: Primary & Secondary Treatment

Figure 3.5 presents the Detailed Flow Diagram of Effluent Treatment Plant (ETP) at TSL, Khopoli. The ETP consists of primary and secondary treatment. The effluent from the production plants and other sources is first stored in the Storage Tanks, from where it is brought into the Equalization Tank. The effluent received in the ETP is highly acidic (*p*H 1-2). Once the flowrate is stabilized in the Equalization Tank, it is sent to the Alkalization Tank.

Some of the ETP inlet streams which contain Oil & Grease (O & G) are initially sent to the Coolant Collection Tank (CCT). Oils will form a layer at the top of the water. Hence, the wastewater is skimmed in CCT in order to separate the oils from water based on density. This O&G layer constitutes the overflow from CCT and the oil-free wastewater forms the underflow. This underflow is then sent to Alkalization Tank for further treatment and the overflow O&G is disposed of to the authorized waste management party.

The wastewater in the Alkalization Tank is subjected to neutralization and alkalization using Hydrated Lime ($Ca(OH)_2$). The lime serves a dual function; it neutralizes the acid, and it precipitates the heavy metals in the wastewater. Heavy metals like Iron (Fe), Zinc (Zn), Chromium (Cr), *etc.* are abundant in wastewater from steel manufacturing. Addition of lime is continued till a *p*H of 10.5 is achieved and maintained. This *p*H is conducive for precipitation of metal hydroxides formed by alkalization. Further, Soda Ash (Na_2CO_3) is added to remove the hardness in the wastewater. It was reported that average hardness in Alkalization Tank is maintained between 400-500 mg/L. by the addition of Soda Ash. Finally, Polyelectrolytes are added for coagulation and enhancing the precipitation. This effluent is then sent to the High-Rate Solids Contact Clarifier (HRSCC) for solid-liquid separation.

In the HRSCC, the suspended solids (mainly consisting of iron compounds) are settled at the bottom (underflow). The underflow (slurry) is subjected to filtration in the Filter Press. The filtrate from the Filter Press is sent back to the Neutralization Tank and the solid sludge

is sent to the CHW-TSDF for further treatment and disposal. The clarified water (overflow) from HRSCC is sent to the next stage of treatment *i.e.* Chlorine Contact Tank. Commercial

Hydrochloric acid (30% w/w) is added in-line to the effluent to neutralize the excess alkali and bring down the pH to around 7-8.

The Chlorine Contact Tank consists of chlorine addition *via* Sodium Hypochlorite for disinfection and prevention of biofilm formation. Sodium Hypochlorite is an effective biocide. The disinfected water is then subjected to further treatment in the Tertiary Treatment Plant.

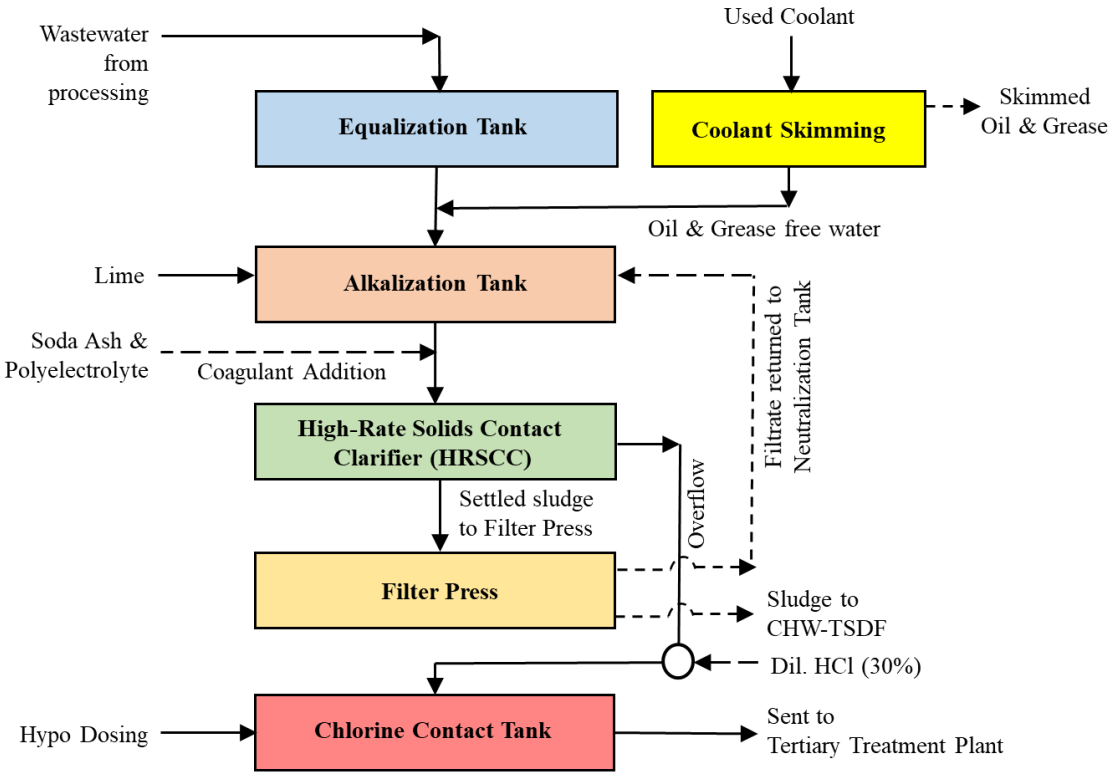


Figure 3.5 Detailed Flow Diagram of Effluent Treatment Plant (ETP) at TSL, Khopoli

3.4 Effluent Treatment Plant: Tertiary Treatment Plant

Figure 3.6 presents the Detailed Flow Diagram of Tertiary Treatment Plant at TSL, Khopoli. The effluent from the secondary treatment stage of ETP is subjected to treatment in the Tertiary Treatment Plant. The Tertiary Treatment Plant consists of Multi Grade Filter (MGF), Activated Charcoal Filter (ACF), Ultrafiltration (UF), and Reverse Osmosis (RO).

Multi Grade Filter (MGF) is an equipment used to remove the coarse suspended matter from water by the process of filtration through a packed bed having multiple particle sizes such as sand, gravel, and pebbles. As wastewater is processed through the MGF, the suspended solids are retained in the bed, and this causes the differential pressure between the inlet and outlet water to increase.

After reaching a set point of differential pressure, a "backwash" needs to be provided to the MGF in order to remove the retained solids in the bed. The secondary treated water from Chlorination Tank is used as the water for backwashing. The MGF product water is subjected to treatment in ACF. Finally, the MGF Backwash water is sent to Equalization Tank in ETP.

Activated Carbon Filtration (ACF) is a physical separation process that employs the principle of 'Adsorption'. Activated carbon has a preference for organic compounds and, because of this selectivity, is particularly effective in removing organic compounds from aqueous solution. High surface area, organics in the water and pore structure are the prime considerations in adsorption. The ACF is capable of removing trace organic compounds from the wastewater before it is subjected to membrane filtration processes such as Ultrafiltration and Reverse Osmosis.

Over the course of operation, the ACF bed also accumulates some suspended solids which need to be removed as they decrease the interfacial area for mass transfer. The secondary treated water from Chlorination Tank is used as the water for backwashing. The ACF product water is subjected to treatment in Ultrafiltration (UF). Finally, the ACF Backwash water is sent to Equalization Tank in ETP.

Ultrafiltration (UF) is an equipment used to remove the finer suspended matter from water by the process of filtration through an Ultrafiltration membrane having small pore sizes, typically in the range of 0.02-0.1 micron. The UF system splits the water into a permeate

stream having negligible suspended solids and a reject stream having some suspended solids. The permeate stream is the product water and it is sent for storage in the RO Feed Tank. The UF Reject water is sent for reuse.

Similar to MGF, the pores of the membrane get clogged over a period of time as water is processed and a "backwash" is necessary to clean the UF membranes. At TSL, the UF Permeate water stored in the RO Feed Tank is used as the water for washing the UF membrane. The UF Backwash water is sent to Equalization Tank in ETP.

Reverse Osmosis (RO) is an equipment used to remove the dissolved salts from water by the process of filtration through a Reverse Osmosis (RO)membrane having much small pore sizes, typically about 0.0001 micron. These smaller pore sizes are capable of removing the dissolved salts that cannot be removed by the UF membrane.

The RO system splits the water into a permeate stream having negligible dissolved salts and a concentrated reject stream having high dissolved salts. The permeate stream is the product water and it is sent for storage in the RO Permeate Storage Tank. The RO permeate is sent to the Utility section as Cooling Tower makeup water. Finally, the RO Reject water, having higher dissolved salts concentration is sent to the ZLD system for recovering water and concentrating the solution further.

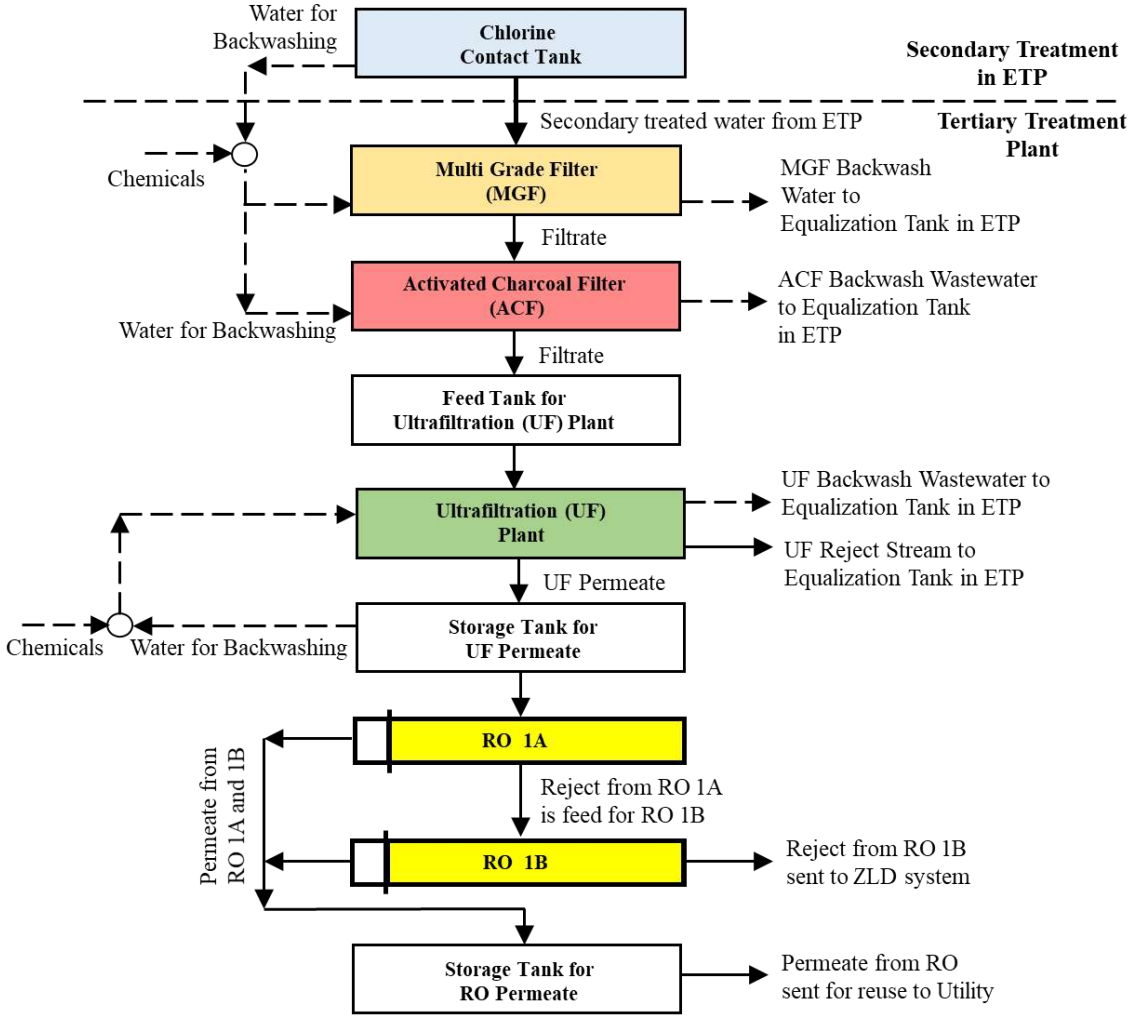


Figure 3.6 Detailed Flow Diagram of Tertiary Treatment Plant at TSL, Khopoli

3.5 Water Recovery in ZLD System

Figure 3.7 and **Figure 3.8** present the Detailed Flow Diagram of Zero Liquid Discharge (ZLD) facility at TSL, Khopoli. The ZLD facility at TSL can be seen in two parts: Part A and Part B. Part A consists of a Mechanical Vapor Recompressor (MVR) connected to three effects of Evaporator for compressing the generated vapour and effectively recirculate it to maintain high steam economy. Condensed liquid from all three effects is collected and reused as Cooling Tower Make-up in the Utility section. Concentration of solids is increased from 1.8% to 12% in Part A of ZLD facility. The concentrated liquid from Part A goes to Part B for further concentration.

Part B of ZLD facility at TSL, Khopoli consists of a Thermal Vapor Recompressor (TVR) along with the three effects of an evaporator. Fresh steam at 3 kg/cm^2 is provided as a motive steam for TVR. A Primary Condenser and a Secondary Condenser in circulation with Cooling Tower are connected in series to the evaporators to continuously dissipate heat from the system. Alike Part A, condensed liquid from all three effects is collected and reused as Cooling Tower Make-up in the Utility section. Final concentrate from 3rd effect of evaporator is settled and centrifuged. The final concentrate contains around 55% solids.

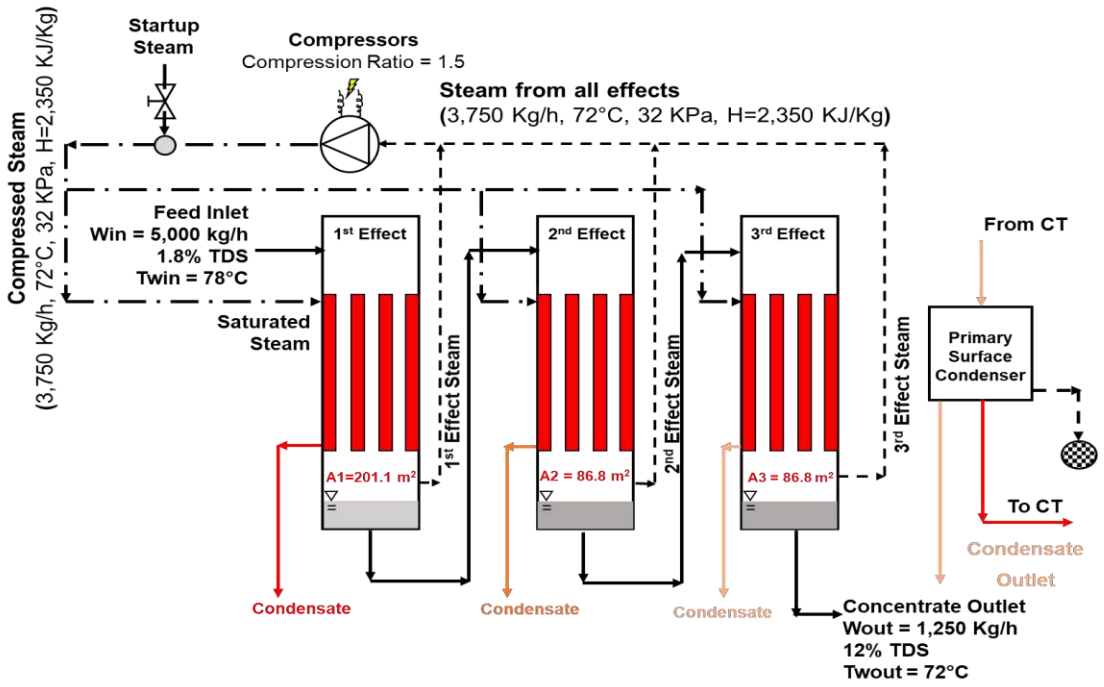


Figure 3.7 Detailed Flow Diagram of Part A of Zero Liquid Discharge Facility at TSL, Khopoli

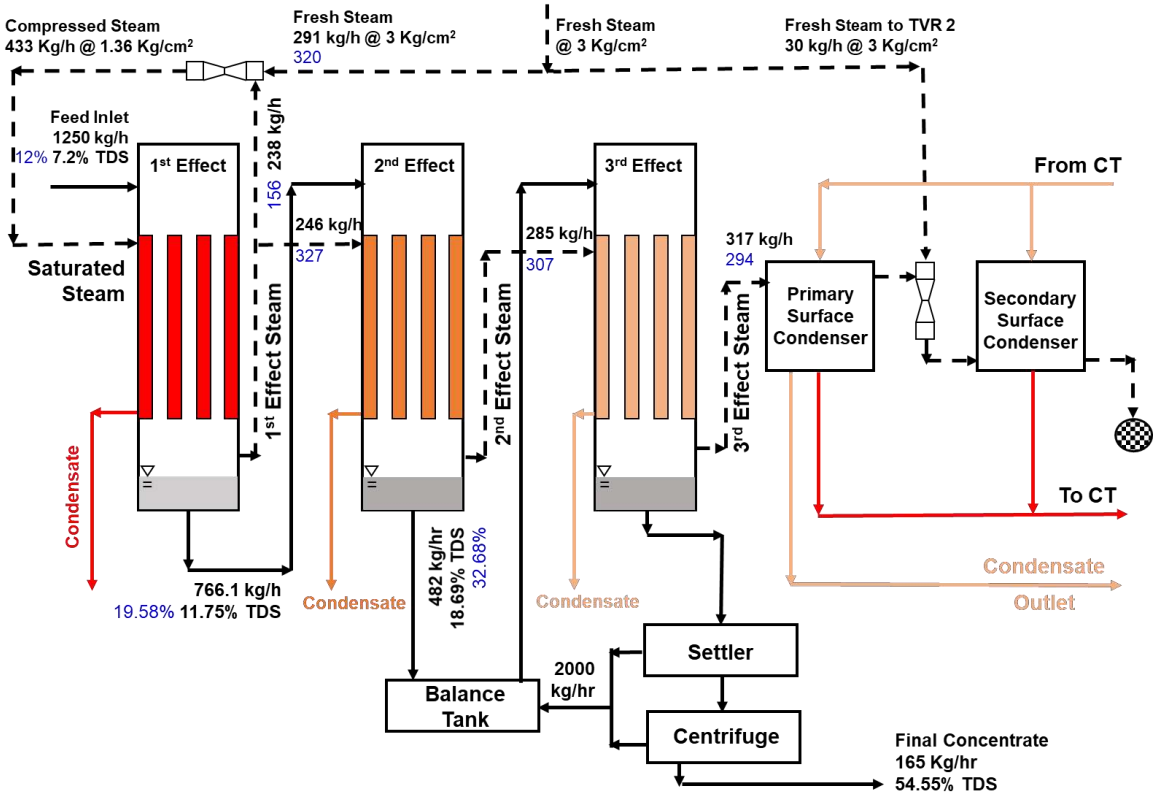


Figure 3.8 Detailed Flow Diagram of Part B of Zero Liquid Discharge Facility at TSL, Khopoli.

Annexure-III

Air Pollution Control Measures and Performance analysis with Adequecy

3.7 Air Pollution Control Measures

As seen earlier in Chapter 2, several processes in the production process at the various complexes make use of fuel or organic chemicals which in turn produce gaseous emissions. These gaseous emissions can be particularly harmful and thus, TSL has installed air pollution control devices at the locations where harmful gaseous emissions are generated. These emissions cannot be released within the ambient work environment even after treatment as they will be concentrated and will cause harm to workers' health in a closed environment. Thus, the outlet of all air pollution control devices is connected to stacks of various heights. These stacks release the gaseous emissions at high altitudes so that they are diluted the do not harm human health. A summary of the complex-wise air pollution control measures is presented below:

1. Wider Cold Rolling Mill (WCRM) Complex

Table 3.1 presents a summary of the air pollution control measures attached to all the production processes in the WCRM complex. The Table includes details such as source of

emissions, the pollutants addressed by the air pollution control device, the type of air pollution control device and the particular stack number in TSL. Further, **Figure 3.10** to **Figure 3.13** present the pictorial representation of the air pollution control devices attached to the various production processes in the WCRM complex in TSL.

Table 3.1: Summary of the air pollution control measures attached to all the production processes in the WCRM complex including details such as source of emissions, the pollutants addressed by the air pollution control device, the type of air pollution control device and the particular stack number in TSL.

Sr. No.	Source of Emissions	Pollutants Addressed	Air Pollution Control Device	Stack Number
1	Non-oxidizing furnace in GP-1 Line	Particulate Matter	Fume Extraction System	1
2	Non-oxidizing furnace in GP-2 Line	Particulate Matter	Fume Extraction System	2
3	Pot furnace in GP-1 Line	Particulate Matter	Fume Extraction System	3
4	Radiant zone furnace in GP-2 Line	Particulate Matter	Fume Extraction System	4
5	Paint coating section in CCL	Particulate Matter	Fume Extraction System	5
6	Pickling Tanks	Acidic HCl fumes and mist	Alkali Wet Scrubber	14
7	Rolling Mills (6 Hi Mill-1)	Particulate Matter	Fume Extraction System	16
8	Rolling Mills (6 Hi Mill-2)	Particulate Matter	Fume Extraction System	17
9	Alkali bath in ECL	Alkaline NaOH fumes and mist	Acidic Wet Scrubber	21
10	Hot Air Dryer in GP-1	Particulate Matter	Fume Extraction System	22
11	Hot Air Dryer in GP-2	Particulate Matter	Fume Extraction System	23

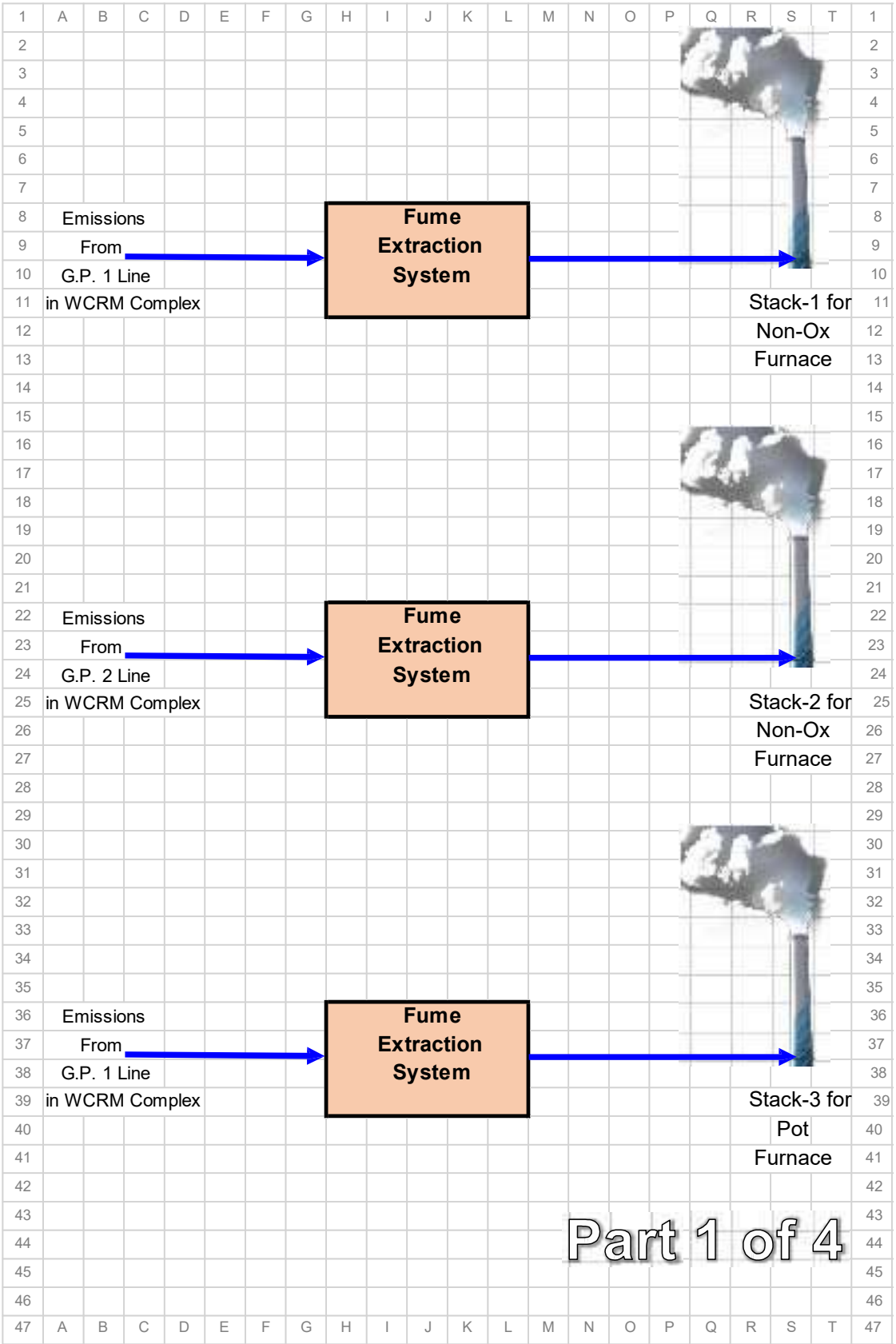


Figure 3.10: Pictorial representation of the air pollution control devices attached to the various production processes in the WCRM complex in TSL (Part 1 of 4).

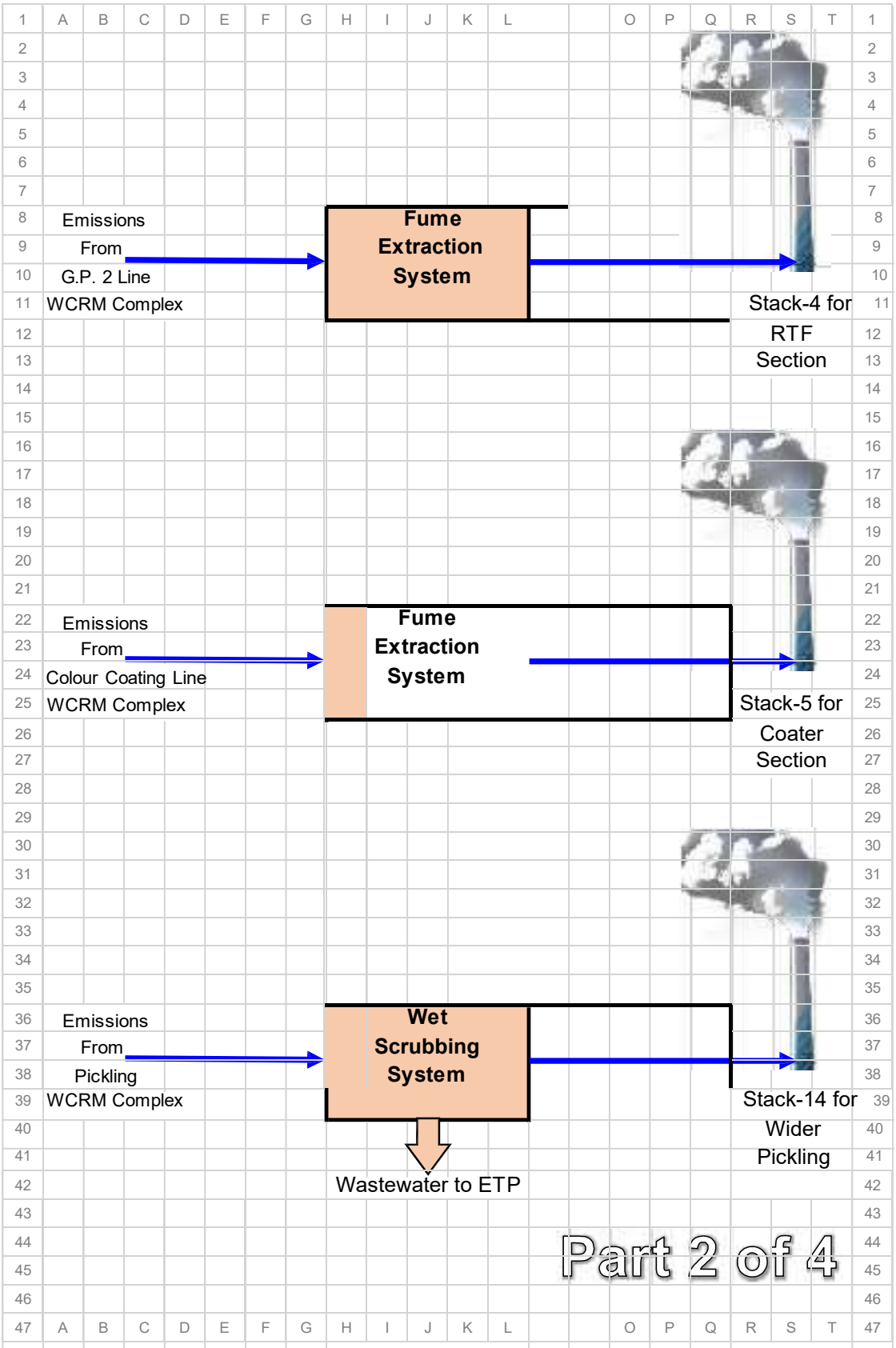


Figure 3.11: Pictorial representation of the air pollution control devices attached to the various production processes in the WCRM complex in TSL (Part 2 of 4).

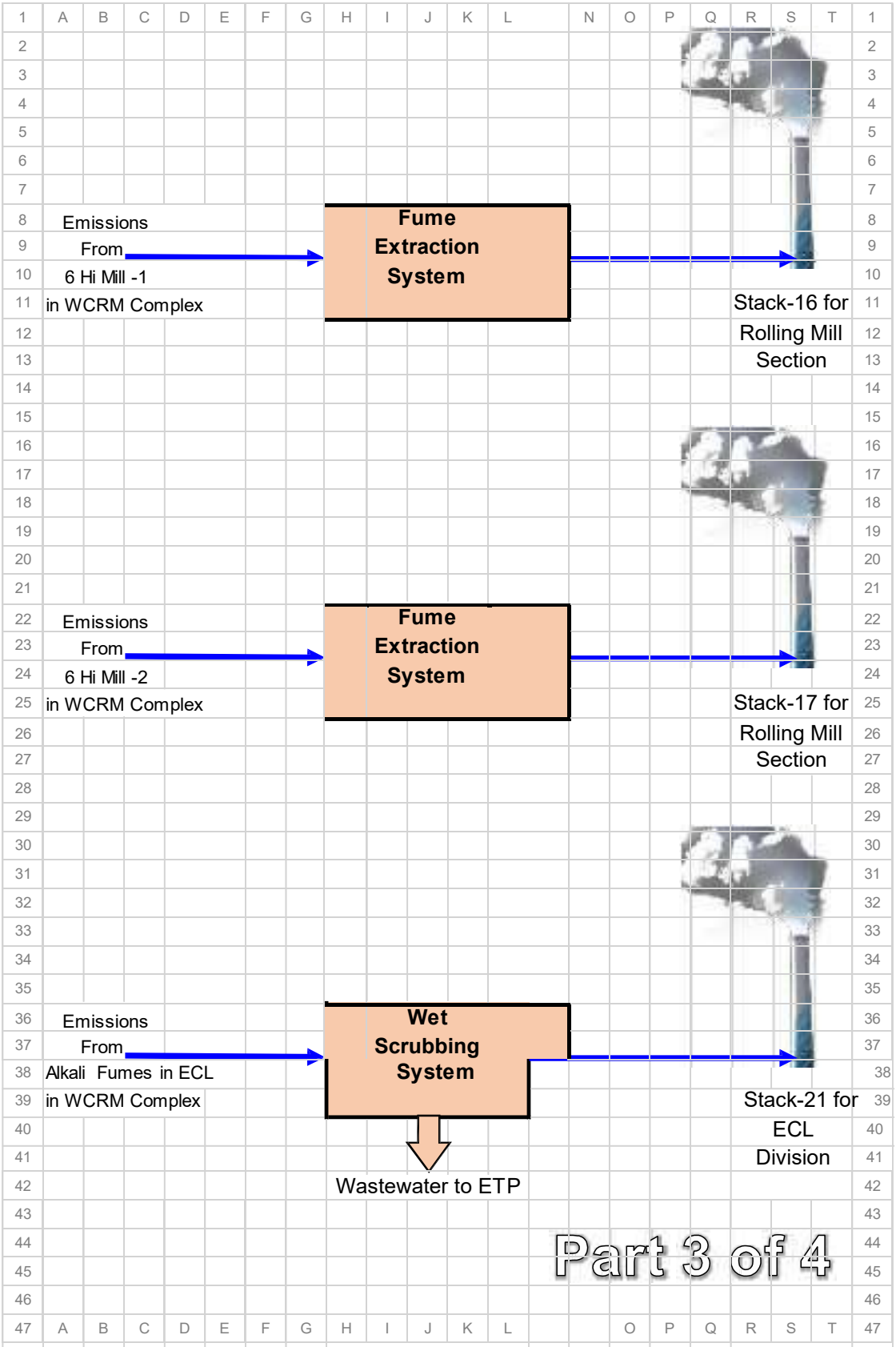


Figure 3.12: Pictorial representation of the air pollution control devices attached to the various production processes in the WCRM complex in TSL (Part 3 of 4).

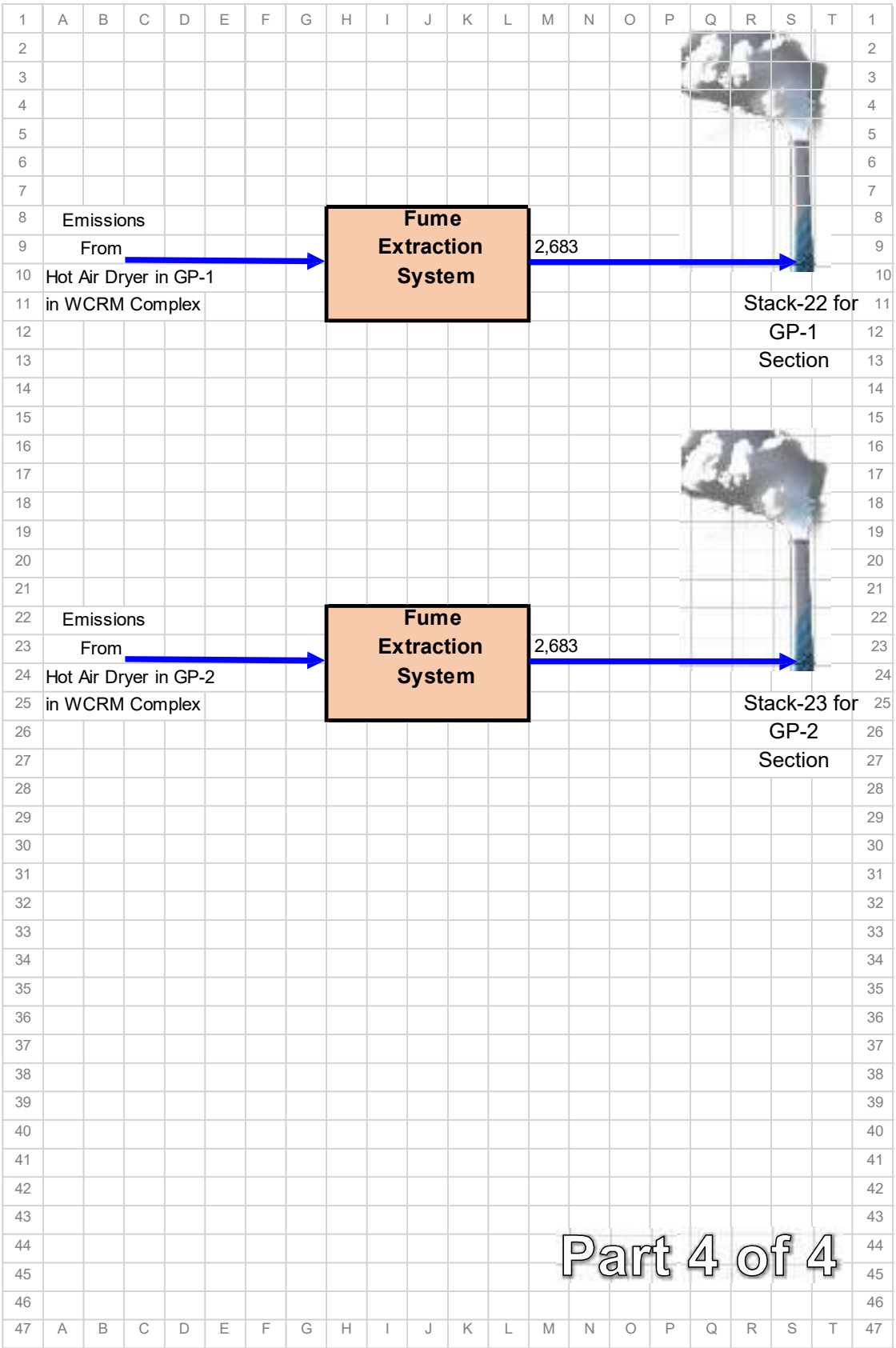


Figure 3.13: Pictorial representation of the air pollution control devices attached to the various production processes in the WCRM complex in TSL (Part 4 of 4).

2. Narrow Cold Rolling Mill (NCRM) Complex

Table 3.2 presents a summary of the air pollution control measures attached to all the production processes in the NCRM complex. The Table includes details such as source of emissions, the pollutants addressed by the air pollution control device, the type of air pollution control device and the particular stack number in TSL. Further, **Figure 3.14** to **Figure 3.17** present the pictorial representation of the air pollution control devices attached to the various production processes in the NCRM complex in TSL.

Table 3.2: Summary of the air pollution control measures attached to all the production processes in the NCRM complex including details such as source of emissions, the pollutants addressed by the air pollution control device, the type of air pollution control device and the particular stack number in TSL.

Sr. No.	Source of Emissions	Pollutants Addressed	Air Pollution Control Device	Stack Number
1	Sheet Annealing	Particulate Matter	Fume Extraction System	7
2	Hardening Furnace (H&T) -I	Particulate Matter	Fume Extraction System	8
3	Hardening Furnace (H&T)-II	Particulate Matter	Fume Extraction System	9
4	Hardening Furnace (H&T) -III	Particulate Matter	Fume Extraction System	10
5	Hardening Furnace (H&T)-IV	Particulate Matter	Fume Extraction System	11
6	Pickling Tanks	Acidic HCl fumes and mist	Alkali Wet Scrubber	15
7	Rolling Mills (4 Hi Mill-1)	Particulate Matter	Fume Extraction System	18
8	Rolling Mills (4 Hi Mill-2)	Particulate Matter	Fume Extraction System	19
9	Rolling Mills (4 Hi Mill-3)	Particulate Matter	Fume Extraction System	20
10	Strapping line (CP) HTSS	Particulate Matter	Fume Extraction System	27
11	Lead Bath (QC) HTSS	Particulate Matter	Bag Filter	28

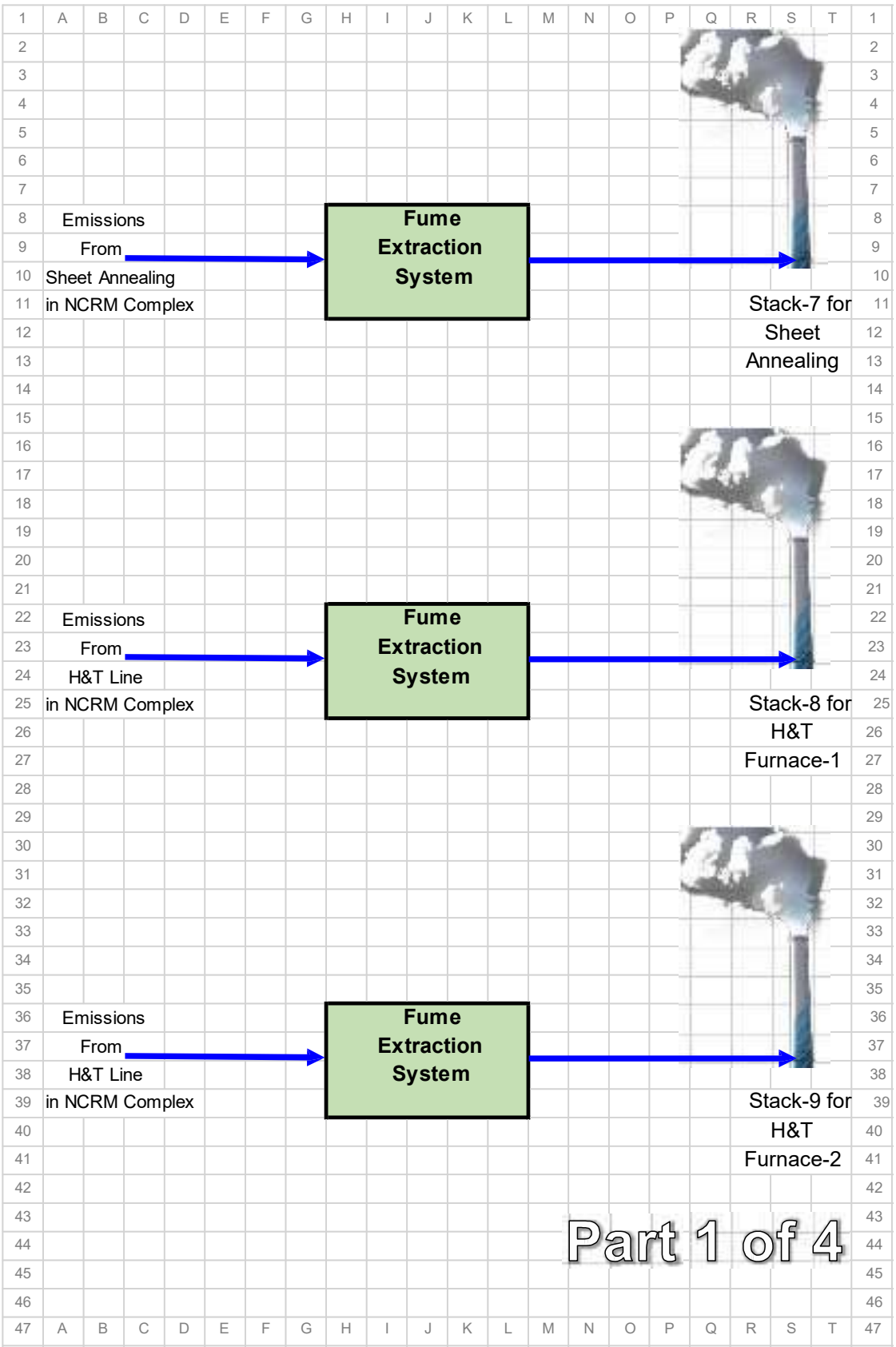


Figure 3.14: Pictorial representation of the air pollution control devices attached to the various production processes in the NCRM complex in TSL (Part 1 of 4).

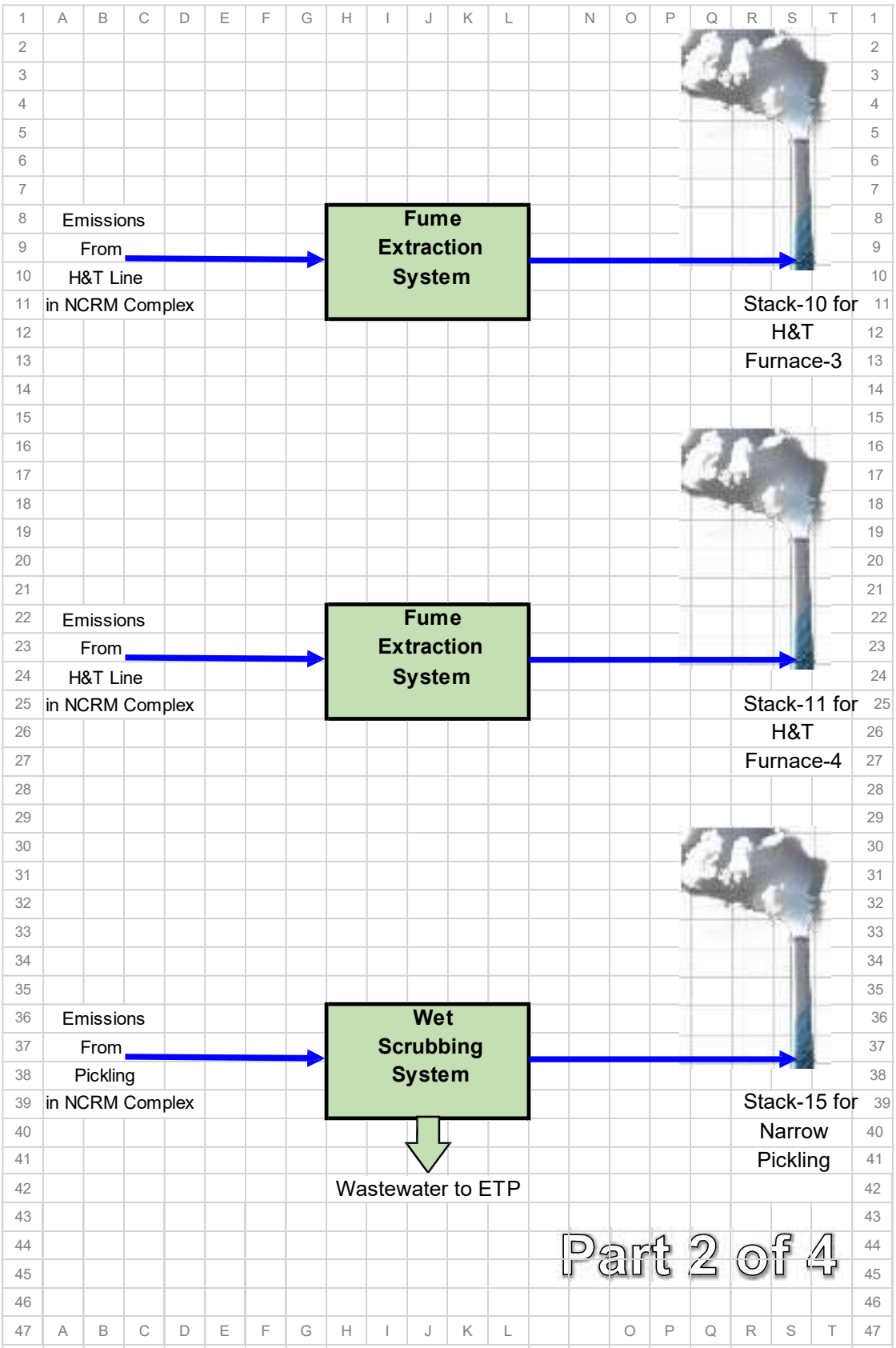


Figure 3.15: Pictorial representation of the air pollution control devices attached to the various production processes in the NCRM complex in TSL (Part 2 of 4).

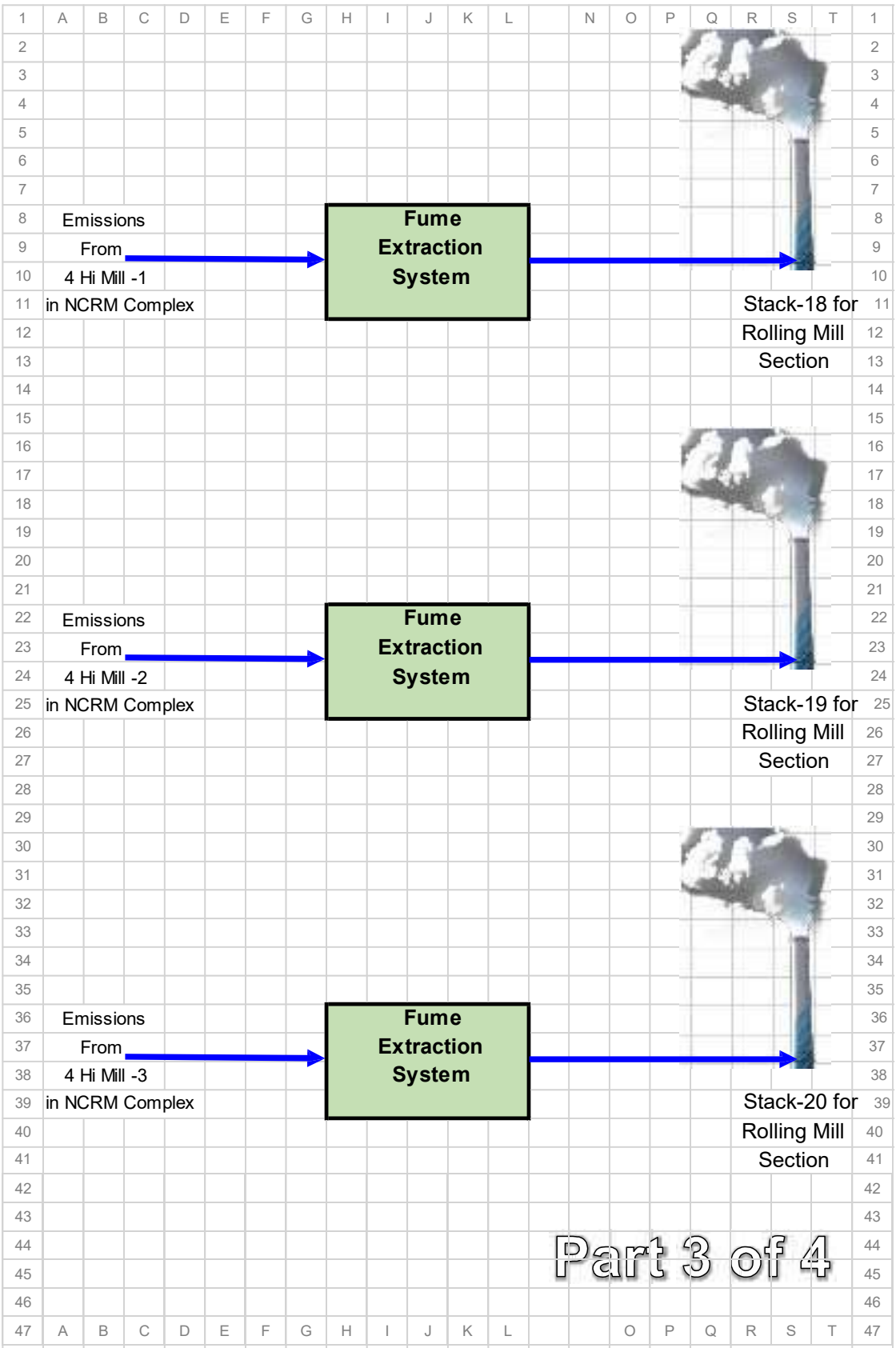


Figure 3.16: Pictorial representation of the air pollution control devices attached to the various production processes in the NCRM complex in TSL (Part 3 of 4).

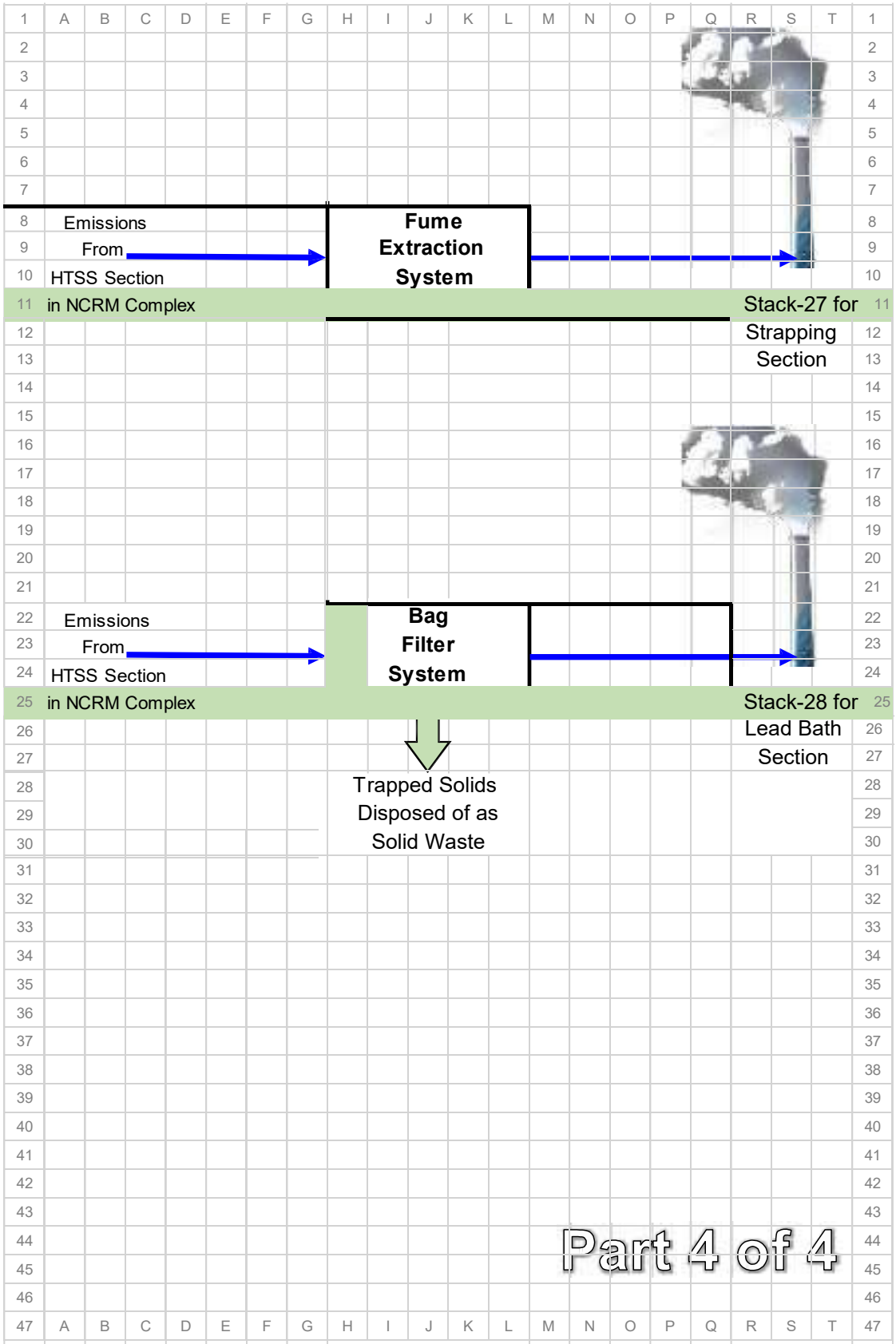


Figure 3.17: Pictorial representation of the air pollution control devices attached to the various production processes in the NCRM complex in TSL (Part 4 of 4).

3. Tubes Complex

Table 3.3 presents a summary of the air pollution control measures attached to all the production processes in the Tubes complex. The Table includes details such as source of emissions, the pollutants addressed by the air pollution control device, the type of air pollution control device and the particular stack number in TSL. Further, **Figure 3.18** and **Figure 3.19** present the pictorial representation of the air pollution control devices attached to the various production processes in the Tubes complex in TSL.

Table 3.3: Summary of the air pollution control measures attached to all the production processes in the Tubes complex including details such as source of emissions, the pollutants addressed by the air pollution control device, the type of air pollution control device and the particular stack number in TSL.

Sr. No.	Source of Emissions	Pollutants Addressed	Air Pollution Control Device	Stack Number
1	Tube Annealing-I	Particulate Matter	Fume Extraction System	12
2	Tube Annealing-II	Particulate Matter	Fume Extraction System	13
3	Acid Scrubber (Tube Division)	Acidic HCl fumes and mist	Alkali Wet Scrubber	25
4	Phosphate Scrubber in Surface Treatment Plant (Tube Division)	Acidic HCl fumes and mist	Alkali Wet Scrubber	26

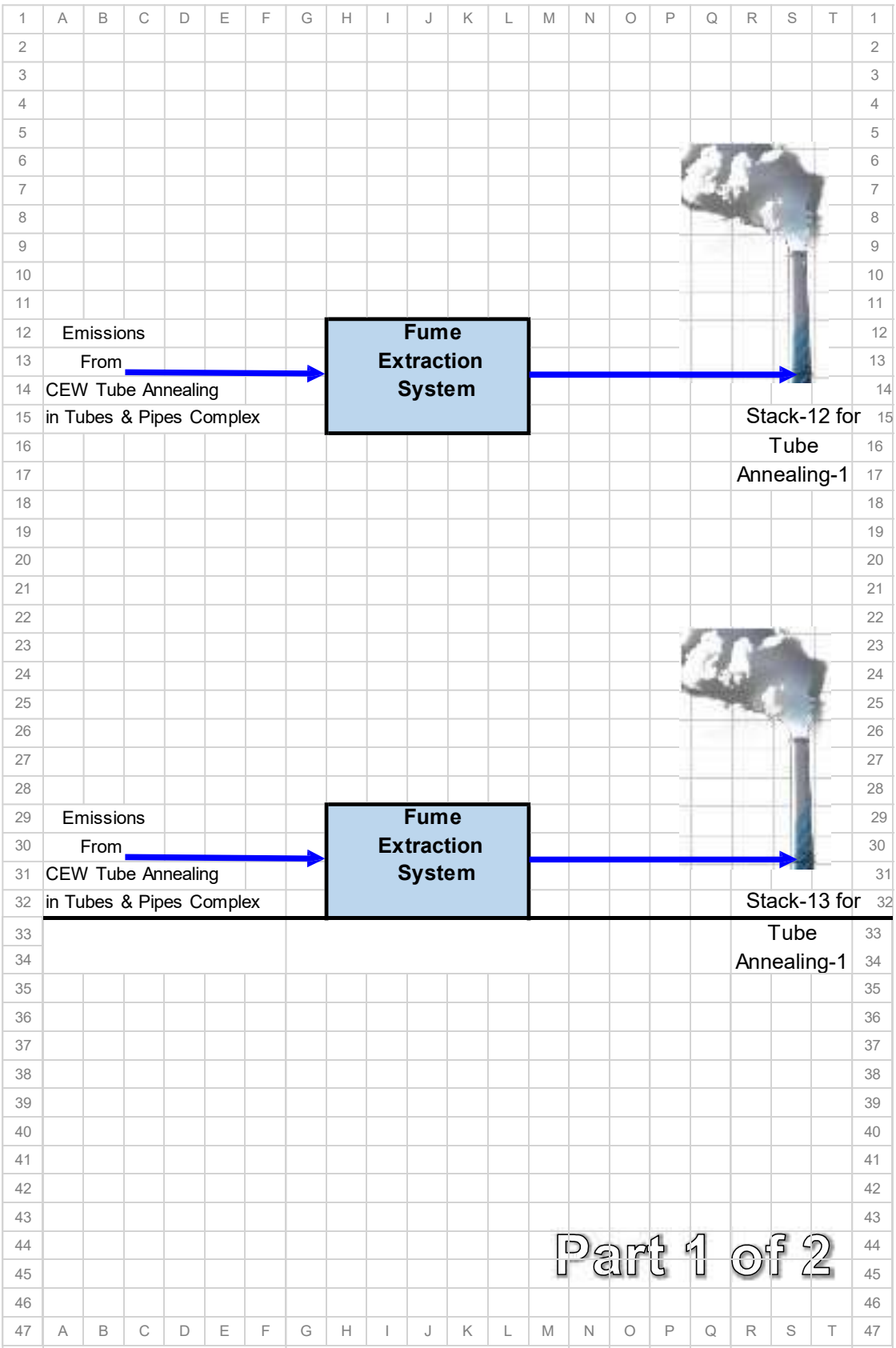


Figure 3.18: Pictorial representation of the air pollution control devices attached to the various production processes in the Tubes complex in TSL (Part 1 of 2).

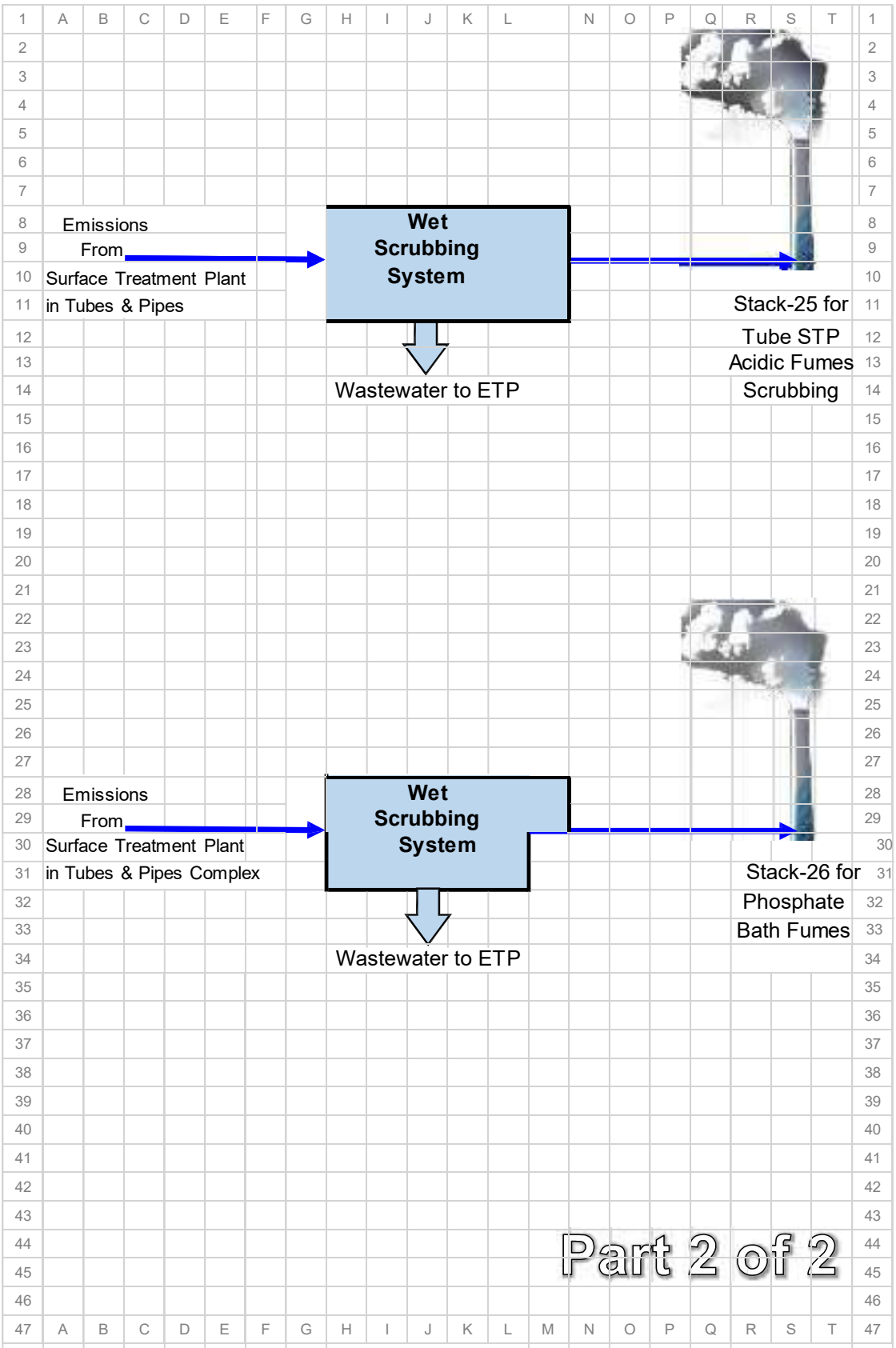


Figure 3.19: Pictorial representation of the air pollution control devices attached to the various production processes in the Tubes complex in TSL (Part 2 of 2).

4. Large Diameter Pipes (API) Complex

Table 3.4 presents a summary of the air pollution control measures attached to all the production processes in the Large Diameter Pipes (API) complex. The Table includes details such as source of emissions, the pollutants addressed by the air pollution control device, the type of air pollution control device and the particular stack number in TSL. Further, **Figure 3.20** and **Figure 3.21** present the pictorial representation of the air pollution control devices attached to the various production processes in the Large Diameter Pipes (API) complex in TSL.

Table 3.4: Summary of the air pollution control measures attached to all the production processes in the Large Diameter Pipes (API) complex including details such as source of emissions, the pollutants addressed by the air pollution control device, the type of air pollution control device and the particular stack number in TSL.

Sr. No.	Source of Emissions	Pollutants Addressed	Air Pollution Control Device	Stack Number
1	Coating Plant-I in LDP Plant	Particulate Matter	Bag Filter	29
2	Coating Plant-II in LDP Plant	Particulate Matter	Bag Filter	30
3	Coating Plant-III in LDP Plant	Particulate Matter	Bag Filter	31
4	Coating Plant-IV in LDP Plant	Particulate Matter	Bag Filter	32

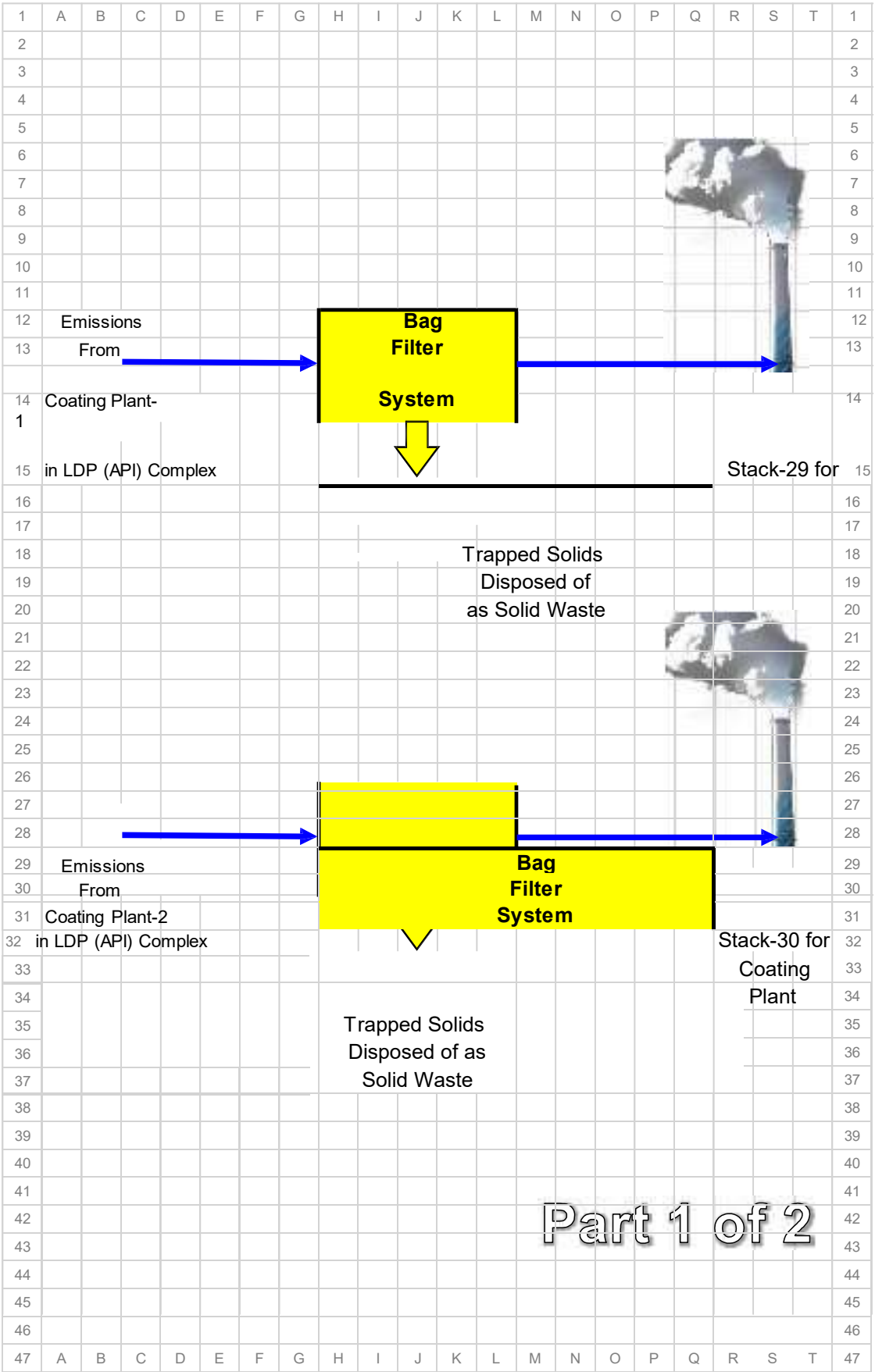


Figure 3.20: Pictorial representation of the air pollution control devices attached to the various production processes in the Large Diameter Pipes (API) complex in TSL (Part 1 of 2).

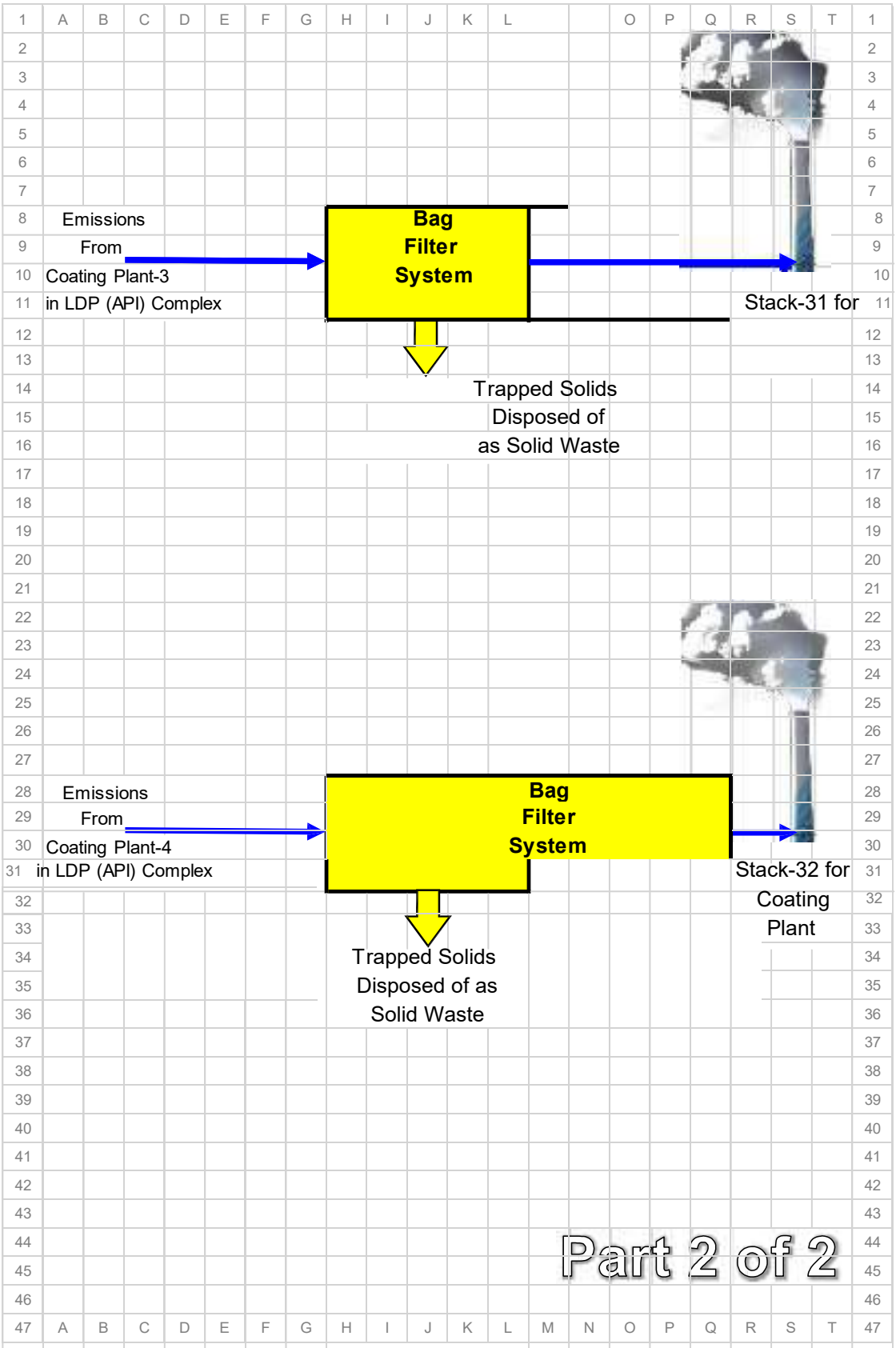


Figure 3.21: Pictorial representation of the air pollution control devices attached to the various production processes in the Large Diameter Pipes (API) complex in TSL (Part 2 of 2).

5. Other Locations

Table 3.6 presents a summary of the air pollution control measures attached to all the production processes in the Power Plant and Acid Recovery Plant. The Table includes details such as source of emissions, the pollutants addressed by the air pollution control device, the type of air pollution control device and the particular stack number in TSL. Further, **Figure 3.22** presents the pictorial representation of the air pollution control devices attached to the various production processes in the Power Plant and Acid Recovery Plant in TSL.

Table 3.5: Summary of the air pollution control measures attached to all the production processes in the **Power Plant and Acid Recovery Plant** including details such as source of emissions, the pollutants addressed by the air pollution control device, the type of air pollution control device and the particular stack number in TSL

Sr. No.	Source of Emissions	Pollutants Addressed	Air Pollution Control Device	Stack Number
1	D.G. & Boiler	Particulate Matter, Sulphur, SO_2, CO, CO_2	Fume Extraction System to 110 m stack	6
2	Acid Fume Scrubber (ARP)	Acidic HCl fumes and mist	Alkali Wet Scrubber	24

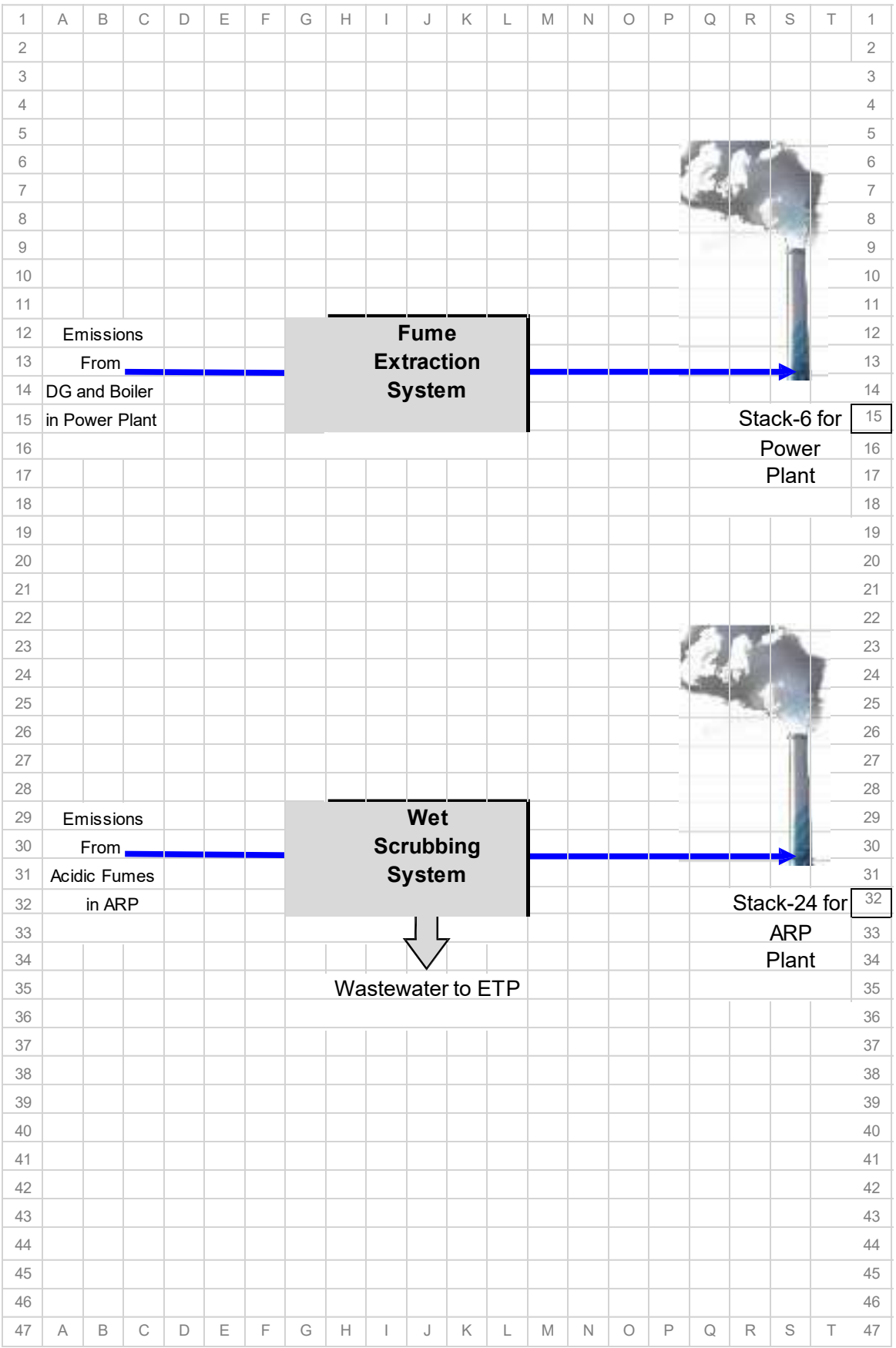


Figure 3.22: Pictorial representation of the air pollution control devices attached to the various production processes in the Power Plant and Acid Recovery Plant in TSL.

4.5 Performance Analysis of Air Pollution Control Devices

As described earlier, there are four production complexes in TSL Works, Khopoli; *namely*: [1] Wider Cold Rolling Mills, [2] Narrow Cold Rolling Mills, [3] Tubes, and [4] Large Diameter Pipes (API Grade) as well as utilities including Power Plant and Boilers. In all, there are five product lines consented for production in TSL Works, Khopoli by MPCB; *namely* by MPCB; namely: (1) CR Coils, (2) G.I. Coils, (3) Colour Coils, (4) Pipes and Tubes, and (5) API Pipes. The production quantities of these products are reported in Table 5.1.

There are 32 stacks distributed in four production complexes and in utilities in TSL Works, Khopoli. These stacks are numbered from S-1 through S-32. The detailed schematic representations of these 32 stacks are depicted in Figure 3.10 to Figure 3.22 in Section 3.7. **Table 4.9** presents the stack-wise data on air pollution emissions including details of sources and type of pollutants, average air flowrate through stack, average quantity of pollutants discharged, average concentration of pollutants discharged, the emission limits set by MPCB, and remarks on performance between April 2019 to March 2021. The average concentration of pollutants is calculated using the volume-weighted average of the data from the air pollution emission monitoring by TSL. The remarks on the performance of the air pollution control in the respective stacks is based on the comparison with the emission limits set by MPCB. It can be seen from the above Table that the emissions of various pollutants from all stacks in TSL Works are much lower than the conditions prescribed by MPCB at the prevailing production loads.

Table 4.9: The stack-wise data on air pollution emissions including details of sources and type of pollutants, average air flowrate through stack, average quantity of pollutants discharged, average concentration of pollutants discharged, the emission limits set by MPCB, and remarks on performance between April 2019 to March 2021.

Stack Code	Source and Type of Pollutants	Average Air Flowrate Through Stack (NM^3/h)	Average Quantity of Pollutants Discharged (Kg/day)	Average Concentration of Pollutants discharged (mg/NM3)	MPCB Consent Limit (mg/NM3)	Remarks
S-1a	Non Ox Furnace (GP-1) PM	2,704	19.96	30.75	150	Satisfactory
S-1b	Non Ox Furnace (GP-1) SO_2	2,704	5.56	8.56	NA	Satisfactory
S-2a	Non Ox Furnace (GP-2) PM	12,982	116.31	37.33	150	Satisfactory
S-2b	Non Ox Furnace (GP-2) SO_2	12,982	17.25	5.54	NA	Satisfactory
S-3a	Pot Furnace GP-1(PM)	7,348	70.20	39.81	150	Satisfactory
S-3b	Pot Furnace GP-1 (SO_2)	7,348	10.23	5.80	NA	Satisfactory
S-4a	RTF Section GP-2 (PM)	11,891	122.48	42.92	150	Satisfactory
S-4b	RTF Section GP-2 (SO_2)	11,891	19.00	6.66	NA	Satisfactory
S-5a	Coater Section CCL (PM)	53,533	459.79	35.79	150	Satisfactory
S-5b	Coater Section CCL (SO_2)	53,533	55.66	4.33	NA	Satisfactory
S-6a	D.G & Boiler (PM)	430,910	5,509.98	53.28	150	Satisfactory
S-6b	D.G & Boiler (SO_2)	430,910	405.41	3.92	400	Satisfactory
S-6c	D.G & Boiler (NO_2)	430,910	1,442.46	13.95	NA	Satisfactory
S-6d	D.G & Boiler (CO)	430,910	7,606.28	73.55	NA	Satisfactory
S-6e	D.G & Boiler (CO2)	430,910	367.05	3.55	NA	Satisfactory
S-7a	Sheet Annealing (PM)	4,296	33.48	32.48	150	Satisfactory
S-7b	Sheet Annealing (SO_2)	4,296	11.68	11.33	NA	Satisfactory
S-8a	Hardening Furnace - I (PM)	3,584	27.27	31.71	150	Satisfactory
S-8b	Hardening Furnace - I (SO_2)	3,584	5.07	5.90	NA	Satisfactory
S-8c	Hardening Furnace - I (Pb)	3,584	0.59	0.68	NA	Satisfactory

Stack Code	Source and Type of Pollutants	Average Air Flowrate Through Stack (NM^3/h)	Average Quantity of Pollutants Discharged (Kg/day)	Average Concentration of Pollutants discharged (mg/NM3)	MPCB Consent Limit (mg/NM3)	Remarks
S-9a	Hardening Furnace - II (PM)	3,023	29.80	41.08	150	Satisfactory
S-9b	Hardening Furnace - II (SO_2)	3,023	5.26	7.25	NA	Satisfactory
S-9c	Hardening Furnace - II (Pb)	3,023	0.39	0.53	NA	Satisfactory
S-10a	Hardening Furnace - III (PM)	2,743	23.78	36.12	150	Satisfactory
S-10b	Hardening Furnace - III (SO2)	2,743	6.58	9.99	NA	Satisfactory
S-10c	Hardening Furnace - III (Pb)	2,743	0.25	0.38	NA	Satisfactory
S-11a	Hardening Furnace - IV (PM)	3,510	22.79	27.06	150	Satisfactory
S-11b	Hardening Furnace - IV (SO2)	3,510	5.16	6.13	NA	Satisfactory
S-11c	Hardening Furnace - IV (Pb)	3,510	0.53	0.62	NA	Satisfactory
S-12a	Tube Annealing I (PM)	6,279	47.57	31.57	150	Satisfactory
S-12b	Tube Annealing, I (SO_2)	6,279	15.23	10.11	NA	Satisfactory
S-13a	Tube Annealing II (PM)	2,882	25.93	37.49	150	Satisfactory
S-13b	Tube Annealing II (SO2)	2,882	6.57	9.50	NA	Satisfactory
S-14a	Wider Pickling (PM)	5,911	57.84	40.77	150	Satisfactory
S-14b	Wider Pickling (Acid Mist)	5,911	12.22	8.62	35	Satisfactory
S-15a	Narrow Pickling (PM)	3,933	30.06	31.85	150	Satisfactory
S-15b	Narrow Pickling (Acid Mist)	3,933	9.05	9.59	35	Satisfactory
S-16	6 Hi Mill I, WCRM (PM)	21,373	189.59	36.96	150	Satisfactory
S-17	6 Hi Mill II, WCRM (PM)	22,112	217.91	41.06	150	Satisfactory
S-18	4 Hi Mill I, NCRM (PM)	9,006	115.04	53.23	150	Satisfactory
S-19	4 Hi Mill II, NCRM (PM)	8,846	97.20	45.79	150	Satisfactory

Stack Code	Source and Type of Pollutants	Average Air Flowrate Through Stack (NM^3/h)	Average Quantity of Pollutants Discharged (Kg/day)	Average Concentration of Pollutants discharged (mg/NM3)	MPCB Consent Limit (mg/NM3)	Remarks
S-20	4 Hi Mill III, NCRM (PM)	8,867	68.47	32.18	150	Satisfactory
S-21	Alkali Scrubber, WCRM (PM)	7,097	51.65	30.33	150	Satisfactory
S-22a	Hot Air Dryer I, WCRM (PM)	8,167	73.62	37.56	150	Satisfactory
S-22b	Hot Air Dryer I, WCRM (SO_2)	8,167	13.32	6.80	NA	Satisfactory
S-23a	Hot Air Dryer II, WCRM (PM)	8,389	55.72	27.68	150	Satisfactory
S-23b	Hot Air Dryer II, WCRM (SO_2)	8,389	8.76	4.35	NA	Satisfactory
S-24a	Acid Fume Scrubber, ARP (PM)	6,933	50.70	30.47	150	Satisfactory
S-24b	Acid Fume Scrubber, ARP (SO_2)	6,933	34.67	20.83	NA	Satisfactory
S-24c	Acid Scrubber, ARP (Acid Mist)	6,933	16.30	9.79	35	Satisfactory
S-25a	Acid Scrubber, Tubes (PM)	18,128	109.72	25.22	150	Satisfactory
S-25b	Acid Scrubber, Tubes (Acid Mist)	18,128	36.38	8.36	35	Satisfactory
S-26	Phosphate Scrubber, Tubes (PM)	18,180	150.93	34.59	150	Satisfactory
S-27a	Lead Bath HTSS-1 (PM)	14,755	134.43	37.96	150	Satisfactory
S-27b	Lead Bath HTSS-1 (SO_2)	14,755	0.00	0.00	NA	Satisfactory
S-27c	Lead Bath HTSS-1 (Pb)	14,755	1.61	0.45	NA	Satisfactory
S-28a	Lead Bath HTSS-2 (PM)	15,656	149.62	39.82	150	Satisfactory
S-28b	Lead Bath HTSS-2 (SO_2)	15,656	0.00	0.00	NA	Satisfactory
S-28c	Lead Bath HTSS-2 (Pb)	15,656	2.26	0.60	NA	Satisfactory
S-29a	Coating Plant I, LDP Plant (PM)	2,995	37.89	52.72	150	Satisfactory
S-29b	Coating Plant I, LDP Plant (SO_2)	2,995	NA	NA	NA	Satisfactory
S-30	Coating Plant II, LDP Plant (PM)	2,893	37.23	53.63	150	Satisfactory
S-31	Coating Plant III, LDP Plant (PM)	2,813	36.21	53.63	150	Satisfactory

Stack Code	Source and Type of Pollutants	Average Air Flowrate Through Stack (NM^3/h)	Average Quantity of Pollutants Discharged (Kg/day)	Average Concentration of Pollutants discharged (mg/NM3)	MPCB Consent Limit (mg/NM3)	Remarks
S-32	Coating Plant IV, LDP Plant (PM)	2,780	29.74	44.57	150	Satisfactory
All 32 Stacks	**Flow (Cumulative)**	**734,518**				
All 32 Stacks	**PM (Cumulative)**			**45.3**		
All 32 Stacks	**SO_2 (Cumulative)**			**4.58**		

In summary, there are 32 stacks distributed in four production complexes and in utilities in TSL Works, Khopoli. These stacks are numbered from S-1 through S-32. The existing Air Pollution Control Devices (APCDs) in various production plants in TSL Factory are adequate and functioning properly. Based on the routine monitoring results, from various stacks, it can be concluded that the emissions of various pollutants from all stacks in TSL Works are much lower than the conditions prescribed by MPCB at the prevailing production loads. Clearly, all the unit of APCDs are functioning satisfactorily and the outlet air quality is meeting the parameters prescribed by MPCB in the Consent to Operate currently under force. In fact, the existing units of the APCDs have more than 100% excess capacity.

5.4 Performance Analysis of Air Pollution Control Systems

As described in earlier sections, there are four production complexes in TSL Works, Khopoli; *namely*: [1] Wider Cold Rolling Mills, [2] Narrow Cold Rolling Mills, [3] Tubes, and [4] Large Diameter Pipes (API Grade) as well as utilities including Power Plant and Boilers. In all, there are five product lines consented for production in TSL Works, Khopoli by MPCB; *namely* by MPCB; namely: (1) CR Coils, (2) G.I. Coils, (3) Colour Coils, (4) Pipes and Tubes, and (5) API Pipes.

There are 32 stacks distributed in four production complexes and in utilities in TSL Works, Khopoli. These stacks are numbered from S-1 through S-32. The detailed schematic representations of these 32 stacks are depicted in Figure 3.10 to Figure 3.22 in Section 3.7. Recall Table 4.9 which presented the stack-wise data on air pollution emissions including details of sources and type of pollutants, average air flowrate through stack, average quantity of pollutants discharged, average concentration of pollutants discharged, the emission limits set by MPCB, and remarks on performance between April 2019 to March 2021. It can be seen from the Table that the emissions from the stacks in TSL are well within the limits set by MPCB.

Further, Table 5.3 presents the comparison between the average production values and the occasional maximum production of all the products at TSL, Khopoli. Additionally, the table also presents the quantity and quality of the typical air pollution emissions from all 32 stacks attached to various production plants and utilities in TSL. The analysis presents the values of the total air flowrate through al stacks as well as concentration of pollutants such as Particulate Matter (PM) and Sulphur Dioxide (SO_2). The average concentration of pollutants is calculated using the volume-weighted average of the data from the air pollution emission monitoring by TSL. It can be seen that even during maximum production, the concentration of pollutants does not exceed the limits set by MPCB. In fact, the concentration is still much lower than the MPCB emission limits in the maximum production events.

In conclusion, the existing Air Pollution Control Devices (APCDs) in various production plants in TSL Factory are adequate and functioning properly. Based on the routine monitoring results, from various stacks, it can be concluded that the emissions of various pollutants from all stacks in TSL Works are much lower than the conditions prescribed by MPCB not only at the prevailing production loads but also during the events of occasional maximum production. Clearly, all the unit of APCDs are functioning satisfactorily and the outlet air quality is meeting the parameters prescribed by MPCB in the Consent to Operate currently under force. In fact, the existing units of the APCDs have more than 100% excess capacity.

Sustainability

Re Sustainability Limited

(Mumbai Waste Management Project)

Certificate

of Membership

M/s. Tata Steel Limited

With Plot No Isamba Phata

is a registered member of
CHW-TSDF at MIDC –Taloja for
safe and secure disposal of
Hazardous waste with
Membership No: ReSL – HZW – KHP – 227

Certificate No: 3101 - 710

This Certificate is valid up to: 31st March 2027

Onkar Kulkarni	Abhishek Kumar Pandey	Somnath Malgar
Head – MBD	Project Head	Cluster Head

ULR No. : TC138772600000299F

TEST REPORT

Lab Inward No. : SATPL/26-27/05/AA/03	**Date of Sampling :** 29-30/04/2026
Client Name : **M/S. TATA Steel Limited.-** Nifan, savroli - Khalapur Road, Mogalwadi, TAL. : KHALAPUR, Khopoli, MAHARASHTRA, PIN-410203.	**Start of analysis** 02/05/2026
	End of Analysis : 07/05/2026
	Report Date : 08/05/2026
	Sample Drawn By : SATPL Team on 29-30/04/2026
Order / Reference: As Per PO No. 4700152305/K05 Dated-04.03.2026 & TRF Dated 29/04/2026	
Monitoring For : Ambient Air Monitoring	
Sampling Procedure : As per IS 5182	
Limits : National Ambient Air Quality Standards vide GSR 826 (E) Dated 16.11.2009	
Sampling Location : ***Colony***	**Wind Direction :** South to East
Lateral Distance : 10.0 meter	**Duration :** 24 Hrs.
Receptor Height : 3.0 meter	**Time :** 9:50 am to 9:50 am
Ambient Temperature in °C : 34	**Relative Humidity (%) :** 72

RESULTS

Sr. No.	Parameters	Results	Limits	Unit	Reference Method
1	Sulphur Dioxide (SO_2)	15.60	≤ 80	$\mu g/m^3$	IS 5182(Part-2/sec-1):2023
2	Nitrogen Dioxide (NO_2)	20.00	≤ 80	$\mu g/m^3$	IS 5182(Part-6/sec-1):2026
3	Particulate Matter PM_{10}	69.70	≤ 100	$\mu g/m^3$	IS 5182(Part23):2006
4	Particulate Matter $PM_{2.5}$	35.71	≤ 60	$\mu g/m^3$	IS 5182(Part24):2019
5	Ozone (O_3)	<20	≤ 180(1 hr.)	$\mu g/m^3$	IS 5182(Part-9):2026
6	Ammonia (NH_3)	13.10	≤ 400	$\mu g/m^3$	IS 5182(Part-25):2026

REMARK: Reference to above mentioned monitoring report all the parameters are within the limits.

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Review By

Technical Manager

SHREEJI AQUA TREATMENT PVT. LTD. CHINCHWAD PUNE-411019

For Shreeji Aqua Treatment Pvt.Ltd.

Managing Director
Authorized Signatory

-----End of Test Report-----

The results relate to sample tested.

Pune: Plot No. B-24, H Block, Lal Topi Nagar, Morewadi, MIDC, Pimpri-Chinchwad, Maharashtra 411018.
Lab: 1&4,Shreeji Terrace Apt. Plot No. 53, Purna Nagar, Chikhali, Pune: 411019
Vadodara: Plot No.1, Shah Ind. Park-1, Vadodara-Savli, Lamdapura. 391 775 Dist. Vadodra
Customer Care No.: +919225247365 **Email:** info@shreejiaqua.com **Web:** www. shreejiaqua.com

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• ENVIRONMENT • FOOD • ANIMAL FOOD & FEED • MICROBIOLOGY

TEST REPORT

Lab Inward No. SATPL/26-27/05/AA/03-N	**Date of Sampling :** 29-30/04/2026
Client Name : **M/S. TATA Steel Limited.-** Nifan, savroli - Khalapur Road, Mogalwadi, TAL. : KHALAPUR, Khopoli, MAHARASHTRA, PIN-410203.	**Start of analysis** 02/05/2026
	End of Analysis : 07/05/2026
	Report Date : 08/05/2026
	Sample Drawn By : SATPL Team on 29-30/04/2026
Order / Reference: As Per PO No. 4700152305/K05 Dated-04.03.2026 & TRF Dated 29/04/2026	
Monitoring For : Ambient Air Monitoring	
Sampling Procedure : As per IS 5182	
Limits : National Ambient Air Quality Standards vide GSR 826 (E) Dated 16.11.2009	
Sampling Location : ***Colony***	**Wind Direction :** South to East
Lateral Distance : 10.0 meter	**Duration :** 24 Hrs.
Receptor Height : 3.0 meter	**Time :** 9:50 am to 9:50 am
Ambient Temperature in °C : 34	**Relative Humidity (%) :** 72

RESULTS

Sr. No.	Parameters	Results	Limits	Unit	Reference Method
1	Carbon Monoxide (CO)	0.66	≤ 04(1 hr.)	mg/m^3	IS 5182(Part-10):1999
2	Lead as (Pb)	<0.02	≤ 1.0	$\mu g/m^3$	IS 5182(Part-30):2025
3	Benzene (C_6H_6)	<1.0	≤ 5.0	$\mu g/m^3$	IS 5182(Part 11):2006
4	Benzo(a)Pyrene (BaP)	<0.5	≤ 1.0	ng/m^3	IS 5182(Part 12):2004
5	Arsenic (As)	<0.3	≤ 6.0	ng/m^3	IS 5182(Part-30):2025
6	Nickel (Ni)	<3.0	≤ 20.0	ng/m^3	IS 5182(Part-30):2025

REMARK: Reference to above mentioned monitoring report all the parameters are within the limits.

Disclaimer: 'Information supplied by customers represented in italic font'

Review By

Technical Manager

SHREEJI AQUA TREATMENT PVT. LTD. CHINCHWAD PUNE-411019

For Shreeji Aqua Treatment Pvt.Ltd.

Managing Director
Authorized Signatory

-----End of Test Report-----

The results relate to sample tested.

Pune: Plot No. B-24, H Block, Lal Topi Nagar, Morewadi, MIDC, Pimpri-Chinchwad, Maharashtra 411018.
Lab: 1&4,Shreeji Terrace Apt. Plot No. 53, Purna Nagar, Chikhali, Pune: 411019
Vadodara: Plot No.1, Shah Ind. Park-1, Vadodara-Savli, Lamdapura. 391 775 Dist. Vadodra
Customer Care No.: +919225247365 **Email:** info@shreejiaqua.com **Web:** www. shreejiaqua.com

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ULR No. : TC138772600000298F

TEST REPORT

Lab Inward No. : SATPL/26-27/05/AA/02	**Date of Sampling :** 29-30/04/2026
Client Name : **M/S. TATA Steel Limited.-** Nifan, savroli - Khalapur Road, Mogalwadi, TAL. : KHALAPUR, Khopoli, MAHARASHTRA, PIN-410203..	**Start of analysis** 02/05/2026
	End of Analysis : 07/05/2026
	Report Date : 08/05/2026
	Sample Drawn By : SATPL Team on 29-30/04/2026
Order / Reference: As Per PO No. 4700152305/K05 Dated-04.03.2026 & TRF Dated 29/04/2026	
Monitoring For : Ambient Air Monitoring	
Sampling Procedure : As per IS 5182	
Limits : National Ambient Air Quality Standards vide GSR 826 (E) Dated 16.11.2009	
Sampling Location : ***Nr. Sai Mandir***	**Wind Direction :** South to East
Lateral Distance : 10.0 meter	**Duration :** 24 Hrs.
Receptor Height : 3.0 meter	**Time :** 9:40 am to 9:40 am
Ambient Temperature in °C : 34	**Relative Humidity (%) :** 72

RESULTS

Sr. No.	Parameters	Results	Limits	Unit	Reference Method
1	Sulphur Dioxide (SO_2)	13.17	≤ 80	µg/m^3	IS 5182(Part-2/sec-1):2023
2	Nitrogen Dioxide (NO_2)	17.24	≤ 80	µg/m^3	IS 5182(Part-6/sec-1):2026
3	Particulate Matter PM_{10}	59.20	≤ 100	µg/m^3	IS 5182(Part23):2006
4	Particulate Matter $PM_{2.5}$	30.25	≤ 60	µg/m^3	IS 5182(Part24):2019
5	Ozone (O_3)	<20	≤ 180(1 hr.)	µg/m^3	IS 5182(Part-9):2026
6	Ammonia (NH_3)	13.15	≤ 400	µg/m^3	IS 5182(Part-25):2026

REMARK: Reference to above mentioned monitoring report all the parameters are within the limits.

Disclaimer: 'Information supplied by customers represented in italic font'

Review By

Technical Manager

SHREEJI AQUA TREATMENT PVT. LTD. CHINCHWAD PUNE-411019

For Shreeji Aqua Treatment Pvt.Ltd.

Managing Director
Authorized Signatory

-----End of Test Report-----

The results relate to sample tested.

Pune: Plot No. B-24, H Block, Lal Topi Nagar, Morewadi, MIDC, Pimpri-Chinchwad, Maharashtra 411018.
Lab: 1&4,Shreeji Terrace Apt. Plot No. 53, Purna Nagar, Chikhali, Pune: 411019
Vadodara: Plot No.1, Shah Ind. Park-1, Vadodara-Savli, Lamdapura. 391 775 Dist. Vadodra
Customer Care No.: +919225247365 **Email:** info@shreejiaqua.com **Web:** www. shreejiaqua.com

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TEST REPORT

Lab Inward No. SATPL/26-27/05/AA/02-N	**Date of Sampling :** 29-30/04/2026
Client Name : **M/S. TATA Steel Limited.-** Nifan, savroli - Khalapur Road, Mogalwadi, TAL. : KHALAPUR, Khopoli, MAHARASHTRA, PIN-410203.	**Start of analysis** 02/05/2026
	End of Analysis : 07/05/2026
	Report Date : 08/05/2026
	Sample Drawn By : SATPL Team on 29-30/04/2026
Order / Reference: As Per PO No. 4700152305/K05 Dated-04.03.2026 & TRF Dated 29/04/2026	
Monitoring For : Ambient Air Monitoring	
Sampling Procedure : As per IS 5182	
Limits : National Ambient Air Quality Standards vide GSR 826 (E) Dated 16.11.2009	
Sampling Location : ***Nr. Sai Mandir***	**Wind Direction :** South to East
Lateral Distance : 10.0 meter	**Duration :** 24 Hrs.
Receptor Height : 3.0 meter	**Time :** 9:40 am to 9:40 am
Ambient Temperature in °C : 34	**Relative Humidity (%) :** 72

RESULTS

Sr. No.	Parameters	Results	Limits	Unit	Reference Method
1	Carbon Monoxide (CO)	0.72	≤ 04(1 hr.)	mg/m^3	IS 5182(Part-10):1999
2	Lead as (Pb)	<0.02	≤ 1.0	$\mu g/m^3$	IS 5182(Part-30):2025
3	Benzene (C_6H_6)	<1.0	≤ 5.0	$\mu g/m^3$	IS 5182(Part 11):2006
4	Benzo(a)Pyrene (BaP)	<0.5	≤ 1.0	ng/m^3	IS 5182(Part 12):2004
5	Arsenic (As)	<0.3	≤ 6.0	ng/m^3	IS 5182(Part-30):2025
6	Nickel (Ni)	<3.0	≤ 20.0	ng/m^3	IS 5182(Part-30):2025

REMARK: Reference to above mentioned monitoring report all the parameters are within the limits.

Disclaimer: 'Information supplied by customers represented in italic font'

Review By

Technical Manager

SHREEJI AQUA TREATMENT PVT. LTD. ★ CHINCHWAD PUNE-411019

For Shreeji Aqua Treatment Pvt.Ltd.

Managing Director
Authorized Signatory

-----End of Test Report-----

The results relate to sample tested.

Pune: Plot No. B-24, H Block, Lal Topi Nagar, Morewadi, MIDC, Pimpri-Chinchwad, Maharashtra 411018.
Lab: 1&4,Shreeji Terrace Apt. Plot No. 53, Purna Nagar, Chikhali, Pune: 411019
Vadodara: Plot No.1, Shah Ind. Park-1, Vadodara-Savli, Lamdapura. 391 775 Dist. Vadodra
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ULR No. : TC138772600000297F

TEST REPORT

Lab Inward No. : SATPL/26-27/05/AA/01	**Date of Sampling :** 29-30/04/2026
Client Name : **M/S. TATA Steel Limited.-** Nifan, savroli - Khalapur Road, Mogalwadi, TAL. : KHALAPUR, Khopoli, MAHARASHTRA, PIN-410203..	**Start of analysis** 02/05/2026
	End of Analysis : 07/05/2026
	Report Date : 08/05/2026
	Sample Drawn By : SATPL Team on 29-30/04/2026
Order / Reference: As Per PO No. 4700152305/K05 Dated-04.03.2026 & TRF Dated 29/04/2026	
Monitoring For : Ambient Air Monitoring	
Sampling Procedure : As per IS 5182	
Limits : National Ambient Air Quality Standards vide GSR 826 (E) Dated 16.11.2009	
Sampling Location : ***Nr. Shiv Mandir***	**Wind Direction :** South to East
Lateral Distance : 10.0 meter	**Duration :** 24 Hrs.
Receptor Height : 3.0 meter	**Time :** 9:30 am to 9:30 am
Ambient Temperature in °C : 34	**Relative Humidity (%) :** 72

RESULTS

Sr. No.	Parameters	Results	Limits	Unit	Reference Method
1	Sulphur Dioxide (SO_2)	16.21	≤ 80	$\mu g/m^3$	IS 5182(Part-2/sec-1):2023
2	Nitrogen Dioxide (NO_2)	19.30	≤ 80	$\mu g/m^3$	IS 5182(Part-6/sec-1):2026
3	Particulate Matter PM_{10}	54.11	≤ 100	$\mu g/m^3$	IS 5182(Part23):2006
4	Particulate Matter $PM_{2.5}$	28.16	≤ 60	$\mu g/m^3$	IS 5182(Part24):2019
5	Ozone (O_3)	<20	≤ 180(1 hr.)	$\mu g/m^3$	IS 5182(Part-9):2026
6	Ammonia (NH_3)	7.11	≤ 400	$\mu g/m^3$	IS 5182(Part-25):2026

REMARK: Reference to above mentioned monitoring report all the parameters are within the limits.

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Review By

Technical Manager

SHREEJI AQUA TREATMENT PVT. LTD. CHINCHWAD PUNE-411019

For Shreeji Aqua Treatment Pvt.Ltd.

Managing Director
Authorized Signatory

-----End of Test Report-----

The results relate to sample tested.

Pune: Plot No. B-24, H Block, Lal Topi Nagar, Morewadi, MIDC, Pimpri-Chinchwad, Maharashtra 411018.
Lab: 1&4,Shreeji Terrace Apt. Plot No. 53, Purna Nagar, Chikhali, Pune: 411019
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TEST REPORT

Lab Inward No. SATPL/26-27/05/AA/01-N	**Date of Sampling :** 29-30/04/2026
Client Name : **M/S. TATA Steel Limited.-** Nifan, savroli - Khalapur Road, Mogalwadi, TAL. : KHALAPUR, Khopoli, MAHARASHTRA, PIN-410203.	**Start of analysis** 02/05/2026
	End of Analysis : 07/05/2026
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	Sample Drawn By : SATPL Team on 29-30/04/2026
Order / Reference: As Per PO No. 4700152305/K05 Dated-04.03.2026 & TRF Dated 29/04/2026	
Monitoring For : Ambient Air Monitoring	
Sampling Procedure : As per IS 5182	
Limits : National Ambient Air Quality Standards vide GSR 826 (E) Dated 16.11.2009	
Sampling Location : ***Nr. Shiv Mandir***	**Wind Direction :** South to East
Lateral Distance : 10.0 meter	**Duration :** 24 Hrs.
Receptor Height : 3.0 meter	**Time :** 9:30 am to 9:30 am
Ambient Temperature in °C : 34	**Relative Humidity (%) :** 72

RESULTS

Sr. No.	Parameters	Results	Limits	Unit	Reference Method
1	Carbon Monoxide (CO)	0.64	≤ 04(1 hr.)	mg/m^3	IS 5182(Part-10):1999
2	Lead as (Pb)	<0.02	≤ 1.0	$\mu g/m^3$	IS 5182(Part-30):2025
3	Benzene (C_6H_6)	<1.0	≤ 5.0	$\mu g/m^3$	IS 5182(Part 11):2006
4	Benzo(a)Pyrene (BaP)	<0.5	≤ 1.0	ng/m^3	IS 5182(Part 12):2004
5	Arsenic (As)	<0.3	≤ 6.0	ng/m^3	IS 5182(Part-30):2025
6	Nickel (Ni)	<3.0	≤ 20.0	ng/m^3	IS 5182(Part-30):2025

REMARK: Reference to above mentioned monitoring report all the parameters are within the limits.

Disclaimer: 'Information supplied by customers represented in italic font'

Review By

Technical Manager

SHREEJI AQUA TREATMENT PVT. LTD. CHINCHWAD PUNE-411019

For Shreeji Aqua Treatment Pvt.Ltd.

Managing Director
Authorized Signatory

-----End of Test Report-----

The results relate to sample tested.

Pune: Plot No. B-24, H Block, Lal Topi Nagar, Morewadi, MIDC, Pimpri-Chinchwad, Maharashtra 411018.
Lab: 1&4,Shreeji Terrace Apt. Plot No. 53, Purna Nagar, Chikhali, Pune: 411019
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TATA STEEL LIMITED

Isamba Phata, Khopoli, Pen, Road, District - Raigad, Maharashtra. 410203.

ON-SITEEMERGENCY PLAN

&

DISASTER CONTROL PLAN

Prepared as per Rule13 (1) of MSIHC Rules-1989 (2000)

And Rule12(1) of CIMAH Rule-2003, Schedule6 under CIMAH Rule-2003

Doc. No. : OEPP
Rev. No. 07

Issue No. 00
Issue Date : 01-08-2025

	UPDATED BY	REVIEWED BY	APPROVEDBY
NAME	Dhananjay Ghuge	Amal Kala	Shashi Bhushan
DESIGNATION	Asst. Manager-Safety	Area Manager-Safety	Chief, Khopoli
SIGNATURE	S/d.	S/d.	S/d.
DATE	01-08-2025		

CONTENTS

CHAPTER NO.	DESCRIPTION	PAGE NO.
1	Introduction of the factory along with its neighborhood details and a note about past(and possible other)major accidents and safety arrangements done there after or in anticipation there of	3
2	Key personnel of the organization and responsibilities assigned to them in case of an emergency.	
3	Involvement of Outside organizations incase of Emergency	
4	Details of Liaison arrangement between organizations	
5	Process description of the plant ,list of dangerous chemicals & Safety related components.	
6	Details of location of possible emergencies, PMP's, Emergency control room	
7	Description of hazardous chemicals at the plant site, list of chemicals used, handled and hazards involved in handling, processing and storage.	
8	Preventive measure, Safety precautions to be taken, safety awareness programs among workers, public awareness & disclosure of information, communication facilities during emergency.	
9	First aid and services currently available and to be pressed into Service at short notice.	
10	Details of respiratory apparatus available, firefighting equipment, water sources, Alarm, Fire Fighting staff.	

1. INTRODUCTION

Tata Steel Ltd, is the Largest integrated player in India for manufacturing second steel producing company. M/s Tata Steel is a source of vivid variety of products such as Hot Rolled Coil (H.R. Coil), CRCA, CRFH, Galvanized Coil and Sheet Galume Coil and Sheet.

Color Coated Coils (CCL), High Tensile Steel Strips (HTSS) . Hardened & Tempered Steel Strips (H&T), precision Tubes & Pipes - ERW/HFW. Large Dia Plant is producing various sizes pipes (API Grade), 3LP Coated Pipes.

Our LDP Plant is a very new generation plant incorporating latest and most stringent safety measures and system of very high standard in plant operation and hazard control. The basic hazard like fire, dust fumes toxicity etc. and other mechanical& electrical hazard attendant with such plants have been identified and preventive measures taken to eliminate/minimize them to tolerable limits. The working conditions and environment protection system are being periodically reviewed and improved as per current standards. In other words, safety, health & environment system are Key focus along with other areas of industrial activities.

The main objective of the organization is to achieve optimum production with high standards of safety, which is elaborated through this plan.

Salient Features

- New generation plant with latest production technology incorporating most stringent safety feature of current standard.
- Production and maintenance operations are under direct supervision of well qualified and experienced staff.
- Automated & remote-control plant operations ensure minimum human exposure to industrial hazards.
- Trips, alarms, and other hazard control system are logically designed and wellmaintainedreducingtheaccidentprobabilitiestoagreatextent.Redundanciesare provided wherever required which bring down the fraction dead time for critical controls.
- Plant is ideally located in Village Nifan Savroli, Kharpada Road near Isambha phata, Taluka-Khalapur, Khopoli, Dist.-Raigad, Maharashtra-410203.
- The factory boundary encloses a large area spread apart of 3 kilometer starting from savroli village to parallel Mumbai national highway
- The advantage being any accidental / Flammable or toxic **[LNG/NH_3/H_2]** gaseous release is apt to be diluted to harmless levels of concentration well before reaching the boundary or off-site areas.



Name of the factory	**M/s.TATA STEEL LTD.**
Address	Isamba Phata, Khopoli, Pen Road, District Raigad, Maharashtra.410203.
Location	The factory is situated beside Mumbai–Pune Express Highway.
Site map	A drawing showing the factory location and surrounding area is enclosed in the annexure.
Neighborhooddetails	North Alta,Mahindra South AMNS East Venus wire West KDL BIOTECH
Nature of Process	
ShiftTiming	3 Shift Operations A SHIFT 06:00-14:00Hours B SHIFT 14:00-22:00Hours C SHIFT 22:00-06:00Hours D SHIFT 8:00-20:00 Hours GEN SHIFT 09:30-18:00Hours
Details of Workers in Shifts& Gen.Shift	A - 740 B - 724 C - 641 D - 453 N Total no. of employees in a day–2000 approx.

2.0 SCOPE OF ONSITE EMERGENCY PLAN

The scope of the plan is the following

- To identify the hazards in various operation anticipate the consequences of disasters arising out of these hazards.
- Outline explicitly the utilization of the existing resources both in terms of men and materials to eliminate the hazards or letting any incident develop into a major disaster.
- Should a disaster occur, mobilize both internal & external resources to cope with it and contain the disaster and mitigate the consequential damage, threatening life, property and Environment for which a sequential action plan has been prepared (According to the guidelines) through this document.

2.1 OBJECTIVES OF ONSITE EMERGENCY PLAN

Disaster may be defined - damage to life, environment, property, and its neighbourhood when the emergency becomes uncontrollable. The emergency could be as a result of abnormal functions or by natural factors.

Following are the objectives of ONSITE EMERGENCY PLAN

- Saving the lives, environment, property & its neighborhood.
- Controlling the emergency and hazardous condition.
- Saving the affected personnel and evacuating if necessary.
- Ensuring flow of Information to Superiors, Govt. Agencies, fire brigade etc.
- Ensuring safety of the Plant/equipment before re-startup of the plant.
- Restoring normalcy as quickly as possible.
- Arrangements for first aid/medical assistance for injured personnel.
- Arranging safety of all likely to be affected by organizing timely evacuation.
- Preserving records and organizing investigation.
- Appropriate measures to avoid recurrence.

CHAPTER 3
PREAMBLE

In spite of various preventive and precautionary measures taken in the plant, the possibility of a mishap cannot be totally ruled out. Hence, the need to prepare a Contingency Plan for dealing with incidences which may still occur and are likely to affect LIFE and / or PROPERTY, both within the plant and in the immediate neighbourhoods.

Such an emergency could be the result of malfunction of the Plant & Equipment or non-observance of operating instructions. It could, at times, be the consequence of acts outside the control of plant management like severe storm, earthquake, flood, or deliberate acts of arson or sabotage.

Major Emergency in the plant is one which may cause serious injury or loss of life and damage to the property.

This On-site Emergency Plan (OEP) explains the code of conduct of all personnel in the plant along with the actions to be carried out in the event of an Emergency. This plan gives the guidelines for employees, contractors, transporters, etc. It not only defines responsibilities but also informs about prompt rescue operations, evacuations, rehabilitation, co-ordination and communication.

3.1 EMERGENCY

An Emergency is a situation which may lead to or cause large scale damage or destruction of life, property or environment within or out side the Factory. Such an unexpected situation may be too difficult to handle for the normal work-force within the plant.

3.2 NATURE OF EMERGENCY

The emergency specified in the On Site Emergency Plan refers to occurrence of one or more of the following events:-

a. Fire / Explosion.
b. Release of toxic vapours / Gases
c. Electrocutions and fall from height.
c. Major accident such as structural or building collapse, Track containing toxic substances.
d. Natural calamities like storm, flood, earthquake, etc,

e. Sabotage act of terrorism, civil commotion, air raid etc.

f. Emergency

3.3 COMPONENTS

The ‘On-Site Emergency Plan’ essentially consist of the following components:

- Emergency Management and Key Personnel.
- Emergency Control Centre (E.C.C.)
- Assembly Point
- Facilities Available
- Emergency Operations.

4.1 PERSON FURNISHING INFORMATION

NAME	-	**MR. SHASHI BHUSAHN**
ADDRESS	-	**Isamba Phata, Khopoli, Pen, Road, District - Raigad, Maharashtra. 410203.**
TELEPHONE NUMBER	-	**MOBILE – 09234511149** **OFFICE – 02192-352000** **RESIDANCE – 02192-355207**

4.2 EMERGENCY MANAGEMENT

4.2.1 EMERGENCY MANAGEMENT

During the emergency-situation, it is generally seen that chaos and confusion rules over leading to more damage. In Emergency Management (Annexure -I) just like normal operations, there are Managers, Engineers, Supervisors, Operators etc, who are assigned specific tasks to run the business. Similarly, during emergency also there are persons with specific duties.

These persons are known as '**Key Personnel'**

4.2.2 KEY PERSONNELS

1. **SITE CONTROLLER**
2. **DEPUTY CONTROLLER**
3. **SECURITY HEAD**
4. **SECURITY STAFF**
5. **WORKER OF THE AREA**
6. **MANAGER /ASSISTANTMANAGER/SHIFTINCHARGEOFTHEAREA**
7. **SAFETYOFFICER**
8. **MANAGERSOFOTHERPLANT**
9. **WORKERSOF OTHER PLANTS (UNUSUAL UNAFFECTED PLANTS)**
10. **STORES INCHARGE**
11. **MEDICALOFFICER**
12. **TIME OFFICE/SECURITY**
13. **FIRSTAIDERS**
14. **FIRE FIGHTERS INCLUDING TEAM OF FIRE TENDERS**

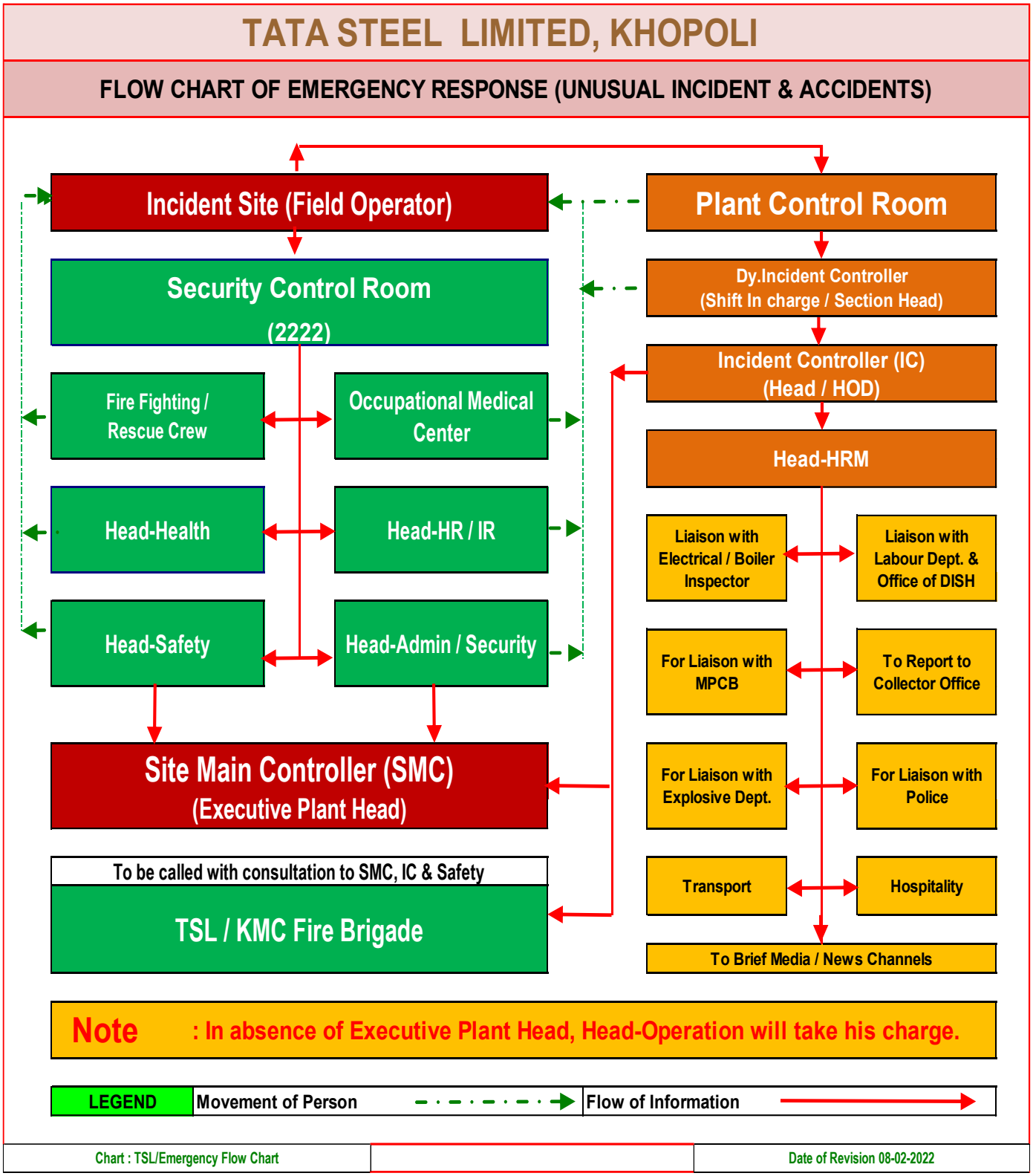
LIST OF KEY PERSON'S RESPONSIBLE FOR DAY-TO-DAY ACTIVITY

Sr.	Name(Mr.)	Designation	Role
1	**Shashi Bhushan**	Chief - CRM & Tube Khopoli	Oversee day-to-day company operation. Define& implement operation strategy, structure and process at Khopoli & Hosur
2	**V S Biniwale**	Head-Maintenance	For all maintenance activity and engineering control
3	**Amal Kala**	Area Manager-Safety	For Management of Safety in plant
4	**Ashish Solanki**	Head- HRM	For administration and statutory compliance. Dealing with Govt. authorities.
5	**Mahesh Kumar**	Area Manager-Security	For Management of Security
5	**Ashish P. Rajgure**	Head- LDP	For implementation & Execution for whole Pipes Dept.and responsible for all ISO activities.
6	**M M Pawar**	Head Tube	For Implementation & Execution for Tube Mill Operation
7	**YPS Rathore**	PP & Utility	For Implementation & Execution for day-to-day activity at Power Plant & Utility
8	**Prakash Kumar Singh**	Head-Procurement& Store	For Implementation & Execution for day-to-day activity for Purchase & store department

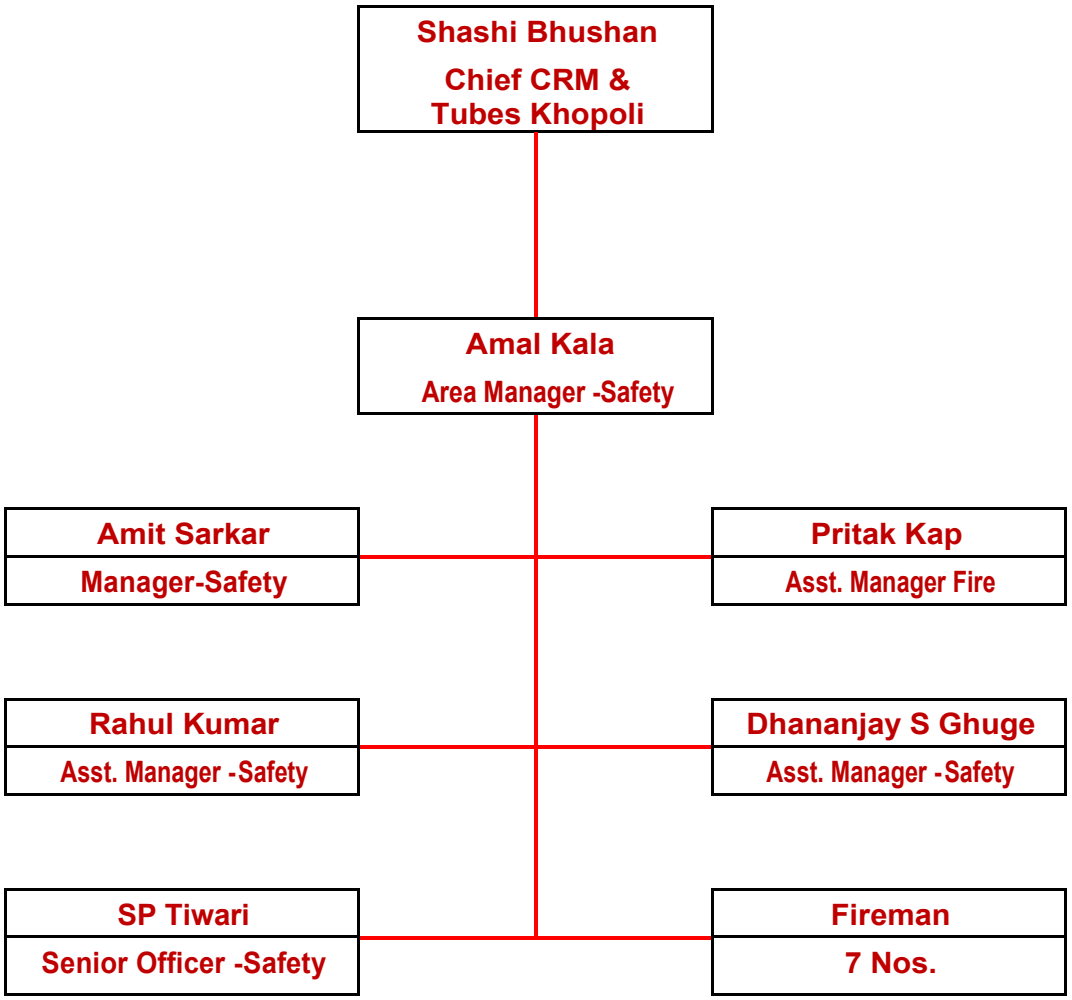
NAME &TELEPHONE NO.OF RESPONSIBLE PERSON OF THE FACTORY

Sr.	Name(Mr.)	Cell No.	Office	Residence
1	TV Narendra			
2	Shashi Bhushan	9234511149	02192-352800	
3	Ashish P. Rajgure	9234638281		
4	Ashish Solanki	7485090336	02192-352160	
4	Prakash Kumar Singh	7033094910	02192-352520	
6	V S Biniwale	9975492596	02192-352703	02192-355226
7	Amal Kala	9031005489	02192-352519	
8	Mahesh Kumar	7763807747	02192-352727	02192-355408
10	YPS Rathore	9975492612	02192-352735	02192-355412

EMERGENCY RESPONSE CHART



EMERGENCY ORGANISATION CHART



CRISIS CONTROL MANAGEMENT CHART

TATA Steel Limited, Khopoli

Emergency Organization Chart

Chief, Khopoli

(Site Main Controller)

Ashish Solanki	**S D Dhadge**	**Amal Kala**
Head (Tube&Pipe)	Head(NCRM&WCRM)	Area Manager-Safety
(Incident Controller)	(Incident Controller)	
		Amit Sarkar
Head of Dept.	**Ashish Solanki**	Manager-Safety
RespectiveDept.	Head-HRBP	
(Dy. IncidentController)	LiaisewithGovt.&Civil Auth.	**Pritam Kap**
		Asst. Manager-Fire
Shift Incharge	**Mahesh Kumar**	
RespectiveDept.	Area Manager•Security	**S P Tiwari**
		Senior Offier-Safety
(AlternativeDy.Incident		
Controller)		**Dhananjay S Ghuge**
TillCharge		Asst. manager•Safety
TakenbyHOD)	SecurityOfficer	
		Rahul Kumar
EssentialWorkers	SecurityGuards	Asst. Manager•Safety

4.2.3 EMERGENCY GUIDELINES FOR MAIN KEY PERSONS

Based on organization chart & the capabilities due to experience, the Key-Personnel are assigned specific work. :-

RESPONSIBILITIES OF MAIN SITE CONTROLLER – PLANT HEAD

- On hearing emergency scenario from any side department head of particular section, Plant head may decide to declare emergency and he may take the following initiative action if he feels as per potential of scenario
- He should proceed to emergency control room for receiving 2-way communication with Dy. Incident Controller at emergency site
- Will Inform to Security Team & Fire Rescue Team for control the fire in minimum time to avoid blaze fire
- Information furnish to Company OHC Center if serious causality for quick mobility of victim from site & to provide first aid treatment
- Information to HR Liaison officer for reporting the incident to statutory officers like Local police dept / Labour Officer/District Collector/Municipal Corporation authority
- Relieving the works incident controller of responsibility of overall control and assume the control himself.
- Co-ordinate activities of key personnel and review development and accordingly decide the course of action
- Continuously communicate with emergency control team members and suggest for any outside resources require to avail on site to tackle the situation
- Initiate shutdown operations in consultation with the incident controller.
- Exercise direct control over the unaffected areas of the plant.
- Ensure causalities are receiving adequate attention and if required their relatives are informed.
- Instruct to Communication officer & HR Depart to Liaison with Mutual Aid Response group for any help from neighboring Industry.
- Liaise with external authorities provide on various aspect of the emergency, affecting outside area.

- Issue authorized statement to the media about the fact of emergency and action initiated by the organization to avoid re-occurrence in future.
- Control rehabilitation of men and affected areas.
- Control rehabilitation of affected people, and areas and instruct to Dy. Incident Controller to terminate emergency.
- After situation comes in normal Plant Head give permission for raise all signal and instruct to Dy. Incident Controller for reaching at workplace

RESPONSIBILITIES OF DEPUTY CONTROLLER - HEAD OF AFFECTED AREA

Assume the role of Incident Controller and take charge of the situation. Keep the Main Controller informed of the situation from time to time. He shall:

- Proceed to the scene and take overall charge of the situation.
- Assess the scale of emergency and if required initiate the following action.
- Secure the safety of personnel.
- Minimize damage to plant, property, and environment.
- Minimize loss of material.
- Co-ordinate with the Safety Officer
- Defect fire fighting till the arrival of outside fire brigade.
- Ensure evacuation of non–essential workers to assembly point.
- Set up a communication point for external/internal disaster.
- Ensure that the outside emergency services are called in.
- Ensurethatthekeypersonnelrequiredforemergencyandwithspecificresponsibilitiesare called in.
- He will plan to minimize the property loss & loss of life by emergency and evacuation of worker from emergency & to provide outside services if required as per the situation.

ROLE OF SECURITY HEAD

- Security Head will rush to the incident site and monitor fire fighting operation in consultation with concerned Area Manager and Advisory team.
- Instruct to trained security rescue team to Co-ordinate fire fighting operation Along with plant fire fighter and outside agencies.
- Monitor to Confirm that fire is extinguished completely
- Instruct to Visitor in-out movement during course of control of exercise and allow to shut heavy vehicle and pedestal gate
- Keep track of security staff and security Officer, instruct to proceed at emergency site if required

ROLE OF OTHER SECURITY STAFF

- Security staff should be in alert mode if heard emergency siren or message of emergency received by Security officer/in charge
- Security team also should alert on gate and security rescue team with security van should be ready for movement at emergency site if ordered by security authority
- Security gate team will Control Traffic.
- Note down vehicles going in and out.
- Provide free passage for vehicle movement inside and outside the factory.
- Inco-ordination with Communication Team, allow outsiders to enter in the premises for help.
- Do not allow any un-known/un-authorized person to enter in the premises.

ROLE OF MANAGER / ASSISTANT MANAGER/SHIFT INCHARGE OF THE AREA

- Taking Shut down of plant
- If required (as per instruction from Main site controller)
- Transferring of combustible, flammable, and toxic material to safer places.
- Removing cylinders to safer place.
- Blocking or cleaning roads.
- Monitoring atmosphere drains for any further action.
- Evacuating the plant people from affected side if required.
- Give instruction for total evacuation if required as per current situation
- Provide breathing apparatus (SCBA) or canister cartridge mask and other safety equipment if required.
- Note down the wind direction and keep people away from hazards of toxic release, fumes etc.

ROLE OF SAFETY OFFICER

- On arrive at emergency site after call from Dy. Incident Controller Safety Officer will assess the severity of emergency and observe the action of rescue team handling the situation
- Co-ordinate to Dy. Incident Controller with safety & fire team to minimize damage to the plant, property, & loss of material
- Communicate to authorize person on current scenario and receive suggestion for implement if required
- Ensure to avoid panic situation on site and observe the wind direction and keep people away from hazard of toxic fumes etc.
- Ensure proper PPE'S were worn by the rescue team and suggest to use of adequate PPE'S while tackling the situation
- Report of Incident / Accident to statutory authority in respective reporting Form

ROLE OF WORKER OF THE AREA

- Workers should not be panic if emergency occurred at his site or other plant location should co-operate with rescue team and follow the instruction of line manager/shift in charge
- Workmen should Leave the workplace and assemble at nearest assembly point after getting instruction of line manager/shift in charge
- Re-enter in the plant with permission of line manager/Shift In charge if situation is in control
- Workmen should be aware about emergency siren and all clear siren

ROLE OF MANAGERS OF OTHER PLANTS:

- On hearing siren Inform staff in the area about the emergency.
- Establish contact with control room.
- Be prepared for shutdown if instructed by high authority
- Start sprinklers/coolers in the affected area.
- Prepare for evacuation to assembly point.
- Arrange for head count at assembly point.
- Provide manpower and equipment as per the guidance from Man-Site Controller
- After evacuation do not allow workmen to return on work site till instruction from Main-Site Controller
- Arrange for head count at assembly point.

ROLE OF WORKERS OF OTHER PLANTS (UNUSUAL UNAFFECTED PLANTS)

- On hearing siren do not leave the plant unless instruction given by plant manager
- Wait for instructions from Managers
- Leave the site and by the route, reach the assembly point.
- Do not enter until ordered by Plant Manager
- Participate in mass communication meeting conducted by plant manager

ROLE OFTIME OFFICE/SECURITY

- Be in contact with Control Room.
- Immediate Communicate to HR Manager about scenario of incident/accident
- Time office officer should response as communication officer in co-ordination with HR Manager and Emergency response team
- Should prepare all required data of injured person and deliver if required by in statutory provision.
- Attendance record of I.P and group employees who were called in emergency rather than shift duty

ROLE OF STORES INCHARGE

- Arrange for additional fire fighting and first aid material.
- Provide neutralizing agents as per demand
- Instruct to store staff to provide life-saving equipment in quick time if demanded in emergency
- Should prepare for other responsibility assigned by Main site controller in emergency.

ROLE OF MEDICAL OFFICER

- Primary responsibility of factory medical officer is to implement medical services
- Provide medical treatment to the affected victims incase of emergency
- Set up medical facility in occupational health center (OHC)
- On getting emergency call from control room arrange ambulance at site to pick up the victim at site
- Also send first aider team with ambulance van to the affected site for primary first aid treatment and safely drop at OHC
- On severity of incident, decide to further action for victim type of response action
- Set up medical facility in occupational health center (OHC)
- Set up medical facility in occupational health center (OHC)

ROLE OF FIRST AIDERS

- Health Center First Aiders should be aware about site incident proceed to medical center and render assistance for injured person
- Company's trained first aider should also proceed to emergency side after call from respective authority and give first aid to victim and separate at safer location
- The role of a first aider is to provide immediate, lifesaving, medical care before the arrival of further medical help. This could include performing procedures such as:

  - Placing an unconscious casualty into the recovery position
  - Performing Cardiopulmonary resuscitation (CPR)
  - Using an automated external defibrillator (AED)
  - Stopping bleeding using pressure and elevation
  - Keeping a fractured limb still
  - A first aider's overall aim should be to **preserve life.**
  - Provide appropriate first aid treatment as trained

ROLE OF FIRE FIGHTERS INCLUDING TEAM OF FIRE TENDERS

- Proceed to the affected areas with intimation to the Plant in charge where he works.
- Report to the affected area in charge and on instruction start fire fighting with safe way
- Followtheinstructionsofincidentcontroller/Manager/Asst.Manager/ShiftInchargeof the area.
- Render all help in fire fighting or spill control.
- Take S.C.B.A.(Self Contained Breathing Apparatus)to the site.
- Evacuate if ordered.
- After the job is over report to team site in charge and participate in review meeting

4.3 OUTSIDE EMERGENCY SERVICES

Once the declaration is made of emergency, if essential, to call outside emergency service in the shortest possible time. This may be achieved by Direct call or Messengers. It is always better to inform fire brigades at the earliest. Other agencies like Police, Hospital, Ambulance, Director of Industrial Safety & Health, etc. should be contacted as per requirements. Information to neighboring firm is also to be given on telephone or by messengers. For liaison arrangement with above agencies refer Annexure - V

4.3.1 RESPONSIBILITY OF OUT SIDE AGENCIES

FIRE BRIGADE

During emergency like Fire/Explosion structural collapse, after arrival of Fire Brigade the operation will be commanded by fire brigade officer who will be present at site. Fire Brigade are authorized to lend their assistance for purposes other than firefighting like rescue operation.

The officer in-charge will determine the initial attendance during emergency. He can call for extra assistance depending on nature of risks involved.

POLICE

During emergency, Police assumes statutory roll, protecting life and property, controlling movement of traffic, etc.

They will liaise with hospitals and arrange or release of information to authorized News-Media, and co-ordinate the involvement of any local voluntary organization who may be able to render their services.

DIRECTORATE OF INDUSTRIAL SAFETY & HEALTH

Above Department would like to Know that the EMPLOYER have made adequate arrangements for handling the emergency.

See documented procedures and evidence of practical exercises undertaken by employer particularly concerned to see employees know and understood the procedures related to them. Subsequent investigation & Interview witnesses.

AMBULANCE

Ambulance may be called upon as soon as required from external agencies and also from hospital adjacent to the premises.

MAHARASHTRA STATE ELECTRICITY DISTRIBUTION CO. (M.S.E.D.C.)

In case of major power breakdown, M.S.E.D.C may be contacted to bring the electricity back at the earliest. They may also be contacted with a view to restrict damages to power lines of surrounding areas.

WATER SUPPLY / MIDC

Local water supply department should be contacted to make available maximum quantity of water with sufficient pressure to fight the fire and bring under control without much delivery.

NEIGHBORING INDUSTRIES

Neighboring industries and other large scale units in the vicinity having facilities should be contacted for help to fight the emergency situation.

LIST OF EMERGENCY NUMBERS

(DISPLAYED INTIME OFFICE & SECURITY CABIN & CONTROL CENTRE)

1	District Magistrate Khopoli	02141-222001
2	Tahsildar,Khopoli	02192-275048
3	SP Khalapur	02192-275033
4	PoliceStationKhopoli	02192-263333
5	PoliceControlRoom, Khopoli	100
6	Jt. Director of Industrial Safety(Dist.Raigad)	022-27578587
7	Dy. Director of Industrial Safety(Khopoli Area)	08425887831
8	FireStation,Khopoli	02192-262401
9	Emergency Control Room	02192-302222
10	Jakhotia Hospital	02192-265674
11	Narinder Mohan Hospital	02192-274650
12	ESIC Hospital	02192-263638

5.0 PRELIMINARY HAZARD ANALYSIS

5.1 TYPES OF ACCIDENTS

1. **FIRE / EXPLOSION**
2. **STRUCTURE COLLAPSE**
3. **FLOOD, EARTHQUAKE, AIR RAID etc.**

5.2 SYSTEM ELEMENTS OR EVENTS THAT CAN LEAD TO A MAJOR HAZARD

When an emergency becomes uncontrollable and leads to damage to life and

Property in the industry and its neighbourhood, it may be defined as a disaster.

The causes or events that can lead to a major accident:-

Natural	Storm, Wind, Flood, Earthquake, & Lightening.
Deliberate	Sabotage, Terrorism, Civil Commotion / Armed conflicts, & Plane crash / Air raid.
Unsafe Acts and Situations	- Corrosion, Equipment failure, - Design deficiency, - Abnormalities in operation or maintenance, & Fire / Emergency in neighborhood.

SYSTEM ELEMENTS OR EVENTS CAN LEAD TO MAJOR ACCIDENT

Anticipated Hazards

Apart from the usual mechanical & electrical hazards common to any such operational factory there are special hazards arising out of the storage, processing and handling of chemicals.

Hydrochloric acid (HCL) – **Toxic and corrosive.** The loss of containment if not controlled can run in to water course causing environmental, human and crop damage.

LNG -This gas is extremely flammable and forms flammable mixtures with air. It will burn in the open or be explosive in confined spaces. Its vapors are lighter than air and will disperse. A hazard of reignition or explosion exists if flame is extinguished without stopping the gas flow. If there is an ignition, the flow of gas should be stopped immediately. Drychemical,CO2 type fire extinguishers should be used. Water can be used to cool the fire but may not extinguish the fire. If gas source cannot be shut off immediately, equipment and surfaces exposed to the fire should be cooled with water to prevent over heating and explosions.

LPG–It is a flammable Gas. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and /or explode if ignited. Vapors are heavier than air and may travel long distances to appoint of ignition and flash back. Fire should not be extinguished.

Unless flow of gas can be immediately stopped. If a leak or spill has not ignited, water spray should be used to disperse the vapors and to protect personnel attempting to stop a leak. Smoking should be prohibited near areas where material is stored or handled. The product should only be stored and handled in areas with intrinsically safe electrical classification.

AMMONIA- Boiling point being -33.25^{0}C it Flashes to vapor phase is ambient conditions. The gas being lighter than air tends it to disperse. The fumes intensely irritate the mucous membrane, eyes & skin.

HYDROGEN- It is flammable and toxic, the routes of entry being skin and inhalation. Skin contact to liquid causes freeze burns while inhalation causes asphyxiation, loss of containment will be dangerous if the leaking gas comes in to contact with heat, flame or oxidizers (like oxygen)Because of the possibility of fire and explosion.

OXYGEN–Principal hazard involved incase of oxygen leakage is that it is a supporter of combustion and since it is stored under high pressure, even a small leak evolves huge volumes of the gas.

ZINC-The Hazards anticipated with Zinc are the explosion and ignition in the Zinc pot during addition of zinc.

5.3 TYPE & LOCATION OF POSSIBLE EMERGENCIES:-

SL. NO.	EHS BLOCK NO.	EMERGENCY SCENARIO	PMP
1	GP 1 – Production	Fire due to leakage of LNG	- Switch off the electrical supply . - Cut off the supply of LNG. - Display of fire emergency exit route so that employees can reach to safe assembly points. - Communication to concerned authority Give the emergency alarm. - Remove fire prone material from the place of hazard. - Ensure fire extinguisher to be in good and in working condition. - Trained firefighters are available and fight fire.
2	GP 2 – Production	Fire due to leakage of LNG	- Switch off the electrical supply. - Display of fire emergency exit route so that employees can reach to safe assembly points. - Communication to concerned authority. Give the emergency alarm. - Remove fire prone material from the place of hazard. - Ensure fire extinguisher to be in good and in working condition. - Trained fire fighters are available and fight fire.
3	CCL Production	Fire during handling of paint &thinner	Switch off the electrical supply. Display of fire emergency exit route so that employees can reach to safe assembly points. Communication to concerned authority Give the emergency alarm. Remove fire prone material from the place of hazard. Ensure fire extinguisher to be in good and in working condition. Trained fire fighters are available and fight fire.

4	Utilities	Emergency due to leakage of Ammonia	Communication to the concerned Head and then to the Main controller through the H.OD. Raising alarm with the order of the main controller. Evacuation of the area. Barricading the area. Communication to the safety and security departments. Display of fire emergency exit route so that employees can reach to safe assembly points. Communication to concerned authority. Roll call at the assembly point. Identification of the point of leakage. Water spraying at the point of leakage. Blocking of leakage. Declaration of completion of leakage.
5	Admin Building	Emergency due to Fire in Office	Communication to all office staff through Telephonic & verbal communication. Evacuation of the area. Barricading the area. Communication to the safety and security departments. Display of fire emergency exit route so that employees can reach to safe assembly points. Communication to concerned authority. Roll call at the assembly point. Identification of the point of fire. Use of Fire Extinguisher.

LIST OF CHEMICALS USED, HANDLED AND PRODUCED AS PER USUAL SOP

Various hazards have identified, and necessary action taken to prevent any disasters. The following hazardous chemicals are handled.

Sr.	Name of chemical	Formula	Quantity	Hazards involved in handling / processing /storage
1	Ammonia	NH_3	15 MT	Fire, Explosion & Toxicity hazard corrosive
2	Hydrochloric Acid	HCl	80 KL	Corrosive and Toxic
3	Hydrogen	H2	1.4 MT	Fire & Explosion hazard Asphyxiate
4	Liquefied Natural Gas	LNG	Online (Pipe gas from GAIL)	Fire & Explosion hazard Asphyxiate
5	Liquefied Petroleum Gas	LPG (Cylinder)	152 KG (8nos. of cylinder of 19 kg)	Fire & Explosion hazard Asphyxiate
6	Nitrogen	N_2	4000 M^3	Asphyxiate
7	Oxygen	O_2	140 M3	Oxidizer, supporter of combustion.
8	Zinc	Zn	100MT	Dust explosion &Ignition.
9	Black Varnish		4000lit.	Fire & Explosion hazards
10	Thinner		2500lit.	Fire hazards
11	Argon		10 M3	Exposure

6.0 DETAILS ABOUT THE SITE

LIST OF PLANTS IN THE FACTORY

1. Narrow Cold Roll Mill (NCRM)
2. Wider Cold Roll Mill (WCRM)
3. Tube Plant (ERW/CEW)
4. Large Dia Pipe Plant (LDP) 1 & 2
5. Acid Regeneration Plant
6. HTSS

6.1 LOCATION OF DANGEROUS SUBSTANCES

Please refer attached plot plan at **Annexure**

6.2 SEAT OF CHIEF CONTROLLER

CHIEF CONTROLLER will be available in the Emergency Control Centre (ECC) at the time of emergency which is located at Main Gate **Security CABIN.**

6.3 EMERGENCY CONTROL CENTRE (E.C.C.)

For the purpose of handling emergency, Emergency Control Centre is very much essential. **SECURITY CABIN** at **MAIN GATE** is declared as **Emergency Control Centre**. All activities pertaining to the emergency will be carried out from this center.

The Emergency Control Centre will be equipped with,

1. A copy of On-site Emergency Plan.
2. M.S.D.S. of all chemicals which are handled in the factory.
3. List of all employees along with their addresses and contact numbers.
4. Telephone numbers of Government Authorities. (Annexure)
5. Information about Outside Emergency Services (Annexure)

6. Information about firefighting facilities.(Annexure)
7. First aid box with proper medicines.
8. Facility of Direct Telephone.
9. Equipment such as Torch, Nylon Rope, and necessary Personal Protective Equipment. (Annexure)
10. Communication System.
11. Note pads and pen / pencils to record the messages and record of activities
12. Plant Lay-out indicating storages of hazardous materials and Fire Fighting Equipment location

7.0 HAZARDOUS CHEMICALS STORED IN THE PLANT

Sr.	Name of chemical	Formula	Quantity	Hazards involved in handling / processing / storage
1	Ammonia	NH_3	15 MT	Fire, Explosion & hazard Toxicity corrosive
2	Hydrochloric acid	HCl	90 MT	Corrosive and Toxic
3	Hydrogen	H_2	1.4 MT	Fire & Explosion hazard Asphyxiate
4	LNG (Liquefied Natural Gas)	Aliphatic Hydrocarbon, Alkane series	Online (Pipe gas from GAIL)	Fire & Explosion hazard Asphyxiate
5	Nitrogen	N_2	4000 M^3	Asphyxiate
6	Oxygen	O_2	140 M3	Oxidizer, supporter of combustion.
7	Zinc	Zn	100MT	Dust explosion &Ignition.
8	Argon		10 M3	Exposure
9	Black Varnish		4000lit.	Fire & Explosion hazards
10	Thinner		2500lit.	Fire hazards

MSDS of the chemicals are attached in **Annexure –**

8.0 LIKELY DANGERS TO THE PLANT

Based on the operations carried out in the plant and various types of storage existent in the factory, the following areas have been identified as the ones posing

HAZARD	AREA	PROBABLE CAUSE OF THE EMERGENCYS	CONSEQUENCE
FIRE / EXPLOSION	Flammable chemicals	• Sabotage , • Electrical Short Circuit, • Excessive Heat.	Local
EXPLOSION	• Air Receiver of compressed air Gas cylinder • Boiler • Transformer • Sub Station • Gas cylinder	• Excess Pressure	Local
TOXIC GAS RELEASE	• Acid Storage Tank Area.	• Rupture of pipe line, • Catastrophic Failure of Tanks.	Potential of OFF SITE Emergency
STRUCTURE COLLAPSE	• Any where in the premises.	• Natural, Sabotage	Local
FLOOD, EARTHQUAKE AIR RAID etc.	• Any where in the premises.	• Natural Calamity.	Potential of OFF SITE Emergency

DETAILS OF FIRE HAZARD / SUBSTANCES STORED / HANDLED & EXTINGUISHING MEDIA

A through assessment has been made of the fire hazards in the entire factory and the fires that may be caused by various substances are summarized below. Special attention is given to storage and handling of A & B class petroleum chemicals. LNG is directly distributed from Gail Terminal to respective division by distribution valve and never stored for the same)

LNG is C-Class Gases lighter than air supplied by gases line

Area of Fire Protection: -

Sr.	Name of Substance	Type of fire	Extinguisher used
1.	LNG	Hydrocarbon & Oil fire.	In LNG Fire water is used for keeping vapor cloud away from ignition sources. Dry Chemical powder (DCP) is used in closed vicinity small fire
2	Lubricants	B Class fire	Dry Chemical powder (DCP) is in case of fire occurred in lubricants
3	Petroleum & Diesel	B Class fire	Mechanical foam type fire extinguisher is use to extinguish fire for blanketing of oxygen from layer.DCP will also be use for extinguish the fire
4	Carbonaceous material Like rags, paper, wood Waste etc.	A Class fire	Mainly water is the best media for any Solid material of class-A Fire. Fire hydrant point /Fire hydrant boxes with hoses are installed at various location and numbered on point
5	Electrical equipment	C-Class Fire /Electrical fire	Only carbon dioxide fire extinguisher is used for any electrical fire, but switch off electrical supply before fire fighting

9. 0 EMERGENCY PROCEDURE

In case of Fire / Explosion / Release of toxic gases etc., any person noticing will inform the Chief Controller / Site Controller. After confirming the severity of the incidence, Emergency will be declared by either of them, who is present at the site. The Emergency will be declared by raising the alarm. As soon as alarm is heard, main key persons and the Squad members will rush to the E.C.C. and from there at site.

If situation is beyond the control, the external agencies will be informed accordingly and asked for the help. This may be achieved by direct telephone or wire less system. The effective handling of an emergency will be the result of decision taken at the time, based on knowledge and experience.

Chief Controller will assess the situation and then declare the emergency is over. Till then all the Squad leaders and Squad members will adhere to the task. Even after the emergency is over, the members will be available at site for at least half an hour. After the emergency is over Squad leader will prepare a report and submit to the Chief Controller within 24 hours of the occurrence. Based on this report / information and investigation, a final report will be prepared by the Chief Controller and submitted to the concerned authorities within 72 hours of the occurrence.

EMPLOYEES, VISITORS, CONTRACTORS

In case of emergency - Visitors, Contractors will follow the following steps.

- Stop the work.
- Switch off the electrical / Gas / Compressed air supply of machinery.
- Evacuate the area without panic.
- Do not wait for personal belongings.
- Assemble at Assembly Point.
- Do not go to the Emergency Site.
- Do not Communicate with external agencies unless instructed by Chief Controller
- Do not spread rumors.
- Do not engage communication systems.

ACTION PLAN FOR MITIGATION OF EMERGENCIES

FIRE / EXPLOSION / LEAKAGE FROM GAS CYLINDER

- Evacuate all persons from the fire area. Fire fighters should wear fire resistant PPE before site is approached.
- If a small flame is seen on the cylinder then extinguish it with the help of Dry chemical powder (ABC) cylinder, CO2 cylinder or a fire hose from a Safe distance.
- Simultaneously the LPG / acetylene cylinder must be liberally cooled with water from the water hydrant or by using buckets.
- If cylinder is a hot and metal fuse blow, then cylinder should not be approached.
- If fire is allowed to burn, then fusible metal plug will melt and fire would be 12 to 15 feet roaring flame. Segregate all inflammable objects surrounding the fire.
- Always extinguish the fire before closing the valve. Use glove, heavy cloth or wet material to extinguish fire.
- Be away from the path of fusible plug.
- In case fusible plug blows, then the cylinder should be allowed to Burn till the depletion of internal pressure and less than one feet flame has formed.
- Avoid un-burnt LPG / acetylene to mix with air or else it would re-ignite if it comes in contact with spark. This would lead to space explosion.
- Use water to cool other cylinders in the vicinity
- Shift cylinder outdoors by submerging it in a container filled with water.
- Keep spraying water on it till the gas is exhausted.
- Summon the supplier immediately and ask him to move the empty defective cylinder to his premises.
- Medical attention & First Aid to be provided to persons injured.
- Production shop floor and machines to be cleaned dried and inspected properly before starting the plant.
- Detailed report to be made for top management brain storming to prevent such future accidents.
- Evacuated employees / visitors to be informed of the clearance of the site whereby normal activities to start.

It has been mentioned earlier that LPG storage & handling areas have a large-scalefirepotentialhenceelaboratearrangementshavebeenmadetocopewithanyuntowardsituation. **They are as follows.**

a. Copious water availability for cooling & dispersion.

b. Storage area is located at a safe distance from other facilities and

c. plants to Avoid effect.

d. Pipelines are mostly of seamless to avoid leakage.

e. ProvisionofdrypowderandCO2extinguishersaremade.

f. All conditions specified by the chief controller of explosives are strictly adhered

MAJOR OIL / DIESEL LEAKAGE OR SPILLAGE

In case of Oil Spillage during Handling Oil

- Clear area of all personnel. Source of leakage to be detected& avoid further leakage.
- DO NOT ALLOW OIL TO ENTER STORM WATER DRAINS. If entered inform local authority.
- Contain & cover the spilled with absorbent like saw dust / cotton waste.
- Put caution posters / labels in the area of spill.
- Collect oil contaminated saw dust / cotton waste in a drum, designated for storage of oily waste.
- Proper collection & disposal of spilled oil/saw dust / oil soaked cotton waste as mentioned in the MSDS of the respective oil.
- Sand / saw dust layer on floor where oil spill had occurred to prevent slip accidents.

INCASE OF OIL SPILLAGE FROM A LEAKING DRUM/ CARBOY

- Incase leak occurs from an oil drum, turn damaged part of drum ‘UP’ to prevent further leakage.
- DO NOT ALLOW SPILLED OIL TO ENTER STORM WATER DRAINS. If entered inform local authority.
- Plug the leakage immediately with wooden putty or ‘M- seal” or any other suitable material available on the site.
- Avoid unauthorized access to the damaged drum to prevent leakage again.
- Transfer contents of leaking drum to a separate drum if possible
- Contain & cover the spilled oil with the absorbent saw dust / cotton waste.
- Put caution posters / labels in the area of spill.
- Collect oil contaminated saw dust/ cotton waste in a drum designated for storage of an oily waste.
- Sand / saw dust layer on floor where oil spill had occurred to prevent slip accidents.

MAJOR ACCIDENT SUCH AS STRUCTURAL OR BUILDING COLLAPSE

- Remove surface victims.
- First responders should be assigned to remove victims and the “walking wounded” from the surface of the collapse area.
- Rescuers shall use extreme caution during the early stages of rescue operations due to significant hazards which have not yet been identified.
- Following the removal of surface victims and the “walking wounded”, all rescue personnel should be removed from the collapse area and ensure head count.
- Start search and rescue operation and remove any other entrapped victims from the collapsed area.

NATURAL CALAMITIES LIKE FLOOD, EARTHQUAKE ETC.

FLOOD:

- Contact with local authorities for further information and advice.
- Contact with neighbouring factories.
- Be prepared to evacuate premises, if advised by local authorities.
- Turn off the electricity, water as you leave the premises.
- Avoid walking or driving through flood water these are the main causes of death during floods.
- Be ready to leave quickly after being advised of likely flooding.
- You must leave well before roads to high ground are closed by flood water
- Flood water may be deeper or faster flowing than you think and contain hidden snags and debris. Crossing flooded bridges is dangerous and should not be attempted.

EARTH QUAKE:

In the event of an earthquake: Proceed to nearest Assembly point. In case of major Earth quake if it is not possible to reach Assembly point Stand in a doorway, crouch near the wall and cover your head if caught in a building. If you are outside, move to a clear area away from trees, buildings, or downed electrical power lines and poles. If you are on a sidewalk near buildings, duck into a doorway to protect yourself from falling building materials, window glass, and other building debris.

10.0 DETAILS OF SAFETY SYSTEMS

Alarm

To make the emergency know to men inside, the electric hooter should be sounded at a different frequency.

ON SOUNDING OF ALARM

- **CHIEF CONTROLLER** shall proceed towards Emergency Control Centre and operate from there. CHIEF CONTROLLER would instruct emergency teams to accomplish the TASK for which they are TRAINED.

- **SITE CONTROLLER** shall proceed to the area of occurrence to assess the nature and magnitude of emergency and initiate the following actions almost simultaneously. SITE CONTROLLER with the help of team members would continue operations as required to defuse the emergency.

- Persons nominated as **KEY PERSONNEL** reports to the **EMERGENCY CONTROL CENTRE** from the **CHIEF CONTROLLER**, they will Communicate.
- The incident controller should inform the controller through telephone/mobiles when he is not on site. All other communication both internal & external shall be made from control room.

To Whom

Initially the information shall be given to main controller or his nominee. Then later to external agencies. Fire brigade police, Medical units etc. to mobilize further resources, at the instruction of the incident controller/main controller(Who should arrive at the site as soon as possible) which will again depend on the magnitude of the emergency inside or if it is likely to spread outside the premises.

10.01 HOOTER ALARM SYSTEM FACILITY

Electrically operated hooters are installed at various location. Main Hooter is installed at Wider Shed-1 Time Office is weekly tested for its performance and recorded

Location of Installed Hooter Alarm in the Factory

SR.	DIVISION	LOCATION OF ALARM
1	Tube	Shed-05 Near Time Office
2	PP-Substation	Main ECR Exit
3	Utility	Entry
4	Wider	Shed-1 Entry Time Office
5	NCRM	H&T Shed-09
6	NCRM	ARP/ETP
7	LDP	Exit ERW Quality Room

- ✓ **DISASTER**: Siren shall be wailing sound for **30 second repeated thrice with a gap of 10 second (Total Time -2 Minutes)**
- ✓ **ALL CLEAR:** Siren shall be straight run sound for 2 minutes.
- ✓ **TEST SIREN:** Siren shall be straight run sound for 2 minutes.
- ✓ **Sire Test Schedule:** 11 A.M at every Wednesday

INSTALLATION OF MANUAL CALL POINTS & SMOKE DETECTORS

Total 82 Numbers Manual Call Point is installed at various location in the company

There are 550 numbers smoke detector installed at various location of plants/offices

And admin building for detection of any fire either by electrical failure or process failure.

This smoke detector is linked with MCP.

On fire smoke detector siren will active and alarm and accessible to control panel so that In quick time action would be taken after listening alarm.

10.02 FIRE FIGHTING ARRANGEMENT IN THE FACTORY

There are 2 Numbers 900 M3 Water Reservoir Storage Tank one of Soft Water and other for process water.

Ring Rout Hydrant systems are installed to quench the fire incase of fire emergencies.

Jockey Pump and Main Pump with standby are arranged. Jockey pump are always in auto with water flow capacity of 3.5 kg/cm2.If in case of more utilization of water information to be given to utility department to start main pump for backup of water.

We take water from river Petal through intake water pump(vertical),where water is lifted to main storage tanks. We have 6 no. of water tank of storage capacity of 12000 cubic meters.

In addition to the water distribution system and other firefighting measures there are a large number of fire extinguishers and hand appliances distributed throughout the plant (Refer to annexure).

The above gives guidelines as to the type of fire extinguishers to be used for a particular type of fire hazard in the area. Any addition of facilities should use this guide for replacement of extra extinguishers.

FIRE EQUIPMENT'S IN THE PLANTS

FIRE EQUIPMENT'S IN LDP AT VARIOUS FIRE POINTS

S.N	Section	Fire Point	Type	Capacity (Kg/Ltr)	Quantity	Fire Stand No	Fire Bucket Qty
LDPMill-01							
1	Main ECR Panel	01	CO2	6.5	04	AF-1	04
2	Exit Transformer	02	CO2	6.5	04		
3	Entry ECR	03	CO2	6.5	01		
4	HR Slitter ECR	04	CO2	4.5	01		
5	Varnish Machine	05	**Foam** DCP CO2 **Foam. Trolley**	**9 Ltr** 10 Kgs 22.5 Ltr. **100Ltr**	04 01 01 **01**	AF-2 FT-07	04
6	Offline UT ECR	06	CO2	2	01		
7	AGM Office	07	CO2	6.5	04		
8	COC/Hydro tester ECR	08	CO2	6.5	04	AF-03	04
9	Oil Miller	09	**Foam**	**9 Ltr**	**02**	AF-04	04
10	Store	10	CO2	6.5	02		
11	QAD	11	DCP	10	01		
LDPMill-02							
12	Edge Miller	12	DCP	10	02	A2F-01	04
13	Varnish Machine	13	CO2 **Foam**	22.5 **9 Ltr**	01 **02**		
14	Offline UT	14	CO2	6.5	02	A2F-02	04
15	Transformer	15	CO2	6.5	02		
16	Stretch ECR	16	CO2	6.5	01		
17	COCECR	17	CO2	6.5	01		
18	Spray Machine	18	CO2	6.5	01		
LDP-Coating							
19	Entry	19	CO2 DCP	6.5 10	02 01	CF-1	04
20	PCC-2Room	20	CO2	2	1		
21	HT Breaker ECR	21	CO2	2	1		
22	Distribution Feeder	22	CO2	6.5	02	CF-2	04
23	No.-2Induction Transformer	23	CO2 CO2	6.5 2	01 1		
24	Epoxy Paint Store	24	**Foam** DCP Foam Trolley	**9 Ltr** 5 100Ltr	**03** 01 01	CF-3 FT-08	04

SUMMARY OF FIRE EXTINGUISHERIN LDP

Sr	Fire Equipment	Quantity
1	CO2-22.5Kg	02Nos.
2	CO2-6.5Kg	31Nos.
3	CO2-4.5Kg	01Nos.
4	CO2-2Kg	04Nos.
5	DCP-5Kg	01Nos.
6	DCP-10Kg	05Nos.
7	Foam-09Ltr.	09Nos.
8	FireStand	09 Nos.
9	Fire Buckets	36 Nos.
10	FoamTrolley	02Nos.

FIRE EQUIPMENT'S IN NCRM AT VARIOUS FIRE POINTS

S.N	Section	Fire Point	Type	Capacity(Kg/Ltr)	Quantity	Fire Stand No	Fire Bucket Qty
01	HTSS ECR	01	CO2 CO2	9 2	01 01		
02	HTSS Transformer	02	CO2	6.5	01		
03	HTSS Pull Pit Control Panel	03	CO2 CO2	22.5 6.5	01 01	NF-1	04
04	11KVFeeder ECR	04	CO2 CO2	6.5 2	01 01	NF-2	04
05	Pickling Line	05	CO2 DCP	6.5 5	01 2		
06	Annealing	06	CO2 CO2 DCP	22.5 6.5 5	01 01 02	NF-3	04
7	Main ECR	07	CO2 CO2 DCP	22.5 4.5 5	01 02 01	NF-4	04
8	H&T Pull Pit	08	CO2 CO2 DCP	22.5 6.5 5	01 01 01	NF-5	04
9	ARP	09	CO2 DCP	6.5 5	03 03	AR-1	04

SUMMARY OF FIRE EXTINGUISHER & FIRE BUCKET

Sr	Fire Equipment	Quantity
1	CO2-22.5Kg	04Nos.
2	CO2 -9Kg	01Nos.
3	CO2-6.5Kg	09Nos.
4	CO2-4.5Kg	02Nos.
5	CO2-2Kg	02Nos.
6	DCP-5Kg	11Nos.
7	DCP-10Kg	01Nos.
8	Foam-09Ltr.	03Nos.
9	Number of Fire Stand	07 Nos.
10	No's.of Fire Buckets	28 Nos.

FIRE EQUIPMENT'S IN WIDER AT VARIOUS FIRE POINTS

S.N	Section	Fire Point	Type	Capacity (Kg / Ltr)	Quantity	Fire Stand / Foam Trolley No	Fire Bucket / Foam Trolley Qty
1	HRS-01 Shed-01	01	CO2 CO2 DCP DCP	22.5 6.5 10 5	01 01 01 01	WF-1	04
2	GP-1	02	CO2 CO2 CO2	22.5 6.5 2	01 02 01	WF-2	04
3	GP-1 ECR	03	CO2	6.5	01		
4	Store	04	CO2 DCP	9 5	01 1	WF-3	04
5	RGM	05	CO2 DCP	6.5 5	1 2	WF-4	04
6	VP Office	06	CO2 CO2 CO2 DCP	22.5 9 6.5 5	01 01 02 02	WF-5 FT-1	04 01
7	Mill-1	07	CO2 CO2 DCP	9 6.5 5	02 01 01	WF-6	04
8	Mill-02	08	CO2	6.5	02	FT-2	
9	Annealing &ECL Transformer	09	CO2 CO2 DCP	22.5 6.5 5	01 02 01	WF-7	04
10	Ajax Transformer	10	CO2 CO2 DCP	9 6.5 5	01 02 01	WF-8	04
11	GP-2 ECR	11	CO2 DCP	6.5 5	03 02	WF-9	04
12	SPM-ECR	12	CO2 CO2	9 6.5	01 01	WF-10	04
13	CCL Transformer	13	CO2 Foam DCP	9 9 Ltr 10	01 03 01	WF-11 FT-3	04 01
14	New Paint	14	Foam CO2 DCP DCP Water	9 Ltr 6.5 10 5 50Ltr	07 04 04 03 01	FT-04 FT-05	01 01

			Mist				

SUMMARY OF FIRE EXTINGUISHER & FIREBUCKET

Sr	Fire Equipment	Quantity
1	CO2-22.5Kg	04Nos.
2	CO2 -9Kg	05Nos.
3	CO2-6.5Kg	19Nos.
4	CO2-2Kg	03Nos.
5	DCP-5Kg	13Nos.
6	DCP-10Kg	06Nos.
7	Foam-09Ltr.	10Nos.
8	Foam Trolley	01Nos.
9	Number of Fire Stand	11 Nos.
10	Nos.of Fire Buckets	45 Nos.
11	Water M**ist**	01Nos.

FIRE EQUIPMENT'S IN TUBE AT VARIOUS FIRE POINTS

S.N	Section	Fire Point	Type	Capacity (Kg / Ltr)	Quantity	Fire Stand / Foam Trolly No	Fire Bucket / Foam Trolley Qty
1	Mill-01PCC Panel	01	CO2 DCP	6.5 5	01 01	TF-1	04
2	Mill-01 HFECR Mill-01MainECR	3	CO2 CO2 CO2	22.5 2 6.5	01 01 01		
3	Mill-2 HFECR Mill-2MainECR	04	CO2 CO2	6.5 6.5	01 01		
4	Mill-2 Accumulator	05	CO2 DCP	9 5	01 02	TF-2	04
5	Mill-3 HFECR Mill-3MainECR	06	CO2 CO2	2 6.5	01 01		
6	Production Office	07	CO2 DCP	6.5 05	02 03	TF-3	
7	Mill-4 HFECR Mill-04MainECR	9	CO2 CO2	2 6.5	01 01		
8	LOI Furnace	10	C O2 DC P 10	6.5	03 02	TF-04	04
9	Time Office	11	C O2 DC P 5	22.5	01 02	TF-05	04
10	DG Set Shed-07Exit	12	CO2 DCP	9 5	01 02	TF-06	04
11	STP Shed-08	13	CO2 CO2 DCP	22.5 9 5	01 01 02	TF-07	
12	RFO	14	Foam CO2 Foam Trolley	9 Ltr 6.5 100Ltr	04 01 01	PF-1 FT-06	04 01

SUMMARY OF FIRE EQUIPMENT ON TUBE DIVISION FIRE POINT

Sr	Fire Equipment	Quantity
1	CO2-22.5Kg	03Nos.
2	CO2 -9Kg	03Nos.
3	CO2-6.5Kg	11Nos.
4	CO2-2Kg	03Nos.
5	DCP-5Kg	12Nos.
6	DCP-10Kg	02Nos.
7	Foam Trolley	01 Nos.
8	Number of Fire Stand	9 Nos.
9	Nos.of Fire Buckets	36 Nos.

FIRE HYDRANT POINTS IN NCRM

F.H. No.	HYDRANT LOCATION	Hose Box No. / Water Monitor No.	HOSE Pipe Y/N	Hydrant Nozzle Y/N	Wheel Y/N	Coupling / Lug Y/N	Water Flow Y/N
Shed-09							
NH-1	9TonInspectionLine	NB-1	Y	Y	Y	Y	Y
NH-2	Grinding M/CECR Exit	N	N	N	Y	Y	Y
NH-3	Grinding Line ECR Entry	N	N	N	Y	Y	Y
NH-4	Polishing Line ECR Entry	NB-2	Y	Y	Y	Y	Y
Shed-07							
NH-5	F/C-04Middle	NB-3	Y	Y	Y	Y	Y
NH-6	F/C-04Middle	N	N	N	Y	Y	Y
NH-7	F/C-04Exit	NB-4	Y	Y	Y	Y	Y
NH-8	Annealing Entry	NB-5	Y	Y	Y	Y	Y
Shed-06							
NH-9	CRS-1Entry	NB-6	Y	Y	Y	Y	Y
NH-10	CRS-1Exit	NB-7	Y	Y	Y	Y	Y
NH-11	SHED 08	N	N	N	Y	Y	Y
NH-12	HMT Grinding M/C	N	N	N	Y	Y	Y
Shed-04							
NH-13	Mill-05	NB-8	Y	Y	Y	Y	Y
NH-14	CTL-11	NB-9	Y	Y	Y	Y	Y
NH-15	Rewinding M/C Annealing	NB-10	Y	Y	Y	Y	Y
HTSSShed-01							
NH-16	HTSS Entry Shed	NB-11	Y	Y	Y	Y	Y
NH-17	HTSS Middle Shed	NB-12	Y	Y	Y	Y	Y
NH-18	HTSS Middle Shed	N	N	N	Y	Y	N
NH-19	HTSS Exit	NB-13	Y	Y	Y	Y	Y

NH-20	WaterMonitor H2Yard	**NM-1**			Y		Y
NH-21	Hydrogen Yard	**NB-14**	Y	Y	Y	Y	Y
NH-22	WaterMonitor H2Yard	**NM-2**	N	Y	Y	Y	Y
NH-23	Pickling Entry	**NB-15**	Y	Y	Y	Y	Y
NH-24	Pickling Middle Shed	**NB-16**	Y	Y	Y	Y	Y
NH-25	Pickling Exit	N	N	N	Y	Y	N
ARH-1	ARP Tank Farm Area	**NB-17**	Y	Y	Y	Y	Y
ARH-2	ARP Oxide Plant	N	N	N	Y	Y	N
Total Hydrant Point		**27**	**Total Hydrant Box**				**17**

FIRE HYDRANT POINTS IN TUBE

F.H. No.	HYDRANT LOCATION	Hose Box No. / Water Monitor No.	HOSE Pipe Y /N	Hydrant Nozzle Y/N	Wheel Y/N	Coupling / Lug Y/N	Water Flow Y/N
Shed-01							
TH-1	Shed Entry	TB-1	Y	Y	Y	Y	Y
TH-2	Mill-03ECREntry	N	N	N	Y	Y	Y
TH-3	Packing Stand	TB-2	Y	Y	Y	Y	Y
TH-4	Tube Marketing	TB-3	Y	Y	Y	Y	Y
	Shed-02						
TH-5	Coolant Tank Shed Exit	N	N	N	Y	Y	Y
Shed-03							
TH-6	STG-06	N	N	N	Y	Y	Y
TH-7	Old Allied F/C	TB-4	Y	Y	Y	Y	Y
TH-8	Mill-04Accumulator	TB-5	Y	Y	Y	Y	Y
TH-9	Mill-04Recoiler	N	N	N	Y	Y	Y
Shed-05							
TH-10	Fire Store	N	N	N	Y	Y	Y
TH-11	D.B-4	TB-6	Y	Y	Y	Y	Y
TH-12	LOIF/C Cabin Exit	N	N	N	Y	Y	Y
TH-13	Tensile Testing Lab	TB-7	Y	Y	Y	Y	Y
TH-14	Time Office	N	N	N	Y	Y	Y
Shed-06							
TH-15	Shed Entry	N	N	N	Y	Y	N
Shed-07							
TH-16	Canteen Exit Shed-07	TB-8	Y	Y	Y	Y	Y
TH-17	STG-05	TB-9	Y	Y	Y	Y	Y
TH-18	D.B-08	TB-10	Y	Y	Y	Y	Y
TH-19	D.B-06	TB-11	Y	Y	Y	Y	Y
Shed-08							
TH-20	Shed-Entry	TB-12	Y	Y	Y	Y	Y
TH-21	Hot Air Dryer	N	N	N	Y	Y	Y
Ammonia Yard Entry							
UM-1	Water Monitor	UM-1	Y	Y	Y	Y	Y
UH-1	Yard Entry	UB-1	Y	Y	Y	Y	Y

UH-2	Yard Middle	UB-2	Y	Y	Y	Y	Y
	Oxygen Plant						
OH-1	Oxygen Filling Station	OB-1	Y	Y	Y	Y	Y
OH-2	Oxygen Filling Station	OB-2	Y	Y	Y	Y	Y
B.P. Furnace							
PM-1	Water Monitor	PM-1	Y	Y	Y	Y	Y
PH-1	Middle Shed	N	N	N	Y	Y	Y
PH-2	B.P. Furnace Exit	N	N	N	Y	Y	Y
RFOArea							
PH-3	RFO UnLoading	PB-1	Y	Y	Y	Y	Y
PH-4	RFO Fire Point	PB-2	Y	Y	Y	Y	Y
HSD/FOStorage Area							
PM-2	Water Monitor	N	N	N	Y	Y	Y
PH-5	HSD Store	N	N	N	Y	Y	Y
PH-6	F.O Storage	N	N	N	Y	Y	Y
Total Hydrant Point		34	**Total Hydrant Box**				19

FIRE HYDRANT POINTS IN WIDER

F.H. No.	HYDRANTLOCATION	Hose Box No.	HOSE Pipe Y/N	Hydrant Nozzle Y/N	Wheel Y/N	Coupling / Lug Y/N	Water Flow Y/N
Shed-1							
WH-1	Shed Entry						
WH-2	Shed Exit						
WH-3	Shed Exit	WB-1	Y	Y	Y	Y	Y
Shed-2							
WH-4	Exit Shed						
WH-5	M/M Work Shop	WB-2	Y	Y	Y	Y	Y
WH-6	CTL-2	WB-3	Y	Y	Y	Y	Y
Shed-03							
WH-7	Corrugation-3	N	N	N	Y	Y	N
WH-8	Packing Area	N	N	N	Y	Y	Y
WH-9	Shed Entry	N	Y	N	Y	Y	Y
WH-10	RGM Shed Entry	N	N	N	Y	Y	Y
WH-11	Zinc Store yard	N	N	N	Y	Y	Y
WH-12	Near Weight Scale	N	N	N	Y	Y	Y
WH-13	V.P. Office	WB-4	Y	Y	Y	Y	Y
WH-14	Near Test Lab	N	N	N	Y	Y	Y
WH-15	Mill-2Panel	WB-5	Y	Y	Y	Y	Y
WH-16	Zinc F/C	N	N	N	Y	Y	Y
WH-17	Shed-04Exit	WB-6	Y	N	Y	Y	Y
WH-18	CTL-03Shed-04	WB-7	Y	N	Y	Y	Y
Shed-4							
WH-19	Middle Shed	WB-8	Y	N	Y	Y	Y
WH-20	GP-2C.Panel	WB-9	Y	Y	Y	Y	Y
WH-21	GP-2zincpot	WB-10	Y	Y	Y	Y	Y
WH-22	RTF Blower	WB-11	Y	Y	Y	Y	Y
Shed-5							
WH-23	Shed Entry	N	N	N	Y	Y	Y
WH-24	Loading Area	WB-12	Y	Y	Y	Y	Y
Shed-06							
WH-25	Shed Entry	N	N	N	Y	Y	Y
WH-26	Weight Scale	N	N	N	Y	Y	Y
WH-27	CTL-08	N	N	N	Y	Y	Y
WH-28	CRS-7	WB-13	Y	Y	Y	Y	Y
Shed-7							
CH-1	Packing area	N	N	N	Y	Y	Y
CH-2	CCL Entry	WB-14	Y	Y	Y	Y	Y

CH-3	Quench Tank	N	N	N	Y	Y	N
CH-4	Prime Oven	N	Y	N	Y	Y	N
CH-5	Prime Coater	N	N	N	Y	Y	Y
CH-6	Chemical Coater	WB-15	Y	Y	Y	Y	Y
CH-7	TLL	N	N	N	Y	Y	Y
CH-8	CCL Exit	WB-16	Y	Y	Y	Y	Y
Shed-8							
CH-9	Lathe M/M Shop	N	N	N	Y	Y	Y
CH-10	Paint Yard	N	N	N	Y	Y	Y
CH-11	Middle Shed	N	N	N	Y	Y	Y
CH-12	CoilYard	N	N	N	Y	Y	Y
CH-13	HRS-2Entry	N	N	N	Y	Y	Y
CH-14	Shed Entry	WB-17	Y	Y	Y	Y	Y
Total Hydrant Point		42	**Total Hydrant Box**				17

FIRE HYDRANT POINTS INSERVICE CENTRE & LNG YARD

F.H. No.	RANT LOCATION	Hose Box No.	HOSE Pipe Y/N	Hydrant Nozzle Y/N	Wheel Y/N	Coupling / Lug Y/N	Water Flow Y/N
Shed-1							
SH-1	CTL-2	**N**	**N**	**N**	**Y**	**Y**	**Y**
SH-2	CTL-10	**N**	**N**	**N**	**Y**	**Y**	**Y**
SH-3	TLL	**SB-1**	Y	Y	Y	Y	Y
Shed-3							
SH-4	Shed Entry	**N**	**N**	**N**	**Y**	**Y**	**Y**
SH-5	FimiCTL	**N**	**N**	**N**	**Y**	**Y**	**Y**
Shed-4							
SH-6	Shed Entry	**N**	**N**	**N**	**Y**	**Y**	**Y**
SH-7	Shed Exit	**N**	**N**	**N**	**Y**	**Y**	**Y**
Shed-5							
SH-8	Shed Entry	**N**	**N**	**N**	**Y**	**Y**	**Y**
SH-9	Exit Shed	**SB-2**	Y	Y	Y	Y	Y
LNG Yard							
SH-10	Water Monitor	**SM-1**					
SH-11	Hydrant Point	**N**	**N**	**N**	**Y**	**Y**	**Y**
SH-12	Hydrant Point	**N**	**N**	**N**	**Y**	**Y**	**Y**
SH-13	Unloading Area	**SB-3**	Y	Y	Y	Y	Y
	Total Hydrant Point	**13**	**Total Hydrant Box**	**03**			

FIRE HYDRANT POINTS IN LDP DIVISION

F.H. No.	HYDRANT LOCATION	Hose Box No.	HOSE Pipe Y/N	Hydrant Nozzle Y/N	Wheel Y/ N	Coupling /Lug Y/N	Water Flow Y / N
Shed A1Mill-1							
AH-1	**HRS Shed**	**AB -1**	Y	Y	Y	Y	Y
AH-2	**Spiral Accumulator**	**AB -2**	Y	Y	Y	Y	Y
AH-3	Near Coil Hold Stand	N	N	N	Y	Y	Y
AH-4	Front Canteen	**AB -3**	Y	Y	Y	Y	Y
Shed A-2Mill-1							
AH-5	Main ECR Exit	**AB --4**	Y	Y	Y	Y	Y
AH-6	Near Conveyor	N	N	N	Y	Y	Y
AH-7	Near Conveyor	N	N	N	Y	Y	Y
AH-8	Tube Entry Gate	N	N	N	Y	Y	Y
Shed A-6Mill-1							
AH-9	Infront Dispatch Office	**AB -5**	Y	Y	Y	Y	Y
AH-10	Next to Dispatch Office	N	N	N	Y	Y	Y
Shed A-8Mill-1							
AH-11	Loading Point	**AB -6**	Y	Y	Y	Y	Y
AH-12	Loading Point	N	N	N	Y	Y	Y
	ShedA-10Mill-1						
AH-13	Near Conference Hall	**AB -7**	Y	Y	Y	Y	Y
AH-14	Next to Conference Hall	N	N	N	Y	Y	Y
ShedA-11Mill-1							
AH-15	Exit Quality Lab	N	N	N	Y	Y	Y
AH-16	Finishing & Chambering	N	N	N	Y	Y	Y
Shed B2Mill-2							
AH-17	**Shed Entry**	**AB -8**	Y	Y	Y	Y	Y
AH-18	Online U.T.M/C	N	N	N	Y	Y	Y
AH-19	Varnish M/C	N	N	N	Y	Y	Y
AH-20	Weigh M/C	N	N	N	Y	Y	Y

AH-21	Offline U. T	N	N	N	Y	Y	Y
AH-22	Water Tank	N	N	N	Y	Y	Y
AH-23	STG M/C	N	N	N	Y	Y	Y
ShedB-05Mill-2							
AH-24	Near Loading Area	N	N	N	Y	Y	Y
ShedB-11Mill-2							
AH-25	NearBundling-02	**AB-9**	Y	Y	Y	Y	Y
API Coating							
CH-1	Shot Blasting M/C	N	N	N	Y	Y	Y
CH-2	EndBrushingUnit-1	**CB-1**	Y	Y	Y	Y	Y
CH-3	EndBrushing-2	**CB-2**	Y	Y	Y	Y	Y
Total Hydrant Point		**28**	**Total Hydrant Box**				**11**

DETAILS OF MECHANICAL FOAM TROLLEY (MFT) 100 LTR

Sr.	Division	Location	Shed	Col.No.
1	Wider	Mill-1 Area	Shed-02	B-16
2	Wider	Mill-2 Area	Shed-03	D-11
3	Wider	CCL	Shed-07	H-12
4	Wider	CCL	Shed-07	H-15
5	Wider	Paint Yard	Shed-08	K-15
6	Wider	Paint Rack Area	Shed-08	K-15
7	Wider	Paint Yard	Shed-08	K-17
8	Tube-2 SC	Tube-2 SC	Shed-05	E-08
9	Power Plant	RFO	RFO Shed	-
10	Tube	ERW	Shed-1	A-08
11	Tube	ERW Nr. Prod.Office	Shed-03	C-05
12	Tube	ERW Nr.CNC Cutter office	Shed-03	D-14
13	Tube	ERW Nr. Tensile Testing Lab	Shed-04	F-12
14	Tube	CEW Nr.STG Machine	Shed-07	H-13
15	Tube	CEW Nr.PPC	Shed-06	G-09
16	Tube	CEW Nr PPC	Shed-06	G-09
17	LDP	Coating- Varnish Area	C-1	U-18
18	LDP	Coating-Varnish Area	C-1	U-18
19	LDP	Coating-Varnish Area	C-1	U-18
20	LDP	Blasting Area	C-2	T-04
21	LDP	Coating	C-2	T-07
22	Wider	Paint Godown		
23	Wider	Paint Godown		

10.03 DETAILS OF FIRE FIGHTING STAFF

It has been stated earlier the entire process, maintenance including supervisory staff have been trained in firefighting operation. Refresher courses are also conducted for them with the help of external agencies. At any point of time a large number of employees are available on site to cope with any fire situation. However, the following have been given intensive training and shall take charge of firefighting operations under the supervision of plant in charge and shall be assisted by others. A mock drill is occasionally carried out to assess the efficacy of the fire fighting system.

The list of Employees who have trained in firefighting operation attached in Annexure

10.04 EVACUATION AT ASSEMBLY POINT

Total 6 No. Assembly points have decided and communicated to all employees and area displayed by sign board. Wait for instructions from an incident controller or main controller.

The plant personal should be evacuated from plant are adversely affected and gather at the assembly points.

Location of Assembly point

Sr.No	Assembly Point	Location of Assembly Point
1	Assembly Point No.1	Near Admin-Ganesh Temple
2	Assembly Point No.2	Front Wider Shed-2 Side to Admin Block
3	Assembly Point No.3	Wide-Behind Admin Building
4	Assembly Point No.4	Tube Infront B P Furnace
5	Assembly Point No.5	LDP In Middle Garden
6	Assembly Point No.6	Service Center Front Garden SC-05 A

In case of toxic release man should be instructed to move across the wind direction. At the assemble area, check in with the incident controller and await further instructions.

TERMINATION OF EMERGENCY

Area incident controller shall decide termination of emergency and arrange providing help to concerned authorities to conduct enquiry if this is required and give all information regarding emergency to main controller (plant head).

I. Arrange rehabilitation and relief of affected employees.
II. In view of the above any offsite emergency is not visualized and it is felt that a detailed plan is not required.
III. The civic authorities of the area should be informed to cope with external emergency.
IV. In case of a major spillage toxic or flammable material release likely to travel beyond the factory boundary.

MEDICAL FACILITIES AVAILABLE OUTSIDE THE FACTORY:-

Details of Hospitals,Nursinghome,etc.

Name	Location	Distance
Jakhotia Nursing Home	Khopoli	6km
Khopoli Municipal Hospital	Khopoli	6km
Suprema Ortho Hospital	Khopoli	6km
Khalapur Govt. Hospital	Khalapur	4km

A. Arrangements and facilities available

All the arrangement and facilities are available in the above hospitals and nursing homes to cope up with any medical emergencies adequately.

Details of transferring affected persons:-

First aiders and process men are trained for handling accident victims. With their help, the concerned person is taken to hospital. If required the transport is available round the clock.

SAFETY PRECAUTIONS AND PREVENTIVE MEASURES

This chapter enumerates the basic and specific preventive measures to avoid minimize / Eliminate any untoward incident involving men and equipment.

Various mechanical operation comprising of essentially material handling rolling of steel strips, galvanizing, pickling and annealing have been analyzed from operational mechanical system have been provided and integrated in the above operation to minimize human exposure to avoid human injury.

That the plant handles flammable / corrosive material has been duly considered a safety in all industrial operation has been prime concern.

This is amply illustrated from the fact that there have been no major accidents during construction, commissioning, and the operational phases.

Hazards have been identified in storage, handling, maintenance and all other plant operations, carefully weighed and preventive measures provided through protective system.

It is emphasized that unless there is gross negligence or totally inadvertent human failure and or unprecedented malfunctioning of control/protective system, the probability of any hazard developing into a disaster is highly unlikely.

General.

- An NOC has been granted by the pollution board.
- Adequate mechanical guard installed around moving machineries.
- Maintenance charts are displayed for ready reference.
- Lubrication schedules are available readily.
- Separateelectricaldistributionsystemforindividualsectionprovided.
- All vessels, lifting tackles are tested according to statutory requirement.

WORK PERMIT SYSTEM.

A rigorous permit to work system has been laid down for Hot work, work at height, electrical works, pipelines, confined spaces etc. in critical areas specifying precautionary measures which includes mechanical, chemical, and electrical isolation, safe procedure, personal and other protective equipment, plant handling over and taking over system special welding, gas cutting permits, tools to be used etc.

Work permits shall be issued to work at heights, works involving opening of any equipment of pipeline containing inflammable liquids or gases, works involving high temperatures.

Works involving opening of Pipelines

- Where work of opening any equipment of pipeline containing inflammable liquids or gases is to be carried out, a work permit shall be issued, unless the equipment or the pipeline is certified to be free of inflammable gas or liquid from the concerned department, no person shall be allowed to enter or open the same.
- The work of opening such equipment or pipeline shall not be commenced unless the following operations are carried out and checked by the Supervisor in-charge of the Process Department.

BLANKING OPERATION

- The equipment or pipeline to be opened for repairs or maintenance shall be effectively blanked so as to ensure that no inflammable gas or liquid can enter the same under any circumstances during the operation of repairs or maintenance. The In charge of the Process department shall check those operations personally.

FLUSHING OPERATION

- TheSupervisoroftheProcessDepartmentshallcarryoutthesteamingorflushingoutwith water of the equipment or pipeline to ensure that all inflammable material is removed from the equipment or pipeline.

OPENING OF THE EQUIPMENT

- No part of the running equipment or pipeline shall be opened unless a test is conducted by a responsible person to ensure that the equipment or pipeline is safe for opening.
- No workers whose clothes have been contaminated with Inflammable material shall be allowed to work where any such running equipment or pipeline is being opened.
- The Safety Officer or any officer authorized by him, shall have system of random checking on the work permits issued and he shall report any serious deficiencies to the Works Manager directly.
- All drains of such equipment's or pipeline shall be laid into the drains to prevent any splashing of the draining inflammable liquids or gases.
- Before commencing the opening operation, it shall be ensured that specific persons trained in firefighting operations, is kept available and his presence shall be ensured throughout the operation of the opening of the equipment.

WORKSAT HEIGHTS

- No person shall be required to stand or pass over or work on or near any roof or ceiling covered with fragile material like A.C. sheets or similar material through which he is liable to fall, in case it breaks or gives way, a distance of more than three meters – Unless
- Suitable and sufficient ladders, duck ladders or crawling boards, which shall be securely supported, are provided, and used.
- A permit to work on the fragile roof is issued to him each time he is required to work there on by a responsible person of the factory concerned.

ELECTRICAL WORKS:

No person shall be allowed to carry out electrical works without work permit.

All the electrical works shall be carried out under the supervision of those who have adequate knowledge and relevant experience.

CONFINED SPACE WORKS:

No person shall be allowed to enter confined space without work permit.

All the works involving confined spaces shall be carried out under the supervision of those who have adequate knowledge.

The conditions in the confined space shall be inspected properly. Inspection for any toxic gases should be checked by gas detectors.

HOT WORKS:

No person shall be allowed to carry out hot works without work permit.

All the welding, gas cutting or any other type works involving high temperatures shall be carried out under the supervision of the person who have adequate knowledge and experience of that work.

OTHERWORKS:

Others works like digging, lifting operations etc. shall be carried out under proper and routine supervision.

Sr.	Type of Work Permit	Issuing Authority	Role	Cancelling Authority
1	Work a t height	Shift Incharge of concern location should issue to permit user verified by HOD	Issuing & Acceptor have To inspect the location for any un safe acts & unsafe conditions. Providing required PPE's. One supervisor should be available for work Supervision.	Issuing Authority with appropriate reason.
2	Works involvin g pipeline s	Location Head/Shift In Charge will issue to Utility Department for respective job	To inspect the location for any unsafe acts & un safe conditions. Blanking operations, Flushing operations, clearance from utility dept., shall be carried out. Providing required PPE's. Supervision of work.	Issuing Authority with appropriate reason. .
3	Electrical Works	Location Head / Shift In Charge or Electrical Incharge	To inspect the location for any unsafe acts & unsafeconditions.Inspectiono fanylooseconnections.Inspect ionofproperearthing. Providing required PPE's.	Issuing Authority with co-ordination
4	Confine dspaces	Location Head/Shift in Charge	Confined space should be free from smell and LEL/UEL Should be check in case of Gas Cutting/Welding work. AnyActivityshouldbecarriedou tundersupervisionwhohavead equateknowledge. Providing required PPE's.	Issuing Authority with co-ordination

5	Hot Work(Gas Cutting/Welding Work)	Location Head /Shift In Charge	Any Hot work should be carried out with supervisor who have adequate knowledge and experience of that work. Providing required PPE's. Supervision of work.	Issuing Authority with co-ordination

PROCEDURE

- Work permits like Permit to work at height (according to Rule 73-F of MFR 1963), works involving opening of pipelines containing inflammable gases or liquids (according to Rule 73-CofMFR1963) etc. shall be issued to company/contract employees.
- All the required PPEs like safety belts, gloves, goggles, helmets etc. shall be provided according to the type of work. Area shall be barricaded if required.
- After providing all the requirements, work permit shall be issued by concern in charge to work accept or with dually signed. After the completion of work, the work permit shall be closed with dually signed by issuer and acceptor of the work permit.

OTHER MEASURES

- Factory operating license has been duly obtained from the Directorate of Factories and all conditions there in have been strictly complied with.
- Similarly required licenses for storage and handling of class petroleum like LNG, petrol & Diesel have been granted by the chief controller of explosive and again all the condition specified have been complied with.
- Wind direction indicating equipment is being installed.
- Acid storage and handling areas have been provided with wash facilities.
- All personal protective equipment is ISI approved.
- All tools for electrical maintenance are insulated and electrically driven and tools are properly earthen.
- Required safety measures are provided for flames failure to prevent explosions.
- All rolling and other similar hydraulically driven equipment have been provided with trip system and all control switches are conventionally located for easy access and emergency operations.
- LNG Storage Located away from main facilities.
- Leak detection system is incorporated.
- All welded joints in the related pipelines are periodically tested for leaks.
- Auto shut of valves are provided in out let lines.
- LNG area is fenced, and entry restricted to authorized person only with no smoking board displayed prominently.
- Details of Inspection procedures
- All drives pumps and other moving parts are inspected for overheating, coupling guards and other protections.
- Vessels and pipelines are checked for leaks etc. visually on a routine basis.
- Statutory inspection is done during shut down (pressure vessel, lifting tackle etc.)as per schedule.
- Testing of trips and alarm system and interlocking device, pressure relief valves, solenoid and control valves etc., are done on stream, dynamically and also by stimulated conditions during shut down.

SAFETY ORGANIZATION AND ITS ACTIVITIES SAFETY COMMITTEE ACTION PLAN.

- A safety committee has been constituted under the chairmanship of the Vice President or alternatively his deputy.–The members include supervisory staff and workers suitable representing the production and maintenance departments. The safety incharge is the secretary/Convener of the committee which meets periodically.
- To review safety status of the factory.
- Discuss accidents, fires and other abnormal occurrences.
- Monitor the safety action plan and its implementation. A safety action plan has been drawn up by the safety inch arge and has been endorsed by the committee.
- To control hazardous waste generated during organizational processes and disposal mode in the environmentally safe manner.
- Make the procedures for controlling the depletion of natural resources (DNR)ex. Energy consumption, water consumption, steam consumption etc.…
- These consist of Accident prevention program. Investigation of accidents and fire.
- Routine inspection to identify and removal of unsafe conditions.
- Statutory inspection.
- Organize safety and fire training program.
- Publicity through poster, slogan,etc.
- Ensure implementation of recommendation arising out of inspection, various investigation, audit, safety suggestion.
- Maintain personal protective equipment.
- Conduct internal audit and arrange audit through external agencies.
- Liaise with safety, health and environment authorities.
- Assist maintenance and process depts. During shut down work.
- Advice management on all matters related to safety and suggests improvement.
- Organize onsite Emergency Plan rehearsals.
- Supervise firefighting.
- Circulate information available on occurrences of interest regarding afety.
- Identification and protection of vital records
- All statutory documents, design data project report / drawing have been identified as vital document and have been stored in safe location and provided with security measures.
- Copiesofthesehavebeenmadeandkeptatadifferentplaceandareeasilyaccessible.
- Communication
- Mode–There are three modes of communication. - Intercom., EPABX Service ,Mobiles.

- An efficient and dual communication system ensures effective and quick transmission of important messages so critical for seeking remedial assistance requires for disaster control.
- The above also ensures external resource mobilization in the event of an emergency without much loss of time from other establishment and factories.

11.0 TRAINING & MOCK DRILL

TRAINING

The employees will be informed about 'On – site Emergency Plan' in details, with the help of training programs. For the success of this plan not only training will be organized but mock drill also will be organized periodically. Mock Drill will help to understand the role to be played by everyone during the emergency.

MOCK DRILL PROCEDURE

- Inform all the employees about mock drill.
- Fix the date for mock drill.
- Mock drill will be monitored by observers who are not involved in the exercise.
- Emergency alarm will be raised.
- After hearing the alarm Emergency Procedure will be followed as per Annexure III and IV
- All clear signal will be given after half an hour.
- Observers will note down the activities with respect to the time.
- Lacunas observed in the system will be studied carefully, if necessary, 'OEP' will be modified.
- Records of drill are to be maintained.

SAFETYAWARENESS PROGRAMAM ON GST WORKERS

It is established fact safety awareness can only be achieved through theoretical training reinforced by practical and example and exposure tone a live situation. Hence the following action has been taken.

Security guard, process and maintenance men have been trained in firefighting, use of gas mask and fire extinguisher refresher courses are also arranged at regular interval for this purpose help of local fire brigade and standard equipment manufacturers are taken.

First aid and rescue operation training have been imported to men through the fire brigade again and recognized medical practitioner.

In house training program on

- Safety in plant /equipment operation

- Safety in emergency situation
- Hazards involved in handling and storage of specific materials used, the above are conducted for men concerned at regular intervals for most of the hazardous processes, hydraulically operated machine operation, maintenance & handling of electrical control panels, distribution boards, transformers etc. Job safety analysis has been done and workmen concerned have been instructed and trained accordingly.

Public Awareness & Disclosure of information

It is to be emphasized here

That the factory is located in an isolated area. There is approximately total population 5000 which also includes nearby village namely Savroli, Dhamani, Khalapur.

Disclosure information of toxic ammonia is given to near by population and addressed its impact and what safety precaution to be taken in case of heavy leakage

The only toxic gas is ammonia. Due to its strong pungent odor even, the minor leakage is detectable and can be taken effectively by operators at its inception as the storage, like the process area is manned round the clock.

Active mitigation safeguard will be active above 35 ppm leakage of ammonia and sprinkler water will be start automatically. Alarm sensor will start in control room

Ammonia being heavier than air chances of the gas floating outside is practically nil if leakage will occur the nit can remain on ground level.

Builtinsafetymeasuresincorporatedinplantoperationandstorageareal mostfool-proof and thereby possibilities of any major fire, explosion, and formation of toxic, are extremely remote.

The internal resources and facilities both in terms of hardware and software available are reasonably adequate to cope with various exigencies arising within the factory.

The only flammable gas is LNG. Due to its leak detection system even, the minor leakage is detectable and can be tackled effectively by operators at its inception as the storage like the process area is manned round the clock.

Again, the internal resource and facilities both in terms of hardware and software available are reasonably adequate to cope with various exigencies arising within the factory.

In the absence of a significant habitation, within 2 kms and the capabilities of the organization to contain the incident and confine it within the premises, it is felt that an extensive public program is not required.

In the CCL Location CO2 Flooding system is incorporated. In case of fire alarming will start and co2 suppression will work at 68-degree temperature of coater room.

12.0 UPDATING THE PLAN

As and when required this ‘On – Site Emergency Plan’ will be updated and informed to all. If necessary, after each drill the plan will be thoroughly reviewed to take account of shortcomings.

ANNEXURES

LIST OF PERSONSTRAINED FOR FIRE FIGHTING

Sr.	Name (Mr.)	Dept.
1	D N RAM	Security
2	AJEET KUMAR ROY	Security
3	AMARJYOTI NEWAR	Security
4	AJAY KUMAR MISHRA	Security
5	BALADAU SINGH	Security
6	DHIRENDERKUMAR TIWARI	Security
7	KAMLESH KUMAR	Security
8	KARAN SHIV SONI	Security
9	MADAN GOPAL SINGH	Security
10	ARUNKUMAR RAM	Security
11	MANOJ MISHRA	Security
12	MANOJ KUMAR RAI	Security
13	NEETU RAM	Security
14	NARESH KUMAR TIWARI	Security
15	NAVIN SINGH	Security
16	PANKAJ KUMAR	Security
17	SATYARAJ SINGH	Security
18	UMESHCHAND PATHAK	Security
19	VINOD KUMAR	Security
20	RAJESH SINGH	Security
21	UMED SINGH	Security
22	BRIJRAJ SINGH	Security
23	BALIRAM KUMAR	Security
24	MUKESH KUMAR	Utility
25	MONU KUMAR	Utility

26	AKASH MOHITE	Utility
27	RUTVIK PATIL	Fire -Safety
28	VINAYAK DHEPE	Fire- Safety
29	PRAKASH SHINDE	Fire- Safety
30	PREM CHANDRA PATEL	Fire-Safety
31	AMOL MUDPALLIWAR	ARP
32	Manish Mishra	WCRM Electrical
33	Anand Chawda	WCRM Mecahnical
34	Anil Tripathi	NCRM H&T
35	Jeevan Tiwari	HTSS
36	Suryaji Chaugule	Tube Mechanical
37	Deep Chandra Joshi	WCRM Electrical
38	Nikhil Pote	LDP
39	Surendra Thathera	LDP Electrical
40	Praveen Kumar	LDP Qauality
41	Anand Seth	NCRM Pickling
42	Lovekesh Saxena	Tube Mechanical
43	Ritesh jadhav patil	NCRM BAF
44	Jaiprakash Chandra Maurya	LDP Electrical
45	Hardeep Singh	Fire
46	Janardan Bodenkar	Fire
47	Abhijit	Fire
48	Avinash	Fire
49	Dayanand	Fire
50	Sujal	Fire
51	Ronit Moreshwar Vichare	LDP
52	Asish Sharma	WCRM Mechanical
53	Naynish Soupali	Tube Electrical
54	Saurabh Singh	Tube STP

55	Ramesh Chandra Singh	NCRM
56	Sunil Kr. Sharma	Utility
57	Ravi Kumar Kolluru	LDP Coating
58	Virendra Priyadarshi	WCRM BAF

NAMES OF FIRST AIDERS

Name of Certified FirstAider

Sr.	Name of Participants (Mr.)	Emp. ID	Department	Company/Subsidiary/Contract
1	AJAY KUMAR SINGH	975596	LDP-Elect.	TSTSL
2	DINKAR PRASAD MISHRA	920457	LDP-Elect.	COMPANY
3	JATA SHANKAR SINGH	920601	LDP-Mill	COMPANY
4	MANOJ KUMAR RAI	975620	LDP-Finishing	NAVAYUGA
5	MANOJ SINGH	920472	LDP-Mill	TSTSL
6	MARKANDEY KUNWAR	920458	LDP-QAD	COMPANY
7	MUKESH KUMAR JHA	920542	LDP-Ele	COMPANY
8	OMKAR NATH PANDEY	975583	LDP-Mill	TSTSL
9	SANJAY KUMAR SAROJ	975898	LDP-QAD	TSTSL
10	SANTOSH KEDARE	975682	LDP-Finishing	TSTSL
11	SHREE BHAGVAN SAH	920541	LDP-QAD	COMPANY
12	SHRIKANT YADAV	920464	LDP-QAD	COMPANY
13	ABHAY PRATAP SINGH	920383	Comm.	COMPANY
14	ARUN KUMAR SINGH	965669	Security	TSSSL
15	MANTU KUMAR PANDEY	965692	Security	TSSSL
16	PREMCHANDRA PATEL	965506	Comm.	TSSSL
17	SATYAJIT MAHATO	CMA580	Store	Shivam Enterprises
18	SUBHASH GAIKWAD	965678	Comm.	TSTSL
19	SURENDRA.P. TIWARI	920593	COMM.	COMPANY
20	DHARMENDRA KR. MAHATO	SCS 290	Store	Shivam Enterprises
21	JITENDRA MISHRA	920522	NCRM-Mill	COMPANY
22	MANTUKUMAR PANDEY	965692	Security	TSTSL
23	ARUN K SHARMA	HH0008	Security	MSG
24	KASHLYA SHARMA	HH0032	Security	MSG
25	JAY PRAKASH	HH0010	Security	MSG
26	ISHWAR SINGH	HH001	Security	MSG
27	VISHAL S CHOGLE	HH0028	Security	MSG
28	ROHIT VYAS	HH0015	Security	MSG

29	SAKSHI ANIL KALAMKAR	HH0022	Security	MSG
31	USMAN AYUB SHAIKH	CNE 557	TUBE-MM	NISHA ENT
32	ANIL BANSAL	975867	TUBE	TSTSL
33	SUBHASH PRADHAN	965750	Security	TSTSL
34	MUKESH KUMAR	975964	UTILITY	TSTSL
35	DIPNARAYAN RAM	965529	Security	TSSSL
36	RAJKUMAR	CKK129 0	T-ERW P&F	KARTIK KUMAR
37	CHETAN K DALVI	CSL 970	T-ERW P&F	KARTIK KUMAR
38	ANAND SHARMA	975864	NCRM	TSTSL
39	AMAN KR.SINGH	920659	PP	COMPANY
41	MANISH SINGH	975985	LDP-Elect	TSTSL
42	AMIT BANSAL	920489	TUBE -Mill	COMPANY
43	VAIBHAV PARANJAPE	920950	TUBE -Mill	Company
44	NIHAR NAND KR.PATIL	976140	T2-SC Mill	TSTSL
45	ROHIT DINKAR RAVI	976093	P-Plant	TSTSL
46	LAKHAN.H.SHINGE	CSJE22 6	SC-TUBE	SIDDHARTH
47	RAJNISH DWIVEDI	965723	Admin	TSSSL
48	ANIRUDHHA BIND	975757	Transport	TSTSL
49	HARERAM VERMA	975854	Transport	TSTSL
50	HAVALDAR SAROJ	965714	Carpenter	TSTSL
51	DILIP SHARMA	965552	Carpenter	TSTSL
52	BAJRANGI PANDEY	975761	T-P&F	TSTSL
53	HARI SINGH NEGI	965501	Security	TSTSL
54	GAJANAN KALE	920283	T-P&F	Company
55	KRISHNA KUMAR	920663	T-Mill	Company
56	TRILOKINATH PANDEY	920215	S.Center	Company
57	CHITRANJAN PASWAN	975916	T-Prod.	TSTSL
58	SANJAY VISHNU JADHAV	920172	PP-Mech	Company
59	ARUN RAI	975686	LDP-Mill	TSTSL
60	BINOD KR.SINGH	CSBE11 5	T-Dispatch	Shivbalak
61	MITHILESH TIWARI	975765	N-ARP	TSTSL
62	SANTOSH PATIL	CJGE12 8	Sub-Station	Jagannath Elect.
63	KRISHNA DESHMUKH	CSJE22 7	SC-Prod	Srija Enterprises
64	ARVIND MURARI	965610	Transport	TSTSL
65	KUMAR AMIT RANJAN	920130	Utility	Company
66	SAURABH SINGH	920740	T-CEW	Company
67	SUBHAM KR.RAI	920883	Utility	Company

68	PRAJAKIA P SONTAKKE	HH0024	OHC-Nurse	Health Point
69	MITHILESH KR.SINGH	920198	P.Plant	Company
72	PUSHPENDRA SINGH	CKK1255	P.Plant	Arif Khan
73	SURENDRA KR.SINGH	920440	NCRM-Mill	COMPANY
74	DINESH R SURELKAR	920319	W-MM	Company
75	RANJEET KR.GUPTA	975825	W-Mill Prod	TSTSL
76	MALAI RAJU SANGALI	965569	Transport	TSTSL
77	NITIN RATHOD	920481	N-ARP	Company
78	NAND KR. PATEKAR	SEPL01	T-Mill	ARMS India
79	ARVIND RAI	975953	LDP-Mill	TSTSL
80	INDRAJEET YADAV	920787	LDP-Finishing	Company
81	GYAN SINGH	975841	T-ERW P&F	TSSSL
82	SHABBIR H PATEL	965584	Transport	TSTSL
83	MRITYUNJAY SINGH	CSBE62	T-Dispatch	Shivbalak
84	ASHUTOSH VIMAL	920595	GP-1 Prod.	Company
85	VIRAJ SUNIL PATIL	921093	GP-2 Prod.	Company
86	NARESH AKHADE	CNF69	N-Prod.	Arif Mohammad
87	ASHOK KUMAR SINGH	CPE0014	LDP-MM	Nisha Enterprises
88	MILIND T KANADE	920086	PP-MM	Company
89	CHINTAMANI.S. PATIL	920324	TUBE-STP	Company
90	SUBEDAR SINGH	920170	T-ERW P&F	Company
91	PARTHSARATHI PATEL	920514	T-Prod	Company
92	KAMLAKAR BHADAURIYA	920384	T-ERW P&F	Company
93	RAM KESHAR YADAV	920378	W-CCL-M/M	Company
94	SHIVAJI. N.YADAV	CNE 554	T-MM	Nisha Enterprises
95	RAMCHANDRA SINGH	965531	Security	TSTSL
96	KIRAN SAIDAS RATHOD	976047	P-Plant	TSTSL
97	SANDIP KAMBLE	CJGE123	P-Plant	Jagannath Electrical
98	DHEERAJ KUMAR	920806	LDP-MM	Company
99	AKSHAY K. DURGAVALE	976046	Tube-Prod.	TSTSL
100	VISHAL VILAS SHELKAR	921021	Tube-Prod	Company
101	SHRIGOPAL SINGH	920097	P-Plant	Company
102	SURESH KUMAR KOTARY	975865	P-Plant	TSTSL
103	NIKHIL B.RITHE	965785	HR	TSSSL
104	ASHOK RANA	920078	HR	Company
105	ANIL KADAM	CJGE11	PP-Electrical	Jagannath Electrical

		6		
106	KARAN SAWANT	KG 116	Security	Terrier
107	SUBRATA BAURI	CSL884	Admin-Office boy	Shivam Enterprises
108	DALSINGAR BIND	975713	Garage	TSTSL
109	GAURISHANKAR PRASAD	961325	CCL-MM	TSTSL
110	AKHILESH	920575	W-Roll Shop	TSL
111	PANKAJ MAHTRE	920971	W-MM	TSL
112	PARDEEP SINGH	975606	T-Prod	TSTSL
113	DHAMMANAND TARKASE	920479	T-ERW Prod	Company
114	RAVINDRA SINGH	920456	T-ERW Prod	Company
115	RAJESH SONI	975643	W-GP-2	TSTSL
116	JONIE JOSEPH	920135	W-Mill Prod	Company
117	RAVITOSH KUMAR	920469	P-Plant	Company
118	PANKAJ KUMAR	965513	Security	TSTSL
119	ATUL KUMAR TIWARI	975910	N-QAD	TSTSL
120	SANTOSH.M. MORE	971668	Transport	TSTSL
121	VIJAY.B. PAWAR	965586	Transport	TSTSL
122	GANESH.D. BORADE	CJGE 118	LDP-Elect.	Jagannath Elect.
123	CHANDRAKANT.P. MANAVE	975853	T-ERW P&F	TSTSL
124	ANKIT KADAM	920631	Utility	Company
125	ANIL KUMAR	965572	LDP-Mill	TSTSL
126	TAPAS DAS	976023	LDP-Coating	TSTSL
127	BIJAY KUMAR SINGH	920543	LDP-Coating	TSTSL
128	SHAMBHU UPADHYAY	920399	W-SC Prod	Company
129	MANOJ MISHRA	965539	Security	TSTSL
130	KAMAL THAPA	975708	Civil	TSTSL
131	TAKSHIL VIJAY DESHMUKH	CMS 88	Security	MSSC
132	SUBODH KR. SINGH	975707	N-H&T	TSTSL
133	UTTAM KUMAR BHUI	920197	N-QAD	Company
134	VISHAL V MANE	CNE473	T-Prod.	Nisha Enterprises
135	SACHHIDANAND CHAUHAN	975998	LDP-Elect.	TSTSL
137	AMIT KUMAR MISHRA	975633	P-Plant	TSTSL
138	DEEPAK GANESH MALI	921024	LDP-QAD	Company
139	TABREJ MANSURI	921018	LDP-QAD	Company
140	DEEPAK JADHAV	975692	OHC	TSTSL
141	ASHOK SHARMA	965546	Carpenter	TSTSL
143	DEVLAS SAROJ	965557	Carpenter	TSTSL
144	DIWAKAR TIWARI	920053	HR	Company

145	NIKHIL PRAFULLA HINGMIRE	920996	LDP-QAD	Company
146	YASHWANT KR. PRAJAPATI	965716	Security	TSTSL
146	HARDEEP SINGH	965704	Fire	TSTSL
148	RAM AWADH YADAV	920551	LDP-Coating	Company
151	GAUTAM SINGH	920640	TUBE-Prod	Company
152	KALI PRASAD	CKK 1081	T-ERW P&F	Kartik Kumar
153	DEVENDRA KALE	920250	T-ERW P&F	Company
154	JAGDISH.U. RANE	920295	NCRM-QAD	Company
155	SANJAY.V. JADHAV	920172	PP-MM	Company
157	RANJAY KUMAR	CKK 381	T-ERW P&F	Kartik Kumar
159	ARVIND RAM	975963	LDP-Finishing	TSTSL
160	PRANAB BAURI	CKK 359	Store	Shivam Enterprises
161	AJIT MANDVE	92013	LDP-Quality	Company
162	SHASHI RANJAN MISHRA	965646	W-Dispatch	TSTSL
163	TEJ PRATAP SINGH	975807	T2-SC Mill	TSTSL
164	VAIBHAV.V. DHARVE	920969	LDP-Elect.	Company
165	AJIT ZILU MANDVE	921013	L-QAD	Company
166	PRASHANT MORE	_	_	_
167	KOMAL SINGH	975734	Civil	TSTSL
168	RAMJAN SIDDIQUI	CKK 881	T-ERW P&F	Kartik Kumar
169	VIKASH POPAT DETHE	921019	LDP-QAD	Company
170	KRISHNKANT JHA	920878	LDP-Elect.	Company
172	VIJAY JHA	920482	N-H&T	Company
173	MILIND MANOHAR KARLE	920961	LDP-MM	Company
174	UTTAM RAY	920566	L-Workshop	Company
175	GOPAL VANDEV KHAIRE	976066	P-Plant	TSTSL
176	RAVINDRA GUJAR	920222	N-QAD	Company
177	ANIL TRIPATHI	920435	N-H&T	Company
178	KAMLESH KUMAR	965538	Security	TSTSL
179	RUSHIKESH.M. PATIL	SCS 114	LDP-QAD	Shivam Enterprises
180	AMOL MUPALLIWAR	920213	N-ARP	Company
182	RAMSAKAL YADAV	920231	Utility	Company
183	SANKET.M. SHIRKE	920554	P-Plant	Company
184	HIRALAL	920286	GP-1	Company
185	AMIT SHARMA	920450	N-Finishing	Company
186	SHAMSHER SINGH	975981	LDP-Coating	TSTSL

187	PRATIK TRIPATHI	920686	LDP-Coating	Company
188	RAVI SHANKER RAI	975661	GP-2 MM	TSTSL
189	RAHUL JAGTAP	920857	LDP-MM	Company
190	RAJKUMAR.M. DUDHE	920496	N-ARP	Company
191	JAHAR PATEL	CKK892	Store	Shivam Enterprises
192	SUHAS SURESH SAWANT	HH003	OHC	Health Point
193	MUNSHI YADAV	975978	TUBE-Mill	TSTSL
194	MUKESH KUMAR SINGH	CKK880	T-ERW P&F	Kartik Kumar
195	UMMED SINGH	965535	Security	TSTSL
196	SANTOSH KUMAR	975976	LDP-Elect.	TSTSL
197	DINESH.C. THAKRE	920073	Tube-CEW	Company
198	MITHILESH YADAV	920877	LDP-Elect.	Company
199	NITESH BHANDARI	920731	EPH Office	Company
200	VINOD.R. YADAV	965512	W-Finishing	TSTSL
201	SUNIL.L. PATIL	965512	W-Finishing	TSTSL
203	MANNU KUMAR	CMA1037	Utility	Nisha Enterprises
204	SHRI BHAGWAN SAH	920541	LDP-Coating	Company
205	MANOJ KUMAR UPADHYAY	920146	TUBE-MM	Company
206	PREM KUMAR CHAVAN	920963	Tube-QAD	Company
207	PANKAJ KAMBLE	921027	LDP-Mill	Company
208	ROSHAN.R. MHETAR	921003	LDP-Mill	Company
209	BHAKTI CHOUDHARY	920951	PP-Elect.	Company
210	SHAILENDRA KR. PANDEY	920200	N-Dispatch	Company
211	RAJNARAYAN PANDEY	920156	GP-1 Prod.	Company
212	VIJAY.B.RAI	920421	GP-1 Prod	Company
213	NEETU RAM	965537	Security	TSTSL
214	AMEY RAJU KHADE	976109	O&M	TSTSL
215	PRATIK VITHOBA BHONKAR	976116	O&M	TSTSL
216	ROHIT.B. GAULI	976108	O&M	TSTSL
217	VAIBHAV.S. NIKUMBH	976118	O&M	TSTSL
218	ROHIT.R. MORE	976114	O&M	TSTSL
219	PRASAD SHRIDHAR PAYMODE	976105	O&M	TSTSL
220	SANCHIT BHASKAR BHOIR	976126	O&M	TSTSL
221	SUNIL.C. HAMBIR	976095	O&M	TSTSL
222	GEET RAJESH THAKUR	976119	O&M	TSTSL
223	RAHUL.J. ANJARLEKAR	976113	O&M	TSTSL

DETAILS OF RESPIRATORY APPARATUS

Location	**Type**	**Quantity**
Ammonia & Handling area	a. SCBA Set	**2**
	b. M3 Dust Mask Double Cartridge	**5**
Other Process Area	a. SCBA Set	4
Other Process Area / Rescue Control Room	b. M3 Dust Mask Double Cartridge	20
Storage & Dust prone area Nose masks personal issue		

Others

Helmet	Personal issue
Hand gloves	
a)(Synthetic Rubber /PVC)	Used for acid handling
b) Leather Hand Gloves	For hot work
c) L-5 Cut Resistance Hand Glove	For Sharp edges sheet handling/packing area
Shoes	Personal issue
Goggles	Personal issue (Power /Acid proof /General Type)
Apron(General& Acid Proof)	Splash protections / Acid protection
Respirators	For Ammonia & Acid handling /CCL /Pickling /LDP-Varnish Coating/ARP Person

Safety Belts	For workers working at heights
Face Shield	For protection of face from flush during hot work activity like gas cutting/welding
Ear Plug, Earmuffs	For ear protection of employees from high noise exposure

FIRST AID FACILITIES

The first aid boxes are fully equipped with emergency medicine and emergency care equipment. First aiders are readily available during working hrs. to provide the necessary help whenever required.

Location ofFirst Aid Boxes: -

Sr.	Division	Section	Custodian(Mr.)
1	**Aurangabad**	Main Office	Sandeep Yadav
2	**Aurangabad**	Security Gate	Sandeep Yadav
3	**Automobile**	Bus No. 422	M Raju
4	**Automobile**	Bus No. 7038	Arvind Murari
5	**Automobile**	Bus No. 7507	Usman Shaikh
6	**Automobile**	Bus No. 7668	Md. Sabbir
7	**Automobile**	Bus No. 7739	Vijay Pawar
8	**Automobile**	Garage	TC Sharma
9	**Chakan**	Main Office	Alok Kodgire
10	**Chakan**	Security Gate	Alok Kodgire
11	**Comm.**	Admin-Reception	Rajnish Dubey
12	**Comm.**	Civil Office	Komal Singh
13	**Comm.**	Security Gate-Plant	Vipin Thorat
14	**Comm.**	Stores	SS Mishra
15	**LDP**	Coating	Jaishankar Prasad
16	**LDP**	Mill-1 Production	Devendra Verma
17	**LDP**	Mill-2 Production	Devendra Verma
18	**Logistic**	Truck Parking Area	Shajan P. Sebastian
19	**NCRM**	H&T	Vishal Mathur
20	**NCRM**	HTSS	Vishal Mathur
21	**NCRM**	Mill	RS Thakur
22	**Power Plant**	DG Plant	YPS Rathore
23	**Power Plant**	Sub Station	Maneesh Vijay
24	**Township**	Carpentry Shop	Ashok Carpenter
25	**Township**	Tulip Building	Diwakar Tiwari
26	**Tube**	T1-CEW Production	Jagdish Giri
27	**Tube**	T1-ERW Production	MM Pawar
28	**Tube**	T2-ERW Production	Akshay Dongre

29	**Utilities**	Utilities	SK Sharma
30	**Wider**	CCL	Pankaj Piyush
31	**Wider**	Mill Production	YSN Murthy
32	**Wider**	Service Centre	Manoj Puri

SPECIAL AND OTHER MEDICAL FACILITIES AT OCCUPATIONAL HEALTH CENTRE

Factory Medical Doctor are available in the Factory's Occupational Health Centre for special treatment and unless the victim needs surgical / specialist treatment the arrangements inside can cope with the emergency. Besides, transport is available round the clock for immediate removal of the victim to the nearest hospital.

In view of our internal arrangement and also the availability of adequate external medical facilities nearby, the necessity of mutual aid with neighbouring factories has not been developed. Besides any extensive damage is not possible in our type of manufacturing activities, operational exposed strength being very low. New Occupational Health Center (OHC) now ready with equipped all medical facility of first aid and general treatment of employees.

24x7 an ambulance van is ready for quick response access at affected location within the factory premises. Trained male and female nurse staff are working in OHC

MATERIAL SAFETY DATA SHEET

1.CHEMICAL IDENTITY

Chemical Name	**AMMONIA**	Chemical Classification	**Inorganic Compound**
Synonyms	**AMMONIA**	Trade Name	**Ammonia**
		C.A.S.No.	**7664 - 41 - 7**
Formula	**NH_3**	U.N.No.	**1005**
Regulated Identifications	Shipping Name	**Ammonia**	
	Codes/Label	**Flammable Gas Class - 2**	
	Hazardous Waste I.D.No.		
	Hazchem No.	**2 PE**	

Hazardous Ingredients	C.A.S. No.	Hazardous Ingredients	C.A.S. No.
1 **Ammonia**	**7664-41-7**		

2.PHYSICAL AND CHEMICAL DATA

BOILING Range / Point °C	Physical State	Appearance
- 33.3	**Liquefied Compressed Gas**	**Colourless**
Melting/Freezing Point °C	Vapour Pressure at 35°C	Odour
- 77.77	**7600 mm Hg at 25.7°C**	**Strong Pungent Odour**
Vapour Density (Air =1)	Solubility in water at 30°C	Others
0.6	**3.5 gm./100gm.**	**Moderately Soluble in Alcohol**
Specific Gravity (Water=1)	pH	
0.771 at 0° C	**(1 N Aq. Sol.)11.6 Alkaline Gas**	

3.FIRE AND EXPLOSION HAZARD DATA

Flammability	LEL	Flash Point °C	
Yes	**16%**	**Not Pertinent**	**(OC)**
TDG Flammability	UEL	Flash Point °C	
N.A.	**25%**	**Not Pertinent**	**(CC)**
Autoignition Temperature °C	**651**	Combustible Liquid	**Yes**
Explosion Sensitivity to Impact	**Stable**	Flammable Material	**No**
Explosion Sensitivity to Static Electricity	**Not available**	Pyrophoric Material	**No**
Hazardous Combustion Product	**Emits Toxic Fumes of NH_3 & NO_x**	Explosive Material	**No**
		Oxidiser	**No**
Hazardous Polymerisation		Organic Peroxide	**No**
Others	**Will not occur**	Corrosive Material	**No**

4.REACTIVE DATA

Chemical Stability	**Stable**
Incompatibility with other Material	**Storage oxidisers, Calcium hypochlorite, Gold, Mercury, Silver, Halogens, Acetaldehyde, Acrolien.**
Reactivity	**Reacts with silver chloride, silver nitrate, silver azide, chlorine, bromine, iodine, heavy metals & their compounds. Incandescent reaction when heated with calcium.**
Hazardous Reaction Products	

5.HEALTH HAZARDS DATA	
Routes of Entry	Inhalation, Eyes and Skin contact.
Effects of Exposure/ Symptoms	700 ppm causes eye irritation and contact can damaged Cornea. 5000 ppm cause death from spume inflammation. Contact with skin freezes the tissues and causes the caustic burns. Nose , Throat and Respiratory tract.
Emergency Treatment	Inhalation: Remove victim to fresh air area and provide artificial respiration or oxygen if required. Skin & Eye: Wash the affected area with plenty of water for 15 mins. Seek Medical Aid.

TLV (ACGIH)		STEL	
25 ppm	18 mg/m^3	35 ppm	27 mg/m^3
Permissible Exposure Limit		Odour Threshold	
25 ppm	18 mg/m^3	46.8 ppm	32.53 mg/m^3

LD_{50} (Oral Rat)	350 mg/Kg			mg/Kg
NFPA Hazard	Health	Flammability	Reactivity	Special
Signals	2	1	0	

6.PREVENTIVE MEASURES	
Personal Protective Equipment	Avoid contact with liquid or vapour. Gloves, Protective clothing , Respiratory Protective equipments, safety goggles or face shield.
Handling & Storage Precautions	Avoid storing along with oxidizing materials and away from all possible sources of ignition. Store in well ventilated flame resistant location.

7.EMERGENCY / FIRST AID MEASURES		
FIRE	Fire Extinguishing Media	Water,CO_2,DCP ,Water spray or fog.
	Special Procedure	Stop flow of gas, Keep the containers cool by spraying water.
	Unusual Hazardous	Gas is suffocating.
EXPOSURE	First Aid Measures	Remove to fresh air , provide artificial respiration or oxygen.
	Antidotes / Dosages	1% solution of ATROPINE.
SPILLS	Steps to be Taken	Contain leaking liquid on sand or earth, allow to evaporate. Dilute the vapours with plenty of water.
	Waste Disposal Method	seal all waste in vapour tight plastic bags for eventual disposal.

8.ADDITIONAL INFORMATION / REFERENCES
Those affected with Eyes and Pulmonary diseases should avoid exposure to NH_3 leaks. LCLo :30000 ppm/5M (ihl-hmn) . A human poison by an unspecified route. Difficult to ignite . NH_3 and air in a fire, can detonate. Potentially violent or explosive reactions on contact with interhalogens. Forms sensitive explosive mixture with air and hydrocarbons.

9.MANUFACTURERS / SUPPLIERS DATA			
Name of Firm		Contact Person in Emergency	
Mailing Address		Local Bodies Involved	
Telephone / Telex Nos.		Standard Packing	
Telegraphic Address		Trem Card Details / Ref.	

10.DISCLAIMER

MSDS-HYDROCHLORICACID

MATERIAL SAFETY DATA SHEET					
1.CHEMICAL IDENTITY					
Chemical Name	HYDROCHLORIC ACID		Chemical Classification	Inorganic Acid	
Synonyms	Muriatic Acid, Chlorohydric acid, Spirit of Salt,		Trade Name	HYDROCHLORIC ACID	
			C.A.S.No.	7647-01-0	
Formula	HCl		U.N.No.	1017	
Regulated Identifications	Shipping Name		HYDROCHLORIC ACID		
	Codes/Label		Corrosive Class 8		
	Hazardous Waste I.D.No.		16		
	Hazchem No.		2 R		
Hazardous Ingredients		C.A.S. No.	Hazardous Ingredients		C.A.S. No.
1	HYDROCHLORIC ACID	7647-01-0			
2.PHYSICAL AND CHEMICAL DATA					
BOILING Range / Point °C		Physical State		Appearance	
-84.8		Liquid		Colourless	
Melting/Freezing Point °C		Vapour Pressure at 35°C		Odour	
-114.3		3040 mmHg.		Sharp irritating Odour	
Vapour Density (Air =1)		Solubility in water at 30°C		Others	
Not Pertinent		Soluble		Soluble in Ethyl Alcohol & Ethyl Ether	
Specific Gravity (Water=1)		pH			
1.19 at 20° C (Liquid)		> 1			
3.FIRE AND EXPLOSION HAZARD DATA					
Flammability		LEL		Flash Point °C	
No		Not Pertinent %		Not Pertinent (OC)	
TDG Flammability		UEL		Flash Point °C	
N.A.		Not Pertinent %		Not Pertinent (CC)	
Autoignition Temperature °C		Not Pertinent		Combustible Liquid	No
Explosion Sensitivity to Impact		Stable		Flammable Material	No
Explosion Sensitivity to Static Electricity		Stable		Pyrophoric Material	No
Hazardous Combustion Product		Emits Toxic Fumes of Cl		Explosive Material	No
				Oxidiser	No
Hazardous Polymerisation		Will not occur		Organic Peroxide	No
Others				Corrosive Material	Yes
4.REACTIVE DATA					
Chemical Stability	Stable Liquid				
Incompatibility with other Material	React with alkali and active metals.				
Reactivity	Violent reaction with Acetc, Anhydride, 2-Amenoethanol, NH_4OH, Ca_3P_2, Chloro Sulfonic Acid, Difluoroethylene, Ethylene Diamine, Ethylene, Oleum, HClO & Propylene Oxide				
Hazardous Reaction Products	Potentially dangerous reaction with Sulphuric Acid, releases HCl gas.				

5.HEALTH HAZARDS DATA				
Routes of Entry	Inhalation, Ingestion, Eyes & Skin.			
Effects of Exposure/ Symptoms	Inhalation of Fumes results in coughing, choking sensation, Irritation to nose and lungs. Liquid causes burns. Can burn mouth and digestive tract.			
Emergency Treatment	Inhalation : Remove the victim to fresh air area, keep him warm, start artificial respiration if breathing stops. Ingestion : Have the victim drink water or milk. Do not induce vomiting. Eyes & skin : Flush with plenty of water 15 min. Remove contaminated clothing's. Seek Medical Aid Immediately.			
TLV (ACGIH)			STEL	
5 (Ceiling) ppm	7 (Ceiling) mg/m^3		Not Listed ppm	Not Listed mg/m^3
Permissible Exposure limit			Odour Threshold	
5 (Ceiling) ppm	7 (Ceiling) mg/m^3		1 - 5 ppm	47 - 7 - 36 mg/m^3
LD_{50} (Oral Rat)				mg/Kg
NFPA Hazard	Health	Flammability	Reactivity	Special
Signals	3	0	0	-

6.PREVENTIVE MEASURES	
Personal Protective Equipment	Avoid Contact with liquid or vapours. Provide Chemical protection suit with Self Contained Breathing Apparatus, air line mask,rubber hand gloves, face shield and shoes.
Handling & Storage Precautions	Store in a rubber lined or FRP coated steel tanks away from oxidisers, in a well ventilated area.

7.EMERGENCY / FIRST AID MEASURES		
FIRE	Fire Extinguishing Media	Not Flammable.
	Special Procedure	Keep containers cool by spraying water if exposed to fire.
	Unusual Hazardous	Flammable gas may be produced on contact with metals.
EXPOSURE	First Aid Measures	Inhalation : Remove the victim to fresh air area, start artificial respiration if breathing stops, keep him warm and quiet. Ingestion : Have the victim drink water and milk. Do not induce vomiting. Eyes & Skin : wash with plenty of water for 15 min. Seek Medical Aid Immediately for all type of exposure.
	Antidotes / Dosages	Not Available
SPILLS	Steps to be Taken	Shut off leaks if without risk. Drench with water. Do not use metal container for spilled liquid.
	Waste Disposal Method	Seal all waste in vapour tight plastic bags for eventual disposal.

8.ADDITIONAL INFORMATION / REFERENCES
A concentration of 35 ppm causes irritation of the throat after short exposure. Vigorous reaction with Aluminum , Chlorine + Dinitroanilines (Evolves gas)

9.MANUFACTURERS / SUPPLIERS DATA			
Name of Firm		Contact Person in Emergency	
Mailing Address		Local Bodies Involved	
Telephone / Telex Nos.		Standard Packing	
Telegraphic Address		Trem Card Details / Ref.	

10.DISCLAIMER

MSDS-HYDROGENGAS

MATERIAL SAFETY DATA SHEET					
1.CHEMICAL IDENTITY					
Chemical Name	HYDROGEN GAS		Chemical Classification	Inorganic Gas	
Synonyms	LIQUID/PARA HYDROGEN		Trade Name	HYDROGEN	
			C.A.S.No.	1333-74-0	
Formula	H_2		U.N.No.	1049	
Regulated Identifications	Shipping Name		Hydrogen Compressed		
	Codes/Label		Flammable Gas, Class - 2		
	Hazardous Waste I.D.No.		17		
	Hazchem No.		2 S E		
Hazardous Ingredients		C.A.S. No.	Hazardous Ingredients		C.A.S. No.
1	HYDROGEN GAS	1333-74-0			
2.PHYSICAL AND CHEMICAL DATA					
BOILING Range / Point °C		Physical State	Appearance		
(-) 252.8°C		Gas	Colourless		
Melting/Freezing Point °C		Vapour Pressure at 35°C	Odour		
(-) 259.18°C		Not Available	Odourless		
Vapour Density (Air =1)		Solubility in water at 30°C	Others		
0.069		Not Soluble			
Specific Gravity (Water=1)		pH			
0.0899 g/l.		Not Pertinent			
3.FIRE AND EXPLOSION HAZARD DATA					
Flammability		LEL	Flash Point °C		
Yes, Highly Flammable		4.10%	Not Pertinent	(OC)	
TDG Flammability		UEL	Flash Point °C		
2		74.20%	Not Pertinent	(CC)	
Autoignition Temperature °C		400	Combustible Liquid	No	
Explosion Sensitivity to Impact		Stable	Flammable Material	Yes	
Explosion Sensitivity to Static Electricity		Explodes	Pyrophoric Material	No	
Hazardous Combustion Product		Not Available	Explosive Material	Yes	
			Oxidiser	No	
Hazardous Polymerisation		Will not occur	Organic Peroxide	No	
Others			Corrosive Material	No	
4.REACTIVE DATA					
Chemical Stability		Stable			
Incompatibility with other Material		Water, No Chemical reaction with common materials but low temperature cause most materials to become very brittle.			
Reactivity		Violent reaction or ignition with air + catalysts. Bromine iodine, Dioxane+Nickle, Lithium, Nitrogen Trifluoride Nickel+Oxigen, Oxygen Difluoride, Pd+Isopropyl Alcohol.			
Hazardous Reaction Products		It forms sensitive explosive mixtures with Bromine, Chlorine, Iodine Heptafluoride, Chlorine Dioxide, Dichlorine Oxide, Dinitrogen Oxide..			

5. HEALTH HAZARDS DATA	
Routes of Entry	Skin and Inhalation. Suffocation due to displacement of oxygen from atmosphere.
Effects of Exposure/ Symptoms	If atmosphere does not contain enough Oxygen, Inhalation can cause dizziness, unconsciousness or even death. Contact of liquid with eyes or skin causes freezing similar to burn.
Emergency Treatment	Inhalation : If victim is unconscious (due to Oxygen deficiency) move him to fresh air area and apply resuscitation methods. Eyes & Skin : Treat for frostbite soak the skin in lukewarm water, seek medical aid. If the heart has stopped cardiopulmonary resection immediately.

TLV (ACGIH)		STEL	
ASPHYXIANT ppm	ASPHYXIANT mg/m^3	Not Listed ppm	Not Listed mg/m^3

Permissible Exposure Limit		Odour Threshold	
ASPHYXIANT ppm	ASPHYXIANT mg/m^3	Odour less ppm	Odour less mg/m^3

LD_{50} (Oral Rat)				mg/Kg
NFPA Hazard	Health	Flammability	Reactivity	Special
Signals	0	4	0	

6.PREVENTIVE MEASURES	
Personal Protective Equipment	Avoid contact with liquid or gas. Provide Safety Goggles ,face shield, insulated gloves and long Sleeves, trousers worn outside boots or over high top shoes to shed spilled liquid, self contained breathing apparatus containing air. (Never use Oxygen)
Handling & Storage Precautions	Keep fire spill control emergency equipment's ready. Store above ground level in cool, dry well ventilated area, out of direct sunlight and away from the heat and ignition source. No hot work should be done. Separated from other cylinder.

7.EMERGENCY / FIRST AID MEASURES		
FIRE	Fire Extinguishing Media	Dry Chemical Powder, Carbon Dioxide and Foam
	Special Procedure	Stop flow of gas, let fire burn under control.
	Unusual Hazardous	Flash back along Vapour trail may occur.
EXPOSURE	First Aid Measures	Inhalation : If victim is unconscious (due to Oxygen deficiency) move him to fresh air area and apply resuscitation methods. Eyes & Skin : Treat for frostbite soak the skin in lukewarm water, Seek Medical Aid.
	Antidotes / Dosages	Not applicable
SPILLS	Steps to be Taken	Shut off leakage if without risk. Warn everybody - Explosion Hazard. Restrict access, prevent all source of ignition, use Personal Protective Equipment.
	Waste Disposal Method	To be brunt under control condition. May dissipate safety in to atmosphere, used inciertation

8.ADDITIONAL INFORMATION / REFERENCES
Practically no toxicity, except that it is an ASPHYXIANT. Highly dangerous fire and severe explosion hazard when exposed to heat, flame and oxidisers. Flammability or explosive when mixed with air, O_2, Cl_2. Vigorous exothermic reactions with Benzene + Raney Nickel catalysts, metals

9.MANUFACTURERS / SUPPLIERS DATA			
Name of Firm		Contact Person in Emergency	
Mailing Address		Local Bodies Involved	
Telephone / Telex Nos.		Standard Packing	
Telegraphic Address		Trem Card Details / Ref.	

10.DISCLAIMER

MSDS-LIQUEFIEDNATURALGAS

MATERIAL SAFETY DATA SHEET					
1.CHEMICAL IDENTITY					
Chemical Name	**LIQUEFIED NATURAL GAS**		Chemical Classification	**Aromatic Mixture**	
Synonyms	**NG Propene, Butane, Propylene**		Trade Name	**Natural Gas**	
			C.A.S.No.		
Formula	**C_3H_3 - C_3H_3 - C_4H_{10} (Mixture)**		U.N.No.		
Regulated Identifications	Shipping Name		**Natural Gas**		
	Codes/Label		**Flammable, Class 2**		
	Hazardous Waste I.D.No.		**5**		
	Hazchem No.		**2 W E**		
Hazardous Ingredients		C.A.S. No.	Hazardous Ingredients		C.A.S. No.
	Natural Gas				
2.PHYSICAL AND CHEMICAL DATA					
BOILING Range / Point °C		Physical State		Appearance	
-161 °C		**Gas**		**Colourless**	
Melting/Freezing Point °C		Vapour Pressure at 35°C		Odour	
Pertinent °C		**40 atm. @ -86 °C**		**Distinctive, Disagreeble**	
Vapour Density (Air =1)		Solubility in water at 30°C		Others	
0.55		**Floats (3.5%)**		**Soluble in Organic Solvents Alcohol**	
Specific Gravity (Water=1)		pH			
		Not Pertinent			
3.FIRE AND EXPLOSION HAZARD DATA					
Flammability		LEL		Flash Point °C	
Yes		**3.8 - 6.5 %**		**104.4 Propane, -60 Butane (OC)**	
TDG Flammability		UEL		Flash Point °C	
2		**13 - 17 %**		**Not Available (OC)**	
Autoignition Temperature °C		**466.1 Propane, 405 Butane**		Combustible Liquid	**Yes**
Explosion Sensitivity to Impact		**Explodes**		Flammable Material	**Yes**
Explosion Sensitivity to Static Electricity		**Explodes**		Pyrophoric Material	**No**
Hazardous Combustion Product		**Emits CO, CO_2**		Explosive Material	**Yes**
				Oxidiser	
Hazardous Polymerisation		**Will not occur**		Organic Peroxide	
Others				Corrosive Material	
4.REACTIVE DATA					
Chemical Stability		**Stable**			
Incompatibility with other Material		**Strong Oxidisers**			
Reactivity		**Can reacts with oxidising materials**			
Hazardous Reaction Products		**Not Available**			

5.HEALTH HAZARDS DATA

Routes of Entry	**Inhalation & Skin**
Effects of Exposure/ Symptoms	**Skin:** Liquid on skin causes frostbite. **Inhalation:** Concentration in air greater than 10% causes dizziness in few minutes. 1% conc. Gives the same symptoms in 10mtr. High concentration causes asphyxiation
Emergency Treatment	

TLV (ACGIH)		STEL	
1000 ppm	**1800 mg/m3**	**Not Listed ppm**	**Not Listed mg/m3**
Permissible Exposure Limit		Odour Threshold	
Not Listed ppm	**Not Listed mg/m**	**5000 to 20000 ppm**	**- mg/M3**

LD_{50} (Oral Rat)	**Not Listed mg / Kg**

NFPA Hazard	Health	Flammability	Reactivity	Special
Signals	**1**	**4**	**0**	**-**

6.PREVENTIVE MEASURES

Personal Protective Equipment	**Avoid contact with liquid or gas** **Provide hand gloves, safety goggles, gas mask, protective overclothing and shoes.**
Handling & Storage Precautions	**Keep in tightly closed cylinders in a cool, well ventilated area, away from heat, flame, sparks**

7.EMERGENCY / FIRST AID MEASURES

FIRE	Fire Extinguishing Media	**Dry Chemical Powder, CO_2, Water Spray**
	Special Procedure	**Keep the containers cool-spraying water if exposed to fire or heat.**
	Unusual Hazardous	**Containers will explode in fire.**
EXPOSURE	First Aid Measures	**Inhalation:** Remove the victim to fresh air area, apply artificial respiration or Oxygen if need. **Skin:** Remove the wetted clothes, flush the affected area with plenty of Water. **Eyes:** Flash with plenty of water for 15 mins. Seek medical aid.
	Antidotes / Dosages	**Not Available**
SPILLS	Steps to be Taken	**Shut off leaks if without risk. Warm everybody that it is explosive.**
	Waste Disposal Method	**Allow to evaporate under control and protect the area.**

8.ADDITIONAL INFORMATION / REFERENCES

Avoid contact with oxydisers, Olefinic impurities may lead to narcotic effect or it may act as a simple asphyxiant. A very dangerous hazard when exposed to heat or flame. If fire is big, keep surronding areas cool by spraying water. Allow gas to burn under control.

C.A.S No. => Propene - 74-98-6; Butane - 106-97-8; Propylene - 115-07-1.

9.MANUFACTURERS / SUPPLIERS DATA

Name of Firm		Contact Person in Emergency	
Mailing Address		Local Bodies Involved	
Telephone / Telex Nos.		Standard Packing	
Telegraphic Address		Trem Card Details / Ref.	

10.DISCLAIMER

MSDS-LIQUEFIEDPETROLIUMGAS

1.CHEMICALIDENTITY		RegulatedIdentification	
		Shippingname	LiquefiedPetroleumGas
ChemicalName	LiquefiedPetroleumGas	Codes /Label	Flammable,Class2
Synonyms	LPG	HazardousWaste	IDNo.5
	Propane,Butane,Propylene,	HazchemCode	2 W E
	Puro fax,BottledGas	HazardousClassification	
ChemicalClassification	AromaticMixture	C.A.S.No.	68476-85-7
Formula	C_3H_6-C_3H_6-C_4H_{10}(Mixture)	UN No.	1075
HazardousIngredients	C.A.S.No.	HazardousIngredients	C.A.S.No.
1Propane	74-98-6	3Propylene	115-07-1
2Butane	106-97-8	4	
2.PHYSICAL /CHEMICALDATA		Physicalstate	Gas
		VaporPressure	morethan1 atm
BoilingPt /Range	>- 40 °C	pH	NotPertinent
Melting/FreezingPt.	NotPertinent°C	Appearance	Colorless
VaporDensity(Air=1)	1.5	Odor	MercatanaddedforOdorWarning
SpecificGravity (Water= 1)	0.51-0.58at-50 °C	Others	Soluble in OrganicSolvents Alcohol.
Solubility,InWater at30°C	Floats		
3.FIRE/EXPLOSIONHAZARDDATA		Flammability	Yes
AutoignitionTemperature°C	466.1°CPropane,405°CButane	TDGFlammability	2
Explosion sensitivity to impact	Explodes	LEL	1.90%
ExplosionsensitivitytostaticElectricity	Explodes	UEL	9.50%
Hazardous Combustion Products	EmitsCO, CO_2	FlashPoint °C	104.4Propane, -60Butane(OC)
HazardousPolymerization	Willnotoccur.	FlashPoint °C	NotAvailable(CC)
Oxidizer	NO	CombustibleLiquid	Yes
OrganicPeroxide	NO	FlammableMaterial	Yes
CorrosiveMaterial	NO	Pyrophoric Material	NO
Others		ExplosiveMaterial	Yes
4. REACTIVITYDATA		ChemicalStability	Stable
Incompatibility with other material	Strongoxidizers.		
Reactivity	Canreactswithoxidizingmaterials.		
HazardousReactionProducts	NotAvailable.		
5.HEALTHHAZARDDATA		Routesofentry	Inhalation& Skin.
Effects of Exposure /Symptoms	Skin:Liquidonskincausesfrostbite.Inhalation:Concentrationinairgreaterthan10%causesdizzinessinfewminutes.1%conc. Gives thesamesymptomsin10mtr.High concentrationcausesasphyxiation.		
LD_{50}(Oral-Rat)	NotListed	NFPAHazardSignals	Butane:MF=21, Hc=19.7, GasBP= -31°F
Permissibleexposurelimit	Notlisted	Health 1	Propane:MF =21,Hc=19.9, GasBP= -44°F
TLV (ACGIH)	1000ppm1800mg/m^3	Flammability 4	Propylene:MF=21,Hc=19.7, GasBP=-53°F
STEL	Notlisted	Reactivity 0	MolecularWeight

OdorThreshold	5000to 20000ppm-mg/m ^{3}	Special -	51.1105
IDLH	2000ppm [10%LEL]		

6.PREVENTIVEMEASURES	
Personnel	Avoidcontactwithliquidorgas.
ProtectiveEquipment	Providehandgloves,safetygoggles,gasmask,protectiveoverclothingandshoes.
Handling & StoragePrecautions	Keepintightlyclosedcylindersinacool,wellventilatedarea,awayfromheat,flame,sparks.
7.EMERGENCY/FIRSTAIDMEASURES	
FIRE	
FireExtinguishingMedia	DryChemicalpowder,CO_2,Waterspray.
SpecialProcedure	Keepthecontainerscool-sprayingwaterifexposedtofireorheat.
UnusualHazards	Containerswillexplodeinfire.
EXPOSURE	
FirstAidMeasures/EmergencyTreatment.	
Inhalation:Removethevictimtofreshairarea,apply artificialrespirationorOxygenifneeded.Skin:Removethewettedclothes,flushtheaffectedareawithplentyofWater. Eyes:Flushwith plentyofwaterfor15mins.,Seekmedicalaid.	
Antidotes/Dosages	NotAvailable
SPILLS	
StepsTobeTaken	Shutoffleaksifwithoutrisk.Warneverybodythatitisexplosive.
WasteDisposalMethod	Allowtoevaporateundercontrolandprotectthearea.
8.ADDITIONALINFORMATION/REFERENCES	
Avoidcontactwithoxidizers,Olefinimpuritiesmayleadtonarcoticeffect,oritmayactasasimpleasphyxiate.Averydangeroushazardwhenexposedtoheatorflame.Iffireisbig, keepsurroundingareascoolbysprayingwater. Allowgastoburn undercontrol.	
9.MANUFACTURES/SUPPLIERSDATA	ContactPersonincaseofEmergency
NameofFirm	

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11.abbreviations:	
C.A.S.No.	ChemicalAbstractsService.
UNNo.	UnitedNationsNumber-IdentificationofMaterialsduringtransportation.
LD_{50}(Oral-Rat)	LethalDose=50,(LD-50,SpecifyLaboratoryAnimalspecies&RoutsForTests.)
STEL	Short-TermExposureLimit-Max.Concentration.
TDGFlammability	TransportofDangerousGoodsFlammability,ClassificationbyUnitedNations.
ACGIH	AmericanConferenceofGovernmentalIndustrialHygienists.
TLV	ThresholdLimitValue.
LEL	LowerExplosiveLimit-LowestConcentration.
UEL	UpperExplosiveLimit-HighestConcentration.
TWA	Time-WeightedAverageExposureLimit.
PPM	PartsPerMillion.
IDLH	ImmediatelyDangeroustoLifeorHealth,indicatesmaximumconcentration.
mg/m3	Milligrams(mg)ofamaterialpercubicmetre(M3)ofair.

MSDS-OXYGENGAS

1.CHEMICALIDENTITY		RegulatedIdentification	
		Shippingname	Oxygen
ChemicalName	Oxygen	Codes /Label	Oxidiser,Class5
Synonyms	OxygenCompressed	HazardousWaste	IDNo.17
	OxygenRefrigeratedLiquid.	HazchemCode	2 S*/2 P E
		HazardousClassification	
ChemicalClassification	InorganicGas	C.A.S.No.	7782-44-7
Formula	O_2	U.N.No.	1072/1073
HazardousIngredients	C.A.S.No.	HazardousIngredients	C.A.S.No.
1Oxygen	7782-44-7	3	
2.PHYSICAL /CHEMICALDATA		Physicalstate	LiquidCompr.Gas
		VapourPressure	N.A.
BoilingPt /Range	-182.9°C	pH	NotPersistent
Melting/FreezingPt.	-218°C	Appearance	Colorless
VaporDensity(Air=1)	1.429	Odour	Odorless
SpecificGravity (Water= 1)	1.14at-183.0°C	Others	Solubleinotherorganicliquids toagreaterextentthanwater.
Solubility,InWater at30°C	NotSoluble		
3.FIRE/EXPLOSIONHAZARDDATA		Flammability	No
AutoignitionTemperature°C	Notpertinent	TDGFlammability	5
Explosionsensitivitytoimpact	Stable	LEL	Notpertinent%
ExplosionsensitivitytostaticElectricity	Explodes	UEL	Notpertinent%
Hazardous Combustion Products	NotAvailable	FlashPoint °C	NotPertinent(OC)
HazardousPolymerization	WillnotOccur	FlashPoint °C	NotPertinent(CC)
Oxidiser	Yes	CombustibleLiquid	NO
OrganicPeroxide	NO	FlamableMaterial	NO
CorrosiveMaterial	NO	PyrophoricMaterial	NO
Others		ExplosiveMaterial	NO
4. REACTIVITYDATA		ChemicalStability	Stable
Incompatibilitywith other material	Organic&Combustiblematerial.		
Reactivity	Underproperconditionsoftemperature, pressureandreagentconcentrationitcanreactviolentlywithAcetaldehyde,Acetylene,Acetone, Sec-Alcohol,Aluminum,$AL(BH_4)_3$, AlH_3, Aluminum-titaniumalloys.		
HazardousReactionProducts	NotAvailable		
5.HEALTHHAZARDDATA		Routesofentry	Inhalation,Skin,Eye.
Effects Exposure / of Symptoms	Skin&Eyes:Liquidwillcausefrostbiteofeyes &Skin. Inhalation:Inhalationof100%O_2cancausenausea,dizziness,irritationoflungs,pulmonaryedema,pneumonia andcollapse.		
LD_{50}(Oral-Rat)	NotListed	NFPAHazard Signals	MF =- Hc=-BTU/lbx10^{-3}
Permissibleexposurelimit	NotListedppmNotListedmg/m^3	Health 3	
TLV (ACGIH)	NotListedppmNotListedmg/m^3	Flammability 0	Molecular Weight32
STEL	NotListedppmNotListedmg/m^3	Reactivity 0	
OdorThreshold	Odorless	Special --	Conversion
IDLH	-		
6.PREVENTIVEMEASURES			

Personnel	Avoidcontactwithliquidorgas.
ProtectiveEquipment	Providesafetyfaceshield,insulatedgloves,andlongsleeves,trouserswornoutsidebootsoroverhigh- topshoestoshed.
Handling & Storage Precautions	Compressedoxygenisstoredinsteelcylindersunderhighpressure.Storeincoolplace,awayfromheatandfire.
7.EMERGENCY/FIRSTAIDMEASURES	
FIRE	
FireExtinguishingMedia	Notflammable
SpecialProcedure	Keepthecontainerscool-bysprayingwaterifexposedtoheatorflame.
UnusualHazards	Containermayexplodeinfire.
EXPOSURE	
FirstAidMeasures/EmergencyTreatment.	
Inhalation: Supportive treatment should include immediate sedation, anti-convulsive,therapyifneededandrest. Seekmedicalaid. Skin&Eye:IfSkin& Eyeareaffectedduetoliquidtreatforfrostbiteburns.	
Antidotes/Dosages	NotAvailable
SPILLS	
StepsTobeTaken	Noneinparticular
WasteDisposalMethod	Noneinparticular
8.ADDITIONALINFORMATION/REFERENCES	
AnOxidant.Thoughnon-flammable,itisessentialforcombustion.Evenaslightincrease in O_2 contentofairabovenormal21%greatlyincreasestheoxidationor burring rate of many materials. Exclusion of O_2 from the neighborhood of fire is one of the principal methods of extinguishment. Avoid smoking, flame,electricsparks. Liquid O_2 canexplodesoncontactwithreadily oxidizablematerials especiallyathightemperatures.	
9.MANUFACTURES/SUPPLIERSDATA	ContactPersonincaseofEmergency
NameofFirm	

10.DISCLAIMER: InformationcontainedinthisMSDSisbelieved tobereliablebutnorepresentation, guaranteeofwarranties ofanykindaremadeas toitsaccuracy,suitability foraparticularapplicationofresultsto beobtainedforthem.It isupto theuserto ensurethat theinformation containedinthematerialsafetydatasheet is relevanttotheproduct manufactured/handledorused byhimasthecase maybe.Helps makes nowarrantiesexpressedorimpliedinrespectofthe adequacyof thisdocumentfor anyparticular purpose.

11.abbreviations:	
C.A.S.No.	ChemicalAbstractsService.
U.N.No.	UnitedNationsNumber-IdentificationofMaterialsduringtransportation.
LD_{50}(Oral-Rat)	LethalDose=50,(LD-50,SpecifyLaboratoryAnimalspecies&RoutsForTests.)
STEL	Short-TermExposureLimit-Max.Concentration.
TDGFlammability	TransportofDangerousGoodsFlammability,Classificationby UnitedNations.
ACGIH	AmericanConferenceofGovernmentalIndustrialHygienists.
TLV	ThresholdLimitValue.
LEL	LowerExplosiveLimit-LowestConcentration.
UEL	UpperExplosiveLimit-HighestConcentration.
TWA	Time-WeightedAverageExposureLimit.
PPM	PartsPerMillion.
IDLH	ImmediatelyDangeroustoLifeorHealth,indicatesmaximumconcentration.
mg/m3	Milligrams(mg) ofamaterialpercubic meter(M3) ofair.

MSDS-NITROGEN

SECTION1.PRODUCTIDENTIFICATION

PRODUCTNAME:
Nitrogen,compressedCHEMICAL NAME:
NitrogenFORMULA: N_2

SYNONYMS: Nitrogengas,GaseousNitrogen,GAN

SECTION2.COMPOSITION/INFORMATIONONINGREDIENTS

Nitrogenissold aspureproduct>99%.**CASNUMBER:**7727-37-9**EXPOSURELIMITS:OSHA:**Not established**ACGIH:**Simple asphyxiate**NIOSH:** Notestablished

SECTION 3.HAZARDS IDENTIFICATIONEMERGENCY

OVERVIEW

Nitrogen is a nontoxic, odorless, colorless, nonflammable compressed gas stored in cylindersat high pressure.It can cause rapid suffocation when concentrations are sufficient to reduceoxygenlevelsbelow19.5%.Self-Contained BreathingApparatus(SCBA)may berequired.

POTENTIALHEALTHEFFECTSINFORMATION:

INHALATION: Simple asphyxiate.Nitrogen is nontoxic but may cause suffocation bydisplacingtheoxygenin air.Lack ofsufficientoxygen cancauseseriousinjury ordeath.

EYECONTACT: Noadverseeffect.

SKINCONTACT: Noadverseeffect.

EXPOSUREINFORMATION:

ROUTEOFENTRY: Inhalation

TARGETORGANS: None

EFFECT: Asphyxiation(suffocation)

SYMPTOMS: Exposure to an oxygen deficient atmosphere (<19.5%) may cause dizziness,drowsiness,nausea,vomiting,excesssalivation,diminishedmentalalertness,lossofconsciousnessanddeath.Exposuretoatmospherescontaining8-10%orlessoxygenwillbringaboutunconsciousnesswithoutwarningandsoquicklythattheindividualscannothelpthemselves.

MEDICALCONDITIONSAGGRAVATEDBYOVEREXPOSURE:None

CARCINOGENICPOTENTIAL:

Nitrogenisnotlistedasacarcinogenorpotentialcarcinogenby NTP,IARC, orOSHA.

SECTION 4.FIRSTAID

INHALATION: Personssufferingfromlackofoxygenshouldbemovedtofreshair.Ifvictimis not breathing, administer artificial respiration.If breathing is difficult, administer

oxygen.Obtainprompt medical attention.
EYECONTACT: Notapplicable.

SKINCONTACT: Notapplicable.

SECTION5.FIREAND EXPLOSION

FLASHPOINT:	AUTOIGNITION:	FLAMMABLE LIMITS:
Notapplicable	Nonflammable	Nonflammable

EXTINGUISHING MEDIA: Nitrogen is nonflammable and does not support combustion.Useextinguishing media appropriateforthe surrounding fire.

HAZARDOUSCOMBUSTION PRODUCTS:None

SPECIALFIREFIGHTINGINSTRUCTIONS: Nitrogenisa simpleasphyxiate.Ifpossible, remove nitrogen cylinders from fire area or cool with water.SCBA may be requiredbyrescueworkers.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Upon exposure to intense heat or flamecylinder may vent rapidly and/or rupture violently.Most cylinders are designed to ventcontents when exposed to elevated temperatures.Pressure in a container can build up due toheatand it may ruptureifpressure relief devicesshould fail tofunction.

SECTION6.ACCIDENTALRELEASEMEASURES

Evacuate all personnel from affected area.Increase ventilation to release area and monitoroxygen level.Use appropriate protective equipment (SCBA).If leak is from container or itsvalve, call the Air Products emergency telephone number.If leak is in user's system closecylindervalveand vent pressurebeforeattempting repairs.

SECTION7.HANDLINGANDSTORAGE

STORAGE: Cylinders should be stored upright in a well-ventilated, secure area, protectedfromtheweather.Storageareatemperaturesshouldnotexceed125°F(52°C)andareashoul dbe free of combustible materials.Storage should be away from heavily traveled areas andemergency exits. Avoid areas where salt or other corrosive materials are present.Valveprotection caps and valve outlet seals should remain on cylinders not connected for use.Separate full from empty cylinders. Avoid excessive inventory and storage time. Use a first-infirst-outsystem. Keep good inventory records.

HANDLING: Do not drag, roll, or slide cylinder.Use a suitable hand truck designed forcylinder movement.Never attempt to lift a cylinder by its cap.Secure cylinders at all timeswhileinuse.Useapressurereducingregulatororseparatecontrolvalvetosafelydischargegasfr om cylinder. Use a check valve to prevent reverse flow into cylinder.Do not overheatcylinder to increase pressure or discharge rate.If user experiences any difficulty operatingcylinder valve, discontinue use and contact supplier.Never insert an object (e.g., wrench,screwdriver,pry bar, etc.) into valve cap openings.Doingso may

Damage valve causing a leak to occur. Use a special cap wrench or adjustable strap-wrench toremoveover-tight or rusted caps.

Nitrogen is compatible with all common materials of construction.Pressure requirementsshouldbeconsideredwhen selecting materials anddesigning systems.

SPECIAL REQUIREMENTS: Always store and handle compressed gases in accordancewith

Compressed Gas Association, Inc. (ph. 703-412-0900) pamphlet CGA P-1, *Safe Handling ofCompressed Gases in Containers.*Local regulations may require specific equipment forstorageor use.

CAUTION: Users of nitrogen must be aware of the hazards caused by the accumulation ofhigh concentrations, especially in confined spaces.Compliance with OSHA regulations,especially29 CFR 1910.146 (confined spaceentry), isessential

SECTION8.PERSONALPROTECTION/EXPOSURECONTRO

ENGINEERING CONTROLS: Provide good ventilation and/or local exhaust to preventaccumulation of high concentrations of gas.Oxygen levels in work area should be monitoredtoensurethey do not fallbelow 19.5%.

RESPIRATORYPROTECTION:

GENERALUSE:Nonerequired.

EMERGENCY:Use SCBA or positive pressure air line with mask and escape pack in areaswhere oxygen concentration is less than 19.5%.Air purifying respirators will not provideprotection.

OTHERPROTECTIVEEQUIPMENT: Safetyglasses.Safetyshoesandleatherworkglovesarere commendedwhen handling cylinders.

SECTION9.PHYSICALANDCHEMICALPROPERTIES

APPEARANCE: Colorless

gas**ODOR:**

Odorless**MOLECULARWEIGH**

T:28.01

BOILINGPOINT(1 Atm):-320.4°F(-195.8°C)

SPECIFIC GRAVITY(Air=1):0.967

SPECIFICVOLUME(at 70F(21.1C)and 1atm):13.81ft^3/lb (0.867m^3/kg)

FREEZINGPOINT/MELTINGPOINT:-345.8°F(-209.9 °C)

VAPORPRESSURE: Notapplicableat 70°F

GAS DENSITY (at70F (21.1C) and1atm):0.072 lb/ft^3(1.153 kg/m^3)

SOLUBILITYINWATER (Vol. /Vol.at32°F (0°C)):0.023

SECTION10.STABILITYANDREACTIVITY

CHEMICAL STABILITY: Stable**CONDITIONS TO AVOID:**

None**INCOMPATIBILITY:**None

HAZARDOUS DECOMPOSITION PRODUCTS: None HAZARDOUS **POLYMERIZATION:**Willnotoccur.

SECTION11.TOXICOLOGICALINFORMATION

Nitrogenis a simpleasphyxiate.

SECTION12.ECOLOGICALINFORMATION

The atmosphere contains approximately 78% nitrogen.No adverse ecological effects areexpected.Nitrogen does not contain any Class I or Class II ozone depleting chemicals.Nitrogenis not listed as amarine pollutant by DOT (49 CFR171).

SECTION13.DISPOSAL

UNUSEDPRODUCT/EMPTYCONTAINER: Returncylinderandunusedproducttosupplier.Do not attempt to disposeofresidual orunused quantities.

DISPOSAL: Foremergencydisposal,securethecylinderandslowlydischargegastotheatmospherein a well-ventilated areaor outdoors.

SECTION14.TRANSPORTINFORMATION

DOTHAZARDCLASS:2.2**DOTSHIPPINGLABEL:**NonflammableGas**DOTSHIPPINGNAME:**Nitrogen,Compressed**IDENTIFICATIONNUMBER:**UN1066**REPORTABLEQUANTITY (RQ):** None

SPECIALSHIPPINGINFORMATION: Cylindersshouldbetransportedinasecureuprightposition ina well-ventilated truck.Nevertransportin passengercompartment ofavehicle.

Compressed gas cylinders shall not be refilled except by qualified producers of compressedgases. Shipment of a compressed gas cylinder which has not been filled by the owner or withtheowner’swritten consent isaviolation offederal law.

MSDS-ZINC

1.CHEMICALIDENTITY		RegulatedIdentification	
		Shippingname	Zinc
ChemicalName	Zinc	Codes/Label	
Synonyms	ZincMetal	HazardousWaste	
		Hazchem Code	
		HazardousClassification	
ChemicalClassification	ZincMetal	C.A.S.No.	7440-66-6
Formula	Zn	U.N.No.	
HazardousIngredients	C.A.S.No.	HazardousIngredients	C.A.S.No.
1Zinc	7440-66-6	3	
2		4	
2.PHYSICAL/ CHEMICALDATA		Physicalstate	Solid
		VaporPressure	1 mm at 487ºC
BoilingPt /Range	908º C	pH	N.A.
Melting/FreezingPt.	420º C	Appearance	Bluish-silverlustrousmetal
Vapor Density(Air=1)	N.A.	Odor	Odorless
Specific Gravity(Water=1)	7.1	Others	NotAvailable
Solubility,InWater at30 ^{0}C	NotSoluble		
3.FIRE/ EXPLOSIONHAZARDDATA		Flammability	No
AutoignitionTemperature^{o}C	Approximately680ºC	TDGFlammability	N.A.
Explosionsensitivitytoimpact	Pl.seereactivity	LEL	500g/m(ZincDust)
ExplosionsensitivitytostaticElectricity	N.A.	UEL	-
HazardousCombustionProducts	N.A.	FlashPoint^{o}C	NotPertinent(OC)
HazardousPolymerization	WillnotOccur	FlashPoint^{o}C	NotPertinent(CC)
Oxidizer	NO	CombustibleLiquid	NO
OrganicPeroxide	NO	FlammableMaterial	NO
CorrosiveMaterial	NO	PyrophoricMaterial	NO
Others		ExplosiveMaterial	NO
4.REACTIVITYDATA		ChemicalStability	Stable
Incompatibility with other material	Contactwithacidsandalkaliswillgeneratehighlyflammablehydrogengas.Contactwithacidicsolutionsofarsenicandantimonycompounds may evolvehighly toxic ARSINEor STIBINE gas.		
Reactivity	A violent, explosive reaction may occur when powdered zinc is heated with Sulphur. Powdered zinc willbecome incandescent or ignite in the presence of fluorine, chlorine, or bromine. Powdered zinc can also reactexplosively with halogenated hydrocarbons if heated. Mixtures with potassium chlorate or ammonium nitratemayexplodeonimpact.		
HazardousReactionProducts	Thermaloxidationofzincmetalpowderordustwillgeneratezincoxidefume		
5.HEALTHHAZARDDATA		Routesofentry	Inhalation,Ingestion&Skin.
EffectsofExposure/Symptoms	Inhalation:Purezincdustisrelativelynon-toxictohumansbyinhalation.However,acuteoverexposuretozincoxide fume may cause metal fume fever, characterized by flu-like symptoms such as chills, fever, nausea, andvomiting. Ingestion: of soluble salts may cause abdominal irritation resulting in nausea and vomiting. SkinContact:Prolongedorrepeatedcontactwithzincdustmaycauseamilddermatitisinsomeindividuals.		
LD_{50}(Oral-Rat)	NotListed	NFPAHazard Signals	MF= Hc=BTU/lbx 10^{-3}
Permissibleexposurelimit	NotListed	Health -	
TLV (ACGIH)	NotListed	Flammability -	MolecularWeight
STEL	NotListed	Reactivity -	
OdorThreshold	NotListed	Special --	Conversion
IDLH	NotListed		
6.PREVENTIVEMEASURES			

Personnel	Avoidacuteover-exposuretozincoxidefume.
ProtectiveEquipment	Gloves and coveralls or other work clothing are recommended to prevent prolonged orrepeated direct skincontact when zinc is processed. Eye protection should be worn where fume or dust is generated. Respiratoryprotection may be required where zinc oxide fume is generated. Where hot or molten metal is handled, heatresistant gloves, goggles or face shield, and clothing to protect from hot metal splash should be worn. UseSafetyboots.
Handling& StoragePrecautions	StorezincinaDRYcoveredarea, separatefromincompatiblematerials.

7.EMERGENCY/FIRSTAIDMEASURES

FIRE	
FireExtinguishingMedia	Ifpossible, movematerialfromfirearea andcoolmaterialexposed toflame.Applydrychemical,sand,orspecial powderextinguishingmedia.
SpecialProcedure	Zinc oxide fumes may evolve in fires. Fire fighters should be fully trained and wear full protective clothingincluding an approved, self-contained breathing apparatus which supplies a positive air pressure within a fullface-piecemask
UnusualHazards	Massive metal is not flammable; however, finely divided metallic dust or powder may form flammable orexplosive dust clouds when mixed with air. Bulk metallic dust in a damp state may heat spontaneously andignite on exposure to air. Contact with acids and alkali hydroxides results in evolution of hydrogen gas whichispotentiallyexplosive.Mixtureswithpotassiumchlorateorammoniumnitratemayexplodeonimpact.
EXPOSURE	

FirstAidMeasures/EmergencyTreatment.

Inhalation:Removevictimfromexposureareatofreshairimmediately.Ifbreathinghasstopped,giveartificialrespiration.
Ingestion:Ifvictimisconscious,dilutestomachcontentswith2-4cupfulsofwaterormilk.Donotinducevomiting.
Seek medicalattentionimmediately
Skin Contact: Dust: Remove contaminated clothing and wash affected area with soap and warm waterEyeContact:Flushwithwarmrunningwater,includingundertheeyelids,foratleast15minutes

Antidotes/Dosages	NotAvailable
SPILLS	
StepsTo beTaken	-
WasteDisposalMethod	-

8.ADDITIONALINFORMATION/REFERENCES

-

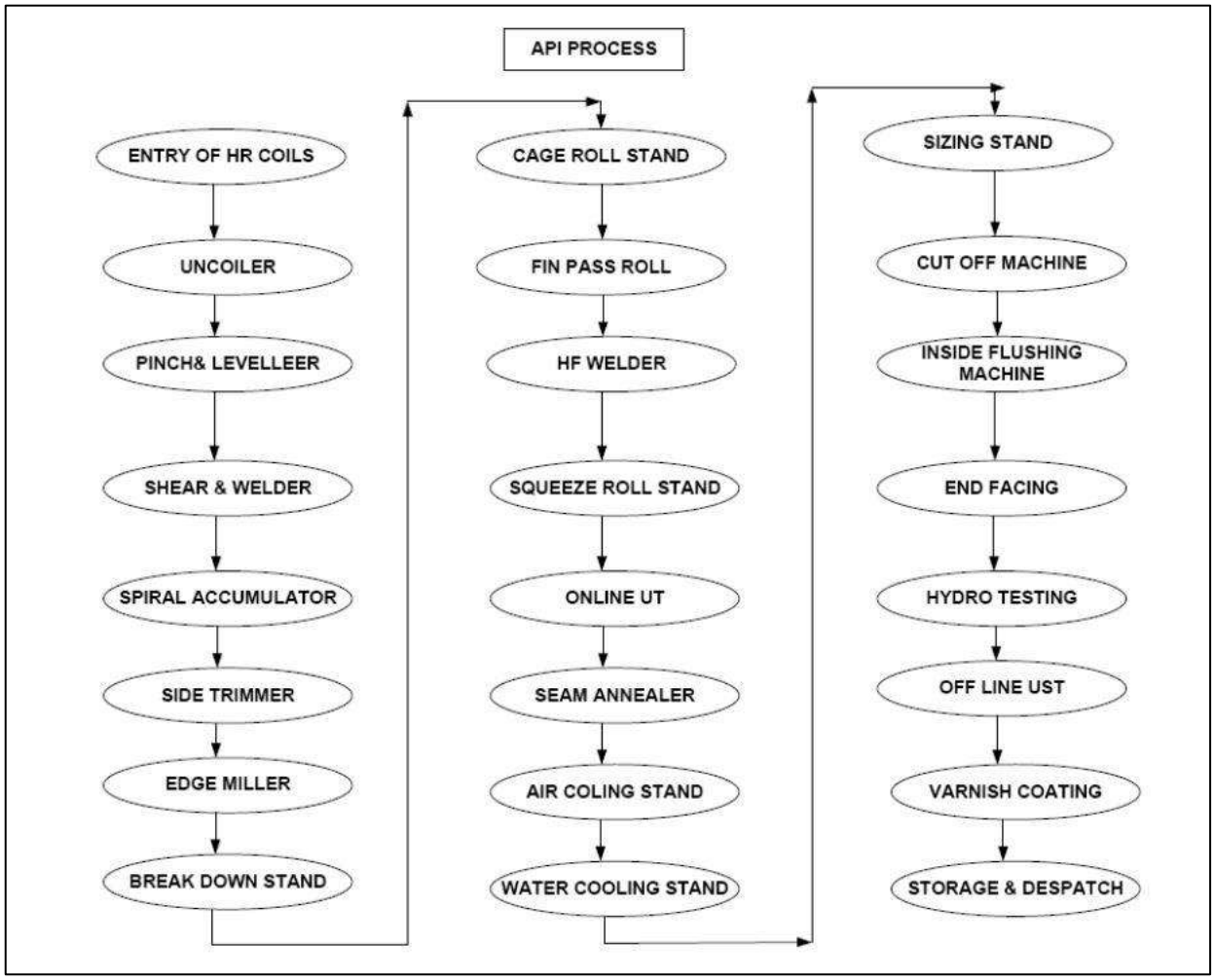
9.MANUFACTURES/ SUPPLIERSDATA	Contact Person in case of Emergency
NameofFirm	

10.DISCLAIMER: InformationcontainedinthisMSDSisbelievedtobereliablebutnorepresentation,guaranteeofwarrantiesofanykind aremade astoitsaccuracy,suitability foraparticularapplicationofresultstobeobtainedforthem.Itisup totheusertoensurethattheinformationcontainedinthematerialsafetydatasheetisrelevanttotheproductmanufactured/handledoruse dbyhimasthecasemaybe.Helpsmakesnowarrantiesexpressedorimpliedinrespectoftheadequacyofthisdocument for anyparticularpurpose.

11.abbreviations:

C.A.S.No.	ChemicalAbstractsService.
U.N.No.	UnitedNationsNumber-IdentificationofMaterialsduringtransportation.
LD_{50}(Oral-Rat)	LethalDose=50,(LD-50,SpecifyLaboratoryAnimalspecies&RoutsForTests.)
STEL	Short-TermExposureLimit-Max.Concentration.
TDGFlammability	TransportofDangerousGoodsFlammability,ClassificationbyUnitedNations.
ACGIH	AmericanConferenceofGovernmentalIndustrialHygienists.
TLV	Threshold Limit Value.
LEL	Lower Explosive Limit-Lowest Concentration.
UEL	UpperExplosiveLimit-HighestConcentration.
TWA	Time-WeightedAverageExposureLimit.
PPM	Parts Per Million.
IDLH	ImmediatelyDangeroustoLifeorHealth,indicatesmaximumconcentration.
mg/m3	Milligrams(mg)of a material percubicmeter(M3) ofair.

PROCESS DESCRIPTION OF THE PLANT



PROCESSDESCRIPTION

ENTRY OFHR COILS

The HR coils enter the plant through the trucks and at the entry of shed K and unloading process is carried over by E.O.T cranes and these coils are stores in coil yard for further process.

UNCOILER

Uncoiler picks up a coil from Coil car and feeds the leading end of strip into Pinch &Leveler.Whenthecoilisliftedbythecoilcar,Uncoilerreceivesitbyinsertingmandrelheads into the center of the coil from both sides. The coil center will be adjusted manually by an operator by monitoring the size indicator installed in front of Uncoiler. Then the coil is rotated so that the leading edge of it comes to the top position for coil band removing by Peeler.

PINCH& LEVELLER

Pinch & Leveler flattens coil strip. When the leading end of the coil strip reaches the bottom roll, the top Pinch roll is lowered by a hydraulic cylinder to hold the strip between the top and bottom rolls which rotate and feed the strip into Leveler. As soon as the leading end of the strip arrives at the first roll of the Leveler, the top Pinch roll is raised not to interrupt the movement of the strip.

While coil strip passes through the top and bottom rolls of the Leveler, it be comes leveled.

SHEAR& WELDER

Its main function is to join the tail end of current strip and the leading end of next strip to accumulate into Spiral Accumulator without stopping of mill line. But the fine adjustment of welding gap shall be performed manually.

SPIRALACCUMULATOR

The accumulator accumulates and supplies steel strip for the main mill. While working, strip enters into the accumulator discontinuously at fast speed and comes out of the accumulator continuously at the same speed with the main mill. Because coil-changing and end-cutting & welding need some time while the main mill produces pipe continuously, the accumulator accumulates some length of strip to ensure continuous production.

SIDETRIMMER

Side Trimmer trims both edges of the strip to predetermined width and remove impurities at the edges by rotating knives positioned both above and below the strip.

EDGE MILLER

Edge Miller smooths both edges of coil strip to ensure best quality of welding to be performed at a later stage in production.

BREAKDOWNSTAND

Break down Stand shapes coil strip into as hallow but still round curve.

CAGE ROLLSTAND

Cage Roll Stand makes the strip into a round shape gradually without edge waving by guiding it through a series of small rolls(cage rolls)that are positioned along the length of the strip.

FINPASSSTAND

Fin Pass Stands gives the strip in steps a complete roundness.

HFWELDER

HF Welder converts the electric current into high frequency energy to create the induction current near the edges of the seam to generate the heat required for welding.

SQUEEZEROLLSTAND

Squeeze Roll Stand presses the pipe tightly inwards to maintain the roundness and to keep the adequate width of the seam for acomplete welding process to make a closed pipe.

SEAMANNEALER

Seam Annealer reheats the weld seam for its normalization.

AIRCOOLINGSTAND

Air Cooling Stand cools down the weld seam area reheated by the seam annealer bylettingthereheatedareagetexposedinopenairwhilethepipeismovingthroughthestand.

WATERCOOLINGSTAND

Water Cooling Stand cools off the weld seam that has been already cooled down while it was moving through Air Cooling Stand.

SIZING STAND

SizingStandsreducethepipetoanexactsizeindiameterandbringittocompleteroundnessbypressurizing itinwardswhileitispassing throughthestands.

ENDCROPPINGMACHINE

EndCroppingMachinefrequentlycutsoffasmalllengthofpipeasasampleforflatteningtests.

Faceshieldshouldbeprovidedtotheoperatorattheregionofplasmacutting.

ENDFACING MACHINE

Endfacingmachineisusedtomaketheendsofthepipessmooth.

HYDROSTATICTESTER

Afterbothendsofthetubearemachinedforfacingandchamfering,eachpipeistestedwithhigh waterpressureto checkforthe leakagein weldseam.

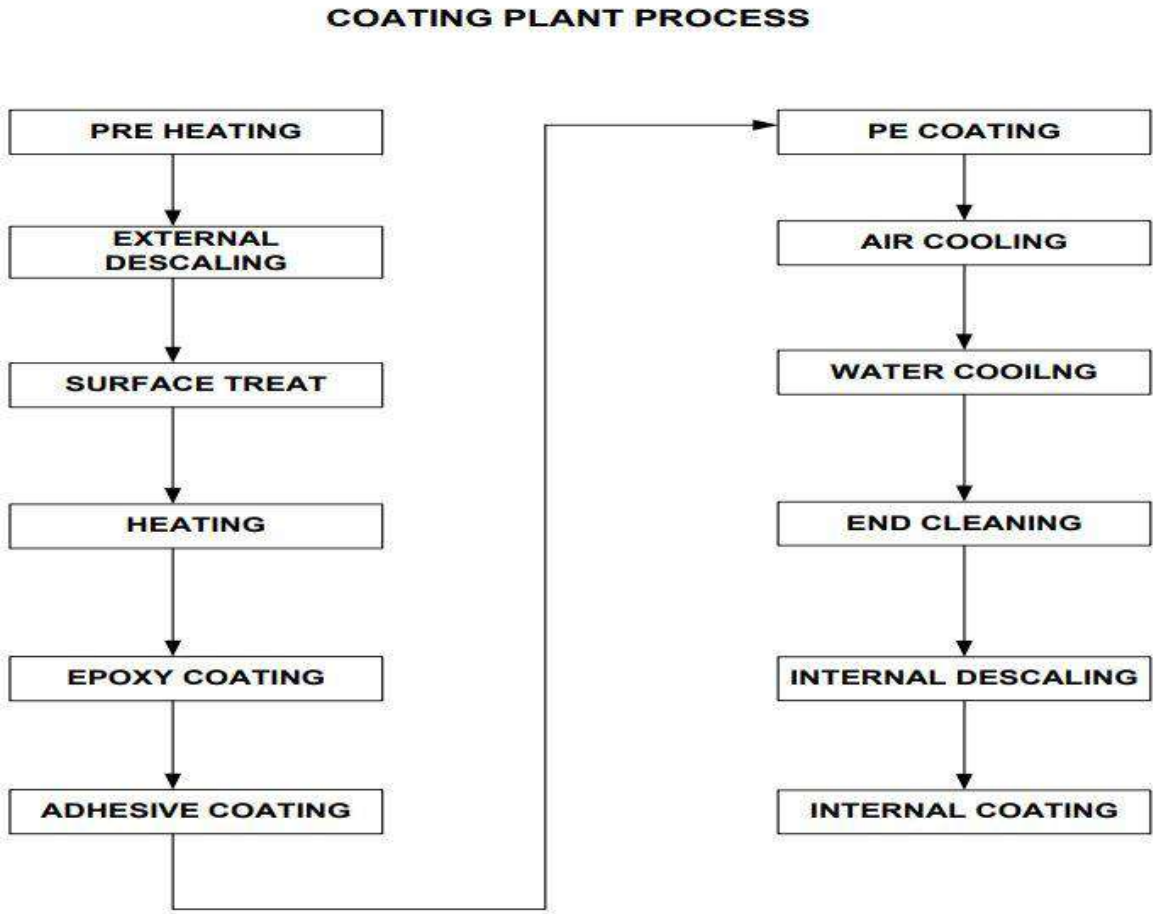
VARNISHCOATING

Afterthetesting,thepipesaresentthroughtheconveyorstothevarnishcoatingareaforcoating.

STORAGEANDDESPATCH

Aftervarnishcoating,thepipesarestoredinappropriatelocation.

COATINGPLANT



PREHEATING

The pipe is preheated to remove moisture and increase the efficiency of the shot blasting process.

SHOT BLASTING

The pipes are shot blasted, and the blaster is provided with an abrasive recycling and cleaning system. The shot blasted pipes are moved forward through the air blow out device to remove any particles present inside the pipe.

HEATING

The pipes are heatedtoasuitabletemperatureforcoatingofepoxyintheepoxysprayboothon the heat resisted wheels.

EPOXYCOATING

The epoxy primer is electro statically sprayed on to the surface of the heated pipe and the pipes then moves to the coating application device.

ADHESIVECOATING

The adhesive is applied around the surface of the pipe by adhesive extruder.

PE COATING

Polyethylene coating is applied around the surface of the pipe by PE extruder. The pipes are then moves forward and subjected to air cooling and water cooling.

ENDCLEANINGDEVICE

Boththeendsofthepipearecleanedwithendcleaningdeviceorbrushingdevice.

INTERNALCOATING

Internalcoatingprocessisdonebyinternalepoxysprayer.

R&D data on magnitude of toxic emissions in case of system failures.

Thereisnotadequateinformationavailableregardingthis.

5.1 RiskAssessment&EnvironmentalImpactAssessment

Themajor hazardsenvisagedare: -

1. FirehazardeitherinvolvingLNGorsupportedby O_2
2. ExplosionhazardinvolvingLNG,NH_3,H2.
3. Toxic emission ofNH_3& O_2.

Asphyxiating emission of LNG, N_2& H_2. (Near GP-1, 2, CCL, annealing area,H& T Furnace

- Possibleleakagesfrompipelinesandflangesmayleadtofireandconsequentexplosionsas LNGishighlyinflammable.Theextentofdamage– areawise&materialwisewilldependontheextentandsiteofleak.Methane.Ethane,Propane isthemostcommonly used LNG. This gas is extremely flammable and forms flammable mixtureswithair.Itwillburnintheopenorbeexplosiveinconfinedspaces.Itsvaporsarelighter than air and will disperse. A hazard of re-ignition exits if flame is extinguished withoutstoppingthegasflow.

1. Oxygen

As liquid & gaseous oxygen is also stored and used on the premises, it is an added hazard because one it supports combustion and secondly it is incompatible with hydrogen, LPG and organic materials like oils. Inhalationpureoxygenatatmosphericpressureleadstopulmonaryedema;henceitsleakage is ahealth hazard also.

2. Ammonia

Ammonia is also flammable and burning releases toxic fumes of oxides of nitrogen. It by itself is also a health hazard causing irritation to mucous membrane, eyes and skin and causing bronchitis or pneumonia.

3. Nitrogen

Physically inert nitrogen under atmospheric pressure is liable to have harmful effect byreducing partial oxygen pressure in lungs thereby causing asphyxia. This may occur aftermechanicalbreakdownwithinanenclosedspacewhentheenvironmentalairisrapidlypollutedwithnitrogen.

4. Hydrogen

It is flammable; it is non toxic but can act as asphyxiate.

5. HCL

Itistoxicandcorrosive.Iflossofcontainmentoccurs,itmayleadtodamageofthesurroundingfloraandfaunaand isahazardousforhuman health.

6. LIQUIFIEDNATURALGAS (LNG)

LiquefiednaturalgasorLNGisnaturalgas(PrimarilyMethane,CH_4)thathasbeenconverted to liquid form for ease of storage or transport. Liquefied Natural Gas takes up about $1/600^{th}$the volume of natural gas at stove burner tip. It is odorless, colorless, nontoxic and non-corrosive.Hazard includes flammability,freezingand asphyxia.

The liquefaction involves removal of certain components, such as dust, helium, water and heavy hydrocarbons, which could cause difficulty stream. The natural gas is then condensed into a liquid at close to atmospheric pressure (Max transport

pressure set around 25KPa(3.6PSI) by cooling it to approximately -163 deg. C(-260 F). The reduction in volume makes itmuch,morecost-efficienttotransportoverlongdistanceswherepipelinedonotexist.Wheremoving natural gas by pipelines is not possible or economical, it can be transported by specially designed cryogenic sea vessel or cryogenic road tankers.

Sr.	Chemical	Toxicological rating	Fire Rating Value	Reactivity Rating value
1	Ammonia	3	1	0
2	Hydrochloric acid	3	0	0
3	Hydrogen	0	4	0
4	LNG	0	0	0
5	Nitrogen	3	0	0
6	Oxygen	3	0	0

HOW ADEQUATE ARE EXISTING RESOURCES TO COPE WITH EMERGENCIES.

An emergency has following phases. Identification, indication, alarm & pressing both hardware and software into operation within a short time in an organized manner to cope with it and mitigate the consequences. Keeping this in view right from the design stage to operation and maintenance phases, hardware like hazards control instrumentation, minimum stored energy, compatible materials of construction lay out of the plant and various other precautionary measures along with high consequent control system have been provided. Written procedures have been evolved like operating instruction permit to work system, job safety analysis, emergency shut down start up procedure equipment testing and inspection system/plant safety.

MAHARASHTRA POLLUTION CONTROL BOARD

SUB REGIONAL OFFICE, RAIGAD-1

Tel. No. 2757 2620
Fax No. 2756 2132
Email: sroraigad1@mpcb.gov.in
Visit us at: http://mpcb.gov.in

"Your Service is our Duty"

Raigad Bhavan, 6th Floor,
Sec-11, C.B.D. Belapur,
Navi Mumbai 400 614.

No. MPCB/SROR-1/ 250417-F15-0263 Date: 17/04/2025

To,
M/s. Tata Steel Limited,
Khasra No. 19/2A, Post Sajgaon, Village,
Savroli, Teh: Khalapur, Po: Sajgaon
Dis: Raigad, Maharashtra, 410203

Sub: - Compliance with consent conditions w.r.t. development of 33% Green Belt/ Green coverage/planation.

Ref:- 1) Consent granted by Board vide No. Format 1.0 /CAC/UAN No.MPCB - Consent – 0000220081(CR) 2501001062 dated 13/01/2025 valid up to 28/02/2030.
2) Environmental Clearance granted wide No letter EC24B00DMH16302B Dated 0/01/2024
3) Industry request letter dated - 09/01/2025

With reference to above captioned subject matter, this office has received request letter from industry wherein it is requested to issue letter w.r.t. development of 33% Green Belt/green Coverage/planation as per consent conditions.

It reflects from Office record available that industry is having plot area admeasuring 63.11 Hectors, out of which construction is carried out on 32.1 Hectors, and Road, Open and Parking is 9.2 Hectors & remaining area around 21.81 Hectors is under Green belt.

In accordance with the industry request letter, Board official visited to the industry for inspection and development made by industry w.r.t. development of 33% Green Belt/ green coverage/ plantation.

During the time of visit, it is observed that industry have planted various types of indigenous trees about 73,000 no's on open premises & land of the industry under green belt seems to be 21.81 Hectors which is more than 33% of total plot area.
This is issued as per your request letter.

(Prashant Bhosale)
Sub-Regional Officer, Raigad-1

Maharashtra Pollution Control Board
Sub Regional Officer Raigad-I

Copy Submitted to-
Regional Officer, M.P.C. Board, Raigad.

REPORT ON

SAFETY AUDIT

As per IS 14489:2018

TATA STEEL LIMITED
KHOPOLI

ISHAMBA PHATA, KHOPOLI-PEN ROAD, VILLAGE SAVROLI, KHOPOLI, KHALAPUR, RAIGARH, MAHARASHTRA,410203

Conducted & Prepared by

SATYAM MANAGEMENT SERVICES, PUNE

Recognized Safety Audit Institution by Govt. Of Maharashtra
Certificate No. – Maharashtra State/Industrial Safety & Health/SA/S-01/2024
Valid up to 15/10/2026
Email: rajesh@satyammanagement.com

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SCHEDULE II

[See rules 8 and 9(1)] of Maharashtra Factories (Safety Audit) (Amendment) Rules, 2024)

Performa for Safety Audit Report

Part-A

Furnished by the Safety Auditor

1. Name and address of the factory : M/s. TATA STEEL LIMITED KHOPOLI. ISHAMBA PHATA, KHOPOLI-PEN ROAD, VILLAGE SAVROLI, KHOPOLI, KHALAPUR, RAIGARH, MAHARASHTRA,410203.

2. Name of the Occupier ----------: - Mr. THACHAT VISHWANATH NARENDRAN

3. (*a*) Date and time of opening meeting of safety audit: [Date-18/03/2026, Time:09:25]

(*b*) Date and time of closing meeting of safety audit: [Date-20/03/2026, Time:04:50]

(*c*) Total man days taken to conduct the safety audit: 3 DAYS

4 List of raw material with maximum storage quantity and its mode of storage--------- :- **Enclosed**

5. List of finished products with maximum storage quantity and its mode of storage----:- **Enclosed**

6. Manufacturing process flow chart (attach separate sheet) ----------: -**Enclosed**

7. List of dangerous operations carried out in the factory as defined in rule 114 the Maharashtra Factories Rules, 1963: ----------: - **Enclosed**

8. (*a*) Name/s of the Safety Auditor/s: **Mr. Pramod K. Hingmire, Mr. Ramdas Napte, Mr, Vijaykumar Ingle**

(*b*) Certificate no **MH/DISH/SA/S-01/2024** validity duration**: 15/10/2026**

9. Whether enclosed Safety Audit Report is as per the Indian Standard, IS 14489: 2018 Occupational Safety and Health Audit) ----------: - **Yes**

(Detailed Safety Audit Report along with recommendations to be attached.)

Date of submission of safety audit report to the factory: -
Digital signature of safety auditors of an Institution authorized to carry out safety audit.

Mr. Pramod Hingmire	Mr. Ramdas Napte	Mr, Vijaykumar Ingle
PRAMOD KONDIBA HINGMIRE Digitally signed by PRAMOD KONDIBA HINGMIRE Date: 2026.03.31 10:42:48 +05'30'	Ramdas Anandrao Napte Digitally signed by Ramdas Anandrao Napte DN: C=IN, O=Personal, PostalCode=412208, L=Pune, S=Maharashtra, STREET=', Karandi, Maharashtra India 412208 NAPTE WASTI', T=8257, Phone=500b27a04dd29e4c7202c7f094847a49dc2ac3136c2a75a3d73ad6b497870ee6, SERIALNUMBER=7ed0e405b409c185e0df3782ebb87c833a49f9ecc7d701a8632e587aeaa0987b, E=ranapte.74@gmail.com, CN=Ramdas Anandrao Napte Reason: I am the author of this document Location: Date: 2026.03.31 12:45:51+05'30' Foxit PDF Reader Version: 2025.1.0	VIJAYKUMAR HARI INGALE Digitally signed by VIJAYKUMAR HARI INGALE Date: 2026.03.31 11:24:11 +05'30'

Part-B

(furnished by the occupier)

Date of receipt of safety audit from the Safety Auditor:

I Mr. Thachat Vishwanath Narendran undersigned occupier of the M/s. TATA STEEL LIMITED KHOPOLI., situated at 3/2, ISHAMBA PHATA, KHOPOLI-PEN ROAD, VILLAGE SAVROLI, KHOPOLI, KHALAPUR, RAIGARH, MAHARASHTRA,410203, hereby declare that, I have thoroughly reviewed and taken appropriate actions based on the findings and recommendations mentioned in Safety Audit Report by safety auditors. In response to the Safety Audit Report, I have taken appropriate measures and report of the same is attached herewith.

Digital Signature of the Occupier

2.PREFACE

An audit is a technique designed to ensure that the standards achieved at any place of work and other places affected by work activities conform closely as possible to objectives specified by the management of the factory for control of the risk of injury and ill health, damage to property, plant, equipment and their environment and to provide the information to the management to justify continuation of the same strategy or a change of course.

Safety auditing falls under two categories:

1. Internal Audit
2. External Audit

The enclosed Safety Audit Report of the **M/s. Tata Steel Limited Khopoli., 3/2, Ishamba Phata, Khopoli-Pen Road, Village Savroli, Khopoli, Khalapur, Raigarh, Maharashtra,410203**, is based on the Audit carried out by an external independent professional organization in the month of **March, 2026.** This report has been prepared after visual inspection of the plant; study of related records, reports, references and technical information presented by the management and subsequent discussions with the technical staff engaged in operation & maintenance of the plant. The officials of the plant gave wholehearted co-operation during field study and compilation of the report. All observations could be made freely.

3.PERSONS INVOLVED IN THE AUDIT

SR. NO.	NAME OF PERSON	DESIGNATION
01	Mr. YOGENDRA PAL SINGH	HEAD (PP & UTILITIES)
02	Mr. HEMENDRA TIWARI	HEAD ELECT (LDP TUBE PPO)
03	Mr. VISHAL MATHUR	HEAD OPERATION (NCRM)
04	Mr. KUMAR KRANTI SINGH	HEAD MECH (TUBES & LDP)
05	Mr. ARUN GADAM SHETTY	HEAD MECH (CRM)
06	Mr. SYED SHARIQ ALI	HEAD ELECT (CRM0
07	Mr. VYANKATESH BINIWALE	HEAD MAINTENNACE
08	Mr. M .M PAWAR	HEAD (TUBE)
09	Mr. AMIT SARKAR	MANAGER SAFETY
10	Mr. DHANANJAY S. GHUGE	ASST MANAGER SAFETY
11	Mr. SURENDRA PRASAD TIWARI	SR OFFICER SAFETY
12	Dr. AAYUSH R. RAJ	JR REGISTERAR OHC

4.EXECUTIVE SUMMARRY

At the request of **M/s. Tata Steel Limited Khopoli., 3/2, Ishamba Phata, Khopoli-Pen Road, Village Savroli, Khopoli, Khalapur, Raigarh, Maharashtra,410203,** was carried out in **March, 2026.** The objective of the audit is to find out Occupational Health and Safety system in the unit and identify the short comings in the system and suggest the corresponding corrective actions.

- **INTRODUCTION:**

Tata Steel Ltd, is the Largest integrated player in India for manufacturing second steel producing company. M/s Tata Steel is a source of vivid variety of products such as Hot Rolled Coil (H.R. Coil), CRCA, CRFH, Galvanized Coil and Sheet Galume Coil and Sheet.Color Coated Coils (CCL), High Tensile Steel Strips (HTSS) . Hardened & Tempered Steel Strips (H&T), precision Tubes & Pipes - ERW/HFW. Large Dia Plant is producing various sizes pipes (API Grade), 3LP Coated Pipes. Their LDP Plant is a very new generation plant incorporating latest and most stringent safety measures and system of very high standard in plant operation and hazard control. The basic hazard like fire, dust fumes toxicity etc. and other mechanical& electrical hazard attendant with such plants have been identified and preventive measures taken to

eliminate/minimize them to tolerable limits. The working conditions and environment protection system are being periodically reviewed and improved as per current standards. In other words, safety, health & environment system are Key focus along with other areas of industrial activities.

We are sincerely thanking Management of M/s. Tata Steel Limited Khopoli, Khalapur, Raigarh, Executives, Managers, in charge and their colleagues who gave us full co-operation during the process of Safety Audit and wish them all success for to achieve zero accident level.

5.NEED FOR SAFETY AUDIT

This Safety audit exercise is carried out to fulfill the statutory requirements prescribed under the section 7(A) of The Factories Act 1948.

As such it is essential, on the part of the Factory Management to carry-out “Safety Audit” to identify and assess the hazards potential in different sections of the plant and processes and take suitable controls measures. **M/s. Satyam Management Services, Recognized Safety Audit Institution by Govt. of Maharashtra,** had undertaken the Safety Audit in the month of **March 2026**. The Safety Audit has been conducted as per Indian Standard on Codes of Practices for Occupational Safety & Health Auditing - IS 14489:2018.

6.THE ASSIGNMENT

M/s. Satyam Management Services, Pune, Industrial Safety Consultant and Recognized Safety Audit Institution by Govt. of Maharashtra, undertake assignments like Safety Audit, Risk Analysis, and HAZOP Study etc. on regular basis. Top management of M/s. Tata Steel Limited Khopoli., 3/2, Ishamba Phata, Khopoli-Pen Road, Village Savroli, Khopoli, Khalapur, Raigarh, Maharashtra,410203, and after discussions, engaged the services of M/s. Satyam Management Services, Pune, Recognized Safety Audit Institution by Govt. of Maharashtra.

Information about the Industry: -

Name and Address of the Factory	M/s. Tata Steel Limited Khopoli., 3/2, Ishamba Phata, Khopoli-Pen Road, Village Savroli, Khopoli, Khalapur, Raigarh, Maharashtra,410203.
Name of the Occupier	**Mr. Thachat Vishwanath Narendran**
Name of the Factory Manager	**Mr. Ashish P. Rajgure**
Size of Factory	**Large**
Sector	**Limited**

7.OBJECTIVES

7.1 AUDIT OBJECTIVES:

Safety Audit is an important tool for identifying falling standards, areas of risks or vulnerability hazards and accident potential in proposed and existing plants and processes, for determining the actions necessary to remove hazards before personal injuries or damage occur.

The loss potential, in the industry is always high and is not restricted only to large scale incidences like accidents, fires, spillage of hazardous chemical, explosions, toxic gas release etc. but minor issues like failure or damage of instrumentation or equipment may lead to lengthy down time of plant, resulting in heavy financial loss. Also, loss potential is not concerned with the production.

7.2 AUDIT GOALS:

Audit was designed to achieve the following goals

- To examine and evaluate the accident prevention measures
- To analyze the safety procedures, systems and practices.
- To observe the working conditions & operating methods, including storage/handling of raw materials/ finished products.
- To pinpoint occupational health hazards.
- To check the adequacy of emergency/firefighting arrangements
- To comment upon various statutory compliance.

8. SCOPE OF STUDY

The scope of the audit was restricted to the factory unit of M/s. Tata Steel Limited Khopoli., 3/2, Ishamba Phata, Khopoli-Pen Road, Village Savroli, Khopoli, Khalapur, Raigarh, Maharashtra,410203., for present site activities only.

The scope of this audit was discussed and finalized in the opening meeting with the Audit Team and the Management of the company. The schedule of the audit was circulated to all concerned auditee. It was emphasized that following aspects are to be looked into detail while carrying out the safety audit.

STATUTORY REQUIREMENTS –

- 1] Rule 73 – L (4) (e) Factories Rules 1963.
- 2] It is also obligatory on the part of an occupier of the factory under section 2(n) and 7-A (1) [Factories Act. 1948] to provide a safe system of work and hence to carry out periodic Safety audit and to implement its recommendations.
- 3] The factory is covered under section 2(cb) of Factories Act 1948. Hence the activity does make the factory categorized as an installation involving 'Hazardous Process' as per the first schedule of the Factories Act, 1948 under the Section 2(cb):

- 4] In additions to above following operations carried out in the factory are classified as Dangerous Operations under the Maharashtra Factories Rule MFR no.114

  Schedule V: Grinding or Glazing of Metals

  Schedule XII: Handling and Manufacturing of corrosive substance.

  Schedule XXIII: Handling and processing of highly flammable liquids and flammable compressed gases.

9.AUDIT METHODOLOGY

1. The Indian Standard **IS 14489: 2018** is used as basis for this audit.
2. Guidelines given under **ISO 45001:2018**
3. Safety Audit subjects each area of a company's activity to a critical appraisal of all potential hazards. Every component of the total system is included e.g. policy attitudes, training, features of the process and design, layout of the plant, operations, emergency plans, personnel protection, accident records etc.
4. The following activities are carried out in conducting Safety Audit.

   Preliminary review is carried out of company's description and specified requirement of SAFETY system as a basis for planning the **Safety Audit**. The opening meeting took the review for adequacy of the company's specified requirements and recorded description of the methods for meeting the OS & H system requirements such as the safety manual or equivalent.

5. **AUDIT PLAN:**

   The Audit plan was finalized after consultation with the company authorities and circulated to auditees. Questionnaire of preliminary information about various elements of safety system was prepared. This was to be filled in by the company and returned for study by the audit team before the field visits.

10.ELEMENTS OF OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM

1.	Occupational safety and health policy
2.	Safety organizational set – up
3.	Education and training
4.	Employees participation in Safety Management
5.	Motivational and promotional measures for safety
6.	Safety manual and rules
7.	Compliance with statutory requirements
8.	New equipment review/inspection
9.	Accident reporting analysis investigation and implementation of recommendations
10.	Risk assessment including hazard identification
11.	Safety inspections
12.	Health and safety improvements plan/targets
13.	First aid facilities – occupational health center
14.	Personal protective equipment
15.	Good housekeeping
16.	Machine and general area guarding
17.	Material handling equipment
18.	Electrical and personal safeguarding
19.	Ventilation, illumination and noise
20.	Work environment monitoring system
21.	Prevention of occupational diseases including periodic medical examination
22.	Safe operating procedures
23.	Work permit systems
24.	Fire prevention, protection and fighting systems
25.	Emergency preparedness plans (on – site / off – site)
26.	Process/plant modification procedure
27.	Transportation of hazardous substances
28.	Hazardous waste treatment and disposal
29.	Safety in storages and warehousing
30.	Contractor safety systems
31.	Safety for customers (including material safety data sheets)

11. LEGAL REQUIREMENT

The General Duties of the “Occupier” specified at Section 7-A of the Factories Act gives different obligations of the occupier.

These will be fulfilled to a great extent if the observations / comments made in the present Audit Report are heeded to and the recommendations implemented.

Safety Audit is one of the powerful techniques to identify the hazardous and evaluating the effectiveness of the various Safety Systems.

Occupier shall update the Safety Audit Report In externally every two years and As per Rule 9 of Maharashtra Factories (Safety Audit) Rules 2014, it is mandatory to send the Action Taken Report and Schedule-II of the recommendations suggested in the said report to the concerned Directorate of Industrial Safety and Health within **thirty** days.

As per Maharashtra Factories (Safety Audit) (Amendment) Rules, 2024. Rule 10 sub rule-2 The Safety Auditor shall visit the factory within **one** month after expiry of **three** months from the date of submission of external Safety Audit Report to the occupier to verify the action taken report submitted by the occupier of the concerned factory and the report of the same shall be submitted to the concerned office of the Directorate of Industrial Safety and Health in Schedule III with a copy to occupier.

12.RECORDS EXAMINE DURING THE SAFETY AUDIT

SR.NO	DESCRIPTION
1.	The company's Safety policy
2.	Safety organization chart.
3.	Production Process schematic flow.
4.	Training records on safety fire and first-aid.
5.	Record of plant safety inspections format.
6.	Accident Report
7.	Accident investigation reports format.
8.	Accidents and dangerous occurrences statistics and analysis.
9.	Record of tests and examinations of equipment and structures as per statues.
10.	Index of EOT/HOT Cranes & Lifting Equipment Certificates
11.	Index of Pressure Vessels & Pressure Vessels Certificate
12.	Safe operating procedures for various operations.
13.	Safety Training Calendar for the year 2025-2026
14.	Record of work permits.
15.	Record of monitoring of flammable and explosives substances at Workplace.
16.	Maintenance and testing records of fire detection and firefighting equipment.
17.	Medical records of employees.
18.	Records of industrial hygiene surveys (noise, ventilation and illumination levels, airborne and toxic substances, explosive gases).
19.	Material safety data sheets.
20.	On site emergency plans and record of Mock Drills.
21.	Records of waste disposal.
22.	Records of effluent discharges to the environment.
23.	Housekeeping inspection records.
24.	Minutes of safety committee meetings.
25.	Approval of layouts from statutory authorities.
26.	Records of any modifications carried out in plant or process.
27.	Maintenance procedure records.
28.	Calibration and testing records.
29.	Shut down maintenance procedures.
30.	In service inspection manuals, records including that of Material Handling.
31.	Safety budget.
32.	Inspection books and other statutory records.
33.	Records of previous audits.

13. ANNEXURE-1
MANUFACTURING PROCESS FLOW CHART

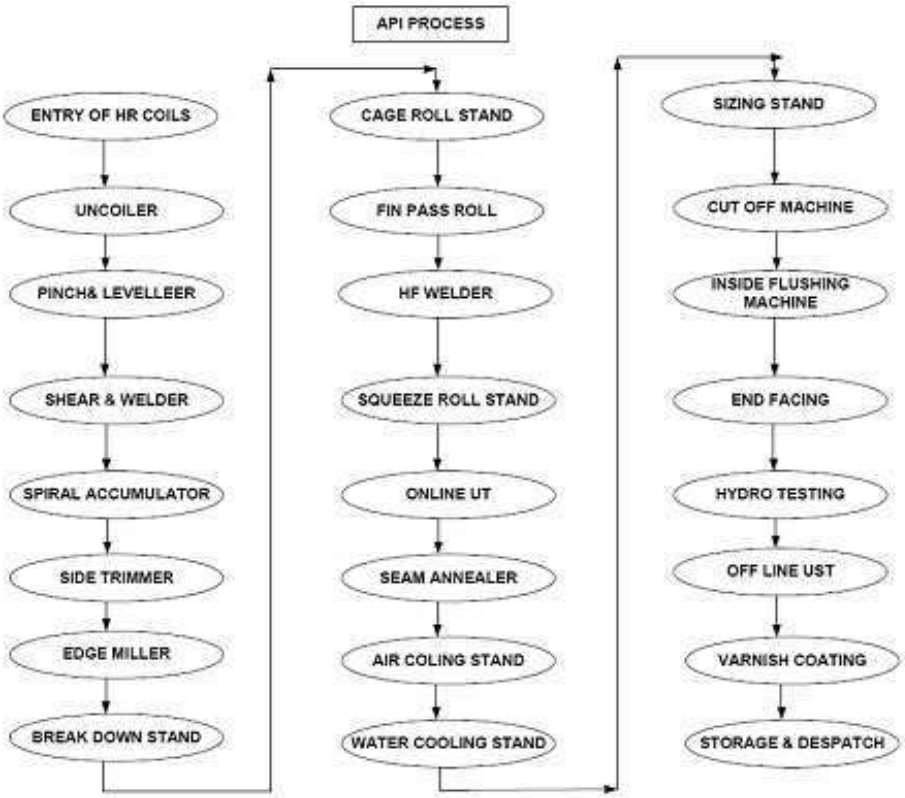
Lard Dia Pipe Division

1. Pipe Mill Line (Production of ERW Pipes)
2. Coating Plant

Mechanical Operations

- Coil Storage Area
- Entry Section
- Forming Section
- Welding
- Cooling Section
- Sizing
- Cut Off
- Coating Section

Process Description of the Plant



PROCESS DESCRIPTION

ENTRY OF HR COILS

The HR coils enter the plant through the trucks and at the entry of shed K and

unloading process is carried over by E.O.T cranes and these coils are stores in coil yard for further process.

UNCOILER

Uncoiler picks up a coil from Coil car and feeds the leading end of strip into Pinch & Leveler. When the coil is lifted by the coil car, Uncoiler receives it by inserting mandrel heads into the center of the coil from both sides. The coil center will be adjusted manually by an operator by monitoring the size indicator installed in front of Uncoiler. Then the coil is rotated so that the leading edge of it comes to the top position for coil band removing by Peeler.

PINCH & LEVELLER

Pinch & Leveler flattens coil strip. When the leading end of the coil strip reaches the bottom roll, the top Pinch roll is lowered by a hydraulic cylinder to hold the strip between the top and bottom rolls which rotate and feed the strip into Leveler. As soon as the leading end of the strip arrives at the first roll of the Leveler, the top Pinch roll is raised not to interrupt the movement of the strip.

While coil strip passes through the top and bottom rolls of the Leveler, it becomes leveled.

SHEAR & WELDER

Its main function is to join the tail end of current strip and the leading end of next strip to accumulate into Spiral Accumulator without stopping of mill line. But the fine adjustment of welding gap shall be performed manually.

SPIRAL ACCUMULATOR

The accumulator accumulates and supplies steel strip for the main mill. While working, strip enters into the accumulator discontinuously at fast speed and comes out of the accumulator continuously at the same speed with the main mill. Because coil-changing and end-cutting & welding need some time while the main mill produces pipe continuously, the accumulator accumulates some length of strip to ensure continuous production.

SIDE TRIMMER

Side Trimmer trims both edges of the strip to predetermined width and remove impurities at the edges by rotating knives positioned both above and below the strip.

EDGE MILLER

Edge Miller smooths both edges of coil strip to ensure best quality of welding to be performed at a later stage in production.

BREAK DOWN STAND

Break down Stand shapes coil strip into a shallow but still round curve.

CAGE ROLL STAND

Cage Roll Stand makes the strip into a round shape gradually without edge waving by guiding it through a series of small rolls (cage rolls) that are

positioned along the length of the strip.

FIN PASS STAND

Fin Pass Stands gives the strip in steps a complete roundness.

HF WELDER

HF Welder converts the electric current into high frequency energy to create the induction current near the edges of the seam to generate the heat required for welding.

SQUEEZE ROLL STAND

Squeeze Roll Stand presses the pipe tightly inwards to maintain the roundness and to keep the adequate width of the seam for a complete welding process to make a closed pipe.

SEAM ANNEALER

Seam Annealer reheats the weld seam for its normalization.

AIR COOLING STAND

Air Cooling Stand cools down the weld seam area reheated by the seam annealer by letting the reheated area get exposed in open air while the pipe is moving through the stand.

WATER COOLING STAND

Water Cooling Stand cools off the weld seam that has been already cooled down while it was moving through Air Cooling Stand.

SIZING STAND

Sizing Stands reduce the pipe to an exact size in diameter and bring it to complete roundness by pressurizing it inwards while it is passing through the stands.

END CROPPING MACHINE

End Cropping Machine frequently cuts off a small length of pipe as a sample for flattening tests.

Face shield should be provided to the operator at the region of plasma cutting.

END FACING MACHINE

End facing machine is used to make the ends of the pipes smooth.

HYDROSTATIC TESTER

After the both ends of the tube are machined for facing and chamfering, each pipe is tested with high water pressure to check for the leakage in weld seam.

VARNISH COATING

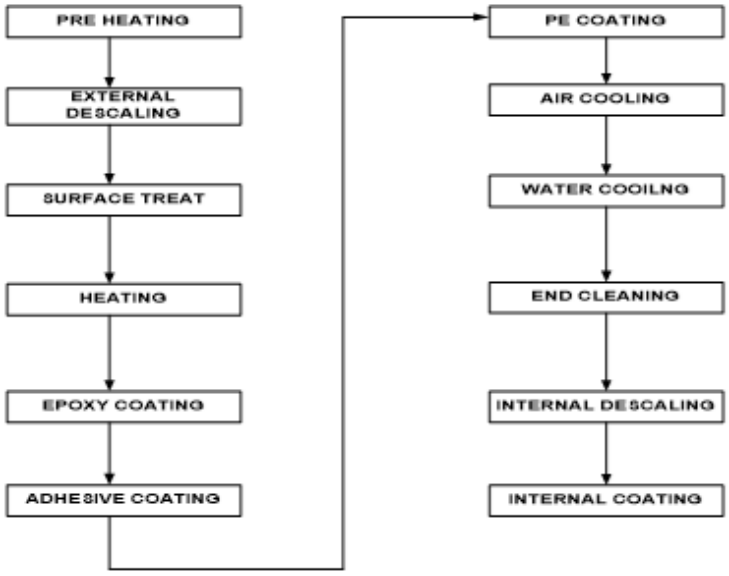
After the testing, the pipes are sent through the conveyors to the varnish coating area for coating.

STORAGE AND DESPATCH

After varnish coating, the pipes are stored in appropriate location.

COATING PLANT

COATING PLANT PROCESS



PRE HEATING

The pipe is pre heated to remove moisture and increase the efficiency of the shot blasting process.

SHOT BLASTING

The pipes are shot blasted and the blaster is provided with an abrasive recycling and cleaning system. The shot blasted pipes are moved forward through the air blow out device to remove any particles present inside the pipe.

HEATING

The pipes are heated to a suitable temperature for coating of epoxy in the epoxy spray booth on the heat resisted wheels.

EPOXY COATING

The epoxy primer is electro statically sprayed on to the surface of the heated pipe and the pipes then moves to the coating application device.

ADHESIVE COATING

The adhesive is applied around the surface of the pipe by adhesive extruder.

PE COATING

Poly Ethylene coating is applied around the surface of the pipe by PE extruder.

The pipes are then moves forward and subjected to air cooling and water cooling.

END CLEANING DEVICE

Both the ends of the pipe are cleaned with end cleaning device or brushing device.

INTERNAL COATING

Internal coating process is done by internal epoxy sprayer.

14.ANNEXURE II
LIST OF RAW MATERIALS

Sr.	Name of chemical	Formula	Quantity	Hazards involved in handling / processing / storage
1	Ammonia	NH_3	18 MT	Fire, Explosion & Toxicity hazard corrosive
2	Hydrochloric acid	HCl	90 MT	Corrosive and Toxic
3	Hydrogen	H2	1.4 MT	Fire & Explosion hazard Asphyxiate
4	LNG (Liquefied Natural Gas)	Aliphatic Hydrocarbon, Alkane series	160 MT	Fire & Explosion hazard Asphyxiate
5	Nitrogen	N_2	4000 M^3	Asphyxiate
6	Oxygen	O_2	300 $M^{3/hr}$	Oxidizer, supporter of combustion.
7	Zinc	Zn	100 MT	Dust explosion & Ignition.
8	Liquefied Natural Gas	LNG	62000 SM^3	Fire & Explosion hazards
9	Black Varnish		4000 lit.	Fire & Explosion hazards
10	Thinner		2500 lit.	Fire hazards
11	HR Coil			Free fall while lifting and transferring
12	Paint		200 KL	Fire hazards

15.ANNEXURE III
LIST OF FINISHED PRODUCTS

Sr. No.	Product Name
1	HR SLIT COIL
2	HRPO COIL
3	HRPO SHEET
4	HRSPO COIL
5	HRSPO SHEET
6	CRFH COIL
7	CRFH SHEET
8	GL COIL SOFT
9	GL COIL HARD
10	GL COIL SEMI HARD
11	GL COIL SKINPASS
12	GP COIL SKINPASS
13	PPGL COIL SOFT
14	PPGL COIL HARD
15	PPCR COIL
16	HRPO SKINPASS ANNELED COIL
17	PPGL COIL SEMI HARD
18	HR ANNEALED SKIN PASS SHEET
19	CR ANNEALED HALF HARD COIL
20	CR ANNEALED FULL HARD COIL
21	CR ANNEALED HALF HARD SHEET
22	CR ANNEALED FULL HARD SHEET
23	CRCA COIL
24	CRCA SHEET
25	GP COIL SOFT
26	GP COIL HARD
27	H&T COIL
28	H&T SHEET
29	HTSS COIL
29	Round Tube
30	Square Tube
31	Rectangular Tube
32	Elliptical Tube
33	Oval Tube
34	API Pipes
35	Large Dia Pipe

16. QUESTIONNAIRE

SR NO	PROVISION	STATUS	RECOMMENDATIONS `
	C-1 OH & S MANAGEMENT C-1.1 OH & S Policy		
1	a) Does the organization have OH & S policy?	Yes	As per Factories Act 1948, Section 7A (3) and Rule no. 73L (7) of The Maharashtra Factories Rules 1963. Safety policy is prepared and displayed by Managing Director.
2	b) Who has signed the OH & S policy?	By Mr. TV Narendran Managing Director & CEO	EHS policy signed by occupier.
3	c) Whether the OH & S policy is per guidelines of the statutory provisions?	Yes, OHS Policy of company is as per Rule of MFR 1963 73L.	There is a supporting document to cover details of the necessary information specified under the State Rules
4	d) When was the OH & S policy declared and adopted?	1st November 2017	It is necessary to take follow up of safety activities and necessary changes need to be implemented as per OHS policy.
5	e) Whether the OH & S policy reviewed periodically?	Yes	It is necessary to take follow up of safety activities and necessary changes need to be implemented as per OHS policy.
6	f) Whether the OH & S policy is available in local language and made known to all?	Yes	Copies are displayed at prominent locations. This is as per rule.
7	g) What was the last date of updation?	1st November 2017	Safety Policy reviewed periodically.
8	h) Does the policy find a place in the annual report?	Yes	It is exercised in annual reports
	C-2 OH & S ORGANIZATIONAL SET UP C-2.1 Safety Department		
9	a) Does the factory have a safety department and what is strength of safety department?	Yes, 04	This is as per the Safety Officers rule 1982 -MFR1963
10	b) Whether the strength and qualifications of Safety Officers are as per the statutes?	Yes	System is adequate

11	c) Does the head of safety department report to the Chief Executive?	Yes	System is adequate
12	d) How often are the safety officers retrained in the latest techniques of total safety management? What is the frequency of retraining?	Yes, once in a year	System is adequate
13	e) What additional duties the safety officer is required to do?	No additional duties	System is adequate
14	f) What is the power of safety officer vis-a-vis unsafe condition or unsafe act?	Safety Officer is authorized to stop the operation in case of Unsafe Act / Unsafe Condition.	System is adequate
	C-2.2 Safety Committee(s)		
15	a) Does the factory has a safety committee(s)? What are the types, structures and terms of reference of the committees?	Yes, 5 members in safety committee	Safety Committee is formed, As per guidelines of MFR -1963.
16	b) Is the constitution of the safety committee(s) as per the statute?	Yes	The safety committee members should be rotated periodically
17	c) How are the members of safety committee(s) selected? (elected / nominated)	Nominated	System is adequate
18	d) How often are the meetings of safety committee(s)held?	Monthly once	System is adequate
19	e) Are the recommendations of the committees(s) implemented?	Listed by Safety & tracked till compliance closure by concerned stakeholders.	The recommendations of the safety committees should be complied at the earliest.
20	f) Are the minutes of the safety committee(s) meetings circulated among the members?	Yes, Minutes of the safety committee meetings are documented & circulated.	The information and minutes of meeting are circulated through e-mails & Notice board display.
21	g) Are the minutes forwarded to the trade union(s) and chief executive and occupier?	Yes, Safety committee MOM are forwarded to all.	System is adequate.
22	h) Whether the management and trade union play their active roles in supporting and accepting the committee(s) recommendations?	Yes	System is adequate.
23	j) How are the safety committee(s) members apprised of the latest development in safety, health and environment?	By training, awareness and Listed by Safety & tracked till compliance closure by concerned stakeholders.	The recommendations of the safety committees should be complied at the earliest.

	C-2.3 Safety Budget		
24	a) What is the annual safety budget?	The annual safety budget provided.	It is suggested that a formal budget should be prepared considering all aspects of safety on plant/unit level. The budget should be mentioned in the annual report.
25	b) How much percentage is this budget of the total turnover of the company?	Data is maintained.	The relevant data need to be maintained.
26	c) How much budget has been utilized till date?	As per expense plan.	System is adequate.
27	d) Is the safety budget adequate?	Yes	System is adequate.
28	e) How is the safety budget arrived at?	As per company approval protocol. On the basis of hazards and risk assessment	System is adequate.
29	f) What is the pattern of expenditure for the last five years?	Data is maintained	System is adequate.
30	g) What are the approved sanctions for the expenditure in this budget?	Data is maintained	System is adequate.
31	h) Does this budget get reflected in the annual report of the company?	Yes	System is adequate.
	C-3 SAFETY MANUAL		
32	a) What is the periodicity of updation / review of safety manual?	Yes, once in a year & as & when required.	System is adequate.
33	b) Does the safety manual adequately address all the hazards in the plant?	Yes	System is adequate.
34	c) Are the employee made aware of safety rules /instruction mentioned in the safety manual?	Yes	System is adequate.
	C-4 STANDARD OPERATING PROCEDURES (SOP)		
35	a) Are written Standard / safe operating procedures available for all operations and processes?	Yes, SOP's are available for all operations	System is adequate.unloading SOP should be displayed

36	b) Whether the written Standard / safe operating procedures are displayed or made available and explained in the local language to the workers?	Yes, Displayed at various locations in English as well as Local language.	System is adequate.
37	c) Whether concerned section and safety department prepares standard / safe operating procedure jointly?	Yes	System is adequate.
38	d) Are standard / safe operating procedures reviewed and updated?	Yes. Revised SOP as per revision frequency & criteria as & when changes are made	System is adequate.
39	e) Have the workers been informed of the consequences of failure to observe the standard / safe operating procedures?	Yes	System is adequate.
	C-5 PLANT MODIFICATION PROCEDURES		
40	a) What is the system for effecting any change in the existing plant, equipment or process?	Yes	System is adequate.
41	b) Whether the P & I diagram and other related documents are updated accordingly?	Yes. Updated if required	System is adequate.
42	c) Whether hazard assessment done before implementation of modification?	Yes	System is adequate.
	C-6 WORK PERMIT SYSTEM		
43	a) What types of work permits exist in the factory?	Yes	System is adequate.
44	b) Are the necessary forms detailing required safety precautions have been prepared and used for each type of work-permit?	Yes	System is adequate
45	c) Is the responsibility assigned to authorized person for issuing of safety work permit?	Yes	System is adequate
46	d) Is the copy of safe work permit sent to safety officer before execution of the job?	Yes	System is adequate
47	e) Is validity period specified in the safety work permit?	Yes	System is adequate
48	f) Are the records of work permit available and maintained in proper order?	Yes	System is adequate
	C- 6.1 Control Measures for Work at Height		
49	a) Is adequate safe access provided to all places where workers need to work?	Yes	System is adequate.

50	b) Are all such access in good condition?	Yes	System is adequate.
51	c) Are all scaffolds are properly designed and erected?	N/A during Project work & Maintenance activities as an when required	Nil
52	d) Are scaffolds inspected every day before work begins?	During Project & maintenance	Nil
53	e) Are ladders securely clamped or lashed in place?	Yes	System is adequate.
54	f) Are planks in good condition?	Yes	System is adequate.
55	a) Is adequate safe access provided to all places where workers need to work?	Yes	System is adequate.
56	b) Are all such access in good condition?	Yes	System is adequate.
57	c) Are all scaffolds are properly designed and erected?	N/A during Project work & Maintenance activities as an when required	Nil
58	d) Are scaffolds inspected every day before work begins?	During Project & maintenance	Nil
59	e) Are ladders securely clamped or lashed in place?	Yes	System is adequate.
60	f) Are planks in good condition?	Yes	System is adequate.
	C-6.2 Work in Confined Space		
64	a) Is work permit system followed for working in confined space?	Yes	System is adequate.
65	b) Whether monitoring of the atmosphere inside the confined space is carried out and ensured that there is no flammable or toxic gas in the area?	Yes	System is adequate.
66	c) Whether the person entering the confined space is using suitable personal protective equipment (PPE)?	Yes	System is adequate.
67	d) Is rescue team available in case of any emergency?	Yes, as per EPP	System is adequate.
	C-7 CONTRACTORS' SAFETY SYSTEM		
68	a) Is there any system for selection of contractors?	Yes, as per contractor selection procedures	System is adequate.
69	b) Are there any guidelines on contractor's safety and training?	Yes	System is adequate.

70	c) Whether contract document includes necessary safety and welfare clauses as per statutes?	Yes	System is adequate.
71	d) Is there any programme to ensure use of PPE by contractors personnel?	Yes, Work permit system & Contractor safety training	System is adequate.
72	e) Do the contractors have their own safety organization?	Yes	Depend on the organization size & type of work
73	f) Are the contractors reporting all accidents and injuries?	Yes	System is adequate.
74	g) Are contractor workers trained to observe safety artwork place?	Yes	Continue to train the contractor employees.
75	h) Whether contractor workers are engaged in process / operations? If yes, are they aware of safe operating procedures?	Yes	Contractual worker to be made aware about the Safe operating procedures
	C-8 PLANT DESIGN AND LAYOUT		
76	a) Whether hazardous operations in the plant are segregated?	Yes	System is adequate.
77	b) Whether occupational health & safety aspects are considered during the design?	Yes	System is adequate.
78	c) Are all the equipment provided with adequate space for working, maintenance etc.?	Yes	System is adequate.
79	d) Are the storage tanks provided with enough space / clearance between them?	Yes	System is adequate.
80	e) Whether the plant layout has taken care of the movement of fire fighting equipment and emergency exits?	Yes	System is adequate.
	C-9 MEDICAL MANAGEMENT OF ACCI-DENTS		
81	a) Are medical facilities available with trained first aid staff and equipment in round the clock shift for all including contractors?	Yes, Trained first aiders available	System is adequate.
82	b) Is the ambulance van available for round the clock basis with the dedicated driver?	2 Ambulance available with dedicated driver	System is adequate.
83	c) Is there any mutual aid scheme available with the nearest hospitals to manage and treat injuries during emergency?	Yes	System is adequate.
84	d) Are the workers / contractor workers aware of emergency medical facilities?	Yes	System is adequate.
	C-10 MANAGEMENT OF EMERGENCIES (NATURAL / MAN-MADE)		

85	a) Does the system exist to detect and control these Emergencies?	Yes, onsite EPP is available	System is adequate.
86	b) Are the employees aware of the measures to be taken during emergencies?	Yes	Frequent mock drills on various emergencies will improve the employee awareness.
	C-11 EMPLOYEES SELECTION AND PLACEMENT		
87	a) Whether norms are available for selection of different category of employees?	Yes, selection criteria available	System is adequate.
88	b) Whether pre-employment medical examination is being conducted for employees?	Yes	System is adequate.
89	c) Is there any procedure to evaluate safety awareness and record of the employees during their promotion?	Yes	Evaluation after safety trainings & during on-the-Job safety follow up.
	C12 SAFETY CULTURE **C-12.1 Attitudes of Managers**		
90	a) Do the managers follow the plant safety rules at all times?	Yes, all managers are accountable and responsible for the safety rules	System is adequate. Need to improve knowledge about legal requirements & follow the rule.
91	b) What are their attitudes towards safety reviews and audits?	Their involvement is there & they are interested to improve safety.	More reinforcement is needed to improve overall safety performance.
92	c) What is the response of management to safety violation?	No compromise. From warning till Termination suitable actions are taken.	System is adequate.
93	d) Whether safety related decisions are taken in consultation with the workers?	Yes, safety suggestion scheme	System is adequate.
94	e) What is the attitude of the managers towards nonuser of personal protective equipment?	Taking undertaking and issuing the warning letters in case of repeated violations.	Continue to monitor the PPE usage compliance.
	C-12.2 Attitudes of Workers		
95	a) Whether workers are aware of the consequences of their wrong actions?	Yes	System is adequate
96	b) Are laid down safe working procedures followed strictly?	Yes	System is adequate.
97	c) What is the attitude of the workers towards their own mistake, which can prejudice safety?	Safety ownership is adequate	System is adequate.
98	d) Do the workers report near miss incidents and suggest safety improvements?	Yes	System is adequate.

99	e) Are the workers aware of the system of rewards and sanctions relating to safety matters?	Yes, Reward & Recognition scheme available	System is adequate.
100	f) What is the attitude of workers towards use of personal protective equipment?	Safety ownership is adequate.	System is adequate.
	C-13 STATUTORY LICENSES, APPROVALS AND RECORDS		
101	a) Whether all the safety related Acts / Rules (with latest amendments) applicable to your organization identified, informed to all employees and complied?	Applicable acts / rules identified, made known to workers, complied as statutory permissions obtained.	
		Related licenses/ consents from statutory authorities like DISH, MPCB, and Electrical Inspectorate are obtained and are valid	Statutory compliance is well in place and is monitored by proper Compliance Plan.
		Factory License No-10029121 Dated- 14/11/2022 is in place and evident.	Compliance under Rule 3 and 4 of The Maharashtra Factories Rules, 1963 is evident.
		Annual returns in Form 27 is submitted for the calendar year 2025 to DISH office	It fulfils the requirement of Rule 119 of The Maharashtra Factories Rules, 1963.
		Certificate of Stability in form 1A has been obtained from Mr. Chinmay Deshmukh Consulting Structural Engineer Dated-15/06/2022 for all the structures in the premises from competent person	This will fulfil the requirement under Rule 3A of The Maharashtra Factories Rules, 1963.

		Medical examination of employees is done By Dr. Arvind Mane Petroleum & Explosive Safety Organisation Letter No- S/HO/MH/03/812(S5106) Dated- 11/06/2019 is forwarded herewith duly renewed up to 30/07/2027	This will fulfil the requirement of Rule 73-V-1 (C)of The Maharashtra Factories Rules, 1963 This will fulfil the requirement of rule 148 of the Petroleum rules, 2002.
102	b) Whether the licences have been validated?	Yes	System is adequate.
	C-14 MOTIVATIONAL AND PROMOTIONALMEASURES FOR OH		
103	a) Does the factory have occupational health and safety suggestion scheme?	Yes	System is adequate
104	b) Are occupational health and safety contests organized in the factory?	Yes. safety Quiz competition	System is adequate
105	c) Does the factory participate in National Awards?	Yes	System is adequate
106	d) Has the factory been awarded during last five years?	No	---
107	e) Does the organization publish safety bulletin /newsletters?	Yes	Safety publications made available and displayed at prominent places
108	f) Whether the safety bulletins are widely distributed?	Yes	Nil
109	g) How is the occupational health and safety information including accident statistics disseminated in the factory? (Bulletin boards, Newsletter etc.)	One-page reports are circulated via mail communication	System is adequate
110	h) What are the activities conducted during National Safety day / week?	Safety Essay, Posters, Poem, Quiz, Slogans, Extempore speech & Spot the Hazards etc.	System is adequate
111	j) What is the percentage of Workers participating in the various safety promotional activities?	100%, Details are maintained.	Continue to improve workers participation in safety promotional activities
	C-15 HAZARD IDENTIFICATION AND JOB SAFETY ANALYSIS		

112	a) Was an initial process hazard analysis (PHA) completed?	Yes	System is adequate.
113	b) What are the stages of PHA? Whether a dedicated group is identified for PHA?	Yes, Activity wise Process check sheet.	System is adequate.
114	c) Was the PHA appropriate for the complexity of the process and identify, evaluate, and control the hazards involved in the process?	Yes	System is adequate.
115	d) Does the hazard evaluation use one or more of the following PHA methodologies: What-If Anises, Process Checklist, Hazard and Operability Study (HAZOP), Failure Mode and Effects Criticality Analysis (FMECA), Fault Tree Analysis (FTA) or any other appropriate equivalent methodology?	HAZOP document is used & Process check sheet	System is adequate.
116	e) Does PHA assures addressing issues of inherent safety features with respect to material and their properties?	Yes	System is adequate.
117	f) Does the PHA address the hazard identification, incidents history, consequences of failures (engineering and administrative controls), human factors, consequent analysis with respect to possible safety and health effects of failure of controls?	Yes	System is adequate.
118	g) What are the stages of PHA? Whether a dedicated group is identified for PHA?	Yes	System is adequate.
119	h) Does the system exists to promptly address findings and recommendations of PHA?	Yes, it is updated as & when required	System is adequate.
120	j) Are the PHA's updated and revalidated at least every five years by a qualified team to assure that the PHA is consistent with the current process?	Yes.	System is adequate.
121	k) Whether the activities requiring Job Safety Analysis have been identified?	Yes	System is adequate.
122	m) Whether the identified jobs for Hazard Identification have been carried out by trained and experienced persons?	Yes,	System is adequate.
123	n) Whether the checklists have been prepared on each Job Safety Analysis and are being used while carrying out the job?	Yes	System is adequate.
	C-16 PRODUCT SAFETY		

124	a) Whether hazards arising from use of the products are identified?	Yes	System is adequate.
125	b) Whether material safety data sheet prepared forth products?	Yes	System is adequate.
126	c) Are all the products labelled and packed appropriately?	Yes	System is adequate.
127	d) Whether safety instructions are given along with products?	Yes	System is adequate.
	C-17 SAFETY TRAINING		
129	a) Whether training needs have been identified?	Yes, yearly plan available.	System is adequate.
130	b) Is there any programme of induction training, its duration and topics covered?	Yes	System is adequate.
131	c) Whether the assessment of the trainees has been carried out?	Yes, via feedback forms & Training evaluation assessment is in place.	System is adequate.
132	d) What are the infra-structural facilities available for training?	Training hall is available.	System is adequate.
133	e) Whether training is conducted by qualified person?	Yes, Internal as well as external experts	System is adequate.
134	f) Whether trainers are being re-trained from time to time?	Yes	System is adequate.
135	g) Whether proper records of training program conducted are maintained?	Yes	System is adequate.
136	h) How training programs are evaluated?	Yes, after training effectiveness	System is adequate.
137	j) Whether schedule for training on occupational health and safety is available and maintained?	Yearly Safety training plan is available	System is adequate.
138	k) Whether the training programmes are reviewed?	Yes, Training plan vs Actual review mechanism in place.	System is adequate.
139	m) Are all the employees periodically trained / retrained and what is the frequency of such training?	Yes, monthly, quarterly, yearly.	System is adequate.
140	n) Are the retraining needs identified whenever a new process / products and change in existing process introduced?	Yes	System is adequate.

141	p) Whether training covers top management?	Yes, as per Training plan as well as Emergency Preparedness & Response	System is adequate.
142	q) How many hours of safety training is given to different employees?	2 Hours	System is adequate.
	C-18 CHANGE MANAGEMENT **C-18.1 Management of Change**		
143	a) Are there written procedures for managing change to process chemicals, technology, equipment and procedures and changes to facilities that affect the plant process / system operation?	Yes	System is adequate.
144	b) Do the procedures assure that the technical basis for the proposed change addressed prior to any change?	Yes	System is adequate.
145	c) Do the procedures assure that the impact of the change on safety and health addressed prior to any change?	Yes, Safety checklist available	System is adequate.
146	d) Do the procedures assure that modifications to operating procedures are addressed prior to any change?	Yes	System is adequate.
147	e) Do the procedures assure that the necessary time period for the change is addressed prior to any change?	Yes,	System is adequate.
148	f) Do the procedures assure that the authorization requirements for the proposed change are addressed prior to any change?	Yes, As per MOC / change management standard.	System is adequate.
149	g) Are employees involved in operating a process, and maintenance and contract employees whose job tasks will be affected by change informed of, and trained in, the change prior to the start-up of process or affected part of process / operations?	Yes, all required depts are involved in the change management	System is adequate.
150	h) Is the safety information is reviewed and updated on changes?	Yes, Through change management procedure	System is adequate.
151	j) Are the operating procedures or practices updated?	Yes, Procedures are reviewed after any change	System is adequate.
	C-18.2 Mechanical Integrity		
152	a) Does the mechanical integrity program include for all mechanical equipment including	Yes, Available are testing all the pressures vessels and	System is adequate.

	pressure vessels and storage tanks, piping and components, relief devices and vent systems, emergency shutdown systems, pumps, control systems?	lifting tools and tackles by the competent authority	
153	b) Are there written procedures to maintain the on- going integrity of process equipment?	Yes, SOP are available	System is adequate.
154	c) Whether training been provided to each employee involved in maintaining the on-going integrity of process equipment?	Yes, part of Induction training	System is adequate.
155	d) Are inspections and tests performed on each item of process equipment included in the program?	Yes, Test conducted by competent person	System is adequate.
156	e) Does the inspection and test frequencies meet the manufacturer's recommendation and good engineering practice?	Yes	System is adequate.
157	f) Are inspections and tests performed more frequently if determined necessary by operating experience?	Yes, Tests are carried out through Competent person	System is adequate.
158	g) Are deficiencies in equipment that are outside limits corrected before further use so as to assure safe operation?	Yes, No such observations	System is adequate.
159	h) In the construction of new plants and equipment, whether quality assurance programme is implemented to ensure that equipment fabricated is suitable for the process?	Yes, Safety audits and commissioning is monitored of all newly installed instruments.	System is adequate.
160	j) Are appropriate checks and inspections made during equipment installation stage?	Yes, through experts & competent person	System is adequate.
161	k) Are the suitability of maintenance materials, spare parts and equipment ensured during maintenance?	Yes, purchase approved vendor available.	System is adequate.
	C-19 PHYSICAL HAZARD **C-19.1 Housekeeping**		
162	a) Are all the passages, floors and the stairways in good condition?	Yes	System is adequate.
163	b) Is glass door taped or otherwise marked to make invisible to workers?	Yes	System is adequate.
164	c) Do you have the system to deal with the spillage?	Yes	System is adequate.
165	d) Do you have sufficient disposable bins clearly marked and whether these are suitably	Yes,	System is adequate.

	located? Are containers of refuse (waste) and trash emptied at the end of every day or soon after they are full? Are the containers or bins regularly cleaned?		
166	e) Are drip trays positioned wherever necessary?	Yes	System is adequate.
167	f) Do you have adequate localized extraction and scrubbing facilities for dust, fumes and gases? Please specify.	Yes	All system is checked periodically and documented.
168	g) Whether walkways are clearly marked and free from obstruction?	Yes, Walkway are marked	System is adequate.
169	h) Do you have any inter-departmental competition for good housekeeping?	Yes, 5S audit is carried out	Competitions will improve the housekeeping as well as safety standards.
170	j) Has your organization elaborated good housekeeping practices and standards and made them known to the employees?	Yes	System is adequate.
171	k) Are there any working conditions, which make the floors slippery? If so, what measures are taken to make them safe?	No such conditions	System is adequate.
172	m) Does the company have adequate measures to suppress polluting dust arising out of materials stored on the roadside?	Yes	System is adequate.
	C-19.2 Machine and General Area Guarding		
173	a) Whether machinery and equipment which can cause physical injuries to operator have been identified?	Yes	System is adequate.
174	b) Are all moving parts and point of operation of machinery adequately guarded?	Yes	System is adequate.
175	c) Are all fixed guards securely bolted in position and in good condition?	Yes	System is adequate.
176	d) Are all interlock guards for prevention of physical injury in good condition?	Yes	Safety inspections done periodically for all machine safety interlocks.
177	e) Are all emergency stop buttons effective and clearly labelled?	Yes	System is adequate
178	f) Are the operators for machines having moving parts aware of the danger of working with loose clothing?	Yes	System is adequate

179	g) Are the openings where there is free fall hazard covered or fenced securely?	Yes	System is adequate.
	C-19.3 Material Handling		
180	a) Are adequate equipment available for handling materials?	Yes,	System is adequate
181	b) Are the workers aware of the hazards associated with material being handled?	Yes	System is adequate
182	c) Where manual handling is necessary, are the workers been trained? Do they practice this? Are workers warned for lifting of excessive weight? (Maximum weight of material for adult male and female are 55 Kg and 30 Kg respectively)	Yes, Training is provided	System is adequate
183	d) Do workers follow safe procedures for storage of materials?	Yes, SOPs are available.	SOPs developed and practiced strictly
184	e) Is the register maintained to record particulars of examination of all lifting machines, tools and tackles?	Yes, Log register	System is adequate
185	f) Are all the statutory examinations and tests carried out and certified by competent person(s)?	Yes, lifting tools & tackles are tested through competent person	System is adequate
186	g) Are the operators of crane, lifts, hoists and other mechanized operations adequately qualified?	Yes	Safety awareness trainings related to material handling & operations of lifting equipment done.
187	h) Is the safe working load clearly marked?	Yes	Test status displayed along with SWL on each lifting equipment
188	j) Has the person employed to operate crane, forklift, or to give signals to crane been medically examined for eyesight and colour vision?	Yes	System is adequate
189	k) Is the frequency of eyesight and colour vision examination as per the latest rules?	Yes	System is adequate.
	C-19.4 Electrical Safeguarding		
190	a) Are licensed electricians available for electrical work?	Yes	System is adequate
191	b) Whether area classification for electrical equipment has been carried out?	Identified panels of electric supply/ hazardous zones	System is adequate

192	c) Do the electrical fittings conform to area classification for electrical equipment?	Yes	System is adequate
193	d) Is a ground fault current interrupter system(ELCB) in use?	Yes	System is adequate
194	e) Are all connections made by using appropriate plugs, receptacles or enclosures? Are fuses provided?	Yes	System is adequate
195	f) Are there any make shift connection bare wires or damaged cables?	No	System is adequate
196	g) Is there a system of ensuring periodical inspection of hand tools, extension boards used for electrical work?	Yes, as per PM checklist	System is adequate
197	h) Do the workers use proper types of PPE during the working on live line?	Yes	System is adequate
198	j) Is the separate work permit issued for working on high voltage line?	Yes,	System is adequate
199	k) Whether the process(s) and equipment that generate and accumulate static charge have been identified?	Yes.	System is adequate
200	m) Whether all such equipment including pipelines for flammable materials are properly bonded and earthed?	Yes	System is adequate. Earth pit Testing done in dry condition i.e. April or May Month.
201	n) Whether earth pit resistance is measured and the record maintained?	Yes	System is adequate
202	p) Whether lightning arrestor has been installed and is adequate?	Yes	System is adequate.
	C-19.5 Safety in Storage and Warehousing		
203	a) Whether the Material Safety Data Sheet for all chemicals is available?	Yes	System is adequate
204	b) Are the chemicals stored as per their hazardous properties including the incompatibility?	Yes	System is adequate
205	c) Are all containers clearly, indelibly labelled? Are all chemicals stored as per safety regulations?	Yes	System is adequate
206	d) Whether all racks and steel cages have sufficient load bearing capacity?	Yes	System is adequate

207	e) Is adequate natural ventilation provided to store room? Is there any emergency exit?	Yes	System is adequate
208	f) Whether adequate fire fighting arrangement existing in flammable chemical storage?	Yes	System is adequate
209	g) Whether methodology for handling spillages of hazardous chemical available along with the equipment required handling the spillage?	Yes	System is adequate
210	h) Whether aisles are marked and emergency exits displayed?	Yes	System is adequate
	C-19.6 Hazard Assessment for New Equipment		
211	a) What is the system for effecting any change in the existing plant, equipment?	Yes	Review the procedure for safety involvement periodically.
212	b) Is there system for evaluating hazards from new equipment?	Yes	System is adequate
213	c) Whether the P and I diagrams and other related documents are updated accordingly?	Yes, as & when required.	System is adequate
214	d) Is any Job Hazard Analysis (JHA) carried out after installation of new equipment?	Yes	System is adequate
	C-19.7 Hazards from Radiation Sources		
215	a) Whether licences have been obtained for storage /handling of radioactive material?	Yes	System is adequate
216	b) Whether approved Radiological Safety Officer appointed?	Yes	System is adequate
217	c) Whether appropriate PPEs are used against radiation hazards?	Yes	System is adequate
218	d) Is the flooring of the radioactive material handling area amenable for proper decontamination?	Yes	System is adequate
219	e) Is the storage room of radiation source as per the licence condition?	Yes	System is adequate
220	f) Are all persons working in the facility have radiation safety training?	Yes	System is adequate
221	g) Is the operators handling devices using radioactive materials qualified and possess the necessary certificate?	Yes	System is adequate
222	h) Is the periodical radiation monitoring carried out?	Yes	System is adequate

223	j) Are the records of inventory of radioactive material maintained in the standard format and submitted to the competent authority as per the period specified?	Yes	System is adequate
224	k) Are emergency handling tools available?	Yes	System is adequate
225	m) Are the personnel monitoring badges (TLD, Pocket dosimeter etc.) assigned and worn by each radiation worker?	Yes	System is adequate
226	n) Are the radiation symbol and red light displayed as required?	Yes	System is adequate
	C20 CHEMICAL HAZARD **C-20.1 Transportation of Hazardous Substances**		
227	a) What potentially hazardous materials are transported to or from the site (including wastes)	List provided in Annexure I & II	System is adequate
228	b) What mode of transport are used?1) Road i) Does the company employ licenced vehicle of its own / outside sources?	Yes, Road Tanker vehicle, trucks, Tempo, etc	System is adequate
229	ii) Are the loading / unloading procedures in place and safety precautions displayed?	Yes	System is adequate
230	iii) Is there a provision to check the healthiness of road tanker with respect to explosives rules?	Yes	System is adequate
231	iv) Are loaded tankers or trucks parked in a specific area on- site?	Yes	System is adequate
232	v) Do all truck and tanker drivers carry transport emergency (TREM) card or instruction booklet?	Yes	System is adequate
233	vi) Do all truck and tanker drivers get training in handling emergencies during transport?	Yes	System is adequate
234	vii) Are all the tankers marked for proper Hazchem code?	Yes	System is adequate
235	2) Rail- i) What hazardous materials are transported by rail?	Not applicable	---
236	ii) Does the company have a direct siding onsite?	Not applicable	---
237	iii) Are tankers or other wagons used in transportation?	Not applicable	---
238	3) Pipelines i) What materials are transported to and from the site by pipelines?	Yes, RLNG & RFO From tank to boiler	System is adequate

239	ii) Are the pipelines underground or over ground?	Yes, Overground	System is adequate
240	iii) Are corrosion protection measures employed in pipelines?	Yes	System is adequate
241	iv) Whether intermediate booster pumps are used?	No	---
242	v) What is the maximum, minimum and average transfer rates?	1.5 litres/second	System is adequate
243	vi) Are the pipelines extended in the public domain?	Yes	System is adequate
244	vii) Are the pipelines dedicated for each type of chemicals?	Yes	System is adequate
245	viii) Are the pipelines fitted with safety equipment such as leak detectors, automatic shut-off valves etc.?	Yes	System is adequate
246	ix) What is the frequency and method of testing of the pipeline?	Yes	System is adequate
247	x) Is there written procedure for tackling leakages in pipeline?	Yes	System is adequate
	C-20.2 Handling of Hazardous Substances		
248	a) What are the hazardous substance handled in the factory?	HCL, Ammonia, H2, N2, Lead, Zinc	System is adequate
249	b) Whether quantity of hazardous substances is above the threshold limit specified in the Manufacture, Storage and Handling of *Hazardous Substances Rule*, 1989? If yes, then required documentation is available as per the rule.	Yes	System is adequate
250	c) Whether written procedure for handling the hazardous substance is available and operators are trained for handling such substances including actions required in case of leakages and spillages?	Yes	System is adequate
251	d) Are the employees aware of the hazards arising from hazardous substances and safety precautions to be taken during handling of these?	Yes	System is adequate
	C-20.3 Material Safety Data Sheets (MSDS)		

252	a) Are the material safety data sheets available for all the chemicals handled, used and manufactured in the factory?	Yes	System is adequate.
253	b) Whether the latest MSDS are displayed at strategic locations?	Yes	System is adequate.
254	*c)* Is it available in local language*?*	Yes	System is adequate.
	C-20.4 Spill Control Measures		
255	a) Whether spill control procedure is available?	Yes	System is adequate.
256	b) Whether spill collection pit / sump is available at the workplace?	Yes	System is adequate.
257	*c)* Whether methodology for recovery / disposal of collected material has been established?	Yes	System is adequate.
	C-20.5 Storage of Hazardous Substances		
258	a) Whether storage vessels are identified with the capacity as required under *MSIHC, Rules* 1989.	Yes	System is adequate.
259	b) What are the storage pressure and temperature?	Yes, H2-Ambient & 10 Kgs / CM^2G., NH3 - Ambient & 5Kgs / CM2G, N2-5Kg / CM2G,	System is adequate.
260	c) Whether vessels are above ground / underground?	Yes, Aboveground	System is adequate.
261	d) If any of the tanks storing flammable material, whether electrical equipment and fittings are as per electrical area classification?	Yes	System is adequate.
262	e) Is the bonded area takes into account the total quantity of the largest tank?	Yes	System is adequate.
263	f) Whether the bund perimeter takes into consideration of trajectory of leak from tank?	Yes	System is adequate.
264	g) Are the vessels properly bonded and earthed and whether periodically checked and recordmaintained?	Yes	System is adequate.
265	h) Are the vessels fitted with remotely controlled isolation valves?	Yes	System is adequate.
266	j) Are vessels provided with emergency vent, relief valve, bursting disc, level indicator, pressure gauge, overflow line?	Yes	System is adequate.

267	k) Where do such vents discharge?	Yes, air	System is adequate.
268	m) Are the vessels provided with alarms for high level, high temperature and high pressure?	Yes	System is adequate.
269	n) Are standby empty tanks or any other alternate systems provided for emptying / transfer in case of emergencies?	Yes	System is adequate.
270	p) What are the provisions made for fire fighting / tackling emergency situations around the storage vessels?	Yes, Fire hydrants, Fire extinguishers are provided	System is adequate.
271	q) Has any consequence analysis for loss of containment been carried out?	Yes	System is adequate.
272	r) Whether the vessels are tested as per statute?	Yes	System is adequate.
273	s) Whether log sheets are filled up on daily basis for recording the parameters of these vessels?	Yes	System is adequate.
274	t) Whether monitors for detection of leakage of flammable / toxic material installed?	Yes	System is adequate.
275	u) Whether the chemicals stored are as per their compatibility?	Yes	System is adequate.
	C-20.6 Gas Cylinders		
276	a) What are the various gas cylinders used in the plant?	Yes, Oxygen, CO2, Hydrogen	System is adequate.
277	b) Are valid licenses available for storing all these cylinders?	Yes, available	System is adequate.
278	c) Are the cylinders stored and segregated as per their compatibility?	Yes	System is adequate.
279	d) What are the measures taken for combating any emergency in the cylinders storage area?	Yes, Fire hydrants, Fire extinguishers are provided	System is adequate.
280	e) Whether integrity test certificates are obtained from the suppliers of the cylinders?	Yes	System is adequate.
281	f) Are the cylinders chained and secured properly along with the valve caps and proper identification colour code?	Yes	System is adequate.
282	g) Are the cylinders protected from heat or sun and rain?	Yes	System is adequate.
283	h) Whether monitors for detection of leakage of flammable / toxic gas installed?	Yes	System is adequate.
	C-20.7 Labelling and Colour Coding		
284	a) Are all the containers, vessels and storage tanks labelled for its content and capacity?	Yes	System is adequate.

285	b) Whether the pipelines are colour coded as per IS 2379?	Yes	System is adequate.
286	c) Is any plant specific colour code followed?	Yes, colour code followed	System is adequate.
287	d) Whether the colour codes are displayed conspicuously in the working areas?	Yes displayed	System is adequate.
	C-20.8 Hazardous Waste Management		
288	a) Is identification done for various types of hazardous wastes?	Yes Non-Hazardous/Hazardous/E-waste	Scrap storage system is well maintained.
289	b) Are these quantities less than those specified by the Hazardous Wastes (Management & Handling)Rules, 1989?	Yes, Less quantities	System is adequate.
290	c) What are their disposal modes?	Outside parties & Mumbai Waste Management Ltd, Taloja by road	System is adequate.
291	d) What are the systems / measures adopted for controlling air / water / land pollution?	Stacks, Dust Extraction Systems, Wastewater Treatment Plant, etc. Measured in Kgs	System is adequate.
292	e) Whether the solid waste like combustibles, plastic, metals etc. segregated?	Yes	System is adequate
	C-21 FIRE AND EXPLOSION HAZARD **C-21.1 Organisational Set-up for Fire Fighting**		
293	a) What is the total strength of fire station and fire crew?	50 fire fighters	System is adequate
294	b) How many fire crews are available in each shift?	10-15 in each stream	System is adequate
295	c) Is there fire squad identified in each shift?	Yes, 3 shifts identified	System is adequate
296	d) Standing fire order is available with latest revision	Not applicable	---
297	e) How is the communication with fire station?	Yes	System is adequate
298	f) Does fire safety inspections carried out?	Yes, quarterly	System is adequate
299	g) Does emergency procedure available for leakage or combustion of flammables?	Yes	System is adequate.
300	h) What measures are available to control the fire load in the plant area?	Fire Tender, Foam Trolley, Fire Extinguisher, Fire	System is adequate.

		Hydrant Line, CO2 Flooding in CCL, FDAS.	
301	j) Whether technical knowledge and skills of the manager and staff responsible for overall fire safety of the plant is adequate?	Yes	System is adequate.
302	k) How many major and minor incidents / fires were there in the factory during the last five years? Give department / plant wise.	No	---
303	m) Have all the fires / incidents been investigated and corrective actions taken? Give break-up.	Yes	System is adequate.
304	n) Resources:1) Adequacy of protective clothing (coat, trouser, gloves, boots and helmets);	Yes	System is adequate
305	2) Availability of SCBA for fire fighting operations and spare cylinders (at least 2 for each SCBA);	Yes	System is adequate
306	3) Adequacy of hose, nozzles, ladders, lighting equipment and pumps; and	Yes	System is adequate
307	4) Communication facility at fire station, walkie-talkie sets during fire fighting.	Yes	System is adequate
	C-21.2 Built in Safety in Civil Design and Construction		
308	a) Whether the two safe means of escape available? Are they in separate directions?	Yes	System is adequate
309	b) Is emergency exits provided to the building handling flammables?	Yes	System is adequate
310	c) Whether emergency lights are provided?	Yes	System is adequate
311	d) Whether fire / smoke detectors are installed in fire prone areas?	Yes	System is adequate
312	e) Whether fire call points are provided in different areas?	Yes	System is adequate
313	f) Whether Fire hydrants are provided near the buildings?	Yes	System is adequate
314	g) Is ventilation system in plant handling flammables is adequate to prevent formation of flammable mixtures?	Yes	System is adequate
315	h) Is adequate separation is provided between combustible / flammable materials and other material to restrict the fire growth?	Yes	System is adequate

316	j) Access routes for fire fighting operations is available for areas having high fire load	Yes	System is adequate
317	k) Whether building changes interferes with fire detection and / or fire suppression systems?	No	System is adequate
318	m) Whether building changes cause unreasonable fire loading / openings in the fire rated walls?	No	---
	C-21.3 Built in Safety in Electric Circuits and Equipment		
319	a) Are the electrical equipment in areas where flammables mixture is likely to be present of flame-proof type?	Yes	System is adequate.
320	b) Are lightning arrestors are provided to the buildings / structures storing flammable materials?	Yes	System is adequate.
321	c) Whether adequate bonding and grounding of electrical equipment / pipelines provided?	Yes	System is adequate.
	C-21.4 Explosive Substances		
322	a) Whether necessary license / approval taken from concerned statutory bodies?	Yes	System is adequate.
323	b) Whether systems for explosion suppression, high speed fire detection with deluge, sprinklers, explosion venting etc. are provided?	Yes	System is adequate.
324	c) Whether explosion resistant walls or	Yes	System is adequate.
325	d) Whether explosive substance storage areas are restricted for entry?	Yes	System is adequate.
326	e) Whether only trained persons are handling explosive substances?	Yes	System is adequate.
327	f) Whether explosive substances are stored and transported in approved containers only?	Yes	System is adequate.
328	g) Whether electrical fixtures in areas handling explosives are explosion proof type?	Yes	System is adequate.
329	h) Whether adequate measures are taken to prevent any sources of ignition where explosive substances are handled?	Yes	System is adequate.
	C-21.5 Fire Safety in Handling Flammable and Explosive materials		
330	a) Whether emergency procedure is available for control of leakage?	Yes	System is adequate
331	b) Whether emergency measures are displayed locally in case of accidental spillage / leakage?	Yes	System is adequate

332	c) Whether facility is provided for safe drainage of combustible or flammable liquids in case of leakages?	Yes	System is adequate
333	d) Whether highly flammable liquids are stored under inert atmosphere?	Yes	System is adequate
334	e) Whether flammable storage tanks are provided with flame arrestors?	Yes	System is adequate
335	f) Whether suitable PPEs are provided?	Yes	System is adequate
	C-21.6 Fire Detection and Alarm System		
336	a) What type of fire detection and alarm system provided?	Yes, Honeywell , smoke & fire detectors	System is adequate
337	b) Whether all fire prone areas of the plant are covered with fire detection system?	Yes	System is adequate
338	c) Whether fire detection equipment and smoke alarms in good operating condition?	Yes	System is adequate
339	d) Whether the number of fire call points are adequate and free from obstruction?	Yes	System is adequate
340	e) Whether regular inspection / maintenance / testing of fire detection and alarm system carried out and records maintained	Yes	System is adequate
341	f) Whether any atmospheric monitoring is carried out for explosive mixture of gases or vapours?	Yes	System is adequate
342	g) Whether emergency power supplies are provided to fire detection and fire alarm system?	Yes	System is adequate
343	h) Whether smoke detectors are located considering ventilation pattern?	Yes	System is adequate
344	j) Whether annunciation of fire is local or in the control room or in both places?	Yes, both	System is adequate
345	k) Whether fire panel is constantly attended?	Yes	System is adequate
	C-21.7 Passive and Active Fire Protection System		
346	a) What are the passive fire protection measures available? (barriers, doors, dampers etc.)	Yes	System is adequate
347	b) Are the areas requiring fire barriers identified?	Yes	System is adequate
348	c) Whether the fire barrier provided is of adequate ratings?	Yes	System is adequate

349	d) Whether ventilation ducts in flammable areas have been provided with isolation dampers of suitable fire rating?	Yes	System is adequate
350	e) Whether sprinklers / deluge are installed wherever necessary?	Yes	System is adequate
351	f) Whether regular inspection / maintenance / testing of fire protection system carried out and records maintained?	Yes	System is adequate
	C-21.8 Fixed Fire Extinguishing System		
352	a) What are the sources of firewater and whether they are dedicated to the fire extinguishing system?	5,000 CMD, Govt. of Maharashtra Reservoir	System is adequate.
353	b) Whether the capacity of dedicated water reservoir is adequate to supply to hydrants for minimum2 h?	Yes	System is adequate.
354	c) Whether un-interrupted power supply is provided to the firewater pumps?	Yes, By regular monitoring & DG power supply is provided.	System is adequate.
355	d) Whether the extinguishing medium selected is appropriate to the class of fire (water, gaseous, foam, dry powder)?	Yes	System is adequate.
356	e) Whether fire hydrants layout is available?	Yes	System is adequate.
357	f) Whether additional (over minimum requirement) fire hoses, nozzles are available?	Yes	System is adequate.
358	g) Whether the hydrants lines are kept pressurized?	Yes	System is adequate.
359	h) Whether regular inspection / maintenance / testing of fixed fire extinguishing systems carried out and records maintained?	Yes	System is adequate.
	C-21.9 Portable Fire Extinguishing System		
360	a) Whether suitable type and numbers of fire extinguishers provided?	Yes	System is adequate.
361	b) Whether the fire extinguishers are located at conspicuous position and easily accessible? Are they fully charged and tagged?	Yes	System is adequate.

362	c) Whether fire extinguishers periodically inspected, tested, refilled and records maintained?	Yes, quarterly inspected.	System is adequate.
363	d) Whether defective / unchecked fire extinguishers present at site?	No	---
364	e) Whether additional fire extinguishers are available?	Yes, Spare fire extinguishers are available of ABC, FOAM, and CO2 type.	System is adequate.
	C-21.10 Fire Fighting Equipment and Facilities		
365	a) Whether fire tenders (water / foam) are available?	Yes	System is adequate.
366	b) Whether the fire-fighting system and equipment approved, tested and maintained as per relevant standard?	Yes	System is adequate.
367	c) Whether the SCBA / fire suit provided to fire fighting team for immediate action?	Yes	System is adequate.
368	d) What is system for maintenance / recharge of SCBA?	Maintenance system checklist is maintained	System is adequate.
369	e) Is proper access available for fire fighting equipment?	Yes	System is adequate.
370	f) Whether fire hose cabinets are in good condition, easily visible, and accessible?	Yes	System is adequate.
371	g) Whether drill tower is available? Are fire personnel carrying out regular fire drill?	Not applicable	---
372	h) What is the communication facility at fire station? Is it adequate?	Yes, Mobile & landline phone and Walkie talkie	System is adequate.
	C-21.11 Fire Drill		
373	a) Whether mock fire drills are conducted? What is the frequency of drills?	Yes Twice in a year	System is adequate.
374	b) Whether fire drills are also performed in night shift	Yes, performed in night shift	System is adequate.
375	c) Whether feedback of fire drill is documented?	Yes	System is adequate.
376	d) What is the system of mutual-aid scheme?	Yes, MARG Khopoli	System is adequate.
	C-21.12 Fire Fighting Training		

377	a) Whether there is a system of providing fire-fighting training to plant personnel?	Yes	System is adequate.
378	b) What is the frequency and duration of such training? Whether training records are maintained?	Monthly, training records are maintained	System is adequate.
379	c) Whether fire squads are identified for different areas for first-aid fire fighting and rescue, and suitably trained?	Yes	System is adequate.
380	d) Are all personnel conversant with the fire prevention and protection measures?	Yes	System is adequate.
381	e) Whether the fire staff are sent for refresher / advanced training courses?	Yes, Periodic Training is conducted inhouse.	System is adequate.
	C-21.13 Static Electricity and Lightning		
382	a) Whether all vessels and pipes are provided with suitable bonding and grounding?	Yes	System is adequate.
383	b) Whether arrangement has been made for grounding the tanker containing flammable liquid during loading / unloading?	Earthing is confirmed.	System is adequate.
384	c) Whether spark resistant tools are provided?	Yes	System is adequate.
385	d) Whether lightning protection is provided and is adequate?	Yes	System is adequate.
386	e) Whether antistatic clothing, hand gloves and footwear are provided?	Yes	System is adequate.
	C-21.14 Pressure Relief System		
387	a) Whether the listing of all 'pressure plants' [as defined under *Factories Act*] has been done?	Yes	System is adequate
	C-22 INDUSTRIAL HYGIENE / OCCUPA-TIONAL HEALTH **C-22.1 Ventilation, Illumination, Noise, Vibration, Heat stress and Non-ionizing Radiations** **C-22.1.1 Ventilation**		
388	a) Whether any ventilation study has been carried out?	Yes	System is adequate.
389	b) Whether natural ventilation is adequate or not?	Yes	System is adequate.
390	c) Whether dust / fumes / hot air is generated in the process?	Yes	System is adequate.
391	d) Is there any exhaust ventilation system in any section of the plant?	Yes	System is adequate.

392	e) Is periodic / preventive maintenance of ventilation system carried out and record is maintained?	Yes	System is adequate.
393	f) Does any ventilation system re- circulate the exhausted air in work areas?	Yes	System is adequate.
394	g) Is the work environment assessed and monitored for chemical and physical hazards?	Yes	System is adequate.
395	h) Whether PPE are provided to workers exposed to dust / fumes and gases?	Yes	System is adequate.
	C-22.1.2 *Illumination*		
396	a) Whether illumination study has been carried out for the assessment of illumination level?	Yes	System is adequate.
397	b) Is there any system of periodical cleaning and replacing the light fittings / lamps in order to ensure that they give the intended illumination levels?	Yes	System is adequate.
398	c) Are the workers subject to periodic optometry tests and records maintained?	Yes	System is adequate.
399	d) Are emergency lighting available at first aid centre.	Yes	System is adequate.
	C-22.1.3 *Noise*		
400	a) Whether any noise study conducted?	Yes	System is adequate.
401	b) Are there any machines / processes generating high-noise?	Yes	System is adequate.
402	c) Whether engineering and administrative controls been implemented to reduce noise exposure below the permissible limits?	Yes	System is adequate.
403	d) Is there a system of subjecting all those employees to periodic audiometric test who work in high- level noise areas?	Yes	System is adequate.
404	e) Whether the workers are made aware of the ill effects of high noise?	Yes	System is adequate.
405	f) Whether ear muffs / plugs are provided and used?	Yes	System is adequate.
	C-22.1.4 *Vibration*		
406	a) Are there equipment which contribute excess level of vibrations and whether they are identified?	Yes	System is adequate.

407	b) Whether any vibration study has been carried out?	Yes	System is adequate.
408	c) Are the measures taken to comb at vibration to acceptable levels?	Yes	System is adequate.
409	d) What is the frequency for measurements of vibration?	Yes	System is adequate.
410	e) Are the records of measurements and maintenance of equipment / system maintained?	Yes	System is adequate.
	C-22.1.5 *Heat Stress / Cold stress (Extremes of Temperature)*		
411	a) Are there sources from equipment increasing the heat load in work places?	Yes	System is adequate.
412	b) Whether evaluation of heat stress is carried out?	Yes	System is adequate.
413	c) Whether natural ventilation is adequate to minimize the heat stress in work environment?	Yes	System is adequate.
414	d) Are resources available to deal with very hot or very cold conditions (drinking water, lined gloves, insulated boots)?	Yes	System is adequate.
415	e) Do workers know the symptoms of heat cramps / heatstroke or frost bite / hypothermia?	Yes	System is adequate.
416	f) Are the personal protective equipment suitable for reducing the effects of heat stress available?	Yes	System is adequate.
	C-22.1.6 *Non-ionising Radiations*		
417	a) Does the work involve likely exposure to non-ionising radiations (ultraviolet, infrared, radiofrequency, microwaves, lasers, etc.)	Yes, near 4HI mill & 6HI mill, GP1 & GP2 line	System is adequate.
418	b) Whether risk assessment have been done for all work areas involving presence of non-ionising radiations?	Yes	System is adequate.
419	c) Are the work areas displayed with relevant safety signs?	Yes	System is adequate.
420	d) Are the employees aware about the hazards of non-ionising radiations?	Yes	System is adequate.
421	e) Does written procedures exists for working inn on-ionising radiations?	Yes	System is adequate.
422	f) Is the work environment monitored periodically for physical hazards and control	Yes	System is adequate.

	measures initiated whenever deviation from permissible values is observed?		
423	g) Whether suitable personal protective equipment are provided to workers exposed to non-ionizing radiations?	Yes	System is adequate.
	C-22.2 Work Place Monitoring for Hazardous Chemicals		
424	a) Whether the dust, fumes, smoke aerosols and mist are monitored as per statute and records maintained?	Yes	System is adequate.
425	b) What are the types of detectors used for monitoring concentration of hazardous chemicals?	Yes	System is adequate.
426	c) Is any alarm system installed for any leakage of hazardous chemicals?	Yes	System is adequate.
427	d) Are antidotes available for toxic chemicals?	Yes	System is adequate.
428	e) Are control measures initiated whenever deviation from permissible values is observed?	Yes	System is adequate.
	C-22.3 First Aid Facilities and Occupational Health Centre (OHC)		
429	a) Are adequate numbers of first aid boxes provided? Give location details?	Yes, first aid kit available (Locations)	Need to supervise the stock & their expiry.
430	b) Are qualified / trained first aiders available in each shift?	Yes	System is adequate.
431	c) How many qualified / trained first aiders are available at each plant / department?	50 in each plant	System is adequate.
432	d) How many persons are trained /given refresher training in first aid in a year?	Yes, 302 persons	System is adequate.
433	e) Whether occupational health centre is provided?	Yes	System is adequate.
434	f) Does OHC conform to the provisions of the existing statutes?	Yes	System is adequate.
435	g) Are the Medical Attendants / Doctors available in each shift?	Yes	System is adequate.
436	h) What facilities are available for transportation of the injured to hospital?	2 Ambulance available	This is as per Rule 73-X
437	j) Are the names of the trained first aiders displayed?	Yes	System is adequate.
438	k) Are the name of nearest hospitals and its telephone number available in OHC?	Yes	System is adequate.

439	m) Does the plant have any special preventive medicine program?	Yes	System is adequate.
440	n) Is ambulance posted in proper place and is it available whenever required?	Yes	System is adequate.
441	p) Are sufficient numbers of anti-dotes available incise of any emergency?	Yes	System is adequate.
442	q) Are fire safety measures provided in first aid centre?	Yes	System is adequate.
443	r) Are emergency lighting arrangements available at first aid centre?	Yes	System is adequate.
	C-22.4 Periodic Medical Examination		
444	a) Whether the periodical medical examination of employees, required under relevant statute is carried out?	Yes, yearly carried out	System is adequate.
445	b) Whether it is ensured that contractors employee are medically examined during pre-employment as well as during the course of employment?	Yes	System is adequate.
446	c) During the periodical medical examination of the workers, are they examined as per the hazardous process in which they work? (First schedule of *The Factories Act*, 1948)	Yes,	System is adequate.
447	d) Are the records of all such examination maintained?	Yes	System is adequate.
	C-22.5 Personal Protective Equipment and Emergency Equipment		
448	a) Whether list of required PPE for each hazardous activity is available?	Yes. Area-wise PPE Matrix prepared & displayed.	System is adequate.
449	b) Whether feedback from workers obtained during selection of PPE?	Yes, Suggestion scheme, Communication meeting	Safety department & the workers consulted before procurement of any type of PPE's.
450	c) Have the workers been trained in proper use open including BA sets?	Yes	Use of PPE should explain in induction training. More stress to be given on Hearing
451	d) What is the system of procurement, inspection, issue, maintenance and replacement of PPE?	Yes. Based on effectiveness & Self life frequency. PPE procurement to distribution system.	Periodical review of PPE use and disposal should be taken and relevant record to be updated.

452	e) Whether qualitative and quantitative fit-check for respirators is ensured prior to use?	Yes	Nil
453	f) What are the arrangements for safe custody and storage of PPE?	Dedicated storage cupboard available	System is adequate
454	g) Are the contractor's workers provided with the required PPE?	Yes	System is adequate
455	h) Do the PPE conform to any standard?	Yes, IS	System is adequate
456	j) Are sufficient eye wash fountains and safety showers available?	Yes, eyes wash bottles available.	System is adequate
457	k) Whether appropriate respiratory protective devices are available in accordance to the hazard potential?	Yes	System is adequate
458	m) Are the staff members trained in the right uses of respiratory protective devices?	Yes	System is adequate
	C-22.6 Occupational Diseases		
459	a) Whether pre-employment medical checkup data available?	Yes	System is adequate
460	b) During the medical checkup, is any person found having occupational diseases mentioned in 3rd schedule of *The Factories Act*, 1948?	No	---
461	c) Whether the medical practitioner informed the Chief Inspector of Factories about the occurrence of the occupational disease?	Not applicable	---
	ACCIDENT / INCIDENT REPORTING, INVESTIGATION AND ANALYSIS **C-23.1 Accident Reporting and Database Management**		
462	a) What is the procedure for accident / incident / dangerous occurrence reporting?	As per accident reporting format. Form24. Dangerous occurrence reporting in form24-A	System is adequate
463	b) Whether the accident data for the last *five* years for reportable and non-reportable accidents are available?	Yes, Last five years data is available.	System is adequate
	C-23.2 Accident Investigation		
464	a) Are all the accidents investigated?	Yes, Minor injuries	System is adequate
465	b) Whether accident investigation procedure is documented?	Yes	System is adequate

466	c) Whether accident investigation reports are submitted to top management?	Yes	System is adequate
467	d) How are the findings from accident investigation reports communicated to workers?	Share through Safety Stand down, Communication meeting etc.	Analysis and data used to develop the training activities and planning the resources in annual budgets.
	C-23.3 Analysis of Accidents		
468	a) Whether accident analysis is done as per IS 3786?	Yes	System is adequate
469	b) Whether root causes of accidents are analyzed?	Yes	System is adequate
470	c) Is the accident statistics effectively utilized? If yes, how?	Yes	Analysis and data used to develop the training activities and planning the resources in annual budgets.
471	d) What nature of injuries occurred during the last five years?	Minor injuries, cut injury, caught in between, Abrasion.	Job hazard specific hand gloves provided, Safety training by external experts can be arranged.
	C-23.4 Implementation of Recommendations		
472	a) How does the management ensure implementation of the recommendations to avoid recurrence of accidents and incidents?	Yes	Internal SOP prepared.
	C-23.5 Reporting and Investigation of Near-miss Incidents		
473	a) Are all near-miss incidents reported and investigated?	Yes	System is adequate.
474	b) Is there any system of classifying and analyzing the near-miss incidents?	Yes. Investigation & Analysis is available.	A well drafted Accident cum analysis report form is prepared to find out root cause of the accident.
	C-24 EMERGENCY PREPAREDNESS **C-24.1 Site Specific Details**		
475	a) Are the site area maps (including layout, access roads and assembly points) available in control room / emergency control centre?	Yes	System is adequate.
	C-24.2 Duties and Responsibilities of Key Personnel		

476	a) Is the hierarchy of emergency response personnel right from site emergency controller downward, and alternative officials identified?	Yes, ERT team	System is adequate.
477	b) Are the duties and responsibilities assigned to the designated officials during emergency, both during and outside normal working hours clearly identified and understood by them?	Yes, Onsite EPP	System is adequate. Periodic training on Onsite emergency plan conducted.
	C-24.3 Identification of Emergencies and Accident Scenario		
478	a) Are the possible accident scenarios leading to emergency identified and known to the operating personnel?	Yes	System is adequate.
479	b) Are approved emergency preparedness plans (on- site and off- site) in place?	Yes	System is adequate.
	C-24.4 Declaration and Termination of Emergency		
480	a) Is the list of designated officials who are to be communicated about declaration and termination of emergency available in the control room / emergency control centre?	Yes	System is adequate.
481	b) Are the methods of communication (siren, public address system etc.) for declaration and termination of an emergency known to all the workers?	Yes	System is adequate.
	C-24.5 Resources-evacuation / Transport		
482	a) Are the following resources (equipment, personnel and procedures) required to handle emergency available?1) Communications,	Yes	System is adequate.
483	2) Public announcement systems	Yes	System is adequate.
484	3) Monitoring of hazardous releases into the environment,	Yes	System is adequate.
485	4) Emergency shelters at the facility,	NA	---
486	5) Emergency exits with proper illumination, with uninterrupted power supply ,	Yes	System is adequate.
487	6) Direction for emergency exit / escape route marked in haulage / Alleyways,	Yes	System is adequate.
488	7) Transport for evacuation of plant personnel,	Yes	System is adequate.
489	8) Medical care including administration of antidotes, and	Yes	System is adequate.
490	9) Security / maintenance of law and order.	Yes	System is adequate.
	C-24.6 Communication Facilities		

491	a) Does the emergency control centre have direct communication links with the fire station and the plant control room?	Yes	System is adequate.
492	b) Are there adequate alarm points from which an emergency alarm can be raised?	Yes	System is adequate.
493	c) Is there infrastructure available for ensuring backup electric power supply for communication links where required	Yes	System is adequate.
	C-24.7 Medical Care		
494	a) Is the procedure for emergency medical care available?	Yes	System is adequate.
495	b) Whether the system has been tested at regular frequency through mock drill / exercises for its adequacy?	Yes	System is adequate.
496	c) Does the system of periodic replacement of antidotes and medicines required in emergency exist?	Yes	System is adequate.
	C-24.8 Updation of Emergency Plan		
497	a) Is the emergency plan updated based on the feedback from the periodic drills / exercises?	Yes	System is adequate.
498	b) Are the contact details of all concerned officials kept updated in the emergency plan?	Yes	System is adequate.
	C-24.9 Periodic Drills / Exercises		
499	a) Are mock-exercises conducted at stipulated intervals?	Twice in a year	System is adequate.
500	b) Are the scenarios varied in the mock-exercises to ensure that all possible factors including meteorological conditions, affected plant personnel covered?	Yes	System is adequate.
501	c) Whether emergency preparedness Plans have been tested and reviewed at regular frequency through mock drill for its adequacy	Yes	System is adequate.
	C-24.10 Training of Plant Personnel		
502	a) Are the plant personnel trained in handling emergency equipment?	Yes, Periodic training given to all through safety talk and practical demonstration done.	System is adequate.
	C-24.11 Public Awareness Programmes		

503	a) Are public awareness programs conducted for the people around the site regarding the actions to be taken in case of off-site emergency?	Yes	Public awareness program conducted for the people around the site
	C-24.12 Mutual-aid Programme		
504	a) Are the types of accidents where external organizations would be involved in remedial actions identified? Are their responsibilities defined?	Yes	System should be adequate
505	b) Is the plant responsible for rendering mutual aid assistance to any other external organizations? Does this assistance effect the plant's emergency preparedness?	Yes	System is adequate.
506	c) Whether the communication channels for mutual assistance identified and known with and between two organizations?	Yes	System is adequate.
	C-24.13 Emergency Control Centre		
507	a) Is the emergency control centre located beyond the effective distances of identified emergency scenarios?	Yes	System is adequate
508	b) If the emergency control centre is located within the effect distance, is it suitably protected that it will be available in case of emergency?	Yes	System is adequate
	C-25 SAFETY INSPECTION C-25.1 Inspection Programme		
509	Are checklists available for inspections? For example availability of checklists like: a) Handling, Storage and Transportation of hazardous chemicals;	Yes	System is adequate
510	b) Electrical hazards;	Yes	System is adequate
511	c) Fire safety;	Yes	System is adequate
512	d) Hand and portable power tools;	Yes	System is adequate
513	e) Machine hazards;	Yes	System is adequate
514	f) Lifting equipment;	Yes	System is adequate
515	g) Ladders and scaffolding;	Yes	System is adequate
516	h) Environmental Monitoring;	Yes	System is adequate
517	j) Civil structure;	Yes	System is adequate
518	k) Housekeeping;	Yes	System is adequate

519	m) Emergency equipment; and	Yes	System is adequate
520	n) Gas cylinder and other pressure vessels used /available in the organization.	Yes	System is adequate
	C-25 SAFETY INSPECTION C-25.1 Inspection Programme		
521	a) Are SRDs generated based on the area wise checklists?	Yes	System is adequate. Daily Safety observation & audit practice available.
522	b) What is the procedure for resolving the SRDs?	Yes, Daily, weekly review meetings	System is adequate
523	c) Whether the procedure exists for notification and root cause analysis of non-conformities and action taken on them?	Yes	System is adequate
	C-25.3 Safety Inspection Records		
524	a) Are the safety inspection records maintained?	Yes	System is adequate
	C-25.4 Methodology and Inspection Team		
525	a) Is there written procedure for safety inspection?	Yes, Checklist and procedures available.	System is adequate
526	b) Whether safety inspection is carried out by a designated team?	Yes, Safety committee members along with workers	System is adequate
527	c) What is the frequency of safety inspections?	Monthly/yearly	System is adequate
528	d) Whether an inspection report is generated?	Yes	System is adequate
	C-25.5 Compliance of Recommendations		
529	a) To whom the recommendations are submitted	All concerned, responsible persons as well as Plant Head.	System is adequate
530	b) Are recommendations of safety inspections complied in time?	Yes	System is adequate
531	c) Is compliance of recommendations sent to top management?	Yes, Monthly review	System is adequate
532	d) Is compliance of recommendations reviewed by safety committee?	Yes, safety committee members.	System is adequate

533	e) Does top management follows-up the compliance?	Yes, Reviewed in monthly meetings	System is adequate

17.SAFETY SYSTEMS

The company has safety systems, safe operating procedures and developed a safety organization for its implementation. Safety systems are introduced and practiced at site for creating safety culture, developing high health standards and up keeping of the environment.

HEALTH AND SAFETY POLICY:

M/s. Tata Steel Limited Khopoli., 3/2, Ishamba Phata, Khopoli-Pen Road, Village Savroli, Khopoli, Khalapur, Raigarh, Maharashtra,410203., has prepared Health, Safety & Environmental policy.

SAFETY ORGANISATION:

Safety organization is developed. An appointment of Safety Officers should be there as per Section 40B of Factories Act, 1948.

SAFETY COMMITTEE:

Safety Committee is formed. The safety committee functions should be mutually carried out by all Departments in the factory.

ACCIDENT REPORTING, INVESTIGATION AND ANALYSIS:

Accident register is maintained. Respective section head reports accidents to Safety Officer. Incidents or near miss events are reported & analyzed & actions are carried out.

SAFETY INSPECTION /

AUDIT SYSTEM: INTERNAL

INSPECTION:

There is internal inspection system which covers -

- Machine guards
- Fire safe housekeeping & Inspection of fire extinguishers
- Compliance to use of PPE
- Unsafe acts/behaviors
- Compliance to Hazardous work permit system
- Safety inspections of pressure vessels
- Electrical Safety inspection
- Earthing continuity test for pipe lines and electrical distribution systems

SAFETY TRAINING / RETRAINING:

It is observed that training activities are properly framed in the organization. Responsibility to carry out the employees training is assigned. Training calendar is prepared.

SAFETY COMMUNICATION / MOTIVATION / PROMOTION:

Safety promotion and publicity is carried out by display of posters, display of safety literature, safety messages at notice board, celebration of safety week in month of March. Safety promotion and publicity system is adequate.

HOUSEKEEPING:

Housekeeping standards are good. Housekeeping plays vital role in accident prevention activities.

HAZARD IDENTIFICATION AND CONTROL:

There are number of identification of hazards techniques (e.g. what if checklist, hazard and operability study (HAZOP), Fault Tree Analysis, or Failure Mode and Effect Analysis.) Depending upon the complexity of operations, appropriate identification of hazards technique is needed to be used.

MOCK DRILLS & EXERCISES:

Mock Drills and other exercises as supplement training which allows each employee to understand more clearly what steps to take in case of an emergency. Testing emergency procedures, such as evacuation routes, internal/external alert system, and community coordination, enhances response time and demonstrates whether the on - site emergency plan is adequate or not.

SAFE OPERATING PROCEDURES (SOPs)

Safe operating procedures (SOPs) should be documented for, safe facility operations by supporting safety in day-to-day activities and in operator training programs.

WORK PERMIT SYSTEM:

Work permit systems are followed

PERSONAL PROTECTIVE EQUIPMENT (PPE):

There are adequate personal protective equipment's such as Safety Shoes, Safety goggles, Face shield, etc.

FIRE PROTECTION SYSTEM:

Fire protection system is provided. Fire hydrant system is also provided. There are adequate fire extinguishers are posted at strategic location and the system backed by budgetary support for maintenance.

PREVENTATIVE MAINTENANCE SYSTEM:

There is preventive maintenance program for machinery & equipment at the site. The work is carried out by inside / outside agencies. The weekly system includes oiling and greasing of motor and gear box at different locations. Similarly, fortnightly, monthly and yearly preventive maintenance schedules are drawn up.

MUTUAL AID SCHEME:

Mutual Aid Scheme is available. (This is a programme to help nearby Industries making a group in case of any emergency with available resources.)

CONTRACTORS:

As the contractors have to perform work around the operations that involve hazardous material there is need to include the contractors in the facility process safety management chain. Special efforts must be made to screen contractors appropriately and to assure that contractor employees receive up- to- date training and emergency procedures information.

18.OBSERVATIONS AND RECOMMENDATIONS

SR NO	OBSERVATIONS	RECOMMENDATIONS	ACTION TAKEN
Below Observations by Auditor Pramod Hingmire			
Tube Plant			
All Plant – JIB Crane / EOT Crane			
1	It was observed that the hook latch safety locks were not provided on JIB cranes and EOT cranes installed across the plant. Absence of hook latch locks can lead to accidental slipping of lifted materials, which may result in falling loads, property damage, and serious injury to personnel working nearby.	All JIB cranes and EOT cranes should be equipped with proper hook latch safety locks. Periodic inspection of hooks and safety latches shall be carried out and records maintained. Damaged or missing latches must be replaced immediately.	
Gas Cutting Trolley			
2	Gas cutting trolley operators were found not trained in safe handling procedures, including cylinder securing and chain locking arrangement. Lack of proper training increases the risk of cylinder falling, gas leakage, and fire hazards.	Proper training should be provided to all gas cutting trolley operators on safe handling, securing cylinders with chains, trolley movement, and emergency response. Training records should be maintained and refresher training conducted periodically.	
Hose Reel Boxes			
3	It was observed that hose reel boxes were not numbered and some locations were missing hose reel box installation. Lack of identification and inadequate coverage may delay firefighting response during emergency situations.	All hose reel boxes should be numbered and properly identified. Missing hose reel boxes shall be installed as per fire risk assessment to ensure adequate coverage. Inspection checklist should be maintained for periodic monitoring.	
Ammonia Storage Tank			
4	Plantation and vegetation were observed around the ammonia storage tank area. This may obstruct emergency access, create corrosion risk, and increase fire load near hazardous chemical storage.	All unwanted vegetation and plantation around the ammonia storage tank should be removed immediately. The area should be kept clear and maintained as per safe separation distance requirements.	

SCBA Kit			
5	Standard Operating Procedure (SOP) for SCBA kit usage was not displayed near the SCBA storage location. Absence of SOP may lead to improper usage during emergency conditions.	SCBA kit operating SOP should be displayed prominently near the storage area. Personnel likely to use SCBA should be trained in donning, doffing, and emergency usage. Periodic drills should be conducted.	
Gas Plant – Emergency Exit			
6	Emergency exit in the gas plant area was not properly relocated/accessible. Improperly positioned emergency exit may obstruct evacuation during emergencies such as gas leakage or fire.	Emergency exit should be relocated or modified to ensure clear and unobstructed evacuation path. Proper signage and illumination should be provided for easy identification.	
Gas Cylinders			
7	Gas cylinders were observed without head caps and valve protection. Absence of protective caps increases risk of valve damage, gas leakage, and cylinder turning into projectile if knocked over.	All gas cylinders must be provided with head caps when not in use. Valve protection shall be ensured during storage and transportation. Cylinders should also be properly secured with chains.	
Fire Hydrant System			
8	Fire hydrant system main pump starter was not located near the control panel and power panel for easy accessibility. This may delay operation of the firefighting system during emergency.	Fire hydrant main pump starter should be installed at an easily accessible location near the control/power panel. Proper signage and emergency operating instructions should be displayed.	
Below Observations by Auditor Ramdas Napte			
Pickling System			
1	Coil handling procedure is by crane and area is barricaded.	This is safe practice.	
2	Coil rapping strip is cut by operator by using snubbing press. Failure of snubbing press is not identified.	Hydraulic system failure Need to be identified.	
3	Hcl line MOC is suitable and adequate but flange guard is disengaged and missing at many places.	All flange shall be covered with flange guard.	
4	Heat exchanger No-02-RTD gland is leaking from pocket.	Each and every leak of acidic compound shall be immediately arrested. It is workplace hazard for	

		machine and workplace employee also.	
5	Machine guarding is available for motor shaft and coupling. Guard is not fixed at bottom side.	Need to be fixed from bottom side.	
6	Hcl tank -Blower is installed for fume exhaust system.	Blowers running condition is not identified. Need to be interlocked with pickling activity.	
Rinsing section			
1	Door interlock is available for all sections.	This is safe practice.	
2	Rapping strip cutting SOP is available and found satisfactory.	This is safe practice.	
Rolling Mill Section.			
1	High noise is not identified in all workplace area.	Need to be identified and PPEs to be used accordingly.	
2	Electrical panel thermography frequency is 15 days.	Data is not maintained. Frequency to be decided and testing record to be maintained.	
3	Coil handling /shifting by crane and area is properly guarded.	Skill matrix and PPEs Matrix to be displayed in workplace area.	
Annealing Furnace			
1	LNG is used for heating in furnace and leak detector is provided.	This is safe practice	
2	LNG burner is with listed interlock in PLC system.	Interlock to be tested frequently.	
3	N2-is generated and used for blanketing. Oxygen detector is available in used and manufacturing side also.	Interlock between two detectors to be provided.	
4	Pipe line colour code chart is available.	Colour code chart to be reviewed as per IS -2379 guidelines.	
5	Highly flammable gas is used in annealing furnace.	**Section -38 rule 70 and 71A**- foam type extinguisher Shall be kept in. workplace area.	
6	Electrical switches inside the plant. Exhaust fan motor inside the storage.	**This complies with the provisions of section38(1) of Factories Act,1948 read with rule70(4) (a) of Maharashtra Factories Rule, 1963** Shall be flameproof and its location shall be outside the room.	

7	Maintenance tools.	**This complies with the provisions of rule70(4)(b) of Maharashtra Factories Rule, 1963-:** Shall be use non-sparking tools for handling and opening.	
8	Heat and smoke detector	Shall be providing to detect any abnormality inside the storage. And sprinkler system shall be available.	
9	Fire Hydrant point-sprinkler system	Fire hydrant points with Mechanical foam and foam type branch firefighting.	
Acid regeneration plant			
1	Hcl tank vent line is dipped in dilute Hcl.	Vent shall be dipped in alkaline solution. It will reduce air and workplace pollution	
2	Manual handling activity -is not listed	All manual handling activity to be listed and its PPEs and skill matrix to be displayed	
3	Area housekeeping is satisfactory.	This is good practice.	
4	Dyke Tank for acid storage is adequate	This is safe practice.	
Below Observations by Auditor Vijaykumar Ingle			
UTILITY- N2 Plant			
1	N2 Plant area - P& ID is not displayed.	N2 Plant area - P& ID to be displayed.	
	O2 Sensors are installed at different locations.	This is Safe practice.	
	N2 gas Plant – Oxygen sensor calibration frequency is not cleared.	N2 gas Plant – Oxygen sensor calibration / replacement frequency to be decided	
	N2 gas plant piping color is not as per IS 2379.	N2 gas plant piping color -Color coding to be as per IS 2379.	
UTILITY- Air compressor (Centrifugal)			
2	High noise zone is not identified.	High noise zone shall be identified & PPE signages to be provided.	
	Air compressor Oil fumes vent is inside the shed.	Air compressor Oil fumes vent to be out of shed.	
	High noise area	Noise reduction – bag type enclosure to be provided.	

		PPEs to be made available	
H2 storage area & supply			
3	H2 cylinder unloading area East side MS fencing having no earthing.	H2 cylinder unloading area- earthing to be provided in fencing area.	
	Static Body discharge Digital Plate is not installed.	Static Body discharge Digital Plate to be installed.	
Ammonia Storage area			
4	Ammonia system is adequate as per PSEO norms	This is safe practice.	
	P & ID is not displayed in front of storage area.	Needs to display the same.	
WCRM- Shed -01			
5	EOT Crane Hooks – MPI, DP test is not done.	EOT Crane Hooks – MPI, DP test to be done.	
	EOT Crane – Operation Hooter cum Lamp or light is not provided.	EOT Crane – Operation Hooter cum Lamp or light to be provided.	
	Pickling area – Acid MSDS extracts are not displayed in local language.	Pickling area – Acid MSDS extracts to be displayed in local language.	
	Pickling exist saddle -side railing Bagration end height is not adequate.	Needs to follow the IS 9474 guide line for Machine guarding	
	Acid storage tank- water observed in dye wall.	Needs to review water drainage system	
Mill area -ECRA			
6	ETR area – side railing height is not adequate.	Needs to follow the IS 9474 guide line for Machine guarding	
	Defler area- Mc Hy hoses replacement , test system is not available.	Hydraulic Hoses replacement test policy to be prepared & implemented.	
GP-01			
7	Pot area side guard is not adequate	Needs to follow the IS 9474 guide line for Machine guarding	
	Area keeping is not adequate	Needs to improve the same.	
Shed-03 Mill			
8	Air receiver Pv-01 -15m3 having no foundations.	Air receiver – foundation anchoring to be done.	
CRCA area			
9	Near H2 & LNG leak detectors are provided.	This is safe practice.	
	Leak detectors calibration frequency is yearly	Needs to do Quarterly base calibration considering its criticality.	

GP-02			
10	Radiant & Preheating furnace – LNG leak detectors are provided.	This is safe practice.	
	Pot section – side guards are adequate.	This is safe practice.	
H2 Storage			
11	Flame detectors are provided.	This is safe practice.	
	Leak detectors are provided.	This is safe practice.	
	Static body discharge plate is not provided.	Digital type Static body discharge plate to be installed.	
	Earthing for shed is not provided.	Needs to provide the same.	

19. ACTION PLAN

This Safety Audit study was carried out by M/s. Satyam Management Services, Pune, Recognized Safety Audit Institution by Govt. of Maharashtra. There are adequate numbers of safety systems designed to cater to the needs of the site backed with budgetary support, strict administrative control, and follow up is required ad records shall be maintained properly. Internal audits, internal inspections, training program, mock drills should be carried out at regular intervals. The Management was found to have positive approach towards the safety at site. There is a satisfactory compliance of the legal requirements. The management is keen to follow up on the compliance needs. In conclusion, to fulfill the Safety Audit objectives the audit team urges that the safety standards should be looked after satisfactorily to ensure the safe operations at site. In pursuit of continual improvement, the systems have adequate ability to achieve the desired goals. Action on the Safety Audit report by the Occupier is most important. As the nature of recommendations cover many aspects of the site activity, all cannot be complied simultaneously but can be phased out.

Definite action plan for compliance and regular follow up will help in achieving the objectives of the Audit.

20. LEGAL DISCLAIMER AND LIABILITY

1. Limitation of Liability. The consulting services carried out by "SATYAM MANAGEMENT SERVICES (SMS)" were performed by using generally accepted guidelines, standards and/or practices, which the SMS considers reliable.

   Although the SMS performed its consulting services pursuant to reliable and generally accepted practices in the industry, the SMS does not guarantee or provide any representations or warranties with respect to Client's use, interpretation or application of the findings, conclusions, and/or suggestions of the consulting services provided by the SMS.

   Moreover, the findings, conclusions, and the suggestions resulting from the consulting service are based upon certain assumptions, information, documents, and procedures provided by the Customer.

   As such, in no event and under no circumstance shall the SMS be liable for special, indirect, punitive or consequential damages of any nature whatsoever, including without limitation, any lost revenue or profits of the customer or its customers, agents and distributors, resulting from, arising out of or in connection with, the services provided by the SMS.

2. The SMS's pricing of the consulting services provided does not contemplate that the SMS shall have any liability resulting from its performance of the consulting services.

3. With this report the client agrees upon

a) The ultimate responsibility to ensure health and safety of workers / persons lies with the occupier of the factory.

b) That the timely compliance of section 7-A Factories Act 1948 and reporting to concern DISH office time to time.

c) That compliance of visit remarks /circulars of DISH office and reporting DISH office time to time.

d) That notifies DISH office about change in the manufacturing activity / process / change of methodology well in advance and to SMS also.

e) That to carry out internal safety audit by plant personnel every year and reporting to DISH office with compliance.

f) That recommendation mentioned in the report are expressed on the basis of information provided by the factory officials during the visit to the site & oral interactions with concerned personnel mentioned in report authorized by the factory management.

g) That the factory/ organization will develop its own specific procedures for implementing the IS 14489 standard prevailing to the time.

h) That audit is not aimed at nor should result in transfer to the responsibility to achieve safety from auditor management to the auditing organization.

i) The audit is not a certification of the safety performance to the auditee organization.

j) That the flame proof to be provided in the area electrical in which flammable chemicals are used/handled/stored, the integrity of flameproof fittings to be checked periodically and record to be maintained. The tools/spanners/chain pulley block to be of spark proof type.

k) That all care to be taken to avoid accumulation of flammable vapors in the confined area. Necessary leak detectors to be provided in such area.

l) That the latest available technology to be used for providing interlocks, giving alarm or cutting off supply of chemicals, ROV with pneumatic controls, whenever required.

m) That the periodic inspection of safety relief valve, pressure gauges, isolation valves etc. to be carried out.

n) That vent /Rupture disc/ SRV of adequate sizes to be fitted on the pressurized equipment's as per standard engineering procedure.

o) That output of SRV/ RD to be connected to knock output of adequate capacity which turns provided with a vent

p) Those specific provisions as applicable with respect to PESO, FIRE, NBC, Boiler, EPA, MSIC, Rules 1989 to be complied and communicated to respective authorities.

q) That the compliance of Maharashtra Safety Officers Rules 1982.

21. (A). DEFINITIONS

a) SAFETY OFFICERS

FACTORIES ACT, 1948.

No. FAC-2018/C.R.146/Lab-4.— In exercise of the powers conferred by sub-section (1) of section 40B of the Factories Act, 1948 (63 of 1948), in its application to the State of Maharashtra, and in supersession of the Government Notification, No. FAC. 1081/8511/Lab.-4, dated the 2nd August 1982, the Government of Maharashtra hereby requires every occupier of the factory in the state as is described o employ such number of safety officers

1. In **Respect of every Factory**

WORKERS	SAFTEY OFFICERS
1000 workers or more, but not exceeding than **2000** workers	**1**
2000 workers or more, but not exceeding than **5000** workers	**2**
5000 workers	**3**

2. In respect of every **Major Accident Hazards (MAH)** Factory as defined in clause (d) of rule 2 of the Maharashtra Factories (Control of Industrial Major Accident Hazards) Rules, 2003 and factories having dangerous operations under schedules VII, XV, XX, XXI, XXIII and XXVI declared under rule 114 of the Maharashtra Factories Rules, 1963

WORKERS	SAFTEY OFFICERS
50 or more but not exceeding **500** workers	**1**
500 or more but not exceeding **1000** workers	**2**
1000 or more but not exceeding **2000** workers	**3**
2000 or more but not exceeding **5000** workers	**4**
5000 or more	**5**

3. In respect of the factories wherein hazardous process as defined in clause **(cb) of section 2 of the Factories Act, 1948** (63 of 1948) is carried out

WORKERS	SAFTEY OFFICERS
250 or more but not exceeding **500** workers	**1**
500 or more but not exceeding **1000** workers	**2**
1000 or more but not exceeding **2000** workers	**3**
2000 or more but not exceeding **5000** workers	**4**
5000 or more	**5**

b) WELFARE OFFICERS

FACTORIES ACT, 1948

Deptt. No. INT. 5258-Lab III- In exercise oof the powers conferred by Section 112 read with Section 49 of the Factories Act, 1948 (LXIII OF 1948) the Government of Maharashtra herby makes the following rules, the same having been previously published as required by section 115 of the said Act namely

Number of Welfare Officers to be employed in factories: -

(1) The occupier of every factory wherein five hundred or more workers are ordinarily employed, shall appoint at least one Welfare Officer

(2) Where the number of workers ordinarily employed in any factory exceeds the number specified in column 1 of the Table hereto but does not exceeds the number specified in column 2 thereof, the occupier of that factory shall also appoint Additional Welfare Officer or Assistant Welfare Officers as indicated in column 3 of the said table.

Where the number of workers exceeds	**But does not exceed**	**Number of Assistance or Additional Welfare Officers**
2,500	3,500	One Assistant Welfare Officer
3,500	4,500	One Additional Welfare Officer
4,500	6,500	One Additional Welfare Officer, One Assistant Welfare Officer
6,500	8,500	Two Additional Welfare Officer
8,500	10,500	Two Additional Welfare Officer, One Assistant Welfare Officer
10,500		Three Additional Welfare Officer

c) Occupational Health Centre

In respect of any factory carrying on **'Hazardous Process'** there shall be provided and maintained in good order an Occupational Health Centre with the services and facilities as per scale laid down hereunder

This rule applies to all factories in Maharashtra that carry out hazardous processes as defined under Section 2(cb) of the Factories Act, 1948. The requirements for OHCs are categorized based on the number of workers employed:

Factories Employing Up to 50 Workers

- **Factory Medical Officer (FMO):** Engage an FMO on a retainership basis. The FMO should have a notified clinic and is responsible for conducting pre-employment and periodic medical examinations as stipulated in Rule 73-V, and providing medical assistance during emergencies.

- **First-Aid Personnel:** Train at least five workers in first-aid procedures, ensuring that at least one trained person is available during all working hours.

- **First-Aid Box:** Maintain a fully equipped first-aid box accessible to workers.

Factories Employing 51 to 200 Workers

- **Occupational Health Centre:** Establish an OHC with a minimum floor area of 15 square meters. The room should have smooth, impervious floors and walls, adequate illumination, and ventilation. Equip the OHC as per the schedule annexed to Rule 73-W.

- **Part-Time FMO:** Appoint a part-time FMO who visits the factory at least twice a week and is available during medical emergencies.

- **Dresser-Cum-Compounder:** Employ a qualified and trained dresser-cum-compounder to be on duty throughout the working period.

- **First-Aid Boxes:** Ensure that all departments have fully equipped first-aid boxes.

Factories Employing More Than 200 Workers

- **Full-Time FMO:** Appoint one full-time FMO for up to 500 workers. For every additional 1,000 workers or part thereof, appoint one more medical officer.

- **Occupational Health Centre:** Set up an OHC with at least two rooms, each having a minimum floor area of 15 square meters. The rooms should have smooth, impervious floors and walls, adequate illumination, and ventilation. Equip the OHC as per the schedule annexed to Rule 73-W.

- **Medical Staff:** Employ one nurse, one dresser-cum-compounder, and one sweeper-cum-ward boy to be present throughout the working period.

- **Emergency Preparedness:** Ensure that the OHC is suitably equipped to manage medical emergencies.

Additional Provisions

- **Medical Examinations:** Rule 73-V mandates that workers employed in hazardous processes undergo medical examinations before employment and periodically thereafter. The FMO is responsible for these examinations.

- **Health Records:** Maintain comprehensive health records for all workers, including details of medical examinations and any occupational illnesses or injuries.

- **Emergency Response:** The OHC should be prepared to handle medical emergencies, with protocols in place for immediate response and coordination with external medical facilities if necessary.

21. (B) IS STANDARDS

IS	Scope	Auditor Checks
14489:2018 Occupational Safety and Health Audit	Framework for conducting comprehensive safety audits in factories.	• Management commitment to safety • Hazard identification & risk assessment • Fire protection systems • Housekeeping & emergency preparedness • Safety training and documentation
IS 2190:2010 Fire Extinguisher Systems	Guidance on selection, installation, and maintenance of fire extinguishers.	• Placement, type (CO_2, DCP, foam), pressure gauge status, and hydrotesting dates.
IS 2189:2008 Fire Detection & Alarm Systems	Design and installation of fire alarm systems.	• Working smoke/heat detectors, control panel access, maintenance logs.
IS 1646:1997 Fire Safety in Buildings	Covers fire-resistant materials, escape routes, and structural	• Emergency exits, fire doors, signage, and construction compliance

	fire integrity.	
IS 732:2019 Electrical Wiring	Specifies wiring design, layout, materials, and safety.	• Wiring insulation, circuit separation, MCB/RCCB provisions.
IS 3043:2018 Earthing Practices	Proper grounding of equipment and electrical systems.	• Earth pit testing, loop impedance, continuity of earth conductors.
IS 5216 (Part 1 & 2):1982 Electrical Safety Practices	Guidelines for electrical safety during installation and maintenance.	• PPE use during electrical work, lockout-tagout compliance.
IS 9474:2001 Safety in Use of Power Presses	Guarding, emergency stop functions, maintenance protocols.	• Interlock presence, two-hand control, operator training.
IS 659:1964 Air Conditioning Safety	Covers risks in AC and refrigeration systems.	• Pressure relief valves, refrigerant leakage, compressor safety.
IS 15644:2006 Chemical Storage Safety	Guidelines for safe handling, storage, and segregation.	• MSDS availability, secondary containment, incompatible segregation.

IS 15187:2002 Hazardous Waste Handling	Procedures for labeling, storage, and disposal of hazardous wastes.	• Authorized transporter use, labeling (hazard classes), documentation.
IS 1179:1996 Personal Protective Equipment	Minimum design, comfort, and effectiveness criteria for PPE.	• PPE availability, fit, training on correct usage.
IS 9473:2002 Respiratory Protection	Standards for filtering half masks used in dusty or particulate-laden environments.	• Approval markings, filtration class (e.g., FFP1/2), mask fit test.
IS 9457:2005 Hazard Colors and Symbols	Prescribes color codes and shapes for different types of industrial signage.	**Example:** •Red = Fire hazard or emergency • Yellow = Caution • Green = Safe condition • Blue = Mandatory actions
IS 12349:1988 Safety Signs	Standardized symbols and signs for industrial hazards and instructions.	• Different types of safety signages wherever needed

IS 2379:1990 Colour Coding for Pipelines	Uniform color coding and labelling of industrial pipelines.	**Key Points:** • Colors must be consistent and visible. • Flow direction arrows must be painted. • Legends for complex systems (multi-line systems must be used. Accurate color use (e.g., red for fire water, yellow for flammable gases) • Label placement and clarity • Consistency across factory layout

22. SOP TO UPLOAD ACTION TAKEN REPORT

Procedure to Upload Action Taken Report on DISH Portal

Step 1: Open your email account- rahul.kumar53@tatasteel.com

Step 2: Locate the email in your inbox sent from sa_to_occupier@mahadishonline.in

Step 3: Find the email with the subject:
"सुरक्षा लेखा परीक्षक परिक्षण सूचना" .

Step 4: Open the email and download the attached report.

Step 5: Go to Schedule II in the downloaded report and sign at the designated space for the Occupier at the bottom of the page.

Step 6: Prepare a detailed Action Taken Report addressing the observations or recommendations mentioned in the report.

Step 7: Merge the signed Schedule II and the Action Taken Report into a single document.

Step 8: Reopen the original email.

Step 9: Scroll to the bottom of the email and click on the provided link.

Step 10: Upload the merged document at the link location and submit/send it as instructed

END

MAHARASHTRA POLLUTION CONTROL BOARD

Phone:24010437/24020781
24045589/24037124/24035273
Fax: 24024068 /24023516

Near

Kalpataru Point,3rd & 4th floor,
Sion,Matunga SchemeRoad No. 8,
Opp. Cine Planet Cinema,
Sion Circle, Sion (E)
Mumbai - 400 022.

No.MPCB/JD(APC)/ /TB/B- 0154 Date: 13/11/2024.

To,

Regional Officer,

MPC Board,

Mumbai/ Thane/ Kalyan/ Navi Mumbai/ Raigad.

Sub: Minutes of Review meeting of Air Pollution Potential industries w.r.t. deteriorating air quality of MMR held on 06/11/2024.

Ref: 1. This office letter dated 29/10/2024.

In accordance with the above referred subject, a review meeting w.r.t. Air Pollution Potential industries w.r.t. deteriorating air quality of MMR was held on 06/11/2024. In this regard, Minutes of the meeting is attached herewith for ready reference and you are directed to serve the copy of the same to all industries for change in fuel from Coal/Briquette/Wood/LDO/LHSH to cleaner fuel under your jurisdiction with a copy to this office & submit the action taken report from the Air Pollution potential industries on the above issue.

Please treat this as urgent.

(Dr. V. M. Motghare) 13/11/2024
Joint Director (Air Pollution Control)

D. A. As above.

Copy submitted for information to:-
Member Secretary, MPC Board, Mumbai

Copy for information and needful action:-
All Technical HODs, MPC Board, Mumbai.

D.A.: As above.

Minutes of Meeting

Sub: Review meeting of Air Pollution potential industries w.r.t. deteriorating air quality of MMR.

Date and time: 07/11/2024 at 11:00 am

Chaired by: Member Secretary, M.P.C. Board.

Venue: Conference Hall, 4th floor, M. P. C. Board, Sion, Mumbai.

Hon'ble High Court, Bombay has passed various orders on 31/10/2023, 06/11/2023, 10/11/2023, 11/12/2023, 06/02/2024, 18/03/2024 & 20/06/2024 in the Suo Moto PIL No. 3 of 2023 by taking suo moto cognizance of the deteriorating air quality in Mumbai and surrounding areas as reported in various newspaper articles.

The M.P.C. Board has submitted various compliances made towards mitigation of air pollution, by filing affidavits.

By considering last year's winter season, trends of air quality in the State specifically the Mumbai Metropolitan Region (MMR) have shown that the AQI (Air Quality Index) has been reported in the 'Moderate' & 'Poor' Category. Further, Municipal Corporation/ Council(s) were directed to take appropriate actions to address different levels of air pollution as per AQI, particularly with reference to episodic rises in pollution levels due to winter weather conditions & festive season. Board has issued various Directions for mitigation of air pollution from time to time.

By looking into the trend of the air quality of the MMR area, a review meeting of Air Pollution Potential industries of MMR area was convened on 07th November 2024 at 11:00 pm under the chairmanship of Member Secretary, M.P.C. Board. The list of attendees is enclosed at Annexure – I.

Joint Director (APC), MPCB welcomed Member Secretary, M.P.C. Board, officials/ representatives of the industries.

Joint Director (APC) given brief on the various orders passed by the Hon'ble High Court Bombay in the Suo Moto PIL No. 3 of 2023. Further given brief about the formation of the Co-ordination Committee formed in compliance of the order passed by the Hon'ble High Cour and decision of the 4th meeting of Co-ordination Committee i.e. MPC Board shall issue necessary Directions to air pollution potential industries when AQI exceeds 200 of the particular area.

Member Secretary, M.P.C. Board has pointed out the major causes / sources of deteriorating air quality such as ongoing construction activities, ongoing works of metro, coastal road, bullet train work and industrial activities etc... Further pointed out that if any industry found non-compliant then necessary directions will be taken without giving any further opportunity.

Representatives of industries were briefed about the steps taken by them towards mitigation of air pollution.

After detailed deliberation following actions were recommended:

1) Regional Officers of MMR area shall issue Directions to the industries under their jurisdiction for change in fuel from Coal/ Briquette / Wood / LDO / LHSH to Cleaner fuel i.e. PNG/CNG/LPG, within a period of 15 days, wherever PNG line is available.
2) The industries to whom directions issued, shall submit their proposal for conversion of fuel within a period of one-month alongwith timebound program.
3) Regional Officers shall also issue Directions to the industries under their jurisdiction which are using Coal/ Briquette / Wood / LDO / LHSH to achieve the standard of Total Particulate Matter from 150 µg/Nm³ to 50 µg/Nm³.
4) Project Proponents shall provide smog guns / water sprinklers within their premises.
5) Project Proponents shall regularly Operate & Maintain provided air pollution control systems to achieve the norms / standards.
6) Coal / Briquettes using industries shall provide closed conveyor system from storage yard to feeding point till conversion of cleaner fuel.
7) If the pollution control system not in operation or breakdown, till the rectification of the same PP should shut down the production process voluntarily under information to MPC Board.
8) The industry shall maintain the Ambient Air Quality within their premises as per the National Ambient Air Quality standards 2009.

The meeting ended with vote of thanks.

(Dr. V. M. Motghare) 18/11/2019
Joint Director (Air Pollution Control)

(Dr. Avinash Dhakne, IAS)
Member Secretary

DAILY FROM: AHMEDABAD, CHANDIGARH, DELHI, JAIPUR, KOLKATA, LUCKNOW, MUMBAI, NAGPUR, PUNE, VADODARA ● REG.NO. MCS/067/2018 - 20 RNI REGN. NO. 1543/57

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NECC and VENCOBB recommended today's Eggs and Broiler Chicken rates
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Retail Sale Rate*
Live
₹ 86 per kg
Dressed (with skin)*
₹ 103 per kg
Retail Sale Rate for Eggs*
₹ 80 per 12 Eggs
*Conditions Apply
Given in the interest of consumers

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BENCH QUASHES REMISSION, TELLS 11 CONVICTS TO SURRENDER IN TWO WEEKS

'Abuse of power': SC scraps release of Bilkis case rape-murder convicts

SC: Pardon obtained fraudulently... Gujarat Govt acted in tandem with convict... remission orders stereotyped, cyclostyled

ANANTHAKRISHNAN G
NEW DELHI, JANUARY 8

THE SUPREME Court Monday struck down the relief granted by the Gujarat government in August 2022 to 11 men who were sentenced to life for the gangrape of Bilkis Bano and murder of her family members during the 2002 riots, and ordered them to surrender to jail authorities within two weeks.

In its order, a bench of Justice BV Nagarathna and Justice Ujjal Bhuyan said the Gujarat government's decision to grant remission to convicts was "an instance of usurpation of jurisdiction and… of abuse of discretion" and that the State "acted in tandem and was complicit" with the convicts. Remission means a reduction in sentence imposed on a person convicted of a crime.

The Supreme Court said Gujarat was not the "appropriate government" to decide on the remission plea of the 11 men convicted for the "grotesque and diabolical crime...driven by communal hatred". The bench pointed out that Section 432(7)(b) of The Code of Criminal Procedure, which deals with the power of remission, clearly indicates that the State within which the offender is sentenced, is the appropriate government to pass an order of remission" and not the one where the crime took place or where the convict was imprisoned.



Justice B V Nagarathna; Justice Ujjal Bhuyan

Bilkis Bano was gangraped and her three-year-old daughter was among the 14 people killed by a mob including the 11 men, on March 3, 2002, during the riots in Limkheda taluka of Gujarat's Dahod district. She was pregnant at the time.

The 11 men were convicted in 2008 by a CBI court in Mumbai. The Supreme Court had transferred the trial in the case from Gujarat to Maharashtra in 2004 citing "exceptional circumstances".

Following the writ petition of one of the convicts — Radheshyam Shah, who had completed 15 years and 4 months in jail, the Supreme Court had on May 13, 2022, ordered that the Gujarat government was the appropriate government to decide his remission plea in accordance with the state's 1992 remission and premature release policy.

Following the Supreme Court's May 13, 2022, order in

CONTINUED ON PAGE 2

Today is my New Year, I can breathe, this is what justice feels like: Bilkis

ADITI RAJA
VADODARA, JANUARY 8

"IT FEELS like a stone the size of a mountain has been lifted from my chest, and I can breathe again. This is what justice feels like."

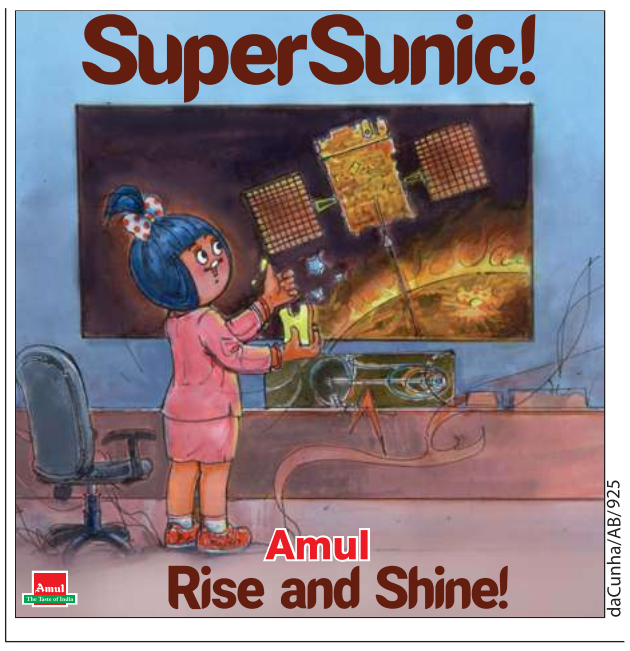
Hours after the Supreme Court quashed the early release granted by the Gujarat government to the 11 convicts, Bilkis Bano, in a statement released to *The Indian Express* through her advocate, said: "Today is truly the New Year for me".



'I have wept tears of relief'

"I have wept tears of relief. I smiled for the first time in over a year-and-a-half. I have hugged

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THE EDITORIAL PAGE
AN EXTRAORDINARY JUDGMENT
By INDIRA JAISING PAGE 10

INSIDE
RULE OF LAW vs RIGHT TO LIBERTY: WHAT SC SAID
MORE REPORTS, PAGES 8, 13

What next? Ball in BJP-led Maharashtra Govt's court

SADAF MODAK
MUMBAI, JANUARY 8

EXPLAINED

ALL EYES will now be on the Maharashtra government — whether it extends any relief to the 11 convicts.

In its order, the Supreme Court has indicated that the convicts can seek remission, but they need to be in prison for this. "We say so for another reason in the event respondent Nos.3 to 13 (the 11 convicts) are

CONTINUED ON PAGE 2

SC stays Bombay HC order on Pune LS bypoll

EXPRESS NEWS SERVICE
MUMBAI, JANUARY 8

THE SUPREME Court on Monday stayed the judgement of the Bombay High Court that directed the Election Commission of India (ECI) to immediately conduct a bypoll for the Pune Lok Sabha seat which became vacant after the death of MP Girish Bapat.

The SC bench led by Chief Justice of India (CJI) DY Chandrachud issued notice to respondents in an appeal made by ECI challenging the Bombay HC order and said they will "lay down the law in March or April".

This means the bypolls for Pune Lok Sabha seat cannot be held until SC decides the matter in March or April. The 2024 Lok Sabha elections are likely to be held in April or May, this year as the term of the present House ends on June 16.

The CJI Chandrachud-led bench said the term of the present remainder of the Lok Sabha will come to an end and the

CONTINUED ON PAGE 2

'SC order very encouraging': Retd Justice Salvi who gave case verdict

SADAF MODAK
MUMBAI, JANUARY 8

RETIRED JUSTICE UD Salvi, who had in 2008 delivered the judgment sentencing 11 men to life imprisonment for the gang rape of Bilkis Bano and murder of her family in the 2002 communal riots, said on Monday, that the Supreme Court's decision to cancel early release of the convicts was "very encouraging".

"I would like to say the decision is very encouraging. People will have faith in the judiciary," Justice Salvi told The Indian Express after the Supreme Court pronounced its order.

The convicts were freed in August 2022, after a Gujarat government panel approved their application for remission of sentence.

Justice Salvi had then said the decision should be reconsidered and decided fairly based on all facts before authorities. The case had been transferred to Mumbai

CONTINUED ON PAGE 2

Ex-envoy: ISI tipped off India in 2019 on Qaeda Kashmir plot

SHUBHAJIT ROY
NEW DELHI, JANUARY 8

PAKISTAN'S SPY agency ISI had tipped off India through the Indian High Commissioner in Islamabad about an al-Qaeda plot to carry out an attack in Kashmir in June 2019, which turned out to be genuine, former Indian envoy Ajay Bisaria has revealed in his latest book.

In his book, titled "*Anger Management: The Troubled*

CONTINUED ON PAGE 2

BUSINESS AS USUAL
BY UNNY



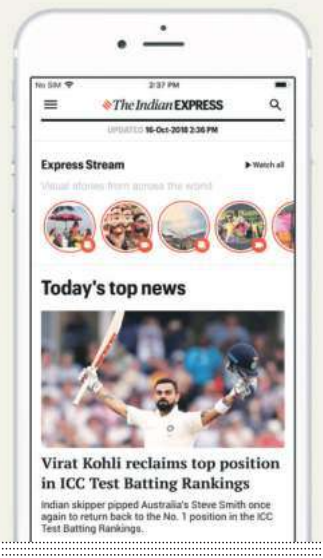
EXPRESS NETWORK

INDIAN TOURISTS IN MALDIVES NEAR DOUBLE IN 5 YRS P7

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PULL BACK FROM BRINK PAGE 10

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FROM PAGE ONE — FULL REPORTS ON WWW.INDIANEXPRESS.COM

'Abuse of power': SC scraps release of 11 Bilkis case convicts

Shah's case, the Gujarat government had on August 15, 2023, released the 11 convicts under its 1992 remission policy. It had cited a "unanimous" recommendation of the Jail Advisory Committee (JAC) to grant the convicts remission on grounds of "good behaviour".

Castigating the state of Gujarat for not filing a review petition seeking correction of the May 13, 2022, order by another bench of the Supreme Court, the bench comprising Justice Nagarathna and Justice Bhuyan, said, "Had the state of Gujarat filed an application seeking review of the said order and impressed upon this court that it was not the appropriate government, but the state of Maharashtra... ensuing litigation would not have arisen at all. On the other hand... the state of Gujarat has usurped the power of state of Maharashtra and passed the orders of remission based on the order of this court dated May 13, 2022 which in our view is a nullity in law."

"This is exactly what this court had apprehended at the previous stages of this case and had intervened on three earlier occasions in the interest of truth and justice by transferring the investigation of the case to the CBI, and the trial to the Special Court at Mumbai," the bench said Monday.

The bench, which perused the remission order in the case of Shah, said it reflected "complete non-application of mind". It added "all" the remission "orders dated 10.08.2022 are stereotyped and cyclostyled orders".

The Supreme Court held the May 13, 2022 judgement "nullity and non est in law" since it said "the order was sought by suppression of material facts as well as by misrepresentation of facts and therefore, fraudulently obtained at the hands of this Court". Consequently, "all proceedings taken pursuant to the said order also stand vitiated and are non est in the eye of law", it said.

The Supreme Court bench rejected the prayer of the convicts to protect their liberty and said allowing them to remain out of jail "would be an instance of this Court's imprimatur to ignore rule of law and instead aid persons who are beneficiaries of orders, which in our view, are null and void and therefore non est in the eye of law".

The Court said even if the convicts wanted to seek remission afresh in accordance with the law, "they have to be in prison as they cannot seek remission when on bail or outside the jail".

According to the Supreme Court, Radheshyam Shah who had earlier failed to get any relief from the Gujarat HC had "surreptitiously filed the writ petition before this court seeking to consider his case for remission without revealing the full and material facts before this court" and "relief was granted by this court by conferring jurisdiction on state of Gujarat which it did not possess... in the guise of consideration for remission on the basis of the 9-7-1992 policy which stood cancelled in the year 2013".

The bench said it "cannot be unmindful of the conduct of respondent Nos.3 to 13, particularly respondent No.3 who has abused the process of law and the court in obtaining remission... Therefore, in complying with the principles of rule of law which encompasses the principle of equal protection of law as enshrined in Article 14 of the Constitution, we hold that 'deprivation of liberty' vis-à-vis respondent Nos.3 to 13 herein is justified in as much as the said respondents have erroneously and contrary to law been set at liberty... the said respondents were all in prison for a little over fourteen years (with liberal paroles and furloughs granted to them from time to time). But, they were released pursuant to the impugned remission orders which have been quashed by us. Consequently, the status quo ante must be restored".

The bench pointed out that when Radheshyam Shah's plea was being heard by another bench of the apex court in 2022, the Gujarat government had "correctly submitted...that the appropriate government in the instant case was the state of Maharashtra and not the state of Gujarat" though this was ultimately rejected in the May 13 judgement. The bench of Justices Nagarathna and Bhuyan wondered on Monday why the Gujarat government had not approached it seeking correction of the May 13, 2022, order given its earlier stand.

While upholding the maintainability of Bilkis Bano's petition, the Supreme Court did not rule on the maintainability of other PILs filed in a criminal case and left the question open to be decided in an appropriate case.

• 'SC order very encouraging': Retd Justice Salvi who gave case verdict

from Gujarat by the Supreme Court in 2004 for a fair trial.

"The court has rightfully said that the authority to grant remission should have been that of Maharashtra government and not Gujarat government since the trial was held here in Mumbai. The detailed judgment will have the reasons. The court has also particularly spoken about the fraud committed," Justice Salvi said.

The Supreme Court stated in its order that the May 2022 order by another bench asking the Gujarat government to decide on the remission based on the 1992 policy, was obtained by concealing facts and perpetrating fraud upon the court.

The 11 convicts sentenced to life imprisonment by Justice Salvi, when he was the trial court judge in Mumbai, were granted remission by Gujarat government and subsequently released on August 15, 2022. They were also felicitated at the time of their release.

Justice Salvi had then said that felicitation by local leaders was wrong since they were convicted by the trial court and their punishment was upheld by Bombay High Court and Supreme Court.

"The felicitation (by locals) was wrong. It was a display of their stupidity," he said on Monday. He had also said in August 2022, asking for a reconsideration of the release, that the "law must carry justice with it". On Monday, he said the court's order could be seen as having done that.

• Today is my New Year... this is what justice feels like: Bilkis

my children... I thank the honourable Supreme Court of India for giving me, my children and women everywhere this vindication and hope in the promise of equal justice for all," she said.

She also thanked those who had stood in her support: "I have said before, and I say again today, journeys like mine can never be made alone. I have had my husband and my children by my side. I have had my friends who have given me so much love at a time of such hate, and held my hand at each difficult turn. I have had an extraordinary lawyer, advocate Shobha Gupta, who has walked with me unwaveringly for over 20 long years, and who never allowed me to lose hope in the idea of justice."

Reliving the moments of despair following the remission, she said, "A year-and-a-half ago, on August 15, 2022, when those who had destroyed my family and terrorised my very existence were given an early release, I simply collapsed. I felt I had exhausted my reservoir of courage. Until a million solidarities came my way. Thousands of ordinary people and women of India came forward. They stood with me, spoke for me, and filed PIL petitions in the Supreme Court. 8,500 people from Mumbai and 6,000 from the rest of the country wrote appeals; 10,000 people wrote an open letter, as did 40,000 people from 29 districts of Karnataka. To each of these people, my gratitude for your precious solidarity and strength. You gave me the will to struggle, to rescue the idea of justice not just for me, but for every woman in India. I thank you. Even as I absorb the full meaning of this verdict for my own life, and for my children's lives, the dua (prayer) that emerges from my heart today is simple -- the rule of law, above all else, and equality before law, for all."

Yaqub Rasool, her husband, told The Indian Express that the family was "happy and thankful" that the SC delivered justice. "The SC order has reinstated our faith in the judiciary of the country and it gives us consolation that justice is alive... But, we know that the convicts will prepare to apply for remission from the other state... We are thankful to the SC that they will be sent back to jail for now," he said.

A source close to the family added that Bilkis, her husband and their children have been living at an undisclosed location since remission was granted to the convicts by the Gujarat government in August 2022.

Advocate Gupta, who represented Bilkis in the Supreme Court, told The Indian Express that the apex court had considered the long periods of parole granted to the convicts during their stay in Godhra sub-jail, while also "indicting the Gujarat government" for using the order of one convict to release all 11.

"Bilkis and the family are extremely happy. It is indeed a very good judgment, considering that only one person came and the Gujarat government considered the order to be applied to all 11... The SC has made it clear that the convicts must return to jail and also noted that Radheshyam Shah had 'concealed facts' that the authorities in Maharashtra, where the case had been tried, had submitted negative reports when he had approached the Bombay HC earlier," she said.

Gupta added that the court took note of the fact that the convicts had enjoyed "leniency" while serving their sentence in Godhra sub-jail, being granted frequent paroles. "The court has considered their jail records and noted the fact that they were granted frequent paroles... They have been asked to turn themselves in within two weeks, failing which, the Gujarat police will have to start looking for them," she said.

The Indian Express had in August 2022 reported how the convicts made frequent petitions for parole, spending up to 90 days on parole in a single year.

• Ball in Maharashtra Govt's court

inclined to seek remission in accordance with law, they have to be in prison as they cannot seek remission when on bail or outside the jail," it said.

It has also clarified that it is the Maharashtra state which is the appropriate government to decide on the remission applications of the convicts.This means that the convicts can approach the Maharashtra government in the future for remission and that it will depend on the remission policy of the state among other factors.

A counsel for one of the convicts was not available for comment.

While the convicts pleaded they be allowed to remain outside and their liberty be protected, the Supreme Court said this cannot be accepted since they have lost that right once convicted and sentenced to imprisonment.

The judgment shows that one of the convicts, Radheshyam Shah, had in fact approached the Maharashtra government earlier and the special CBI judge in Mumbai and the CBI, both of whom had opposed his early release. The CBI judge even cited a Government Resolution from 2008 stating that the convicts fell under a category of crimes for which the minimum imprisonment before they can apply for remission is 28 years.

On August 1, 2019, Shah had approached the Maharashtra government — the BJP-Shiv Sena coalition led by Chief Minister Devendra Fadnavis. Shah wrote to the Secretary, Department of Home Affairs,which was then led by Fadnavis, seeking early release.

The government sought the opinion of the CBI, which was the investigating agency, and that of the presiding judge of the special CBI court in the Mumbai City Civil and Sessions court, under whose jurisdiction the trial was held and the men convicted in 2008.

In a report dated August 14, 2019, the CBI had recommended that Shah "should serve his sentence fully and no leniency should be given to him", noting that he had actively participated in the heinous crime and as the offences were of a serious nature, he should not be given pardon nor should his sentenced be remitted.

On January 3, 2020, the special CBI court too gave a negative report, objecting to Shah's premature release stating that the state's policy categorised it as an extremely serious offence.

In the meanwhile, the rest of the convicts too approached the superintendent of Godhra sub-jail, who sought the CBI court's opinion. On March 22, 2021, the court said that since the men were convicted in Maharashtra, the remission policy of the state would apply. In his report, the special judge said that he had perused the remission guidelines dating back to 1978, 1992 and 2008.

The special court in 2020 said the Government Resolution (GR) dated April 11, 2008 would apply to the convicts, as it had superseded the other guidelines. This GR states that the state government has the power to remit the sentence of a convict only after they undergo imprisonment in excess of which there is no specific guideline.

The GR further gives two sets of categories, describing 29 types of nature of offences. One of the categories that the special CBI court said would apply on these convicts would be the offences related to crimes against women and children, where the crime is committed with exceptional violence, which has the minimum imprisonment to be undergone as 28 years, before they can apply for remission.

In this case, the men have completed more than 14-15 years in prison since they were convicted in 2008. The convicts in the Supreme Court had argued that the remission policy to be applied on them is the one in vogue at the time of their conviction. The state of Maharashtra has updated its remission policy from time to time. The convicts may have to again approach the state and seek release based on its remission policy, the time they have spent in jail, and other circumstances.

'Will look at available legal remedy for convicts'

PARIMAL DABHI & ADITI RAJA
VADODARA, AHMEDABAD, JANUARY 8

BJP MLA from Godhra, C K Raulji, who was on the Jail Advisory Committee that ruled in favour of remission for the 11 convicts in the Bilkis Bano gangrape case, said on Monday that he cannot comment on the Supreme Court judgment – directing the 11 convicts to surrender in two weeks – till he reads it.

Raulji, who had earlier referred to the released convicts as "Brahmins with good sanskar", told *The Indian Express*: "It is a court matter. I cannot comment on it till I study the court order."

Pravin Togadia, a leader of Antarrashtriya Hindu Parishad, who arrived at Kalol in Panch-mahal on Monday, said they will look at legal remedy for the convicts following the SC order. "We pray that everyone should get justice in this country... We pray that the Hindu brethren should receive justice and be protected... We will look at available legal remedy (for the convicts)," he added.

Togadia was the international general secretary of the Vishwa Hindu Parishad (VHP) in 2002, when the riots broke out in Gujarat. He resigned from the VHP in April 2018 and floated his outfit AHP.

• SC stays Bombay HC order on Pune LS bypoll

provisions of Section 151 of the 1951 law will "fall for consideration" before the apex court, therefore, it was required to issue notice to the respondents in the appeal.

"There shall be a stay on the impugned HC judgement dated December 13, 2023. We will list it most probably in March or April and thereafter lay down the law," the apex court noted.

On December 13, 2023, the Bombay HC bench led by Justice Gautam S Patel had quashed the certificate issued by the ECI under clause (b) of the proviso to Section 151A of the Representation of People Act, 1951, to not hold bypoll as "unconstitutional".

The HC had said that the ECI had given a "bizarre" reason that its entire machinery was far too busy and has been busy since March 2023 in preparation for the Lok Sabha elections in 2024 to be bothered with the Pune bypoll.

"Business of ECI staff cannot result in citizens going unrepresented and that is unthinkable and it would amount to sabotaging the entire constitutional framework, which we trust that is what even ECI did not want," the bench of Justices Patel and Kamal R Khata had held.

"In any parliamentary democracy, governance is done by elected representatives who are the voices of people. If a representative is no more, another must be put in place. People cannot go unrepresented. That is wholly unconstitutional and is fundamental anathema to constitutional structure," the HC bench had observed.

The ECI filed a special leave petition (SLP) in the Supreme Court challenging the Bombay HC order. The Election Commission claimed the Bombay HC failed to consider that General Elections for Lok Sabha may be conducted in less than six months as the term of the current Lok Sabha is due to expire in June 2024.

The poll body also claimed that HC did not consider that conducting the Pune Lok Sabha seat bypolls would take at least two months due to statutory limitations and administrative requirements.

• Ex-envoy: ISI tip-off in 2019

Diplomatic Relationship between India and Pakistan", published by Aleph Book Company, Bisaria says that the Indian envoy was used as a channel since ISI was taking no chances and wanted no repeat of Pulwama, and it wanted to make it clear at a political level that it was not involved with the revenge attack being planned.

The Pulwama attack took place in February 2019, in which 40 Indian security personnel were killed, prompting air strikes by India at Balakot, and a military response by Pakistan air force.

Shortly after Prime Minister Narendra Modi was re-elected for a second term in office in 2019, Bisaria writes, "A few days later in June, I received a phone call in Islamabad at two in the morning. My caller was a contact close to the ISI and I assumed he was calling me simply because he was up late like most folks in Islamabad awaiting the sehri meal in the month of Ramzan. The call had a more serious purpose, it was to tip me off with a specific input about al-Qaeda planning an attack in Kashmir. On 23 May, a terrorist, Zakir Musa, had been killed in the town of Tral in Kashmir's now famous Pulwama district."

He said that Musa, whose funeral drew more than 10,000 mourners, had been an associate of slain terrorist Burhan Wani, but had split from the Kashmir-focused militant group, Hizbul Mujahideen, to declare his allegiance to al-Qaeda in 2017. Al-Qaeda was apparently about to avenge Musa's killing.

"I asked if this information had been conveyed through the normal military channels, the DGMO hotline. I was told it might have been, but that the ISI leadership was keen to escalate the information to my level so that I could convey this to India. At this point, Asim Munir was the DG of the ISI. I passed on this information to India, concerned this was some kind of game," he writes.

"It turned out that this was a genuine enough tip-off when an attack was indeed attempted close to the predicted time and place. This was an unusual input that Pakistan seemed to be giving to India. One theory about why the high commission was used as a channel was that the ISI was taking no chances and wanted no repeat of Pulwama; it wanted to make it clear at a political level it was not involved with the revenge attack being planned, but was only giving India a friendly tip-off with a piece of intercepted intelligence," he writes.

Another surmise was that "General (Qamar Javed) Bajwa, the army chief, through the ISI, was trying to improve the atmospherics in the relationship in the run-up to the Bishkek summit of 14 June, hoping that Pakistan's sincerity about trying to better relations would register on the Indian side. Perhaps coincidentally, a day before the attack, the ISI chief, Asim Munir, lost his job."

Bisaria served in Pakistan as India's High Commissioner from 2017 to August 2019 – when he was expelled by the Pakistan government in response to the abrogation of Art 370. His book, which is part memoir and part history, and is a study of the diplomatic engagement between India and Pakistan, hit the bookstores on Monday.

PM, BJP should apologise to nation, its daughters: Opp

ADITI RAJA & LALMANI VERMA
VADODARA, NEW DELHI, JANUARY 8

THE OPPOSITION on Monday demanded that the Prime Minister and the BJP should apologise to the women and the country after the Supreme Court quashed the Gujarat government's decision to grant remission to 11 convicts in the Bilkis Bano gangrape case.

Welcoming the SC decision ordering all the convicts to be sent back to jail within two weeks, AAP national joint secretary Gopal Italia said that those convicted by courts of law in rape cases "should not be granted pardon under any constitutional law".

"Even then, the Gujarat government granted pardon to some convicted rapists. The Supreme Court has overturned the decision and upheld their sentences. I believe this should be the punishment for those convicted for rape because if we begin releasing convicts of rape, what will be the message for the society... Those who think women are inferior will be motivated to commit such crimes...," Italia told mediapersons at Rajpipla in Narmada district.

He added that the SC had "reinstated hope" of the common man seeking justice by overruling the decision of a state government that had "set law aside".

"The SC's decision is laudable and welcome. Those convicted of rape should only be kept behind bars and no sympathy should be shown. Why should you pardon rapists, who have been convicted by a court? If it was any other crime like a brawl or assault, and someone has forgiven, one can consider but what can happen such that a rapist becomes a 'good man'? There should be no leniency towards rapists as they are only meant to be in jail," said Italia.

"Justice is the only thing one can expect from the SC and it has been delivered. When governments put aside law and take decisions, it is the duty of the SC to step in and protect the spirit of justice... it has upheld hopes of the people," he added.



Congress leaders Abhishek Singhvi and Alka Lamba address the media at AICC headquarters in New Delhi, Monday. *PTI*

Italia's statement is a departure, as the party has avoided comment on the 2002 riot cases. In August 2022, days after the 11 convicts were released on remission, party national convenor and Delhi CM Arvind Kejriwal had addressed a townhall in Kutch but did not react to the court order.

Senior Congress leader Rahul Gandhi, meanwhile, said the tendency to "kill justice" for electoral gains was dangerous for the democratic system. "Today the Supreme Court's decision has once again told the country that who is the 'patron of criminals'," he posted on X. He added that Bano's tireless struggle was a symbol of the "victory of justice" against the "arrogant BJP government".

Congress national general secretary Priyanka Gandhi Vadra said, "With this order, the veil over the anti-women policies of the BJP has been removed. After this order, public's trust in the justice system will be further strengthened. Congratulations to Bilkis Bano for continuing her fight bravely."

Mahila Congress president Alka Lamba said, "The Prime Minister and the BJP should apologise to the nation and the daughters of the country in the wake of the Supreme Court judgment."

Addressing the media, Congress spokesperson Abhishek Singhvi called the BJP government a "jumle ki sarkar", which raises slogans like "beti bachao, beti padhao" but protects the rapists.

"All their jumlas have been exposed in one go and the real face has come out... This judgment, the content, the contours, it is a revolutionary judgment. Because it simply speaks the truth. It holds the mirror to power, to arrogant power, to punch-drunk power," he said.

In Ahmedabad, the Congress claimed the Gujarat BJP government's approach was to save the criminals. The party's Gujarat spokesperson, Manish Doshi, said the state's BJP government does not appear to follow the law and the Constitution.

"It appears to work to save the culprits rather than get justice for victims, and this is very well proved by the Supreme Court's judgment... This is not the only instance, there have been many such cases where the government has shielded those who commit a crime rather than protect the victims," he said.

Sharad Pawar-led Nationalist Congress Party said on social media platform X, "Today, Bilkis Bano finally got justice. The remission decision exposes BJP's stand to talk about Beti Bachao, Beti Padhao, blowing the trumpet of bringing Women's Reservation Bill on one hand and shielding the people who unleash atrocities on women on other hand." (WITH PTI)



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TOXIC FUMES

Open burning of garbage along the railway tracks in Govandi on Monday sends smoke billowing over the area. The practice continues even as Chief Minister Eknath Shinde has been actively participating in the BMC's 'Swachh Mumbai, Abhiyan' deep cleaning drives across the city, urging Mumbaikars to 'keep roads and the environment clean'. *Amit Chakravarty*

In city's first JN.1 Covid cases, 21 test positive

Two are outstation patients, while 19 are city residents

RUPSA CHAKRABORTY
MUMBAI, JANUARY 8

MUMBAI HAS reported its first case of JN.1 variant, the new variant of Omicron, with samples of 21 patients testing positive in genome sequencing.

Mumbai has officially confirmed its first 21 cases of JN.1 variant, identified as the new Omicron strain, recording the variant's first appearance in the financial capital.

As per BMC, the Whole Genome Sequencing (WGS) analysis identified 22 samples positive for JN.1 variant. Two samples belonged to outstation patients, and one was a duplicate, leaving a total of 21 patients diagnosed with JN.1, of whom 19 were Mumbai residents.

"All 19 patients displayed mild symptoms, with two having comorbidities. Fortunately, all patients have recovered and are stable. Private labs diagnosed most of these cases, of which 8 are women and 11 are men. It's noteworthy that all reported cases date back to December 2023," stated Dr Daksha Shah, Executive Health Officer, BMC.

On Monday, Mumbai reported 23 new cases. With this, the total JN.1 cases in the state stand at 250. of which 150 are from Pune and 30 from Nagpur.



In total, 61 new Covid-19 cases were recorded in the state, with test positivity rate of 2.23 per cent. *Express*

In total, Maharashtra reported 61 new Covid-19 cases, with test positivity rate of 2.23%. The city at present has 166 active cases.

Amid a surge in Covid-19 cases and emergence of JN.1, the state health department's Covid-19 task force, established on January 5, has issued guidelines reiterating the importance of adhering to Covid-19 protocols—wearing masks and practicing cough and hand hygiene.

Headed by former ICMR chief Dr Raman Gangakhedkar, the state task force highlighted that JN.1 subvariant presents mild symptoms. Dr Gangakhedkar emphasised the need for individuals with comorbidities and senior citizens to exercise caution and follow Covid-19 protocols. He urged their family to be vigilant to prevent bringing the infection home to vulnerable populations.

Additionally, Dr Gangakhedkar has advised that anyone experiencing fever, cold, or cough should isolate themselves and undergo Covid-19 testing to curb spread of the infection. He emphasised the critical nature of the next 15 days, anticipating a rise in cases during this period.

Changing temperatures increase viral infections, allergies: doctors

RUPSA CHAKRABORTY
MUMBAI, JANUARY 8

Air pollution attacks the respiratory system & higher levels of carbon monoxide directly hit cardiovascular system and respiratory tract, particularly in children

THE FLUCTUATING winter temperatures in Mumbai pose significant health risks, increasing the likelihood of viral infections and allergies, by creating an optimal environment for the proliferation of viruses, according to doctors.

After reaching the season's low of 17.5 degrees Celsius, minimum temperatures are expected to remain above 20 degrees Celsius for at least a week, with Monday's minimum temperature being 22 degrees Celsius — five degrees above normal, at IMD's Santacruz observatory. Colaba's coastal observatory recorded 22.6 degrees Celsius.

Dr Wiqar Shaikh, internal medicine department, JJ Hospital, expressed his concerns saying, "The fluctuating temperature is posing a serious threat to public health. Our respiratory wards are witnessing a surge in patients, even with a decrease in air pollution. The fluctuating weather seems to be a significant factor in exacerbating respiratory issues and compromising individuals' immune responses."

Despite a noticeable decrease in air pollution, Mumbai is witnessing a sustained influx of patients with respiratory problems with the temperature variations aggravating pre-existing health conditions. According to doctors, such fluctuations in temperature can weaken the body's defence mechanisms.

Symptoms of common cold last only a week, while viral infections persist with headache, joint ache, dry cough and a low grade fever, doctors said. With bacterial infection, the sputum colour turns yellowish or greenish and is accompanied by high fever and sore throat. "An increase in air pollution attacks the respiratory system, while higher levels of carbon monoxide directly hit the cardiovascular system and the respiratory tract, particularly among children," said Dr Gauram Bhansali, consultant general physician at Bombay Hospital.

Adding to the worries of healthcare professionals is the emergence of the JN.1, the new Omicron variant of Covid-19. Unpredictable weather conditions in Mumbai could further facilitate the spread of the highly transmissible variant, fear experts.

Dr Rahul Pandit, chair Intensive Care Unit at HN Reliance Hospital and former member of the state Covid task force, said, "The Omicron variant is already presenting unique challenges, and the weather conditions in Mumbai are not helping... We need to be extra cautious and adhere to preventive measures to curb the potential impact of this variant on our healthcare system."

Public awareness campaigns are underway to educate citizens about the correlation between temperature shifts and increased susceptibility to infections.

2 held for duping job seekers; cops find transactions up to Rs 1 crore

PRESS TRUST OF INDIA
MUMBAI, JANUARY 8

TWO PERSONS were arrested for allegedly opening placement offices in several parts of Mumbai and duping job seekers, a Crime Branch official said on Monday. They have cheated more than 100 persons and transactions amounting to Rs 1 crore have been traced so far from various bank accounts and through cash collection, he said.

"They would rent an office for 45 days and shut shop and flee after duping job seekers. Based on a specific tip off, a raid was conducted by Unit VIII of the Crime Branch on one such placement office in Marine Lines in south Mumbai. The accused had collected Rs 80,000 from each aspirant and had given bogus offer letters," he said.

"They were operating this racket from 2016. The duo had also opened offices in Mira Road, Jogeshwari and Khar. They were remanded in police custody till Friday and further probe is underway," the official added.

2 from Punjab detained for trying to enter Salman Khan's farmhouse

PRESS TRUST OF INDIA
MUMBAI, JAN 8

TWO MEN were detained for allegedly trying to enter the farmhouse of film actor Salman Khan in Panvel in neighbouring Raigad district and later allowed to go after questioning, a Navi Mumbai police official said on Monday. The incident took place on January 4.

The two persons, hailing from Punjab, had come to Mumbai a few days ago and were staying in Borivali, an official said. They made duplicate Aadhaar cards to show in case they were stopped , the official said.

"Since they were keen to meet Salman Khan, they came to Waze village. A security guard at the Panvel farmhouse found them moving suspiciously, after which they were detained for trying to enter without authorisation," he said.

Panvel Taluka police detained the two and charged them under Indian Penal Code sections 448, 465, 467, 474 for house trespass, forgery of valuable security, possession of forged document and other offences," the official added.

UNUSUAL WINTER ON THE CARDS

'Very light rain' likely in some pockets; temperatures to soar

NAYONIKA BOSE
MUMBAI, JANUARY 8

WITH MINIMUM temperatures remaining elevated in Mumbai, pockets of the city and its suburbs are slated to experience "very light rain" as well as cloudy weather on Tuesday and Wednesday, the India Meteorological Department (IMD) said on Monday.

Two days after recording the season's lowest temperature at 17.5 degrees Celsius, scientists have also said the minimum temperatures are likely to hover above 20 degrees Celsius for the next one week at least. The IMD's Santacruz observatory on Monday morning registered a minimum temperature of 22 degrees Celsius, a departure of five degrees above normal. The coastal observatory at Colaba, meanwhile, reflected 22.6 degrees on the mercury scale.

Speaking to The Indian Express, Sunil Kamble, director of IMD, Mumbai, said the city was unlikely to receive any respite from the higher-than-usual temperatures for the next one week at least. "Owing to a developing trough and the interaction of winds, the city is experiencing a rise in minimum temperatures that will continue for the next two or three days. The temperature will not see any drop for the next one week at least. At present, the weather systems indicate no possibility of drop in the temperature below 20 degrees," he said. Kamble added that owing to the wind interactions, pockets of the city are also likely to experience "very light rain and cloudy weather" for the next two days.

Minimum temperature may remain near 20 degrees Celsius for a week. *Express*

On downpour, Kamble said, "Starting from Monday, Mumbai can expect 'very light rain' as well as cloudy weather. After Tuesday, some small pockets could also witness some very light showers on Wednesday. Thereafter, the sky will clear and there will be no rain."

While the minimum temperatures indicated a departure of five degrees above normal, the maximum temperatures oscillated between 30 and 32 degrees Celsius in the city and suburbs.

Meanwhile, the AQI showed an improvement on Monday morning with the overall air quality index touching 103. Of the city's 24 stations, 12 recorded an AQI in two digits with the best score observed in Borivali East (75), followed by Mulund West (85) and Byculla (86). The worst AQI was recorded in Powai, where the AQI stands at 125.

As per the Met, AQI is better on account of early arrival of westerly winds. "Weather patterns greatly influence the AQI in the city. Whenever the westerlies arrive early in the morning the AQI is good, while the air quality is bad if the westerlies arrive after 2 pm. Since yesterday, we have observed that the city is getting westerlies between 11.30 and 12 pm. Therefore, the air quality is significantly better," an IMD scientist told *The Indian Express*.

Exhibition of vintage cars, bikes in city on Jan 27 and 28

EXPRESS NEWS SERVICE
MUMBAI, JANUARY 8

VINTAGE AND Classic Car Club of India (VCCCI) in association with Western India Automobile Association (WIAA) will organise a Vintage Car Drive to celebrate the 75th Republic Day on January 26.

On January 27 and 28, this year, vintage and classic and super cars and bikes will be on display at the World Trade Center, Cuffe Parade, Mumbai, from 10 am to 6 pm.

Rare cars and bikes never displayed before will be part of the event, said Nitin Dossa, Chairman, VCCCI & WIAA. The 1950 MG of Daman Thakore which toured 16 countries covering more than 12,000 kms recently to celebrate 100 years of MG will be leading the drive.

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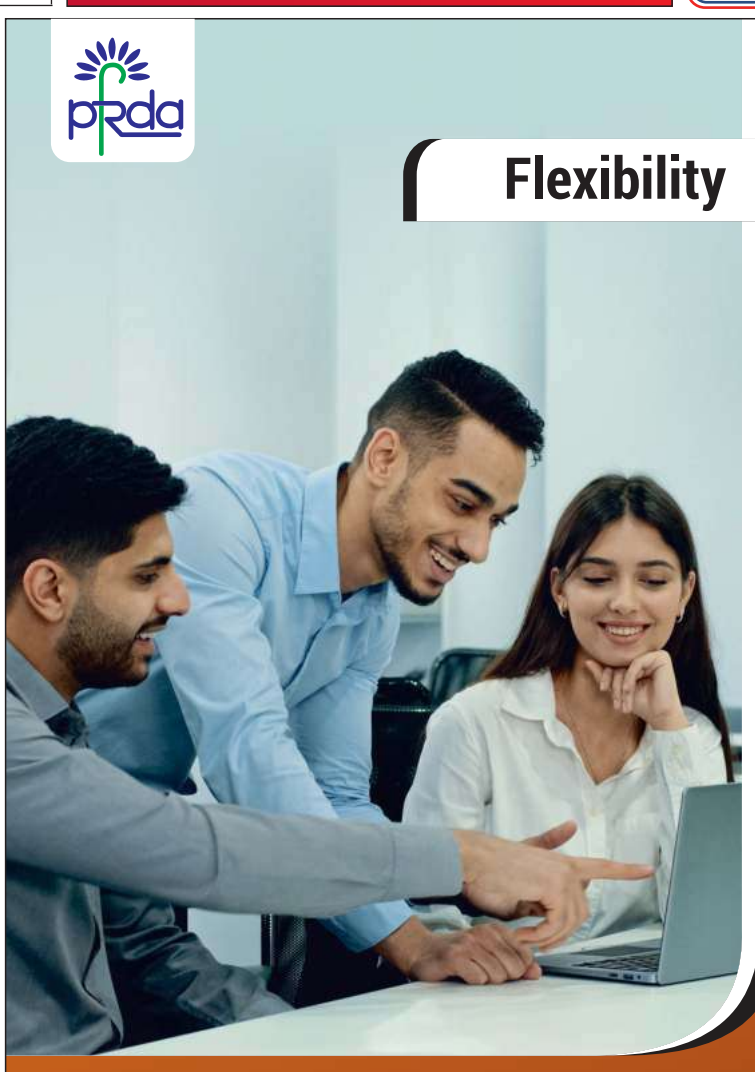
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On drawing board for 60 yrs, MTHL takes shape after many remodelling processes

ZEESHAN SHAIKH
MUMBAI, JANUARY 8

INDIA'S LONGEST sea bridge is set to open this week that will facilitate greater economic integration of Mumbai with Navi Mumbai and extended regions of Pune, Goa, Panvel and Alibaug. While the project is being touted as one of India's mega transport infrastructure projects, it has taken almost 60 years for the project to translate into reality. In these six decades, the project has been redrawn almost half a dozen times, undergone multiple unsuccessful project biddings, and has fallen victim to the acrimonious Ambani family feud before work commenced in 2018.

While Mumbai has been the epicentre of India and the state's commerce, urban planners for years had been looking at ways of ensuring that the proximal regions around Mumbai get benefit of the megapolis economic heft. This economic integration could be done only through improving connectivity in the region.

The first proposal

It was with this in mind that in 1963, the US consultancy form Wilbur Smith and Associates, proposed a bay crossing concept with a bridge between Greater Mumbai and the mainland, and submitted a study report to the Ministry of Transport on 19 December 1963.

Subsequently, the Maharashtra government formed committees in 1972 and 1978 to study the possible alternatives for establishing the sea link across the Mumbai bay. The committees identified two alternative routes, a northern route linking Sewri with Nhava and a southern route linking Colaba (southern tip of Mumbai Island) with Uran.

In 1981, a steering group was constituted which reviewed the previous studies and recommended that a priority be given to the construction of a northern route connecting Sewri with Nhava.

Revived in 90s

The project, however, remained in the back-seat for close to a decade before being revived in the late 90s by the newly set up Maharashtra State Road Development Corporation which decided to test the feasibility of the project once again.

Subsequently, the first tenders were floated in 2006 with Maharashtra State Road Development Corporation being appointed as the nodal agency for the project that was to be built on a public-private partnership model.

Two years later, in February 2008, after a protracted battle in the Supreme Court, Anil Ambani's Reliance Infrastructure which was initially disqualified by MSRDC from bidding, emerged as preferred bidder, promising to build and recover the cost of building the Rs 6,000-crore bridge in nine years eleven months. His brother Mukesh Ambani's firm had quoted a toll collection period of 75 years.

Over to MMRDA

However, by June 2008, Anil Ambani bowed out of the project, so the state government then decided that the cash-rich Mumbai Metropolitan Region Development Authority will build the project on a cash contract basis. In February 2009, cash contracts for the project were floated but no parties evinced interest in the project.

When the project was revived again in 2011, MMRDA appointed a new consultant for constructing the project on a PPP basis. In May 2012, MMRDA shortlisted five consortiums out of six that had expressed an interest in the project. But even by August 5, 2012, none of the five shortlisted firms submitted a bid on the project. As a result, MMRDA decided to scrap the initiative in August 2013.

EPC basis

With the project not taking off, MMRDA finally decided to undertake a switch to engineering, procurement, and construction (EPC) basis model, seeing funds from Japan International Cooperation Agency which agreed to fund 80 per cent of the project cost, with the rest of the funds to be paid by the Centre and state government. The deal and tendering was finally completed by December 2017, and work finally commenced on the much delayed project.

CONNECTIVITY OF INDIA'S LONGEST SEA BRIDGE

The MTHL is 22 km long 6-lane bridge connecting Sewri on the island city to Nhava-Sheva on the mainland. This includes a 16.5 km long sea link and 5.5 km viaducts on land.

- The connectivity of MTHL from Mumbai side will be at Sewri with an interchange that will connect MTHL to Eastern Freeway and the under construction Worli Sewri connector.
- The connectivity of MTHL on Navi Mumbai side is at 3 locations

Shivaji Nagar Interchange on Navi Mumbai side : The Sivaji Nagar interchange with CIDCO's proposed Coastal Road will provided connectivity with Navi Mumbai International Airport and the JNPT

Ramps at SH-54 near Jasai: Connectivity to Panvel – Uran State highway (SH-54)

Interchange at National Highway 4B near Jasai: This interchange will provide connectivity with Panvel, Uran and the JNPT



The Mumbai Trans Harbour Link (MTHL) has taken almost 60 years to translate into reality. *PTI file*

61 min: Average daily travel time between the two points before the bridge

15.8 min: Average daily travel time between two points after bridge is opened

HOW MANY VEHICLES EXPECTED TO TRAVEL ON MTHL DAILY

Year	Traffic projections between Sewri interchange and Shivaji Nagar interchange	Traffic projections between Shivaji Nagar interchange and Chirle interchange
Opening year	39,300	9,800
2032	1,03,900	29,600
2042	1,45,500	55,000

Source: MMRDA'S project status report, JICas Preparatory Survey on MTHL

Coastal Road to be open only for 12 hrs on weekdays initially

PRATIP ACHARYA
MUMBAI, JANUARY 8

THE MUMBAI Coastal Road Project (MCRP) will likely be operational only for 12-hours during the weekdays and cater to just south bound traffic once it becomes operational from the first week of February.

CM Eknath Shinde on Sunday said that the ongoing construction work for the MCRP will be completed by January 31, following which the high-speed corridor will be opened for vehicles. Meanwhile, civic officials have said that the MCRP will be operational only during the day to facilitate the peak hour traffic. Shinde also said that the entire corridor will be completely operational from May 2024.

"The plan is to make the road available for traffic from 8 am and 8 pm between Monday and Friday. A significant percentage of the balance work is left, which we plan to carry out during the night time and on weekends when traffic will not be there," said an official privy to the development. The civic officials maintained that the balance work includes heavy lifting of metals and other civil works like rolling the roads.

The 10.58 km-long MCRP is set to connect Marine Drive in south Mumbai to Bandra Worli Sea Link through a series of tunnels, arterial roads and traffic interchanges.



Chief Minister Eknath Shinde said the ongoing construction work for the MCRP will be completed by January 31. *File*

There will be eight traffic arms at Haji Ali, while Amarson's Garden and Worli will have five and four arms each through which motorists will be able to switch towards the carriageway of MCRP from the city's mainland.

"Only the side that will cater to the south bound traffic will be made operational, therefore one arm from each interchange will be made operational. The remaining arms in every interchange will be opened in phases as they become ready," the official said. He also maintained that the promenades which consist of walkways will also be operational after May 2024.

The Rs 12,721-crore MCRP will have two roads each for north and south bound traffic, with each road having four lanes. Apart from this, each of the roads will have an additional lane dedicated for public buses. It will also have 2.07km underground tunnels that will originate from Girgaon and run beneath the Arabian Sea, adjoining the Girgaon Chowpatty, and move northwards from underneath the Malabar Hill. These tunnels will end at Priyadarshini Park.

The initial deadline for this project was November 2023, however, since the BMC had to implement a change in design in one of the bridges, following resistance from the local fishing community, the deadline got pushed by six months.

Cyber helpline aids woman to recover Rs 3.8 cr she lost to online fraud

She 'invested' over Rs 4 crore after clicking an Instagram advertisement

EXPRESS NEWS SERVICE
MUMBAI, JANUARY 8

THANKS TO the quick thinking of a woman who lost over Rs 4 crore while 'investing in shares' on Instagram manager, cyber police – through its 1930 helpline number - managed to freeze 15 accounts in which the money had been transferred by fraudsters.

In the process, the woman managed to save Rs 3.8 crore of her defrauded amount.

DCP DS Swamy said that earlier this week, the woman had come across an Instagram advertisement to invest in shares. The woman clicked on the link and invested some amount. Over the next few days, the site showed that she had made big profits.

Over the next few days, the woman ended up investing over Rs 4 crore. However when she tried to withdraw the amount she had earned, she was unable to.

Realising she had been duped, she contacted her husband. Her husband knew of the cyber police station in BKC and they both went there.

At the police station the police used the 1930 helpline apparatus to contact various banks where the money had been transferred. "We managed to freeze 15 bank accounts where they money had been transferred due to which we could save a major chunk of the lost amount," an officer said.

The officer said that thanks to the 1930 cyber helpline number, they had managed to save over Rs 26 crore in 2023.



BRIDGE WITH NO PLACE TO WALK

With tile-laying work underway on the pedestrian bridge over Diva railway station, pedestrians are inconvenienced with the structire getting overcrowded. *Deepak Joshi*

Mumbai Police record 6 cases of sexual abuse of children in a day

VIJAY KUMAR YADAV
MUMBAI, JANUARY 8

SIX CASES of sex abuse and molestation of children in the age group 4-16 years were reported were in Mumbai on Sunday and accused in five cases were arrested, police said.

In one case, the Sakinaka police arrested a 73-year-old man for allegedly exposing himself in front of a four-year-old girl early on Monday. The girl's mother filed a complaint, based on which the arrest was made.

In the second case, Vanrai police in Goregaon area arrested a 21-year-old young man for allegedly stalking a 16-year-old girl and harassing her by making phone calls since January 2021. The accused is also facing a kidnapping case. In another case, the Andheri police on Monday registered a case against an unidentified person who allegedly passed lewd comments on a 12-year-old girl on January 6 while she was going to school.

In the fourth case, the Bangur Nagar police on Sunday arrested a 30-year-old electrician who allegedly stalked and molested a 15-year-old girl. The accused had gone to the girl's house days ago for some work. When the girl was out for some work on Saturday, the accused allegedly stalked and moletsed her. She informed her parents and an FIR was registered. In two POCSO cases filed by the Kalachowki police in Central Mumbai, a 60-year-old man was arrested for allegedly molesting a 12-year-old girl, while another 50-year-old man was arrested for allegedly sexually assaulting a 12-year-old girl.

According to Mumbai Police, 1,005 cases of child sex abuse and molestation were registered under Protection of Children from Sexual Offences (POCSO) Act in 2023, till November. In the same period in 2022, as many as 1,051 cases of child sex abuse and molestation were registered, as per data.

'Fake letter' with rape allegations: Women's body issues notice to police chief, seeks report

EXPRESS NEWS SERVICE
MUMBAI, JANUARY 8

DAYS AFTER Mumbai police initiated an inquiry into a 'fake letter' allegedly written by eight women constable drivers, that levels serious allegations of rape, sexual harassment and corruption against a Deputy Commissioner of Police and two police inspectors of the motor vehicle department, the Maharashtra State Commission for Women on Monday took cognisance of the matter.

Officials said the women's commission wrote to Mumbai Police Commissioner to ascertain facts of the incident and asked a report be submitted to the commission.

It said the matter was of "a very serious nature", therefore an inquiry should be conducted and a detailed report be sent to the commission after verifying the truth. At the time of going to the press, the Mumbai police were registering a case of defamation against an unknown person. "All eight constable drivers and the three senior police officers visited the Commissionerate office, after which it was decided they shall register a case against the person who has sent the letter to the CM and other senior officials from the department," said an officer.

BANK LOAN FRAUD

ED attaches properties worth Rs 45 crore of Mazgaon-based firm

Owner 'linked to ex-NCP minister's son'

EXPRESS NEWS SERVICE
MUMBAI, JANUARY 8

THE ENFORCEMENT Directorate (ED) attached properties worth Rs 45.23 crore of a Mazgaon-based company in a money laundering probe pertaining to a bank loan fraud case. The owner of the company allegedly has links with the son of a former minister of the Nationalist Congress Party (NCP).

The four immovable properties attached include three flats worth Rs 7.8 crore in Bandra and a land parcel worth Rs 37.5 crore in Anjar district of Gujarat, the probe agency said on Monday.

The said properties belong to Ramchand Kotumal Issrani, Mohamed Farouk Suleman Darvesh and Manoharlal Satramdas Agicha, the promoter and directors of M/s Associate High Pressure Technologies Pvt Ltd (AHPTL), the ED said.

Agicha is the director of Touchwood Real Estate Pvt Ltd, in which former NCP minister Nawab Malik's son Faraz Malik has a 20 per cent stake, ED sources said.

The agency's money laundering probe in the matter is based on a bank fraud case registered by the Central Bureau of Investigation involving AHPTL.

The FIR was registered by the CBI on a fraud complaint by the Union Bank of India.

In this case, proceeds of crime worth Rs 149.89 crore have been quantified by the ED.

The probe agency's investigation revealed that a substantial portion of the loan amount received from Union Bank of India was siphoned off through bogus Letters of Credit, unsecured loans to related entities, outstanding export proceeds, bogus commissions to related entities, etc., the agency stated.

Earlier in this case, the ED carried out 12 searches in Mumbai, Gandhidham and Pune. Issrani and Agicha were also arrested by the probe agency. Both of them are in judicial custody.

The central agency also filed a prosecution complaint on October 4, 2023, mentioning Issrani and M/s AHPTL as the accused. The court subsequently took cognisance of it.



BACK TO WHERE THEY BELONG: Mobile phones, jewellery and other valuables stolen in last year from Thane and Bhiwandi were recovered by the police and handed over to their owners on Monday. *Deepak joshi*

GRP returns Rs 18.35 lakh of stolen valuables to commuters

PRESS TRUST OF INDIA
MUMBAI, JANUARY 8

The Government Railway Police (GRP) at the Chhatrapati Shivaji Maharaj Terminus here on Monday returned the stolen valuables worth Rs 18.35 lakh to commuters, an official said.

The valuables were seized in 15 cases of theft, and the accused were arrested from Nashik, Pune, Thane, Mumbai and other parts of Maharashtra over one month, the official said.

The GRP has recovered jewellery worth Rs 17 lakh, four laptops and nine mobile phones from the accused, he said.

The accused were arrested under sections 379 (theft) and 392 (robbery) of the Indian Penal Code, the official said.

60-yr-old jumps off highrise, dies: Police

PRESS TRUST OF INDIA
MUMBAI, JANUARY 8

AN ELDERLY woman allegedly died by suicide on Monday by jumping out of the window of her 9th floor flat in Kandivali East in northern Mumbai, a police official said.

The incident took place in the morning at Sarova Tower in Thakur village, the Samta Nagar police station official added.

"Mangala Praveen Rathod (60 years) lived in the house with her husband, three children and daughter-in-law. Her younger son got married recently and went to live in his wife's house, which made the deceased depressed over the last seven to eight months," he said.

"She was undergoing treatment at home for depression. In the morning, when there was no one at home, she jumped out of the window. She was declared dead on arrival at a nearby hospital," the official said.

An accidental death report (ADR) has been registered and further probe into why she took this extreme step is underway, he added.

Will publicise details of PCAs at all police stations in Maharashtra, fill vacancies: state Govt to HC

EXPRESS NEWS SERVICE
MUMBAI, JANUARY 8

THE MAHARASHTRA government recently told the Bombay High Court that the Director General of Police (DGP) issued a circular directing all police stations in the state to publish details of the State and Divisional Police Complaints Authorities (PCAs) on boards outside each of them.

The government also informed the HC that instructions were issued to fill up vacant posts of members and staff at the State and Divisional PCAs through deputation, contractual appointments or outsourcing in line with the state's recruitment policy.

This came after the HC had directed the government to take prompt steps to fill up vacancies as the "scarcity is making the function of authorities almost impossible".

The HC directed the state government to file an affidavit detailing the process adopted by it to appoint eminent persons from civil society as members of PCAs.

A division bench of Chief Justice Devendra Kumar Upadhyaya and Justice Arif S Doctor was hearing PIL filed by social activist Medha Patkar, argued through advocate Yashodeep Deshmukh, last week. It sought directions to the Maharashtra government to fill up SPCA vacancies as well as releasew funds and necessary facilities adequately and in a time-bound manner.

The state government lawyer stated that after the November 9, 2023 order, members were appointed in six Divisional PCAs. The government also stated that an advertisement had been placed on December 29, 2023 to fill up other vacancies of members in PCAs and instructions in that regard have been issued.

The state also submitted that on December 21, the DGP had issued a circular for publishing the names, addresses and contact numbers of the State and Divisional PCAs in front of every police station in the state.

Deshmukh argued that as per the Supreme Court's judgement in the Prakash Singh case, the government was required to maintain transparency in the appointment of members of authorities.

The bench then asked the state authorities to file an additional affidavit to keep on record all necessary information collected from all police stations in Maharashtra on steps taken to publicise the PCA's functions as well as the process followed to appoint eminent persons.

The Court also told the state government to look into the issue of salaries of chairpersons of divisional PCAs and posted the matter for further hearing on February 7.

TALATHI EXAM

'Process rigged': Congress wants results cancelled

PRESS TRUST OF INDIA
MUMBAI, JANUARY 8

THE OPPOSITION Congress has claimed some of the candidates who appeared for the Talathi (village revenue official) recruitment examination in Maharashtra have received more marks than the maximum limit, which indicated rigging of the process and demanded cancellation of results.

The state Revenue Department said some students indeed received higher scores but it was due to a comprehensive assessment process which calculates the overall score of candidates. Opposition leader Vijay Wadettiwar demanded that the exam results be cancelled and the government set up a special investigation team (SIT).

Rahul Kavathekar, representing the public service exam coordination committee, alleged candidates who are relatives of revenue officials or relatives of employees of a company appointed to conduct the examination received very good marks. "Some candidates paid nearly Rs 25 lakh bribe to get selected. Thus, 99 per cent of seats have been sold already. We demand that the results of this exam be cancelled and a fresh recruitment drive be held through MPSC," he told reporters on Monday.

The exam was conducted by state Revenue Department and lakhs of students appeared. At least 200 students received more than 200 marks in the exam. Wadettiwar, who belongs to Congress, alleged some students received 214 marks out of 200. "This means that the exam process was rigged," he alleged and demanded that exam results be cancelled.

Responding to Wadettiwar's claim, state Dy CM Devendra Fadnavis said the exam was conducted transparently but the government would take action if Wadettiwar gave proof and could even cancel the (results of) the exam. Sanjay Raut slammed Fadnavis for asking for proof, saying he should read the Evidence Act carefully.

Govt considers increasing Shiv Bhojan Thali to 10 L daily

ALOK DESHPANDE
MUMBAI, JANUARY 8

CM EKNATH Shinde has sought a proposal to increase the number of approved Shiv Bhojan Thalis to 10 lakh daily from the existing two lakh thalis, as per a senior official from the state Food and Civil Supplies department.

One of the most popular initiatives of the previous Maha Vikas Aghadi (MVA) government in Maharashtra, the Shiv Bhojan Thali is a form of subsidised meal scheme provided through canteens run by contractors.

The scheme offered a full meal thali with two chapatis, vegetables, rice and dal for Rs 10. The menu was not changed since it was launched on January 26, 2020. The local canteen contractor can decide which vegetable to be served in the thali.



The subsidised meal scheme is provided through canteens. *File*

"We have been getting requests from several quarters seeking an increase in the number of approved thalis. There are many who want to open canteens in their areas. But we cannot go beyond two lakh and we have already given all the contracts for existing thalis," said the official.

The official added that 80 per cent of the applications received by the department are about seeking an increase in the strength of thalis.

CM Eknath Shinde has asked the department to prepare a proposal, which will be placed before the state cabinet for approval after getting clearance from the finance department.

At present, an average 1.75 to 1.76 lakh meals are served daily under this scheme against the approved number of two lakh. In urban areas, the cost of the thali came to Rs 50, and in rural areas, the amount was Rs 35. It was sold by canteens for Rs 10, with the government compensating the rest of the amount.

During the Covid-19 pandemic, the Maharashtra government initially slashed the prices of the thali to Rs 5 and from April 2021, it was given for free and even parcel service was allowed. As the the lockdown was lifted in phases, the price was again raised to Rs 10. The scheme's overall budget for the past financial year (2022-23) was Rs 176 crore. For the ongoing fiscal, the budgetary provision is Rs 220 crore.

The increase in the budget was in anticipation of various factors, including the expansion of the scheme as well as possible inflation.

MVA leaders to meet in Delhi on Jan 14, 15 to finalise seat sharing

EXPRESS NEWS SERVICE
MUMBAI, JANUARY 8

OPPOSITION TRIPARTITE Maha Vikas Aghadi (MVA) is set to meet in Delhi on January 14 and 15 to finalise the seat sharing arrangements in Maharashtra for the upcoming general elections.

Congress president Mallikarjun Kharge, Shiv Sena (UBT) chief Uddhav Thackeray and Nationalist Congress Party (NCP) chief Sharad Pawar will meet in Delhi to seal the seat sharing arrangements.

On Monday, NCP led by Sharad Pawar held its internal meetings for Raver, Bhiwandi, Ahmadnagar, Satara, Hatkanangle, Kolhapur and Sangli Lok Sabha seats in a bid to prepare for the final talks. "The party will be practical while making demands. Winning capacity is the only criteria for seat sharing. We do not want to make demands and spend our energy unnecessarily," said Jitendra Awhad, a senior party MLA and former Maharashtra minister.







Sharad Pawar, Uddhav Thackeray & Mallikarjun Kharge

The seat sharing talks between the MVA allies have landed in trouble over various statements from leaders, with Sena Rajya Sabha MP Sanjay Raut staking claim on 23 seats. NCP leader and Lok Sabha MP Supriya Sule last week said that the talks between parties have been finalised and the official announcement would happen in the next 8 to 10 days. Neither Sena nor Congress state leaders voiced in affirmative to Sule's statement.

On Sunday, former Union minister and Congress leader Milind Deora warned the Sena (UBT) to not stake claim on Lok Sabha seats without the completion of seat sharing talks and said that even Congress can do the same. The Congress has already appointed coordinators for all 48 Lok Sabha constituencies in Maharashtra. Party state unit president Nana Patole has already said that the seat sharing should be on the criteria of winnability.



UP IN FLAMES

A major fire broke out at a godown in Kantavali, Raigad district on Monday. *Narendra Vaskar*

World Bank to provide Rs 2,328 crore for flood management project

EXPRESS NEWS SERVICE
MUMBAI, JANUARY 8

THE WORLD Bank has given its consent to finance a flood management project that entails diverting surplus rain water from Kolhapur and Sangli region to drought-hit Marathwada of Maharashtra. The project costs Rs 3,326 crore and the World Bank will provide Rs 2,328 crore in financial assistance. The remaining Rs 998 crore will be provided by the state government.

Deputy Chief Minister Devendra Fadnavis had embarked on this ambitious project during his tenure as state CM from 2014 and 2019. However, post the 2019 Assembly elections, when the Maha Vikas Aghadi (MVA) government came to power, the project was put on the back burner.

In June 2022, when the BJP-led coalition returned to power, Fadnavis once again revived the project. The stated objective of the project was flood management in Sangli and Kolhapur. Excess flood water from Sangli and Kolhapur will be diverted to drought-hit districts of Marathwada using advanced technology.

Surplus rain water from Kolhapur and Sangli will be brought to Marathwada

According to official records a World Bank team visited the flood affected Sangli and Kolhapur region on September 12, 2019. Later, they held a meeting with then CM Devendra Fadnavis. The decision to go ahead with the project was taken immediately.

"The project was significant as it would provide relief to both western Maharashtra and Marathwada. It will help tackle both recurring drought in Marathwada and flood management in Sangli and Kolhapur," Fadnavis said.

With the help of advanced technology, work will be undertaken in the Krishna and Bhima river valley. The flood water will be diverted from Kolhapur and Sangli to Marathwada through various water structures. To enable this, the project work includes desilting and deepening the rivers and tributaries. NITI Aayog has also given a positive report on this project.

MLAs' disqualification pleas: Narwekar to give verdict on Jan 10

EXPRESS NEWS SERVICE
MUMBAI, JANUARY 8

MAHARASHTRA STATE Legislative officials on Monday said that state Speaker Rahul Narwekar will on January 10 deliver his verdict on the disqualification petitions against Chief Minister Eknath Shinde and several MLAs whose rebellion had split the Shiv Sena in June 2022.

January 10 is the extended deadline set by the Supreme Court for adjudicating the disqualification petitions filed against the Sena MLAs by both factions of the party led by Uddhav Thackeray and CM Shinde.

The SC had earlier set December 31, 2023 as the deadline for the petitions to be adjudicated, however on the plea of the Speaker, the apex court on December 15 gave a 10-day extension and set January 10 as the new date for a decision.

In June 2022, Shinde and several MLAs had rebelled against then chief minister Uddhav Thackeray, leading to a split in the Sena and fall of the Uddhav led Maha Vikas Aghadi government. After the split in the party, both the factions had filed Cross petitions against each other seeking action against the Sena MLAs under anti-defection laws.



Rahul Narwekar

Vidhan Bhavan officials said that the verdict has been finalised and Narvekar will deliver the verdict on Wednesday around 4pm. "The operative part of the verdict is likely to be announced on Wednesday by Narvekar and the detailed order will be given to both groups later," they added.

If the verdict goes against them, both the factions are prepared to approach the SC for a review. Following the party's split, the Election Commission had given the 'Shiv Sena' name and 'bow and arrow' symbol to the Shinde-led faction, while the one headed by Thackeray was to be called Shiv Sena (UBT) with its symbol being a flaming torch.

LIFE INSURANCE CORPORATION OF INDIA
MUMBAI DIVISIONAL OFFICE - II
LIC DIGITAL BUILDING, C-10, G BLOCK, BKC, BANDRA(E), Mumbai - 400 051

PUBLIC NOTICE

Our Branch Office 889, Vikhroli [W], Mumbai presently located at Fitwell House, 3rd Floor, LBS Marg, Vikhroli [West], Mumbai : 400 083 will function with effect from **March, 2024 from Shop No.201 to 204, 2nd Floor, Blumen, Vikhroli [West], Mumbai - 400 083.**

All our esteemed Policy holders / Customers / Agent and Employees are requested to take note of the above change.

IRCON INTERNATIONAL LIMITED
NAVRATNA COMPANY
(A Govt. of India Undertaking)
Website: www.ircon.org, CIN - L45203DL1976GOI008171

e-Procurement Notice

e-Tender No. IRCON/3026/MAHSR/T2/Prefab2/01 Dated :- 08.01.2024

e-Tender for & on behalf of IRCON is invited from bidders meeting qualifying requirements for the work of **"Design & Construction of Pre-fabricated structures for Site Huts, Sub Site offices etc. at various locations between Zaroli Village at Maharashtra-Gujarat border (MAHSR km 156.600) and Vadodara (MAHSR km 393.700) in the state of Gujarat and the union territory of Dadra and Nagar Haveli in connection with Construction of Mumbai-Ahmedabad High Speed Rail (Package-MAHSR-T2)."**

Estimated Cost of the work	₹ 02,97,62,500.00 (Including GST)
Last Date and Time of e-Bid Submission	27.01.2024 up to 1500 Hrs.

For further details and updates, please visit website www.etenders.gov.in/eprocure/app. Amendments/Corrigendum, if any, would be hosted only on the website. **Chief General Manager/Civil C-4, District Centre, Saket, New Delhi-110017**

IN THE HIGH COURT OF BOMBAY
NOTICE NO. A.5504/2023
ADVERTISEMENT FOR INVITING ONLINE APPLICATIONS FOR THE POST OF DISTRICT JUDGE (BY NOMINATION) IN THE STATE OF MAHARASHTRA

THE High Court of Judicature at Bombay has invited online applications in the prescribed format for filling up **19** posts of the District Judge, in the State of Maharashtra. The details regarding pay scale, eligibility criteria, experience, age etc. are given in the advertisement. Said advertisement and application can be downloaded from the Official web site of the High Court i.e. **https://bombayhighcourt.nic.in from 9th January, 2024 after 10.30 a.m.** The application should be submitted online through the above mentioned web site only **till 23rd January, 2024 upto 04.30 p.m.**, after which web link will be disabled.

Sd/-
(R. N. Joshi)
Registrar General
High Court, Bombay.

Mumbai
Date : 09th January, 2024

DGIPR/2023-2024/6446

MAHARASHTRA STATE WAREHOUSING CORPORATION
583/B, Market Yard, Gultekadi, Pune - 411 037
Tel.: 020-24206800 | Email: bdbranch.ho@mswc.in
Website: mswarehousing.com
CFS Address: Maharashtra State Warehousing Corporation, Plot No. 88 & 89, Sector 1, Dronagiri Node, Navi Mumbai - 400 707
Tel. 022 41572999 /12 /15 | Email : cfs@mswc.in

E-TENDER NOTICE

e-Tender Notice No. MSWC/CFS/H&T/ 1 /2024 Date: 08.01.2024

MAHARASHTRA STATE WAREHOUSING CORPORATION (MSWC) invites tenders for awarding the work of Transportation of the Containers/ Cargo from MSWC CFS, Dronagiri Node to all terminals of JNPT (JNPCT/ NSICT / NSIGT / BMCT/ NSDT etc.) and vice versa as well as handling of the containers/Cargo within the CFS premises For details visit Government website **https://mahatenders.gov.in.** (Co-operative, Marketing and Textile Department)

Right to reject any or all tenderers without any reason is reserved with Chairman & Managing Director.

The schedule of the tender is as under:-

1	Period of downloading tender	**09.01.2024 to 29.01.2024 (Up to 13.00 hrs.)**
2	Last date for online bid submission	**29.01.2024 (up to 13.00 hrs)**
3	Pre-bid Meeting Date and time	**15.01.2024 Time 12.30 hrs at Head Office, Pune**
4	Date and Time of opening of Technical bid	**30.01.2024 at 13:00 hrs.** or any other date decided by MSWC

Chairman & Managing Director

ROYAL WESTERN INDIA TURF CLUB, LTD.
Registered Office: Race Course, Mahalakshmi, Mumbai - 400 034.
CIN: U91990MH1925PLC001182
Phone No.: 022-62670100 / 20842550
Email: secretary@rwitc.com; Website: www.rwitc.com

NOTICE

Notice is hereby given that an Extra-Ordinary General Meeting ("EGM") of the Members of the Royal Western India Turf Club, Limited is scheduled to be held on Tuesday, 30th January 2024, at 4.00 p.m. through Video Conferencing ("VC") or Other Audio Visual Means ("OAVM") to transact the business as detailed in the Notice dated 7th January 2024 of the EGM, in compliance with the provisions of Section 108 of the Companies Act, 2013 read with Rule 20 of the Companies (Management and Administration) Rules, 2014 and General Circulars issued by the Ministry of Corporate Affairs i.e. General Circular No. 14/2020 dated 8th April, 2020, General Circular No. 17/2020 dated 13th April, 2020 read with General Circular No. 09/2023 dated 25th September 2023 (Collectively referred to as "MCA Circulars").

In compliance with the MCA Circulars, Notice of the EGM has been sent through electronic mode to those Members whose email addresses are registered with the Club as of the date of this Notice. The Notice of the EGM is also hosted on the website of the Club www.rwitc.com and will remain on the website till the date of the EGM.

For receiving all communication (including login credentials, etc.) from the Club electronically, all Members who have not registered / updated their email address with the Club are requested to register / update the same by writing to the Club's office with details of membership card number and attaching a self-attested copy of PAN card at adm@rwitc.com

The Club has engaged the services of National Securities Depository Limited ("NSDL") as the Agency to provide Remote E-voting and E-voting during the EGM facilities and do all such acts on behalf of the Club in this regard. The User ID for remote E-voting and E-voting at the EGM will be sent directly by NSDL to the Club Members and also to other Members of the Club for joining / participating at the Extra-Ordinary General Meeting on 30th January 2024, through VC / OAVM, whose email id are registered with the Club as of the cut-off date i.e. Tuesday, 23rd January 2024.

All the Club Members are hereby informed that:

i. Members who would like to express their views or ask questions during the EGM may from 9.00 a.m. on Sunday, 28th January 2024 till 5.00 p.m. on Monday, 29th January 2024 send an email from their email id registered with the Club requesting to register as a speaker to adm@rwitc.com / secretary@rwitc.com giving details of their Name, Membership No. and Mobile no. A link will be sent to the email id of the Speaker on the previous day evening of the EGM with procedure to join.
ii. Remote E-voting period shall commence at 9.00 a.m. (IST) on Saturday, 27th January 2024 and end at 5.00 p.m. (IST) on Monday, 29th January 2024.
iii. Cut-off date for the purpose of voting on the resolution set forth in the Notice is Tuesday, 23rd January 2024.
iv. The remote E-voting module shall be disabled by NSDL / Scrutinizer after the voting period ends. Hence, Club Members are requested to cast their votes during the above specified period only.
v. The Notice containing E-voting procedure is also available on NSDL's website https://www.evoting.nsdl.com and on the Club's website www.rwitc.com.
vi. Members will be able to attend the EGM through VC or OAVM or view the live webcast at www.evoting.nsdl.com at 4.00 p.m. on 30th January 2024 by using their login credentials sent by NSDL.
vii. Facility to join the VC or OAVM Meeting will be opened 15 minutes before the scheduled EGM time and will only be closed any time after the expiry of minimum 15 minutes from the scheduled start time of the EGM.
viii. The facility for voting through electronic voting system on the day of the Meeting (E-voting during the meeting) shall be made available to the Club Members attending the Meeting through VC or OAVM after the commencement of the Meeting and shall close at 5.30 p.m. although the Meeting shall continue until concluded and only those Club Members who have not cast their vote by Remote E-voting shall be able to vote at the Meeting i.e. a Member may choose to vote on all or any of the resolution either by Remote E-voting or by voting through electronic system at the Meeting, but not both.
ix. The Committee of the Club shall appoint a Scrutinizer to scrutinize the E-voting process in a fair and transparent manner.
x. Club Members who have already cast their vote by remote E-voting on the resolution may also attend the Meeting but shall not be entitled to cast their vote again on any resolution at the EGM.
xi. In case of any query pertaining to E-voting or for joining VC or OAVM Meeting, please visit help and FAQ's section available at NSDL's website https://www.evoting.nsdl.com. For any other query, the Club Member may contact the Club by email at adm@rwitc.com.
xii. Members who need assistance before or during the EGM can contact NSDL Help Desk at Telephone No. (022-48867000 / 022-24997000) and email at: evoting@nsdl.com.
xiii. The results of E-voting alongwith Scrutinizer's report will be placed on the Club's website and on the website of NSDL.

BY ORDER OF THE COMMITTEE,
NIRANJAN SINGH
SECRETARY
ROYAL WESTERN INDIA TURF CLUB, LTD.

Mumbai: Dated this 8th January, 2024.

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BJP confident, plans to fight from all 10 LS seats in Vidarbha

With strong leadership, BJP thinks it will do better than alliance partners

EXPRESS NEWS SERVICE
MUMBAI, JANUARY 8

AMID THE pulls and pressures over seat sharing, the ruling BJP has evinced keen interest in contesting all 10 Lok Sabha seats in the Vidarbha region.

The party's hard bargain for Vidarbha stems from its strong organisation and leadership in the region, which gives it an edge over its two alliance partners Sena (Shinde faction) and NCP (Ajit Pawar faction).

According to highly placed sources in BJP, "Vidarbha has been BJP's strong bastion. The party has a strong organisational base and cadre which gives it an edge over its alliance partners. In all 10 constituencies, the local district unit of the organisation has proposed that the candidate be from BJP."

Lok Sabha polls are slated to be held in April-May 2024. Of the total 48 Lok Sabha seats, 10 of them namely—Nagpur, Bhandara-Gondia, Chandrapur, Wardha, Ramtek, Gadchiroli, Amravati, Akola, Buldhana, Yavatmal-Washim —are in Vidarbha. Vidarbha region, which is the state's cotton belt, is broadly divided into two parts – eastern and western.In the 2019 Lok Sabha elections,

BJP and undivided Sena contested elections together across Maharashtra. While BJP won 23 seats, Sena won 18, Congress one and NCP won four. Two seats went to independents.

Wins, votes

In Vidarbha, BJP bagged 57,65,690 votes to win 5 of the total 10 Lok Sabha seats, namely Nagpur, Akola, Wardha, Bhandara-Gondia, Gadchiroli. Its then alliance partner, the undivided Sena, won three seats–Ramtek, Buldhana and Yavatmal-Washim with 34,91,323 votes. Congress got one seat Chandrapur with 12,38,474 votes, and its then alliance partner, the undivided NCP went empty handed.

The Amravati Lok Sabha seat was bagged by an independent.

Two splits

The split in Sena and the NCP between 2021 and 2023 has altered the state's political dynamics. BJP is trying to make deeper inroads in Vidarbha by stepping into constituencies held by Sena in the past. With Congress eyeing Vidarbha to regain its losses, BJP believes it will give them a tough fight and win. A senior BJP functionary requesting anonymity said, "In 2014 and 2019, Sena and BJP contested polls on 'Moditva'. In Vidarbha, all three seats bagged by Sena was due to BJP grass root workers networking and Modi leadership. Even Sena candidates during elections used Modi's photos and not of Uddhav Thackeray, their own leader, to get votes."

Insiders have indicated that seat sharing between three partners --- BJP, Sena (Shinde faction) and NCP (Ajit Pawar faction) --- will be a mutual contest, and give and take. The perception is that BJP should get the upper hand in Vidarbha which is its traditional bastion. The Shinde-led Sena will have a greater edge in Konkan, while Ajit Pawar-led NCP will do better in western Maharashtra.

Strong leadership

BJP also has strong leadership in Vidarbha. Union minister Nitin Gadkari, Dy CM Devendra Fadnavis and state BJP president Chandrashekhar Bawankule are all from Nagpur, in Vidarbha region. Bawankule said, "PM Narendra Modi will be the face of BJP in the 2024 Lok Sabha polls. The Mahayuti ---a coalition of BJP, Sena (Shinde faction) and NCP (Ajit Pawar faction) will together contest as alliance partners. The decision on constituencies, region-wise, will be determined on organisational strength and the candidate's winnability." All decisions will be taken by the central leadership after adequate consultation with state leaders.

Meanwhile, State Congress president Nana Patole said, "In 2019 Congress bagged the lone LS seat in Chandrapur constituency. Now, our focus is on the entire Vidarbha region to enhance our electoral fortunes."



SAFE PASSAGE: Citizens undertake a signature campaign, demanding a subway near Anandnagar Jakat Naka after a road diversion was created for vehicles, which according to them, is leading to accidents. *Deepak Joshi*

Rs lk cr approved for Nashik dist planning panel for fiscal 2024-25

Nashik: The Maharashtra government has approved Rs 1,002 crore for the District Planning Committee of Nashik for the fiscal 2024-25, an official said on Monday.

The Rs 1002.12 crore draft plan includes Rs 609 crore for general district annual plan, Rs 293 for tribal sub scheme and Rs 100 crore for Scheduled Caste sub scheme, he said. A proposal for additional demand of Rs 250 crore for general district annual plan, Rs 289 crore for tribal sub-scheme and Rs 75 crore for SC sub-scheme has been submitted to the government, the official said. **PTI**

Export ban makes onion affordable again

PARTHA SARATHI BISWAS,
PUNE, JANUARY 8

PRICE OF onions have significantly dropped in retail markets, making it one of the most affordable vegetables as against a month ago when the bulb was one of the costliest staple in the market. The prices have dropped ever since the Centre banned the export of onions a month ago.

Across the country, the average retail price of onion is around Rs 30-40/kg. A month ago, a kilogram of onions costed around Rs 70-80. During the first week of Dececember, price of onions in the retail markets of Maharashtra was in the range of Rs 52-55/kg which since then has corrected to Rs 33-35/kg.

In Delhi, onions are being sold for Rs 40/kg as against Rs 60/kg a month ago. Barring the North East, retail onion prices have dipped between Rs 15-20/kg across the country, shows data with the Price Monitoring Cell of the Ministry of Consumer Affairs.



The average price of onions has come down to Rs 33-35/kg in Maharashtra. *File*

Onion is now the cheapest of the vegetables in the markets. At Pune's wholesale market, almost all common vegetables such as okra (Rs 60), tomato (Rs 25), green peas (Rs 40) and brinjal (Rs 50) are costlier than onion, which is retailing at Rs 22/kg.

For farmers, this price drop comes as a double whammy given the double season of crop loss. Farmers have harvested their kharif and late kharif crops but low prices have dashed their hopes of good returns.

At Lasalgaon in Nashik district's Niphad taluka, which is the largest onion market in the country, the bulb is selling for around Rs 1,860-1,950/quintal as against the Rs 3,800-4,000/quintal it was trading a month ago.

The decision of the Centre to suspend exports has caused concern among farmers and traders alike. Most farm organisations have protested the export with many farmers deciding to suspend trade in the markets. Ajit Navale, leader of All India Kisan Sabha, said the ban has caused great distress to farmers. "Many farmers had to postpone family functions due to the low returns from harvesting onion." he said.

TATA STEEL TATA

NOTICE

This is to inform that, Tata Steel Limited, Khopoli has been accorded Environmental Clearances, vide EC Identification No.EC24B000MH163028, dated 05/01/2024 from Ministry of Environment, Forest and Climate Change(MOEF&CC), Government of India (Issued by the State Environment Impact Assessment Authority(SEIAA), Maharashtra) for Regularisation of existing cold rolled products (Coils, Sheets & Tubes) 7,80,000 TPA [CR coils and Sheets,1,80,000 TPA, Galavanized/Galume coils and Sheets, 3,60,000 TPA, Colour coated (Repainted) coils and Sheets,1,20,000 TPA, Pipes and Tubes, 1,20,000] and Tubes, API Pipe, Casting pipe, pipes for low pressure services, Round pipes & Tube for Mechanical and Structural Pipe and Square Structural Pipe and Square Structure Pipe of total capacity 2,85,000 TPA and 24 MW DG based Captive power plant.

The Copy of Environmental Clearance letter is available with the Maharashtra Pollution Control Board, website of the company and may also be seen at website at http://parivesh.nic.in

Registered Office: Bombay House, 24, Homi Mody Street, Fort, Mumbai 400 001, India
Tel.: 022 66658282 Fax: 022 66657724
(CIN) – L27100MH1907PLC000260, Website: www.tatasteel.com

S. E. RAILWAY – TENDER

E-Tender Notice No. : 41-EL-WT-2023-24. Sr. Divisional Electrical Engineer (G), Chakradharpur acting for & on behalf of The President of India invites e-Tenders against open tender. Manual offers are not allowed against this tender, and any such manual offer received shall be ignored. **Name of work :** Corrective Maintenance Contract (CMC) of 28 Nos. DG sets (500 KVA) along with accessories of Power Cars including Operation & Manning of EOG Power Cars for a period of 3 years at the Coaching Maintenance Depots Tatanagar and Rourkela over Chakradharpur division in South Eastern Railway. **Tender Value :** ₹ 5,89,64,831.20. **EMD :** ₹ 4,44,800/-. **Tender Document Cost :** ₹ Nil. **Date of Closing/Opening :** 12.02.2024, 15:00 hrs. The tender can be viewed at website **http://www.ireps. gov.In** The tenderer/ bidders must have Class-III Digital Signature Certificate & must be registered under IREPS Portal. Only registered tenderer/bidder can participate on e-tendering. All relevant paper must be uploaded at the time of participating in e-tendering. **(PR-1001)**

PSPCL Punjab State Power Corporation Limited

(Regd. Office.: PSEB Head Office, The Mall, Patiala-147001)
CIN: U40109PB2010SGC033813; Website: www.pspcl.in

Open Tender Enq. No. 7503/ P-2/EMP-12532 dated 05.01.24

Dy. Chief Engineer/Headquarter (Procurement Cell-2) GGSSTP, Roopnagar invites E-Tender ID No. 2024_POWER_1151094 for Design, Supply, Installation, Testing and Commissioning of CCTV cameras along with all connecting cables, Network Video Recorder, PC Workstation, LED, Monitors, Media Coverters, UPS etc. for enhancing the security Surveillance at Power Colony, Nuhon Colony and Main Plant, GGSSTP, Roopnagar. For detailed NIT & Tender Specification please refer to https://eproc.punjab.gov.in from 05.01.2024 onwards.

NOTE: Corrigendum and addendum, if any will be published online at https://eproc.punjab.gov.in RTP-03/24 31241/PB

Indian Overseas Bank

Balance Sheet Management Department
Central Office: 763, Anna Salai, Chennai-600002

Indian Overseas bank (IOB) invites bids for the following:

GOVERNMENT E-MARKET PORTAL-APPOINTMENT OF TDS CONSULTANT FOR PROVIDING END TO END SOLUTION AND SERVICES FOR FILING OF TAX DEDUCTED AT SOURCE RETURNS
BID NO: GEM/2024/B/4445097 DATED 06.01.2024

The Above GEM Tender document is also available and can be downloaded from the following websites **www.iob.in & www.gem.gov.in,**
For Tender details and future amendments, if any, keep referring to the following website **www.gem.gov.In**

DAIRY DEVELOPMENT COMMISSIONER, MAHARASHTRA STATE, MUMBAI

E-TENDER NOTICE

Ref. No. : DDC-7/DPDC/tender notice/2023-2024/75 Date : 04th January 2024

ON behalf of The Governor of Maharashtra, the undersigned invites online e-Tenders (In 2 Envelope System) for the following works :

Sr. No.	Scope of work Machinery details	Total Nos.	Estimated Tender Value (Rs. in Lakhs)	E.M.D. (Rs.)	Tender form fee Non-refundable (Rs.)
1.	Supply, installation and commissioning of Equipment's for Automoatic Continues Khoa making system Capacity 200 Kg./hr. output at Godavari Khore Namdevraoji Parjane Dudh Sangh Ltd., Kopargaon, Ahmednagar.	1 Job (Turn Key Basis)	350.00	5,95,000/-	95,500/-
2.	Supply, installation and commissioning of Bulk Milk Cooler Capacity 1000 Ltd. 1 Nos. & 2000 Ltr. Capacity 4 Nos. at Amrutsagar Sahakari Dudh Utpadak Sangh Ltd. Akole, Dist.- Ahmednagar.	05 Nos.	56.00	1,70,000/-	17,000/-
3.	Supply, Installation and commissioning of 15 KL (S.S. outer Single Compartment) Storage tank at Rahata Tal. Dudh Utpadak Sangh Ltd., Rahata, Dist.- Ahmednagar.	04 Nos.	56.12	1,70,000/-	17,000/-
4.	Supply, installation and commissioning of AMCU at Amrutsagar Sahakari Dudh Utpadak Sangh Ltd., Akole, Dist.- Ahmednagar.	07 Nos.	07.00	17,000/-	3,400/-

Bidding documents can be seen, downloaded & submitted from the web site http://mahatenders.gov.in and last date for submission of tender online 18.01.2024 on Mon. Will be open till 14.00 hrs.

Sd/-
(Mahesh Mule)
Dy. Dairy Development Commissioner (D.E.),
Dairy Development Department, M.S.

DGIPR/2023-2024/6465

POOMPUHAR SHIPPING CORPORATION LIMITED
(A Government of Tamilnadu Enterprise)
692, Anna Salai, IVth Floor, Nandanam, Chennai - 600 035, India
Telephone No. : 044 - 24330505 / 807, Fax : 91-44-24344593 /24335706,
E-mail : pscship@gmail.com CIN : U63090TN1974PLC006596

GLOBAL E-TENDER INVITING NOTICE

NOTICE INVITING E-TENDER FOR LONG TERM TIME CHARTERING OF ONE SELF-TRIMMING PANAMAX/KAMSARMAX GEARLESS (OR WITH GEARS CONSIDERED AS GEARLESS) VESSEL WITH CAPACITY OF ABOUT 65,000 TO 86,000 DWT ON ACCOUNT OF NTECL.

E- tenders are invited from the Ship owners / disponent owners for the following specification:

Tender Number	Lay Days	Period	Tender Download start date	Bid Submission end date	Tender opening Date
PSC/CHARTERING/ 005/2023-24., Dt 02.01.2024	10.03.2024 to 25.03.2024	12 month+ 3 month +/-10 days choption	09.01.2024 at 1600 hours	15.02.2024 at 1200 hours	15.02.2024 at 1400 hours

Tender document is available in e-tendering web portal **https://tntenders.gov.in/nicgep/app** and **www.tamilship.com** at free of cost. Prospective bidders are advised to refer for **https://tntenders.gov.in/nicgep/app** specific important details and upload their bid. The conditions / requirement mentioned in the website shall be met out by the bidders. This advertisement is an invitation for bid only. The details given in the website are comprehensive. **Tender Opening Venue:** Poompuhar Shipping Corporation Limited, Head Office, No. 692, Anna Salai, MHU Complex - 4th Floor, Nandanam, Chennai - 600 035. Further, all communications / corrigendums will be updated through **https://tntenders.gov.in/nicgep/app** only.

DIPR/92/TENDER/2024 **GENERAL MANAGER (OPS)**

भारतीय कंटेनर निगम लिमिटेड
CONTAINER CORPORATION OF INDIA LTD.
एक नवरत्न कम्पनी (भारत सरकार का उपक्रम)
A Navratna Company (A Govt. of India Undertaking)
NSIC New MDBP Building, 3rd Floor, Okhla Indl. Estate (Opp. NSIC Okhla Metro Station), New Delhi-110020

NOTICE INVITING E-TENDER

CONCOR invites E-Tender in Single Packet System of tendering for the following work:-

Tender No.	CON/CO/ELECT/320KVA/DG/SET/2024
Name of Work	Supplying, Installing, testing and commissioning of 320 KVA DG set at CONCOR BHAWAN,C-3 Mathura Road, New Delhi.
Estimated Cost	₹44,55,280.00 (Inclusive of all taxes)
Completion Period	03 Months
Earnest Money Deposit	₹89,100/- (through e-payment).
Cost of Tender Document	NIL
Tender Processing Fee (Non-refundable)	₹2,629/- (Inclusive all taxes & duties through e-payment)
Date of sale of Tender (online)	From 09.01.2024 (11:30 Hrs) to 29.01.2024 (up to 17:00 Hrs)
Date & Time of submission of Tender.	30.01.2024 up to 17:00 Hrs. (E-Tendering Mode Only)
Date & Time of Opening of Tender.	31.01.2024 at 11:30 Hrs.

For financial eligibility criteria, experience with respect to similar nature of work, etc, please refer to detailed tender notice available on website **www.concorindia.co.In**, but the complete tender document can be downloaded from website **www.tenderwizard.com/CCIL only.** Further, Corrigendum / Addendum to this Tender, if any, will be published on website **www.concorindia.co.in**, **www.tenderwizard.com/CCIL** and Central Procurement Portal (CPP) only. Newspaper press advertisement shall not be issued for the same.
General Manager (Projects)
Phone No.: 011-41222500

वसई-विरार शहर महानगरपालिका,
प्रभाग समिती 'सी' चंदनसार
ता. वसई, जि. पालघर,
पिन ४०१३०५.

दूरध्वनी : ०२५०-२५२५१०५/०६/
२५२९८८८/२५२९८९०
फॅक्स : ०२५०-२५२५१०७
ई-मेल : vasaivirarcorporation@yahoo.com
जा.क्र. : वविशम/बांध/प्रससी/१९०७/२०२४
दिनांक : ०८.०१.२०२४

वसई-विरार शहर महानगरपालिका
सार्व. बांधकाम विभाग, मुख्यालय, विरार (पू.)
जाहीर ई-निविदा सूचना

प्रभाग क्र. १ कसराळी नाका येथे आरसीसी बॉक्स कल्व्हर्ट बांधणे. वरील कामांचे कोरे निविदा फॉर्म https://mahatenders.gov.in या अधिकृत संकेतस्थळावर दि. ०९.०१.२०२४ पासून उपलब्ध होणार आहेत. ई-टेंडरिंगबाबत अधिक माहितीसाठी ई-निविदा कक्ष, वसई विरार शहर महानगरपालिका, विरार (मुख्यालय) येथे संपर्क साधावा.

जा.क्र./वविशम/बांध/१९०७/२०२३
दिनांक : ०८.०१.२०२४

Please Visit our official web-site
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(डॉ. प्रदीप पाचंगे)
कार्यकारी अभियंता
वसई-विरार शहर महानगरपालिका

GOVERNMENT OF MAHARASHTRA
Office of the Executive Engineer,
Alibag (P.W.) Division, Alibag
Pine Code-402 201
E-mail Address : alibag.ee@mahapwd.com **Telephone/Fax No. :** (02141)222084/225096

E-Tender Notice No. 39 for 2023-2024 (Second call)

ONLINE E-Tenders in "B-1" Form for the following work are invited by the Executive Engineer, P.W. Division, Alibag from Competent Contractors/Registered Contractors who fulfills tender conditions and post qualification criteria mentioned in the tender form.

Sr.No.	Name of Work	Estimate Cost Rs.
1	Construction of Administrative Building for Superintendent, State Excise, Raigad-Alibag, Tal : Alibag, Dist : Raigad	**4,04,43,147/-**

Period of Downloading of bid documents : 08.01.2024 (10.00 A.M.) to 22.01.2024 (6.00 P.M.).
Pre-bid Meeting : 16.01.2024 (3.00 P.M.) (Office of the Chief Engineer, (P.W.) Region, Konkan, Marzban road, Mumbai (Sr. No. 1 to 5)
E-Tender Opening Date : 25.01.2024 (3.00 P.M.) (Office of the Superintending Engineer, Raigad (P.W.) Circle, Konkan Bhavan, New Mumbai.)

All detail information is available on following web site :
1. **http://mahapwd.com**
2. **http://mahatenders.gov.in**
(If there are any changes to this notice, the information will be communicated on the above web site).

O.No./P.W./AD/Tender/03/2024
Office of the Executive Engineer,
P.W. Division, Alibag-402 201
Date : 01.01.2024

Sd/-
(J.I.Sukhdeve)
Executive Engineer,
P.W. Division, Alibag,
Dist. Raigad

DGIPR 2023/2024/6455

Government of India
Ministry of Personnel, Public Grievances & Pensions
Department of Administrative Reforms & Public Grievances
PRIME MINISTER'S AWARDS FOR EXCELENCE IN PUBLIC ADMINISTRATION-2023

NOTICE FOR INVITING NOMINATIONS

Applications are invited from District, State and Central Government authorities for the Prime Minister's Awards for Excellence in Public Administration- 2023 under the following categories:

Category 1- Holistic Development of Districts under 12 Priority Sector Programms. 10 awards would be conferred under this category.

Eligibility

District authorities (DCs/ DMs) are eligible to compete for the Awards for the above categories.

Category 2- Innovation in Central Ministries/Departments, States, Districts. 6 awards would be conferred under this category.

"Environment conservation, water conservation, energy, education, health, women & child centric initiatives, sustainable farming (organic/ natural farming), promoting livelihoods, boosting economy, improving governance, Ease of doing business, faceless delivery of public services, promoting digital payments, disposal of public grievances etc.".

Eligibility:-

Central/State Governments/Districts are eligible to apply for the Awards in the Innovation category.

The application for PM's Awards can be submitted on the web-portal for Prime Minister's Awards (**https://pmawards.gov.in/**) up to 31.01.2024. All nominations are to be submitted online.

The details of the Prime Minister's Awards Scheme, 2023 are available on PM's Awards Portal (**https://pmawards.gov.in/login**) the link of which is also available on website of the Department of Administrative Reforms and Public Grievances (**https://darpg.gov.in/**).

Contact person for further clarification

Deputy Secretary (AR & e-Gov)
Department of Administrative Reforms and Public Grievances,
5th Floor, Sardar Patel Bhawan, Parliament Street, New Delhi-110001
Tele: 011-23401429 **Email**: pmathew.edu@nic.in

Rakesh Chandra
Under Secretary to the Govt. of India
Ph: 011-23401488

cbc-32101/11/0011/2324

OFFICE OF THE CHIEF CONSTRUCTION ENGINEER
RURAL WORKS CIRCLE, BERHAMPUR
At:- Ambapua Po:- Engineering School Near Income Tax office, Berhampur-760011
(E-Mail:- serwbpr2004@yahoo.com, Tel/Fax:-0680-2404287)

O-2141

NATIONAL COMPETITIVE BIDDING THROUGH e-Procurement
Bid Identification No. Online Tender/91-2023-24/BPR

Identification No	Name of work	No. of Works	Approx. Estimated Cost (In lakh)	Class of Contractor	Period of Completion
Online Tender / 91-2023-24/ BPR	Buildings Works (Construction Multi Purpose Hall (MPH) in different ULBs	05 Nos	From Rs. 250.00 lakhs to Rs. 430.00 lakhs	"B" Class, "A"Class, as applicable	06 (Six) Calendar Month as provided

Procurement Officer	Bid Identification No	Availability of tender online for bidding	
		From	To
Chief Construction Engineer, R.W. Circle, Berhampur	Online Tender/ 91-2023-24/BPR	12.01.2024 at 10.00 A.M.	29.01.2024 upto 5.30 P.M.

(i) EMD Bid Security, Cost of Bid document is to be transferred through Online as per the procedure mentioned in the DTCN.
(ii) Non-submission of the information/documents through online by the bidder as per the items mentioned in the eligible criteria of the DTCN will also liable for rejection of his tender.
Further details & Corrigendum if any can be seen from the website: **www.tendersodisha.gov.in**

Sd/-
Chief Construction Engineer
R.W.Circle, Berhampur

OIPR-25071/11/0100/2324

GOVERNMENT OF ODISHA
OFFICE OF THE CHIEF CONSTRUCTION ENGINEER
RURAL WORKS CIRCLE, BOLANGIR
e-Procurement Notice

O-2138

1.	**Name of work**	:	Construction of road work & bridge work under CMRL in the district of Bolangir & Subarnapur for the year 2022-23 & 2023-24
2.	**No. of work**	:	1 road and 1 bridge
3.	**Time for completion varies from**	:	9 (Nine) & 12 (Twelve) calender months
4.	**Approximate estimated cost varies from**	:	Rs. 37.48 lakhs & Rs. 374.29 lakhs
5.	**Mode of Submission of tender**	:	Tender should be submitted online in **www.tendersodisha.gov.in**
6.	**Other details are as follow**		

Procurement Officer	Bid Identification No.	Availability of Tender on line for bidding		Last date and time of seeking tender clarification	Date & Time of opening of Tender	
		From	To		Technical Bid	Financial Bid
Chief Construction Engineer, R.W. Circle, Bolangir	BLGR-Online-42/2023-24	16.01.2024 at 11.00 A.M.	30.01.2024 upto 5.00 P.M.	29.01.2024 upto 5.00 P.M.	31.01.2024 at 11.00 A.M.	The date will be intimated later on

- Further details can be seen from the website **www.tendersodisha.gov.in**
- Any Corrigendum/ Addendum will be displayed in the above e tender website only.

Sd/-
Chief Construction Engineer
R.W. Circle, Bolangir
OIPR- 25118/11/0069/2324

RAM TEMPLE CONSECRATION

Doc who lobbied for US visa to Modi among 100 invitees

DEEPTIMAN TIWARY
NEW DELHI, JANUARY 8



Artists make a graffiti depicting Lord Ram and Goddess Sita on the wall of an overbridge in Ayodhya on Monday. *PTI*

A US-BASED oncologist who lobbied for visa clearance for Narendra Modi in early 2014, a senior fellow at the Nokia Bell Labs in Indiana, a Norwegian MP, a New Zealand scientist, a Fijian industrialist and saints who have established Hindu schools in the Caribbean.

These are among the 100-odd international guests who have been invited to attend the January 22 Ram temple inauguration in Ayodhya. Guests from as many as 53 countries, including the US, the UK, Europe, Australia and Africa, are on the VHP guest list for the event.

The highest number of invites, almost one-third of the guest list, have been sent to the US. Five people have been invited from Hong Kong, three each from South Korea, Malaysia and the UK, and two each from Germany and Italy. The rest of the countries have one invitee each.

One of the key guests is Dr Bharat Barai, who lobbied with the US government to sanction Modi's visa just ahead of the Lok Sabha polls in 2014. Till then, the BJP leader was facing a 10-year visa ban imposed by the US government. An ardent supporter of the BJP, Dr Barai has hosted many party stalwarts at his US house. He has also worked on strengthening ties between Israel and India.

"We wanted to invite key officials from other countries too. In some cases, there were PMs and other senior dignitaries from foreign governments who were on the list. However, the Central administration advised against it given the security protocol required for such a guest list. Maybe a separate visit for such dignitaries will be organised later," said Swami Vigyananand, joint general secretary of the VHP.

Vigyananand handles VHP's international affairs and is the global chairman of the World Hindu Foundation. According to Vigyananand, there was considerable excitement about the event among Hindus across the world.

Another key invitee from the US is Dr Abhay Asthana, a fellow at Nokia Bell Labs-CTO in Indiana, who also serves as the president of World Hindu Council of America, known as the Vishwa Hindu Parishad of America.

Himanshu Gulati, Norway MP representing the Progress Party who earlier worked in the office of the Norwegian Prime Minister, will be a key representative of the Hindu community from Scandinavia. Dhiraj Bhai Shah, president of Hindu Swayamsevak Sangh in the UK; veteran VHP leaders Rameshbhai Jain from Germany and Vitthal Maheshwari from Italy; are among others part of the guest list.

DRDO launches indigenous assault rifle for armed forces

SUSHANT KULKARNI
PUNE, JANUARY 8



The first operational prototype of the rifle 'Ugram' was unveiled at the Armament and Combat Engineering Systems of the DRDO in Pune on Monday. *Express*

THE DEFENCE Research and Development Organisation (DRDO) on Monday launched Ugram, a state-of-the-art assault rifle of the 7.62 x 51 mm calibre, which has been indigenously designed, developed and manufactured in collaboration with a private industry partner. The assault rifle has been designed for the operational requirements of armed forces, paramilitary and state police entities.

The first operational prototype of the rifle, which has been named Ugram, which means ferocious, was unveiled at the hands of Dr Shailendra V Gade, Director General, Armament and Combat Engineering Systems of the DRDO on Monday in Pune.

The rifle has an effective range of 500 metres and weighs less than four kilograms and has been developed by DRDO's Pune-based facility Armament Research and Development Establishments (ARDE) in collaboration with Hyderabad-based Dvipa Armour India Private Limited.

ARDE scientists, who have worked on the project, said the rifle was designed based on the General Staff Qualitative Requirements (GSQRs) of the Indian Army. The rifle has a 20 round magazine and fires in both single and full auto mode. The configuration of the rifle is comparable to the latest AK and AR type rifles and it has a rivet-free design, making it robust.

The unveiling of this specific type of assault rifle of 7.62 x 51 mm calibre comes at a time when the Defence Acquisition Council had in December given a nod for procurement of 70,000 US-made SIG Sauer assault rifle of the same calibre for the Indian armed forces for over Rs 800 crore in addition to over 72,000 procured early in 2020.

DRDO's Ugram will have to go through several internal tests, acceptance trials and user trials before it can be considered for induction. Speaking about the Ugram assault rifle, ARDE Director Ankathi Raju said, "This was a mission mode project taken up two years ago. After the ARDE designed the rifle, we started looking for a private industry partner for development and manufacturing. Simultaneously, we started working on its hardware through our sources. We have followed the concept of Development cum Production Partner, DcPP for the speedy progress of the project. Under this, the vendor is associated with us during the design and production too. After the product is made by the vendor, it will undergo the acceptance trials. We placed the order for the assault rifleto the Hyderabad-based Dvipa Armour. The rifle will soon go for trials."

A Mission Mode Project of the DRDO refers to a focused and time-bound development undertaken to achieve specific goals and objectives in the field of defence and technology.

Director Raju further said, "As part of its trial, a set number of rounds will be fired from Ugram without stoppage, and accuracy and consistency checks will be conducted. The weapon will be tested in various weather and geographic conditions including the high altitude, desert etc. A board of Army officers will be constituted for the acceptance procedure. "

Small-arms barrel manufacturing facility opened in Pune, to benefit private players

SUSHANT KULKARNI
PUNE, JANUARY 8

THE DEFENCE Research and Development Organisation (DRDO) on Monday launched a small arms barrel manufacturing facility at its Pune-based laboratory, Armament Research and Development Establishment (ARDE). The facility will mainly cater to the requirement of the private sector small arms manufacturers and will also be a key asset for the DRDO's own research and development efforts.

The facility, which has been constructed at a cost of close to Rs 60 crore, was inaugurated by Dr Shailendra V Gade, Director General, Armament and Combat Engineering Systems of the DRDO on Monday on the premises of the ARDE in Pashan.

The facility consists of three sequential machines with the third and most important being the Austrian-origin barrel forging machine that cost 3.2 million Euros. The machine has a fully automatic operation sequence and comprises a six-axe robot that performs the task.

ARDE Director Ankathi Raju said, "In small arms, the quality of its components is crucial and the barrel is the most important part of a gun. The quality and reliability of the barrels is paramount. For example, if 2,000 rounds are to be fired without stop, consider the quality checks that are required. The ordnance factories have got these barrel production facilities. The facility at the ARDE will cater to the industries. We will implement them as turnkey projects. The industry will tell you the calibre, length and other parameters etc. We have the ballistic database with us. We will design the barrel based on industry requirements and produce it. We will also test the barrel and deliver it to the industry. This project was sanctioned is now operational."

A lot of private industries have now got licenses to manufacture small arms.

Indian tourists in Maldives near double to 11% in 5 years

SUKALP SHARMA
NEW DELHI, JANUARY 8

INDIA HAS emerged as the top source market for tourism for Maldives since the Covid-19 pandemic, highlighting the significant reliance of the latter on Indian visitors.

A diplomatic row has erupted following derogatory remarks against Prime Minister Narendra Modi by three Maldivian deputy ministers after his visit to the Lakshadweep islands to promote tourism there. Under fire, the Maldives government suspended the three.

According to *The Indian Express*'s analysis of data from the tourism ministry in Maldives, Indian residents in 2023 accounted for 11.2 per cent of the total tourist arrivals—18.42 lakh—in the island nation, with Russia being a close second with a share of 11.1 per cent. The share of Indian travelers to the Maldives was just 6.1 per cent in 2018, but jumped over the next few years, partly due to changes in travel flows during and after the pandemic. In 2020, 2021, and 2022, Indian topped the list of source markets for the Maldives, with Indian tourists having a share of 11.3 per cent, 22.1 per cent, and 14.4 per cent, respectively.

Aviation consultancy CAPA India said that the Maldivies's tourism industry would be "concerned" about the potential impact of this controversy.

Although the Maldives has acted against the three ministers by suspending them, social media in India are replete with calls to boycott the tourism-dependent island nation as a holiday destination. The consultancy said that given the fast news cycle of social media, which quickly moves on "to the next controversy", the actual impact of the boycott calls on actual travel may be "ephemeral". "Unless of course the negative sentiment escalates to a level where Indian travellers genuinely feel unwelcome in the Maldives," CAPA India added.

At least one major online travel booking portal--EaseMyTrip--has suspended sale of flight tickets to the Maldives. There are close to 60 flights per week between India and Maldives, of which, Indian carriers operate around 50 flights. IndiGo, Air India, Vistara, and Air India Express currently operate flights between India and Maldives. So far, no Indian carrier has indicated changes to its Maldives schedule due to the controversy.

According to CAPA India, this controversy underscores the probability of travel and tourism being drawn into geopolitical and economic affairs as India's outbound travel grows further. "...the current situation does highlight how tourism can be drawn into geopolitical and economic affairs, especially in cases where a destination has significant dependence on key source markets. India will increasingly be one of those source markets," the consultancy said.

Outbound travel by Indians is growing at a rapid pace and is estimated to grow at the rate of 15 per cent per annum through the end of this decade, it said.

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In the august presence of

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JANUARY 12 & 13, 2024

SC VERDICT ON BILKIS BANO PLEA AGAINST REMISSION

A professor, a politician, a journalist — 3 women joined hands to fight for Bilkis

VIKAS PATHAK
NEW DELHI, JANUARY 8

RETIRED PHILOSOPHY professor from Lucknow University Roop Rekha Verma was at the Delhi airport to board a flight to Lucknow when she received a call from a friend, whom she does not want to name, asking whether she would become a petitioner to file a PIL in the SC against the remission of sentence of the convicts in the Bilkis Bano gang rape case.

Verma readily agreed and sent her Aadhaar card to become a co-petitioner. "There were many social activists and journalists deeply concerned by the remission. A petition was being planned. They contacted me and I readily agreed," said professor Verma, 80, who has also been active in social work.

By this time, CPI(M)'s Subhashini Ali had already decided to become a petitioner.

"We were lucky that very good lawyers like Kapil Sibal, Aparna Bhat and others were helping us," said Ali. The petition was ready and two petitioners were on board. Now, the team was looking for a third, and it found her in journalist Revati Laul.

"I don't think such an act of brutality has been recorded even in communal riots. This stands out as an act of brutality – gang rapes, babies being smashed to death, people being killed, a daughter being raped in front of the mother. We met this woman in the relief camp two days after the incident when we went there as part of an AIDWA team. She was very thin and four months' pregnant. This poor woman showed courage. And then the conviction happened eight years later after the case was transferred to Maharashtra."

About what transpired when the petitioners filed a PIL in SC, Ali said, "It was being said it was not admissible but the CJI said he was willing to admit it. Because of the enormity of the crime." Later, Bilkis herself moved SC, which admitted her petition. The court said whether the PIL filed by activists was admissible or not was now just an academic question that could be settled in some other case. "Another shock was the extent to which the government was prepared to go to protect these fellows. A lot of other people also got impleaded. Then Bilkis came with her lawyer and said if so many people are willing to fight for me, I should also join the fight. It is good that the judgment has come. BJP leaders who defended this (the remission) should be asked why they defended such criminals," Ali said.

Verma said she had not met Bilkis Bano or Revati Laul. "In this situation, I wasn't sure whether she or her family would move court," she said. "Bilkis also went to court and it heard her petition. I am very happy. My confidence in the rule of law is restored. A big salute to Bilkis and a big thanks to the judges."

FULL REPORT ON www.indianexpress.com

WHAT THE PARTIES SAY

"The Gujarat government was behind the release means that the Supreme Court judgment today is a hard slap on the face of the Gujarat government."
BRINDA KARAT, CPI(M) POLITBURO MEMBER

"I want to congratulate the apex court for it as the decision (of the Gujarat government) was wrong."
FAROOQ ABDULLAH, NATIONAL CONFERENCE CHIEF

"With this order, the veil over the anti-women policies of the BJP has been removed... Congratulations to Bilkis Bano for continuing her fight bravely."
PRIYANKA GANDHI VADRA, CONGRESS GENERAL SECY

"I am grateful to SC for taking this strong and bold judgment. It proves that the rapists were moving freely..."
MAMATA BANERJEE, WEST BENGAL CHIEF MINISTER

"It appears that justice is being delivered to Bilkis Bano finally after two long decades. The brutality of gang rapes and mass murders can't be brushed aside and the perpetrators remain unpunished."
SITARAM YECHURI, CPI(M) GENERAL SECRETARY

"Today the Supreme Court's decision has once again told the country who is the 'patron of criminals'."
RAHUL GANDHI, SENIOR CONGRESS LEADER

"The BJP government in Gujarat and the BJP government in Centre... should apologise to Bilkis Bano. This is the minimum that can be done by BJP."
ASADUDDIN OWAISI, AIMIM PRESIDENT

"It is a significant victory for the rule of law and sends a clear message that justice cannot be compromised under any circumstances."
MAULANA MAHMOOD ASA'D MADANI, JAMIAT ULAMA-I-HIND CHIEF

"This judgment sends a powerful message: The unwavering commitment to women's integrity. Justice prevails."
K KAVITHA, BRS MLC



The Supreme Court on Monday said whenever the state fails to perform its duties, the court will step in 'to ensure that the rule of law prevails over the abuse of the process of law'. *ANI*

When Fadnavis broke ranks with other BJP leaders to criticise felicitation of rapists

MOHAMED THAVER
MUMBAI, JANUARY 8

WHILE THE Supreme Court has ruled that the competent government to decide on the remission of the convictions in the Bilkis Bano case, which the court struck down on Monday, was the one in Maharashtra, it was also in the state that a prominent BJP leader, Devendra Fadnavis, disapproved of the felicitation the 11 men had received following their release.

Breaking ranks with other BJP leaders, the Dy CM said in the state legislature on August 23, 2022, "One of the members raised the Bilkis Bano case... There was no need to raise it here... the convicts served their sentence and were released as per the SC order. However, be it any accused, felicitating them on their release is wrong. A convict is a convict, and they cannot be felicitated.

"The release of the 11 convicts was raised by the Opposition during a discussion in the Legislative Council on the issue of women's safety in the wake of several instances of sexual misconduct, including the rape of a girl in Bhandara by two men over three days. Later during an Idea Exchange session with The Indian Express, Fadnavis was asked if he had been questioned from within the BJP for speaking on the issue. "Nobody in my party questioned me. I said what I thought," he said.

The SC ruled that the Gujarat government's decision to remit the sentences in the Bilkis Bano case and set them free was illegal. "The Gujarat government had no jurisdiction to entertain the application for remission or pass the orders as it was not the appropriate government," the court said.

While the incident had taken place in Gujarat, the trial was shifted to Mumbai, where a special court convicted the accused in 2008. The Supreme Court noted that the appropriate government to decide on the remission was the state where the convicts were sentenced—and not where the offence was committed or the accused were imprisoned. The court thus ruled that the competent government in this matter would be the Maharashtra government.

When one of the convicts, Radheshyam Shah, moved the SC in 2022 seeking remission, after he had completed 15 years and four months of the life term awarded to him, it was the Maha Vikas Aghadi government in power in the state. In an order dated May 13, 2022, the Supreme Court bench of Justices Ajay Rastogi and Vikram Nath asked the Gujarat government to consider Shah's application for premature release "within a period of two months", stating it was the "appropriate government" to decide on the issue—a stand contradicted by the latest ruling of the apex court in the case.

Bilkis Bano was gang-raped and seven members of her family were murdered during the Gujarat riots of 2002. The 11 convicts were released by the Gujarat government under its remission and premature release policy on August 15, 2022.

Convicts not home in Dahod village, families tight-lipped

SOHINI GHOSH
SINGVAD, RANDHIKPUR (DAHOD), JANUARY 8

LOCKED DOORS and a policeman on guard is the sight that greets one at the twin villages of Randhikpur and Singvad where nine of the 11 convicts in the Bilkis Bano gangrape case lived, and are now, "missing".

When *The Indian Express* visited Singvad on Monday, hours after the Supreme Court verdict that overturned their August 15, 2022 remission granted by the Gujarat government, their relatives were reluctant to say where the nine men were. The two villages are located side by side, with villagers using both the names interchangeably.

Claiming that his son was innocent, Akhambhai Chaturbhai Raval (87), father of one of the convicts, Govind Nai (55), blamed the conviction on "political vendetta of Congress". Raval said Govind had left the house "a week ago".

A local policeman said that Govind left home on Saturday (January 6). His ailing parents emphasised that they are a "Hindu faith-abiding family, incapable of committing the crimes" that have been alleged against their son as well as Akhambhai's brother Jashvant Nai, another convict in the case.

"I wish and pray that he (Govind) gets to do seva (service) at the (Ram) mandir pratishthan in Ayodhya. It is better to do seva than do nothing and roam around everyday. He has not been able to do anything since he was released (from jail). Going back to jail is not a big deal and it is not that he was out of jail unlawfully. He was released with due process of law and now the law has told him to go back, so he will go back. He spent 20 years in jail so it is not something new," Akhambhai said.

Among all the residences of the convicts, Govind's residence is the farthest from where Bilkis used to live in 2002.

Bilkis and her family had left their house in Randhikpur on February 28, 2002, soon after the train-burning incident in Godhra the previous day. On March 3, 2002, she was gangraped and 14 members of the family, including her three-year-old daughter, were killed by a mob in Limkheda taluka of Dahod. The bodies of six were never found. The 11 convicts were sentenced to life imprisonment by a CBI special court on January 21, 2008.

Govind's single-storeyed house, adjacent to his parents' kutcha house, was locked from the outside with a Randhikpur police station constable standing guard.

Another convict, Radheshyam Shah, has not been home "since the last 15 months", said his father Bhagwandas Shah. This, even as neighbours and shopkeepers at the busy village square attest that nearly all the convicts were publicly seen until Sunday, including Radheshyam. Bhagwandas claimed that he "doesn't know where Radheshyam is... he went with his wife and son".

Outside each of these locked houses are stationed a lone constable, a part of the police bandobast in light of Monday's verdict. Sub-Inspector G B Rathva, in charge at Randhikpur police station, said, "We arranged for bandobast as we did not want any untoward incident, either from the convicts' side, their family and relatives, or from the other side who may want to celebrate the verdict."

FULL REPORT ON www.indianexpress.com







(Clockwise from top left) Residences of Govind Nai, Pradip Modhiya and Radheshyam Shah, three of the convicts in the case, at Singvad in Dahod on Monday. *Nirmal Harindran*

Rule of law vs right to liberty: What Court said

KHADIJA KHAN
NEW DELHI, JANUARY 8

WHILE QUASHING the Gujarat government's decision to grant remission to the convicts in the Bilkis Bano case, the Supreme Court on Monday acknowledged the importance of personal liberty as a fundamental right under Article 21 of the Constitution, but also sought to address the question of whether the rule of law can prevail over it.

It also addressed the issue of whether the convicts should be sent back to prison or be given the benefit of liberty, despite the orders forming the basis for their release being declared "illegal" and "wholly without jurisdiction".

Defined by the architect of the Massachusetts Constitution of 1780, John Adams, as "a government of laws and not of men", the rule of law is a concept that acts as a check to the executive's lawlessness, by ensuring that no official or administrator can arrest or detain a person without legislative sanction.

In the present case, the court explained the concept to mean that whenever the State fails to perform its duties, the court will step in "to ensure that the rule of law prevails over the abuse of the process of law". Such abuse could stem from inaction, arbitrary actions of protecting offenders, or failure of different authorities to discharge obligations according to the law, the court said.

Adding that breaching the rule of law amounts to negating equality, as prescribed by Article 14, the court said that "equality" before law would itself become an "empty" word if its violation was not a matter of judicial scrutiny, and if courts didn't enforce the rule of law. "Judiciary is the guardian of the rule of law and the central pillar of a democratic State," the Bench said.

"Importantly, rule of law means no one, howsoever high or low, is above the law; it is the basic rule of governance and democratic polity," the court said, adding that the concept is "closely intertwined" with adjudication by courts of law. Therefore, the judiciary has to carry out its obligations favouring the rule of law, it said.

The SC said it must be a "beacon in upholding rule of law", adding that it would otherwise lead to a situation where all courts in the country apply the concept "selectively" and become "unmindful", resulting in "a dangerous state of affairs in our democracy". Holding that "compassion and sympathy have no role to play where rule of law is required", the court said that the rule of law forms the essence of a democracy, and should be "preserved" and enforced by courts without fear, favour, affection, or ill-will.

"Everyone within the framework of the rule of law must accept the system, render due obedience to orders made, and in the event of failure of compliance, the rod of justice must descend down to punish," it said. The existence of the rule of law and the fear of being brought to book operate as deterrents "to those who have no scruples in killing others if it suits their ends," it said.

Citing the words of the late Justice V R Krishna Iyer, the court said, "the finest hour of the rule of law is when law disciplines life and matches promise with performance", adding that justice "should remain loyal to the rule of law". Referring to Justice H R Khanna's dissenting judgment in ADM, Jabalpur vs. Shivakant Shukla (1976), the court said "rule of law is the antithesis of arbitrariness".

Rejecting the convicts' plea for protection of liberty, the court held that the rule of law must prevail and the orders of remission be set aside.

Man accused in 2018 Siyana violence made BJP zonal chief in UP

MANISH SAHU
LUCKNOW, JANUARY 8

THE Uttar Pradesh unit of the BJP has appointed Sachin Ahlawat, an accused in the 2018 Siyana arson case in which a police inspector was killed in violence over alleged cow slaughter, as the party's zonal chief in Bulandshahr.

Ahlawat, 38, is among the 31 zonal presidents of the BJP in Bulandshahr whose names were released last week. He has been made president of BB Nagar Mandal. Ahlawat, who is now out on bail, has been charged with rioting, assault to deter public servants from discharging his duty among others.

Two persons, including Siyana SHO Subodh Kumar Singh, were killed in the violence that took place on December 3, 2018.

Speaking to *The Indian Express* on Monday, Ahlawat said that he has been falsely booked in the case. "I had gone to the spot to find out what was happening as it took place in my village Mahav. I was then BJP's Siyana Mandal secretary. I was standing and watching the protest from a distance and a few people present at the spot were taking photographs and making videos. Police booked me because I was seen in the photos and videos. Like me, several other residents of my village have been falsely booked in the case."

"This is the only police case against me. I suffered a lot due to it. I have been appointed president of BB Nagar Mandal because of my hard work and long association with the BJP," said Ahlawat, who is also the pradhan of Mahav village, and has a business of farming and dairy.

It has been alleged that Ahlawat had called up the prime accused, then Bajrang Dal convener Yogesh Raj, and told him about the alleged cow slaughter case in his village. Soon, a mob gathered at the spot and went on a rampage demanding action.

According to his lawyer, Ashok Dagar, police filed chargesheet against 44 people, including Ahlawat, in the case. Ahlawat said that he spent three months in jail after his arrest before he was released on bail. Calls to BJP's state unit president Bhupendra Singh Chaudhary went unanswered.



SHO Subodh Singh was shot dead on Dec 3, 2018.

ATTACK ON ED TEAM

Bengal DGP vows strict action, ED says 'charges in FIR are weak'

EXPRESS NEWS SERVICE
KOLKATA, JANUARY 8

WEST BENGAL Director General of Police (DGP) Rajeev Kumar on Monday said that strict action will be taken against those involved in an attack on Enforcement Directorate officials in Sandeshkhali of 24 North Parganas district last week.

Interacting with mediapersons in South 24 Parganas' Gangasagar, the DGP, who spoke for the first time on the incident, said, "A strong action will be taken against those who took the law into their hands. A comprehensive inquiry will be initiated against those who broke the law."

The ED on Monday said the state police registered a case under bailable and non-scheduled offences in the Sandeshkhali incident and has not provided it with a copy of the FIR.

The Bongaon Municipality's former chairman, Adhya, was produced in a court which granted his ED custody for 14 days. Also, the ED has submitted a report to its headquarters about the attack on its team last Friday. Sources said the two-page report mentions minute details of the incident.

As Stalin lays out red carpet for investors, Tamil Nadu attracts proposals worth Rs 6.6 lakh crore

ARUN JANARDHANAN
CHENNAI, JANUARY 8

THE TWO-DAY Tamil Nadu Global Investors Meet (GIM) 2024 that concluded in Chennai on Monday saw the state receive investment proposals worth an unprecedented Rs 6,64,180 crore, Chief Minister M K Stalin announced.

These potential investments could directly lead to 14.54 lakh jobs and indirectly to another 12.34 lakh jobs across various sectors. Over the last two years, the CM said, Tamil Nadu has attracted investments worth Rs 90,803 crore, creating employment for 2,80,600 people. A breakdown of the proposals that came in during GIM 2024 revealed a diverse interest in Tamil Nadu's economy:

The Industries Department bagged a significant portion of the total potential investments, getting proposals worth Rs 3.79 lakh crore that could lead to over 8 lakh jobs. The energy sector got proposals worth Rs 1.35 lakh crore, expected to generate 14,609 jobs.

The housing and urban development sector attracted proposals worth Rs 62,939 crore, with the promise of 2.65 lakh jobs. The IT and digital services sectors got proposals worth Rs 22,130 crore, foreseeing over 1 lakh jobs.

The handloom and textiles sector, with Rs 572-crore proposals, showed potential for 9,100 job opportunities. GIM 2024, the first such investors' meet under the Stalin government, served as a platform for the state to present its roadmap to achieve the DMK government's stated goal of making Tamil Nadu a $1-trillion economy by 2030. The event had nine partner countries and more than 30 participating nations.

Highlights of the event included announcements regarding Qualcomm's expansion in Chennai with a new design centre, significant investments by Tata Electronics and Pegatron in iPhone assembly units, and VinFast's decision to set up an electric vehicle (EV) manufacturing facility in Thoothukudi.

Apart from companies, Singapore also announced investment in Tamil Nadu, with High Commissioner Simon Wong saying the country would invest Rs 31,000 crore in the state. This reinforced the long-standing partnership between Tamil Nadu and Singapore, which has a significant Tamil population.

Another highlight of the GIM was the World Investors Conference, where a delegation visited the Industry 4.0 technology centre at the Government Industrial Training Institute in Oragadam.



Tamil Nadu CM M K Stalin

DABHOLKAR MURDER CASE

SC rejects plea against HC order to halt court-monitored probe

New Delhi: The Supreme Court Monday rejected a plea filed by the daughter of slain Maharashtra rationalist Narendra Dabholkar challenging a Bombay High Court order to discontinue the court-monitored probe in his murder. Dabholkar was shot dead by two motorcycle-borne assailants in Pune on August 20, 2013.

A bench comprising Justices Vikram Nath and Satish Chandra Sharma noted the high court had said that Mukta Dabholkar, the daughter of the deceased rationalist, can provide any material regarding the criminal case to the CBI and the agency had to consider them as per law.

"Prima facie, we are not inclined to interfere with the order passed by the high court," the bench said, while dismissing the plea. In April 2023, the high court discontinued the monitoring, saying it cannot be "perpetual". **PTI**

Agra Summit collapsed due to Musharraf's Kashmir 'overreach': Ex-envoy Bisaria

PRESS TRUST OF INDIA
NEW DELHI, JANUARY 8

PAKISTAN'S THEN President Pervez Musharraf's "overreach" in publicly airing his hawkish views on Kashmir, his lack of intent in containing terrorism and insistence on a formulation linking forward movement in overall ties to progress on Kashmir led to the collapse of Agra Summit in 2001 and not because of LK Advani's hardline approach.

This is what Ambassador Ajay Bisaria, who served as a key aide of Atal Bihari Vajpayee when he was the prime minister, said in his upcoming book while throwing light on various dramatic details of the historic Agra Summit.

On the second day of the Summit, Musharraf met with editors of major newspapers and TV networks for a breakfast conversation during which he "let loose" his hawkish position on Kashmir and equated terrorists with freedom fighters, Bisaria recounts.

According to Bisaria, in the book, 'Anger Management - The Troubled Diplomatic Relationship Between India and Pakistan': "Musharraf's overreach in terms of publicly broadcasting hawkish positions on Kashmir — and his insistence on a formulation linking progress on all issues with progress on Kashmir — had led to the unravelling of the summit."

DELHI CONFIDENTIAL



DUE DILIGENCE

THE NOMINATION of Sikkim legislator D T Lepcha for the lone Rajya Sabha seat from the state has come as a big relief for a section of the BJP. Lepcha, along with nine other MLAs, had quit the Sikkim Democratic Front soon after the 2019 Assembly elections and joined the BJP. When senior BJP leader Ram Madhav, who was in-charge of the party's affairs in Sikkim in 2019, facilitated Lepcha's entry, it ended the 25-year rule of former CM Pawan Kumar Chamling. The BJP was looking forward to forming its government in the state, but later changed its plan and joined hands with Sikkim Krantikari Morcha's Prem Singh Tamang, who became the Chief Minister. This change had left many BJP leaders in the region worried, but now with his RS nomination, they feel Lepcha has finally "got his due".

HOLY MISSION

DAYS AFTER Prime Minister Narendra Modi made an appeal on December 30 for cleanliness drives to be undertaken at temples and pilgrimage sites, officials of the Union Housing and Urban Affairs Ministry, which is responsible for the Swachh Bharat Mission in cities, on Monday launched #MandirSafaiKaSankalp" via social media. Secretary Manoj Joshi posted on X: "This week, I am taking part in Swachhata Hi Seva as we encourage more cleanliness and hygiene around holy places to welcome Ramlala in Ayodhya on January 22. Come forward as we achieve yet-another historical milestone towards #ViksitBharat." The official handle of the ministry, too, posted several messages on X, including one saying "This pledge shall ensure a new direction for @SwachhBharatGov, and the movement will add up to the grand welcome of Lord Ram in Ayodhya."

VIKASIT BHARAT YATRA: PM ADDRESSES SCHEME BENEFICIARIES

Generations had unfulfilled dreams, that's why we are working hard: PM

VIKAS PATHAK
NEW DELHI, JANUARY 8

ADDRESSING BENEFICIARIES of government welfare schemes over teleconferencing on Monday, Prime Minister Narendra Modi said the purpose of the Vikasit Bharat Yatra was to ensure that no eligible person is deprived of the benefits of such schemes.

He said it was his resolve to make India a developed country by 2047. Timed right before the 2024 Lok Sabha elections, the yatra that has reached 11 crore people in 50 days, is touring villages across the country to spread awareness about the government's welfare schemes so that more people can apply for the benefits.

PM Modi said, "Sometimes people are not aware of the schemes. Our government sees reaching out to villages across India as our responsibility. About 12 lakh new applications for Ujjawala have been received since this yatra started; 2 crore health check-ups have been done during this yatra. About 1 crore TB check-ups and 22 lakh sickle cell anemia check-ups have been done."



PM Modi addresses the beneficiaries via video conference, Monday. *PTI*

He added, "These are rural, Dalit, backward, and Adivasi people. Earlier, they found reaching doctors difficult, now doctors are reaching them for check-ups. Up to Rs 5 lakh insurance, free kidney dialysis, and cheap medicines are now available for them. The yatra has proved a boon for the poor."

Modi said, "People who spent their lives awaiting government assistance are now reaping the benefits. Who had thought officials and political leaders would reach their doors and ask whether they got benefits from government schemes or not? People are satisfied with this."

Stating that "Modi's guarantee" was now being discussed across India and the world, he added, "On a mission mode, the government is reaching out to each labharthi (eligible beneficiary). Why are we working so hard? In our country, many generations have lived with unfulfilled dreams. They thought lack of development was their destiny. Our government wants the present and future generations to be free from the difficulties their parents and grandparents faced. That is why we are working so hard."

He said, "We are focusing on the future of our four castes – the poor, women, farmers, and youth. If they are strengthened, the country will be strengthened. The biggest goal of the yatra is that no eligible person should be left out of the benefits of government schemes."

"Ten crore sisters have joined women's self-help groups in the last decade. Many have become lakhpati didis. It is my dream that the country should have 2 crore lakhpati didis," he said.

Modi wishes Hasina after her 4th straight win

New Delhi: Prime Minister Narendra Modi Monday called his Bangladesh counterpart Sheikh Hasina and congratulated her for securing a historic fourth consecutive term in Sunday's general elections.

Modi reiterated India's commitment to further strengthen the "enduring and people-centric partnership" with its neighbour.

After the phone call, Modi posted on X, "Spoke to Prime Minister Sheikh Hasina and congratulated her on her victory for a historic fourth consecutive term in the Parliamentary elections. I also congratulate the people of Bangladesh for the successful conduct of elections..."

Hasina won Sunday's poll with a landslide victory even as the main opposition Bangladesh National Party (BNP) had boycotted the polls. **ENS**



Maldives envoy Ibrahim Shaheeb (*left*) at South Block. *ANI*

Remarks on PM Modi: MEA calls Maldives envoy, raises concerns

Remarks do not represent views of Muizzu govt: Male to Indian diplomat

EXPRESS NEWS SERVICE
NEW DELHI, JANUARY 8

THE MINISTRY of External Affairs Monday called the High Commissioner of Maldives to India Ibrahim Shaheeb and conveyed its strong concerns over disparaging social media posts against Prime Minister Narendra Modi by three now-suspended ministers, as the backlash over the remarks continued for the second day.

In Male, the Maldivian government conveyed to the Indian High Commissioner, Munu Muhawar, that the remarks against Modi do not represent its views. Though the Maldivian media reported that Muhawar was summoned to the foreign ministry, the Indian High Commission said he had a "pre-arranged" meeting with Ambassador at Large Dr Ali Naseer Mohamed.

"High Commissioner Munu Mahawar had a pre-arranged meeting with Dr Ali Naseer Mohamed, the Ambassador at Large, at MoFA, Maldives, today to discuss bilateral issues," it said in a post on X.

As the row escalated, India's leading travel platform EaseMyTrip said it has suspended bookings to the Maldives.

The Maldives government of President Mohamed Muizzu, whose party rode to power last year on an "India Out" poll campaign, suspended three ministers Sunday for making derogatory remarks against Prime Minister Narendra Modi and the people of India.

Ministers Mariyam Shiuna, Malsha Shareef, and Mahzoom Majid were suspended with immediate effect, hours after the Maldives government distanced itself from the remarks made by the ministers and MPs who joined a social media spat over Lakshadweep vs Maldives in the wake of Prime Minister Modi's photographs from his Lakshadweep visit last week.

Sources said that the Indian High Commission in Male expressed concerns about the comments made in regard to Modi by certain ministers in the Maldives government with the foreign office Sunday.

President Muizzu was leaving for China Sunday on a state visit at the invitation of Chinese President Xi Jinping.

Without naming its ministers or Modi, the Maldives government in a statement Sunday said, "The Government of Maldives is aware of derogatory remarks on social media platforms against foreign leaders and high-ranking individuals. These opinions are personal and do not represent the views of the Government of Maldives."

Mahua gets notice after failing to evict MP bungalow

DAMINI NATH
NEW DELHI, JANUARY 8

THE DIRECTORATE of Estates (DoE) Monday issued an eviction notice to former Trinamool Congress MP Mahua Moitra, who was expelled from the Lok Sabha on December 8, for the bungalow allotted to her as MP, sources said.

The Lok Sabha Secretariat cancelled the allotment and asked her to vacate the 9B, Telegraph Lane, bungalow in a month. Sources said the DoE issued a notice under the Public Premises (Eviction of Unauthorised Occupants) Act, 1971, after the month-long period ended on Sunday and Moitra was still in possession of the property.

It is learnt that the action by the DoE, which is under the Union Ministry of Housing and Urban Affairs, was taken after Lok Sabha authorities wrote to it asking for the same.

The notice was issued under Section 3B of the Act, which enables an estate officer to ask anyone who was allotted residential accommodation and is in "unauthorised occupation" to showcause within three working days "why an order of eviction should not be made".

The section also enables the officer to take possession of the premises using "force", if necessary, if the person does not comply with the eviction order.

Moitra had moved the Delhi HC to challenge the cancellation of allotment, but last week withdrew the plea, saying she would approach the Directorate of Estates.

She has also moved the Supreme Court against her expulsion from Lok Sabha. The apex court on January 3 declined to grant interim relief to Moitra, while asking the Lok Sabha Secretary General to reply to her plea.



AFFORDABILITY OF GENERIC DRUGS

Union Home Minister Amit Shah, Health Minister Mansukh Mandaviya and MoS Home Ajay Mishra at a conclave on 'Primary Agricultural Credit Societies as PM Jan Aushadhi Kendra', in New Delhi, Monday. They distributed Jan Aushadhi store codes to PACS from 5 states/ UTs. Shah said about 241 PACS have opened such Kendras, which will ensure rural poor and farmers avail benefits of generic medicines at affordable rates. *ANI*

Rajasthan: Setback for BJP as minister loses poll to Cong

HAMZA KHAN
JAIPUR, JANUARY 8



Surendrapal Singh lost by a margin of over 11,000 votes

A LITTLE over a month after it came to power in Rajasthan, the BJP on Monday suffered a setback as one of its newly inducted ministers, Surendrapal Singh, lost the Assembly election from Karanpur constituency to his Congress rival.

Singh, who was inducted as a Minister of State with independent charge and given four portfolios even before getting elected to the Assembly, submitted his resignation to Governor Kalraj Mishra later in the day.

The election for the Karanpur seat could not be held along with the other Assembly seats on November 25 last year due to the death of MLA Gurmeet Singh Kooner, who was the Congress candidate from there.

On Monday, his son Rupinder Singh Kooner, who was fielded by the Congress for the January 5 election, emerged as the winner, defeating Surenderpal Singh by a margin of 11,283 votes.

With this win, the Congress's tally in the Assembly has gone up to 70 against the BJP's 115 seats.

In a post on X, former chief minister Ashok Gehlot congratulated Kooner and dedicated the victory to the public service work of his father. He said that the people of Karanpur "have defeated the pride of the BJP".

"The public has taught a lesson to the BJP, which flouted the code of conduct and morality by making its candidate a minister during the elections," Gehlot said.

The Congress had earlier lodged a protest with the Election Commission over the BJP move, accusing it of trying to influence the voters by making Surenderpal Singh a minister even before he became an MLA.

After the BJP won the Assembly polls, Surenderpal Singh was inducted as a Minister of State (independent charge) on December 30. On January 5, the day of polling for the Karanpur seat, he was handed over four portfolios — Agricultural Marketing, Agriculture Irrigated Area Development and Water Utility, Indira Gandhi Nahar Pariyojana Department and Department of Minority Affairs and Waqf.

Chief Minister Bhajan Lal Sharma said Surenderpal Singh will again be dedicated to the development of the Karanpur Assembly constituency.

BJP state president C P Joshi said that the party will "review the reasons for the loss".

'Mamata is not serious about the alliance... We don't need any grace from her to retain 2 seats (in Bengal)'

WITH THE Lok Sabha polls round the corner, the constituents of the Opposition INDIA bloc are looking to step up their seat-sharing exercise. In West Bengal, however, the already strained ties between the ruling TMC and the Congress have become more hostile. State Congress chief and party's leader in Lok Sabha **ADHIR RANJAN CHOWDHURY** recently targeted CM Mamata Banerjee over reports that the TMC was inclined to offer his party only 2 seats in Bengal. He speaks to **MANOJ C G.** Excerpts:

You have been critical of the TMC government over the recent attacks on ED officials.

There is nothing called law and order in West Bengal. An entire machinery of corruption is in collusion with the ruling dispensation.

The ED has initiated this investigation into the alleged ration scam at the directions of the (Calcutta High Court). The apparatchiks of the TMC are getting exposed one after another.

The Chief Minister (Mamata Banerjee), who is also the Home Minister, has been maintaining a stoic silence on the incident. This is an example of the ruling dispensation's connivance with those people (the ones who attacked).

The Congress, and other Opp parties, have always argued that agencies like the ED, CBI and the Income Tax Dept are being misused by the Centre?

We know the ED and the CBI are not impartial. We also say that the agencies are often misused by the central government. They try to save some and frame some others, especially political opponents. But this case is different because the investigation is being conducted at the behest of the court.



THE EXPRESS INTERVIEW

WITH ADHIR RANJAN CHOWDHURY
CONG BENGAL CHIEF & LEADER OF CONGRESS IN LOK SABHA

You have sought President's rule in the state after the Sandeshkhali incident.

That was in response to the BJP, which had been clamouring for an NIA probe. I said if the BJP has enough guts, they can impose President's rule.

The BJP in Bengal is trying to cash in on the attacks by giving a communal colour to them. The BJP alleged that Rohingyas were part of the mob which attacked the ED officials. If Rohingyas were present…who is responsible for it? The central government and the home ministry.

Given the acrimony between the Congress and the TMC, how is it possible for the two parties to enter into alliance?

Mamata Banerjee does not want an alliance. That is why she has let it known that she was willing to give two seats (that the Congress currently has) to the Congress. Her statements on alliance have no credibility. Had she been sincere, she should have expressed regret on the attacks that had been taking place on the Opposition (in Bengal).

Two seats is not acceptable?

How can it be? For me, it is not acceptable.

I can fight it alone against Mamata Banerjee and the BJP because I have proved it. My colleague and I can fight in both the seats on our own. We don't require any grace from Banerjee to retain the two seats.

BJP picks and chooses in Kerala, hopes riding on a handful of LS seats

SHAJU PHILIP
THIRUVANANTHAPURAM, JANUARY 8

AS THE Lok Sabha elections approach, the BJP is looking to break its Kerala jinx and breach the southern state where it has never won a parliamentary seat. With Prime Minister Narendra Modi's roadshow followed by a huge women's rally in Thrissur last week, the party has sounded the poll bugle in the state.

But instead of spreading itself thin in a state where it does not yet have the organisational heft of its rivals, the party has chosen to focus on a handful of seats that have shown promise in the past. Thrissur is one such constituency where the BJP fancies its chances against the Left and the Congress. In the 2019 Lok Sabha elections, the BJP fielded actor-turned-politician Suresh Gopi from the seat and garnered 28.2% of the vote share as against veteran party leader K P Sreesan's 11.15% in 2014, showing that his "star status" can help the party bump up its vote share.

The BJP has strongly hinted that Gopi, a former Rajya Sabha MP, will be its candidate from Thrissur. Apart from banking on the actor, who accompanied Modi on his roadshow, the BJP is also expecting a significant chunk of Christians in the constituency to vote for it, especially after the recent outreach programmes.

Another parliamentary constituency where the BJP fancies its chances is Thiruvananthapuram, where the Congress's Shashi Tharoor is likely to seek a fourth straight term. Thiruvananthapuram has been a silver lining for the BJP as it is the only seat of the state's 20 Lok Sabha constituencies where it has been the runner-up in the last two elections, pushing the CPI(M) to third place. Its best show was in 2014 when party veteran O Rajagopal, who got 32.32% of the votes, narrowly lost out to Tharoor who received 34.09% of the votes. Rajagopal had increased his vote share by more than 20 percentage points when compared to the 2009 elections.

Rajagopal is a popular leader and managed to garner votes from outside the ambit of the Sangh Parivar as the constituency has a significant upper-class Hindu vote bank and the BJP has a better grassroots structure compared to other constituencies. In 2019, the BJP's Kummanam Rajasekharan also secured more than 31% of the votes but again lost out to Tharoor who polled more than 41% of the votes.



BJP supporters during the 'Sthree Shakthi Modikkoppam' Mahila Sangamam in Thrissur, Kerala, last week. *PTI file*

Another constituency the BJP focussed on in 2019 is Pathanamthitta in central Kerala because of the Sabarimala protests. The Congress's Anto Antony has been winning the seat since 2009. The BJP in 2019 fielded its state president K Surendran, who was at the forefront of the protests, from the constituency. Though he finished third, he managed to increase the party's vote share from 15.95% in 2014 to 28.97%.

The constituency has around 35% Christian voters, a large number of whom are non-Catholics, while 58% of the voters are Hindus. Of the Hindus, 20% belong to the upper-class Nair community. The BJP will likely strategise to reach out to Christians there. In an indication that Christians have largely shifted their allegiance to the Left from the Congress, the CPI(M) in 2021 won all seven Assembly segments that fall under the Pathanamthitta Lok Sabha seat.

The fourth focal point for the BJP will be the Attingal seat in Thiruvananthapuram district that the Left dominated till the Congress's Adoor Prakash wrested it from them in 2019. The BJP's woman face in the state, Shobha Surendran, contested from Attingal and secured 24.18% of the votes, a drastic rise from the 10.6% the party polled five years earlier. The strong BJP performance was attributed to the resentment of Hindus against the CPI(M) over the Sabarimala issue. This time too, the BJP is likely to field a prominent leader from the backward Hindu Ezhava community, which is considered to be influential in the constituency. In 2019, all three parties fielded Ezhava candidates.

The BJP in Kerala has over the years roped in several prominent bureaucrats, actors and sportspersons who have helped to increase the vote share but electoral victory has eluded the party. Also, the party does not boast of a strong grassroots structure in the state like their rivals, especially the CPI(M). The BJP's ally Dharma Jana Sena is led by the Ezhava community, which has traditionally sided with the CPI(M).

WORDLY WISE

GOVERNMENTS NEVER LEARN. ONLY PEOPLE LEARN.

— MILTON FRIEDMAN

The Indian EXPRESS

FOUNDED BY RAMNATH GOENKA

BECAUSE THE TRUTH INVOLVES US ALL

PULL BACK FROM BRINK

Blame for avoidable row with India lies with Maldives. But it also frames dangers of hypernationalism on both sides

FEW WOULD HAVE thought that Prime Minister Narendra Modi's visit to Lakshadweep — only the second such visit by an Indian PM to the long-neglected islands — would kick up a tsunami of controversy engulfing relations between India and Maldives, already under considerable strain. While both sides have reasons to manage the fallout from the entirely avoidable episode, it highlights the dangers of hypernationalism for two South Asian neighbours with much at stake in wide-ranging cooperation. It is also a reminder to the new rulers of Maldives that small nations must exercise prudence in dealing with their neighbours. Needless provocations can trigger consequences that could, in the end, hurt the smaller neighbour a lot more. While Delhi's official reaction has been tough and correct in communicating its outrage through diplomatic channels, India's thin-skinned social media warriors have made a bad situation worse. The managers of these warriors must know that you can't bully your neighbours into submission; they must also recognise that hypernationalists do more harm to India than to the target of the day. Above all, they constrain the freedom of action for Indian diplomacy and alienate many of Delhi's friends and partners in the neighbourhood.

There is no question that the blame for this controversy lies at the door of Maldives — it began when three brash deputy ministers used offensive language against PM Modi's posts on a social media platform about his trip to Lakshadweep last week, celebrating the natural beauty of the islands and its potential attractions for the Indian tourist. As two former presidents — Ibrahim Solih and Mohamed Nasheed — strongly condemned the ministers' remarks, the incumbent president, Mohamed Muizzu, moved quickly to suspend the three deputy ministers. But make no mistake, the sentiment in the tweets represents real hostility against India. Having come to power on an anti-India platform in the elections last year, the new government of Maldives has wasted no time in asking Indian military personnel to leave the country and ending the agreement with the Indian navy for a hydrographic survey of its waters. Muizzu had ostentatiously chosen to travel to Turkey on his first official visit late last year, is now on a state visit to China and appears confident that he can diminish India's salience in the island republic.

But if the episode underlines a bristling ultranationalism in Maldives, the social media response in India has also been over the top. The trending hashtag "boycott Maldives" is self-defeating — China is well-positioned to step in. There are various other sources of tourist inflow into Maldives, including Europe and Russia. The social media claim that Lakshadweep is an alternative to Maldives is delusional; India is far from developing the necessary infrastructure in Lakshadweep and connectivity to the islands. PM Modi's visit to the islands was an important first step that requires sustained follow-up action. Boycotting Maldives in any form will only reduce India's leverage in the islands. Delhi should instead double down on a firm but patient engagement with Maldives that will rally friendly forces in the country and remind the ruling party of the dangers of pushing too hard against India.

SHEIKH HASINA AGAIN

Her fourth term as PM promises stability in Bangladesh, augurs well for India. But her record on democracy is a concern

THE VICTORY OF Prime Minister Sheikh Hasina's Awami League in Bangladesh's parliamentary election was all but guaranteed after the main opposition party, the Bangladesh Nationalist Party (BNP), decided to stay away from the polls. The party's leader, Khaleda Zia, is ailing and under house arrest on corruption charges, which her supporters claim to be politically motivated. The government had rejected the BNP's demand for a neutral authority to oversee the polls. Zia's party has accused the Awami League of propping up dummy Opposition candidates and alleged that more than 20,000 BNP members were arrested in the run-up to elections. The government has disputed these allegations. But a barely 40 per cent turnout in the polls — it was about 80 per cent in 2018 — should be indication enough for the PM that she begins her fourth consecutive term in office in a deeply troubled political landscape.

Hasina's legacy has to a great extent been shaped by Bangladesh's economic success in the last decade and a half, fueled by infrastructure, poverty alleviation and energy projects. She has also dealt with militancy with a firm hand, often inviting accusations of high-handedness. Post-pandemic, however, the country has been hard hit by inflation. The taka has depreciated by over 40 per cent against the US dollar and Bangladesh has negotiated loans with the World Bank, IMF and Asian Development Bank. Already notorious for poor standards on freedom of speech, the Hasina regime is seen to have become more authoritarian in the strained economic circumstances. It has been criticised for weaponising the judiciary and resorting to mass arrests of political opponents. Those affiliated with the ruling party — especially its youth wing, the Jubo League — appear to enjoy impunity for violent attacks. In the run-up to elections, the US imposed visa restrictions on a large section of Bangladesh's political class and bureaucracy in order to "restore the democratic system".

Hasina has skilfully balanced ties with Bangladesh's powerful neighbours — India and China. It has joined the Belt and Road Initiative, attracted Chinese investments in infrastructure projects and is among the major importers of Chinese weapons. At the same time, Hasina's crackdown on anti-India elements has eased Delhi's security concerns in the East. With the situation in Myanmar deteriorating, the partnership between the two countries that share a 4,100 km long border is crucial to peace in South Asia. But the Hasina regime must also realise that without meaningful democracy, political stability will remain precarious.

ROLL UP THE RED CARPET

Once a platform to discover cinematic gems, award ceremonies are becoming predictable and irrelevant

THERE WERE SOME good — even great — moments at the 2024 Golden Globe awards. For one, Lily Gladstone, who played an Osage woman whose family is murdered as part of a larger conspiracy in *Killers of the Flower Moon*, won the Best Actress in a Motion Picture (Drama) award. This made her the first indigenous person to win the honour. Another landmark was Ali Wong's Best Actress win for the limited series *Beef* — the first for a woman of Asian descent.

In a ceremony largely devoid of surprises and clouded by awkwardness thanks to host Jo Koy's poorly-written opening monologue, these wins were among the few moments to remember. Not for the first time, the event brought up questions of whether the annual tradition of the glamorous award ceremony had run its course, particularly as year after year, there are reports of falling viewership ratings. The biggest problem, by far, is the predictability. Was there ever any question, for example, that *Oppenheimer* would score big at the Globes — as indeed it did, winning Best Picture, Best Actor and Best Director among other awards? Or that the fourth season of *Succession* would add to its already impressive collection of awards?

This is not to say that the winners were not deserving, but merely that the elements of surprise and discovery — once a big draw for viewers — are waning. Awards like the Globes were a platform to come across gems that the masses might have missed, but this function is now performed far more effectively by social media and the recommendation algorithms of streaming services. For the Globes, the fact that it was able to finalise a host only 10 days before the event — after high-profile hosts like Chris Rock had declined — should also have been a warning. It may be time to roll up the red carpet.

An extraordinary judgment

Bilkis Bano verdict, quashing remission to 11 convicts, is a reassertion of the Supreme Court's lost power



INDIRA JAISING

WE LIVE IN extraordinary times, when extraordinary solutions are to be found. Hence it is that the Supreme Court of India has given an extraordinary judgment in the Bilkis Bano case, declaring its own previous decision a nullity, something that has happened perhaps only once before.

The Court held that the state of Gujarat "usurped" a power which it did not possess to grant remission to the 11 convicted persons for the rape of Bilkis Bano during a period of communal violence.

There is a difference between "usurpation of power" and "abuse of power". Opinions may differ on whether power was abused in a particular case and the Court may leave it to the decision-maker to take a call on a borderline case. But the very absence of power renders the decision void.

These men were all convicted for life, which means for the rest of their natural life. There is, however, the power of the state government within whose jurisdiction the trial takes place to grant a remission after completion of 14 years for good conduct or for other good reasons. Since the trial took place in the state of Maharashtra, it was Maharashtra alone that had the jurisdiction to grant remission, if at all it was to be given.

Standing in the way of deciding the case was a previous decision of two judges of the Supreme Court itself, that took the view that the appropriate government is the state of Gujarat. This judgment was clearly *per incuriam* since a larger bench of the Supreme Court had held that remission can only be granted by the state in which the trial took place. If that judgment held the field, the Bilkis petition could not be allowed.

It is here that the Court declared that its judgment was to be set aside since it was procured by fraud on the part of the petitioners. Bilkis Bano was not made a party to the previous petition. The petitioners suppressed the fact from the Supreme Court that prior to the grant of its judgment, a bench of the Gujarat High Court had held that the appropriate government was the state of Maharashtra.

> Bilkis Bano was not made a party to the previous petition. The petitioners suppressed the fact from the Court that prior to the grant of its judgment, a bench of the Gujarat High Court had held that the appropriate government was the state of Maharashtra. They also suppressed the fact that they had already appealed to the state of Maharashtra and that the trial court had recommended rejecting the grant of remission, on the ground that what had happened was a crime against humanity.

They also suppressed the fact that they had already appealed to the state of Maharashtra and that the trial court had recommended rejecting the grant of remission, on the ground that what had happened was a crime against humanity. The CBI, which was the investigating agency, was consulted and had recommended against remission.

Gangrape is a crime against humanity. This crime was perpetrated against a Muslim family in Gujarat in 2002 during widespread violence targeting the community. The Statute of the International Criminal Court prescribes a sentence of 30 years for crimes against humanity with no remission.

On conclusion of arguments, the Supreme Court deals with the plea of the convicts not to be sent back to prison since liberty is precious. To this the judges respond by saying liberty is precious when it is obtained by due process law. I might add, it is also precious when it is taken away without due process of law, as we see happening all too often these days. To a plea that the Court should exercise its extraordinary power under Article 142, the court holds that it is the power to do justice and justice is the rule of law, hence there is no question of allowing the convicts to remain out of prison anymore. The status quo ante has to be restored if justice is to be done.

In recent judgments of the Supreme Court, we have noticed a tendency that even when the declaration of law is in favour of the petitioners, the final order is not. This has happened, for instance, in the case relating to the disqualification of an MLA in Maharashtra and in the Article 370 case. It is not my purpose here to discuss the merits of the two cases but rather to insist that the court respect its own decisions. I do not wish to sit in judgment over the outcome of the Supreme Court's decision, there is a time and place for that. However, we have seen in recent times an abdication of the power of judicial review of the Supreme Court. In contrast, this judgment by BV Nagarathna and Ujjal Bhuyan is a reassertion of the apex court's lost power. All right-minded citizens must welcome the Court coming back to itself.

The Court also held that the state of Gujarat had contended that it was the appropriate government and yet they did not file a review against the previous decision. In that, they were "complicit" with the petitioners.

I started by saying that we live in extraordinary times. It is a time in which power is being "usurped" by decision-makers. What does this mean for us? It means that power is being exercised extra-constitutionally by those who govern us, under cover of leaving the law to "take its own course".

In the final analysis, this is the triumph of the will of Bilkis Bano to fight for justice and the collective contribution of the women's movement which has worked tirelessly in supporting her and articulating their vision of justice.

The writer is a former Additional Solicitor General of India. She appeared in this case on behalf of Mahua Moitra

LIVING IN A SUIT-BOOT WORLD

'12th Fail' is a reminder that there is space for those who stay true to themselves



AAKSHI MAGAZINE

VIDHU VINOD Chopra's moving film, *12th Fail*, has a much-talked-about ending. Set in the competitive world of UPSC examinations, the film is based on real-life Indian Police Service (IPS) officer Manoj Kumar Sharma's struggles to make it to the civil services.

The powerful moment comes towards the end of the film when Manoj finds out that he has cleared the final interview. In some ways, this is an obvious moment. The actor knows he has to be impactful here. And yet, Vikrant Massey creates something unexpected — he conveys the intensity and depth of the character's internal journey just through his body language.

But let's rewind and focus our attention on an earlier moment — also an actor's moment. It is the day of his final interview. Manoj is so nervous and intimidated that he doesn't even hear his name being called out. This is the biggest day of his life, but he is not feeling like himself. He is wearing formal shoes that do not fit. He is wearing a tie that he did not want to wear. This is the unfairness of a system where he has to win by not being himself, by not revealing too much of himself — to convince the elite interviewer that he belongs to this other world, even though his strength is that he does not.

And he almost doesn't win. Manoj's answer is too honest for the interview board. He is asked to step out for a bit.

> Government civil service jobs are coveted by lakhs of people in India as a means to a better way of life in a deeply unequal society. Not everyone has a happy ending like the real and reel life Manoj. In fact, most don't. Reportedly, in 2022, 11.52 lakh applicants applied for the preliminary examination and 13,090 candidates qualified. In the previous year, after the final round, the UPSC selected 4,119 candidates. The candidates who do make it, often do so at great toil and expense, mental as well as financial.

It is here that he reaches for the letter his girlfriend had left for him — no matter what he becomes, whether he cracks this interview or not, she wants to be with him and marry him. Her letter holds a promise which is the opposite of what the interview is demanding of him. It understands what he needs. To feel accepted and safe. He reads it just when he needs it.

The body language of Massey's character changes in that second. He makes use of obvious props — loosens the tie, removes the shoes. But the real job, as is for most great acting, is internal. The second time he walks into the interview room, Manoj looks like a different person. He already wanted to be true to his life experience, which is why he did not lie in the first place — but now he feels confident that he can be his true self.

When someone sees you for who you are, they also see you for who you want to be. This is the gift they give you.

In an interview, Vidhu Vinod Chopra said that the crucial thing about this film is to show that you can make it big while staying honest. And that the dialogue about Manoj making it without any kind of infrastructural support — "without oxygen" — is very important. In this moment, though, *12th Fail* acknowledged something even bigger — the humanity of the character. He is not just someone who has to make it through a competitive exam. He does not have to be exceptional for us to see him in all his complexity. He is that already.

Government civil service jobs are coveted by lakhs of people in India as a means to a better way of life in a deeply unequal society. Not everyone has a happy ending like the real and reel life Manoj. In fact, most don't. Reportedly, in 2022, 11.52 lakh applicants applied for the preliminary examination and 13,090 candidates qualified. In the previous year, after the final round, the UPSC selected 4,119 candidates. The candidates who do make it, often do so at great toil and expense, mental as well as financial.

In a just society, this would be seen as cruel. We celebrate it.

12th Fail's final act — the moment when Manoj does find his name on the list — is a culmination of everything he wanted and worked hard for. It is a beautifully sentimental moment, demanding our emotional involvement.

But it is the earlier scene that stayed with me as a reminder of a different kind of world. One where you do not need to win in order to be respected.

The writer teaches film studies at Ashoka University and has co-edited ReFocus: The Films of Zoya Akhtar. *Views are personal*

JANUARY 9, 1984, FORTY YEARS AGO


INDIAN EXPRESS

$ 100 million Cochin connection

BJP alerts state units for snap poll

No decision on seat sharing: Vajpayee

Plan for Congress Govt in Punjab

Akali leaders asked to go underground

Pro-Reshad party against army rule

Soviet carrot-and-stick policy towards Pak

J.K. JAIN M.P.

DELHI JUDO ASSOCIATION

THE ALL-INDIA JUDO CHAMPIONSHIPS

ELECTION ACTION PLAN

THE THREE-DAY NATIONAL council session of the Bharatiya Janata Party concluded with sounding an election alert to its units throughout the country. The council has given a seven-point action programme to gear up the party organisation for polls. It has called upon all party units to remain in a state of election throughout this year because it feels that "the possibility of a snap poll cannot be ruled out".

BJP-LOK DAL SEATS

ATAL BIHARI VAJPAYEE, president of the Bharatiya Janata Party, categorically denied that a decision on the number of Lok Sabha seats his party and the Lok Dal would contest had been taken or the exercise had even been started. He described "totally baseless" reports that had appeared in a section of the press to this effect. He said the state units of the BJP had been asked to start looking for candidates in consultation with lower units of the party.

COCHIN AS DRUG CENTRE

HOW THE PLIGHT of an international yachtsman, an Australian, stranded in the South Indian port of Cochin, and his accidental acquaintance with an alleged illusive drug smuggler, James Charles Howard, resulted in the haul of a $100 million worth of hashish, has come to light. It makes some interesting revelations — one of which is that there is a possibility that Cochin is turning into a fast-growing conduit for a spectrum of hard and soft drugs, particularly those from Afghanistan.

FEAR OF ARREST

AKALI DAL PRESIDENT Harchand Singh Longowal has advised party leaders and activists to "go underground" to evade possible arrest before January 27. He expressed fear that they may be rounded up by the police because of the "revolutionary" action of the party to be followed after he announces the new programme on January 26 for pressing their demands. However, he told them to work wholeheartedly and intensify their efforts.

WHAT THE OTHERS SAY

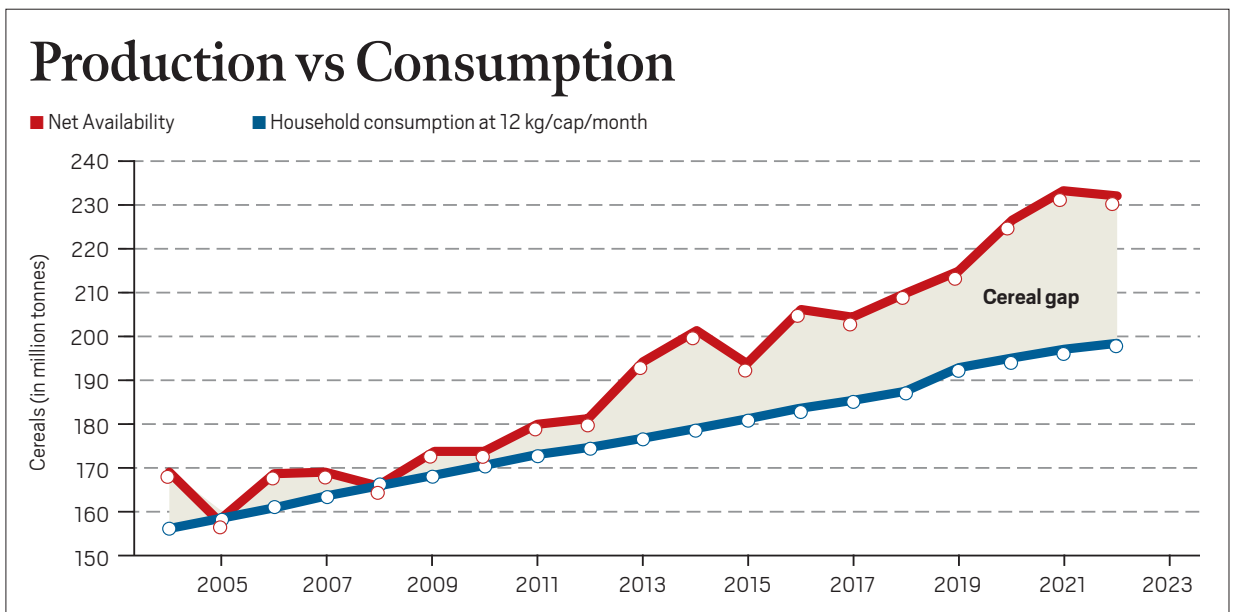
"That India has not been included in the list of countries 'of particular concern' in the context of religious freedom by the US appears to be... coloured by geopolitics... With the upcoming elections likely to return another pro-Hindutva government, things are unlikely to improve for minorities.." —DAWN, PAKISTAN

Mind the cereal gap

There is a large and growing mismatch between cereal production and the known uses for it



JEAN DRÈZE AND CHRISTIAN OLDIGES



Source: Calculated from Economic Survey data on net availability and population



C R Sasikumar

INDIA PRODUCES ABOUT 300 million tonnes of cereals every year, but people's consumption requirements are barely 200 million tonnes. What is going on?

Before addressing this question, we should substantiate the figures. According to the official *Foodgrains Bulletin*, cereal production (mainly rice and wheat) crossed 300 million tonnes for the first time in 2022-23, reaching 304 million tonnes to be precise. If we take a three-year average of annual production in the most recent years for which data are available (2020-21 to 2022-23), it comes to 292 million tonnes — still pretty close to 300 million.

What about consumption? The latest estimates of per capita cereal consumption (PCCC) pertain to 2011-12: 11.6 kg per month according to the second India Human Development Survey (IHDS-2), and just 10.7 kg per month according to the National Sample Survey (NSS). We also have IHDS-1 and NSS figures for 2004-5: 11.8 kg and 11.6 kg per month respectively. If the 2011-12 estimates are still valid today, and if India's population is now around 140 crore, then aggregate household consumption of cereals is less than 200 million tonnes, and possibly even below 180 million tonnes.

It is possible that PCCC is, in fact, lower today than in 2011-12. Indeed, PCCC has been declining steadily from the late 1970s onwards. In rural areas, for instance, monthly PCCC declined from 15.3 kg in 1977-78 to 11.3 kg in 2011-12 according to NSS data. Due to the suppression of the 75th NSS Round (2017-18) by the Indian government, survey data on cereal consumption are not available beyond 2011-12 at the national level. A state-level report for Maharashtra based on the 75th Round, however, suggests that PCCC continued to decline there between 2011-12 and 2017-18. This may or may not be true at the national level, but it is unlikely that the declining trend has been substantially reversed.

The downward PCCC trend is sometimes attributed to rising poverty, but this is a misunderstanding. For one thing, there is clear evidence of slow but steady poverty decline in India from the 1970s until 2011-12 (after that, the jury is still out). For another, the bulk of the PCCC decline is taking place among better-off sections of the population, who are certainly not getting poorer. Instead, the decline seems to be driven by urbanisation, rising education levels, diversification of food intake, and perhaps some reduction of activity levels. That is why there is no reason to assume that the declining PCCC trend has been reversed, with one minor qualification mentioned below.

In short, the figures cited in our opening paragraph are credible. How does one account for the difference of about 100 million tonnes between production and consumption?

Cereals, of course, have other uses than household consumption. The Government of India's annual Economic Survey traditionally deducts 12.5 per cent for seed, feed and wastage (SFW) to infer "net production" from gross production. Then it calculates "net availability" by adding net imports and deducting changes in public stocks. In both 2004-5 and 2011-12, net availability per capita more or less matched the IHDS and NSS consumption estimates. In recent years, however, a large gap has emerged between net availability and household consumption.

To see this, let us take 12 kg as a plausible upper bound for monthly PCCC from 2011-12 onwards. If we combine this with the Economic Survey's population estimates, we find a growing gap between net availability and household consumption during the last 12 years. The gap reached 36 million tonnes in 2020-21 and 33 million tonnes in 2021-22, despite record exports in both years: 23 million tonnes in 2020-21 and a whopping 32 million tonnes in 2021-22. The trend is illustrated in the accompanying chart. If we replace the 12 kg norm for monthly PCCC with the NSS estimate of 10.7 kg for 2011-12, then the cereal gap was more than 50 million tonnes from 2019-20 onwards.

Quite likely, the Economic Survey's "net availability" estimates are inflated by an insufficient SFW allowance. The traditional allowance of 12.5 per cent consists of 5 per cent for seed, 5 per cent for feed and 2.5 per cent for wastage. Independent experts have argued for some time that the 5 per cent norm for feed is too low. If we double the feed allowance, from 5 per cent to 10 per cent of gross production, that would reduce the cereal gap by 15 million tonnes or so. A large gap would still remain.

The cereal gap is quite a mystery. Is cereal consumption actually increasing, possibly due to the expansion of the public distribution system? Does animal feed absorb much larger quantities than previously thought? Have industrial uses of cereals, to make beer and biscuits, for instance, shot up in recent years? It is hard to tell, for lack of data.

The central government, for one, seems to be in the dark. Indeed, the Economic Survey oddly reduced the SFW allowance from 12.5 per cent to 10 per cent or so in the last few years, when an opposite adjustment was called for. This is yet another symptom of the confusion that seems to pervade Indian statistics today. The disarray of the statistical system is rapidly turning the Indian economy into a ship without a rudder.

The cereal gap, however, is not just a statistical puzzle. It also raises important policy issues related to the rapid growth of cereal production — nearly 3 per cent per year in the last 10 years. Is it time to plan for a major diversification of agricultural production, away from rice and wheat? If so, what are the possibilities, and how are they to be promoted? If not, what are the proposed outlets for enhanced cereal production in the near future? For instance, would it be feasible and desirable for India to expand cereal exports?

The need to address these questions arises from the fact that cereals are not traded in a competitive market that clears through price adjustment. For cereals, there is a well-defined policy of ensuring remunerative prices for Indian farmers. This commitment makes it necessary to ensure that there is adequate demand at the said prices. It is not at all clear where we are in this respect.

Drèze is Visiting Professor at the Department of Economics, Ranchi University. Oldiges is Senior Economic Affairs Officer at the UN Economic and Social Commission for Western Asia

The cereal gap, however, is not just a statistical puzzle. It also raises important policy issues related to the rapid growth of cereal production — nearly 3 per cent per year in the last 10 years. Is it time to plan for a major diversification of agricultural production, away from rice and wheat? If so, what are the possibilities, and how are they to be promoted? If not, what are the proposed outlets for enhanced cereal production in the near future? For instance, would it be feasible and desirable for India to expand cereal exports?

Diplomacy in the digital public square

Dichotomy between India's position and brash social media campaigns underlines challenge for foreign policy in changing times



NISHTHA GUPTA

EMERGING FROM THE post-New Year haze, with thoughts turning to vacations, numerous Indian social media users are taking a decisive stand. They are collectively eschewing one destination: The Maldives. This trend, widely known as "Boycott Maldives", erupted following derogatory comments by Maldivian officials about Indian Prime Minister Narendra Modi. The incident has swiftly escalated into a significant digital movement, casting a spotlight on the increasing power of social media to influence international relations and public choices in diplomacy.

The "Boycott Maldives" hashtag has been trending on X (formerly Twitter) since Modi visited Lakshadweep, an Indian archipelago in the Arabian Sea. The prime minister extolled the "stunning beauty of its islands and the incredible warmth of its people", and many Indian users saw it as an opportunity to pit Lakshadweep against the neighbouring Maldives.

Tensions between India and the Maldives have been on the rise over the past few years. The archipelagic nation has accused India of interfering in its domestic affairs, causing its "India First" policy to be eclipsed by a strong "India Out" movement. President Mohamed Muizzu, who came to power in November, has persistently called on India to withdraw its military personnel from Maldives. India also fears that Muizzu, who bucked the longstanding tradition of Maldivian presidents coming to New Delhi for their first official visit, has been cosying up to China (Muizzu is scheduled to visit Beijing between January 7 and 12).

The simmering embers of political tension burst into flames on social media as Maldivians derided comparisons with Lakshadweep. The situation escalated rapidly when government figures joined the fray, notably Maldivian Deputy Minister of Youth Empowerment, Information and Arts Mariyam Shiuna posting controversial tweets about Modi. This ignited widespread outrage, fueling a digital wildfire that led to the "Boycott Maldives" movement. Many Indians, including celebrities, began calling for a boycott of the Maldives. They expressed their discontent by cancelling their planned trips to the island nation.

The Maldivian government, on its part, distanced itself from these comments, stating that the remarks made by Shiuna were her personal opinion and not representative of the government's stance. It also suspended three deputy ministers including Shiuna and her colleagues Malsha Shareef and Abdulla Mahzoom Majid.

In today's social media-driven world, the art of diplomacy is increasingly vulnerable to the waves caused by off-the-cuff remarks from public figures. The turmoil in the Maldives-India relations serves as a poignant example. The digital outcry underscores a growing disconnect between India's official foreign policies and public sentiment.

Once confined to the hushed halls of embassies and the strategic roundtables of seasoned diplomats and bureaucrats, foreign policy has now burst into the bustling, unfiltered world of social media. This once staid and measured field is now dancing to the unpredictable tempo of tweets, hashtags, and viral posts. In this new digital agora, the intricate tapestry of international relations is being coloured not only by the pens of policymakers but also by the keyboards of the masses. Diplomatic dialogue, once the preserve of closed-door meetings and formal communiques, now unfolds in real-time, subject to the scrutiny and sway of a global audience.

With India, a parallel phenomenon is emerging: Social media users vocally declaring where India "stands" on critical global issues. This trend was evident in early 2022 during the Russian invasion of Ukraine. In India, social media platforms buzzed with hashtags like #IStandWithPutin and #IStandWithRussia, in stark contrast to the government's official neutral stance. These accounts, found to be predominantly supporters of PM Modi and the BJP, reflect not only grassroots expressions of foreign policy opinions but also the political leanings and right-wing ideology shaping these discussions. The intersection of domestic politics and international relations in India is becoming increasingly evident through social media, illustrating the growing influence of right-wing ideology in both realms.

After Canada accused India of involvement in the killing of Sikh separatist leader Hardeep Singh Nijjar, Delhi denied the charges. However, Indian social media users alluded to India's responsibility, aligning with the assertive "*ghar mein ghus ke maarenge*" (strike from within) doctrine. This narrative transformed the dispute into a combative triumph for India, with users claiming India "thrashed" Canada, putting Trudeau "in his place".

When public opinion, often swayed by viral trends and momentary emotion, starts dictating diplomatic stances, it risks alienating long-standing allies whose policies might temporarily diverge from the popular narrative. This could result in India finding itself in a precarious position, having to choose between sustaining strategic alliances and appeasing domestic public opinion. Such a scenario could diminish India's diplomatic leverage and ability to navigate the complex web of international relations, potentially leading to a more isolated stance on the global stage.

Elsewhere, Indian social media users have also been found spearheading the pro-Israel disinformation campaign. Amid Israel's bombardment of Gaza, there was a significant emergence of right-wing and Hindu nationalist accounts in India on social media, amplifying anti-Palestinian and Islamophobic disinformation. These Indian right-wing accounts, often juxtaposing the Indian flag with the Israeli one, have been vocal in their support for Israel.

This is all occurring in contrast to India's official stance, which has called for a humanitarian pause and extended aid to Palestine. The dichotomy between India's formal diplomatic position and the actions of right-wing social media accounts underscores the complex and often contradictory nature of foreign policy in the digital age. While the government adopts a more balanced approach, the nationalist narrative on social media drives a completely different agenda, illustrating the widening gap between official policy and public sentiment.

The writer is a masters student in Public Policy and Global Affairs at University of British Columbia



The aphorisms of Jit Uberoi

His written work will enter history. His insights in conversation are heritage

DIPANKAR GUPTA

THE LEGACY OF Professor J P S Uberoi will indeed live through his many profound and, this must be said, difficult books. That is a gift he left behind for those who did not know him personally. But those who did, received something more precious. These were priceless aphorisms he carelessly strewed in casual conversations, not to be found anywhere in print.

There are many Jit Uberoi aphorisms I have collected over the years while sharing cups of dark brown liquid in the Delhi School of Economics coffee house. I shall relate a few here only to acknowledge how rewarding it was to be in his company. His written work will enter history but his aphorisms have a special quality and may be called his "heritage".

To spend time with Jit is to come away feeling enlightened, but you don't quite know why. It is a rare experience for anybody to step out just for a chat and return with an intellectual nugget. He was such a charmer outside the classroom with friends, but he could be a fiendish taskmaster as a teacher. I have seen both sides of the man.

What is remarkable about his aphorisms is that they are all profoundly intellectual but were delivered with casual ease. It will immediately be evident that all of them are stunning for their theoretical insights. This is much like a lightning that blinds one and the lesson reverberates gradually as the words begin to sink in.

Aphorism 1: On the sociology of religion, here is a Jit gem: "There is nothing two Hindus can do which one Hindu cannot." This immediately alerts us to the fact that, unlike Abrahamic religions, Hinduism doesn't really need a congregation as "moksha" is gained through inner correction. This is true for other Indic religions, but not Sikhism, which centralises the "sangat".

Aphorism 2: For those who prize English education in India, ponder over this Jit aphorism. "The fundament of English education in England is to be taught in your mother tongue." This will sadden snobs for they really did not get an English education in the English medium schools they went to in India. Not only does such an observation shake past prejudices but it impacts policy too.

Aphorism 3: It is common for educationists to envy those in the corporate sector for being better paid. Another Jit gem should help correct this perception. For Jit: "The remunerations for a pastoral job, such as that of a teacher, soldier or priest will never equal their contribution to society." How can you reward a soldier for giving his life, a priest for saving your soul or a teacher for opening your mind?

Aphorism 4: Jit Uberoi had written extensively on science and modernity and his views on this subject are often not easy to grasp. There is help coming with another of his aphorisms. It goes this way: "Pure science collaborates but applied science competes." In a nutshell, it tells us that knowledge develops across nations but is susceptible to enclosures by capital and profit.

Aphorism 5: Thorstein Veblen's concept of "conspicuous consumption" of the leisure class is widely known. On this note too, Jit had a complementary observation on "conspicuous pomp" and that deserves recognition as well. This is best brought out in his aphorism: "A pretender is known by the escorts he keeps." Now we know why dictators romp about the way they do.

Aphorism 6: Jit wrote extensively about western aesthetics, Europe's unfair occupation of modernity, and schism in Christianity, but he was also an Indian sociologist. His quest was to make the acquisition of knowledge a commitment and not a pastime made up of stories and narratives. This is why he said once: "When a subject gets easy, its students get sloppy."

After I read his *Other Mind of Europe*, I hesitated a while before I told him that it was not an easy read. Jit, to my surprise, was delighted and said: "If it was not easy for me to write the book, it should also not be easy for you to read it." I never always fully understood what Jit said and wrote at first blush, but he always lit up my brain in areas I did not know existed.

I first met Professor Uberoi when I was a callow student in 1969 and he was my tutor for three terms out of four. This was rather unusual, for tutors changed every term and I then took my forced tutelage under him as a punishment. I had to relearn how to construct simple sentences for he deducted one mark each time I wrote "however" in my assignments.

From those early days till now, as far as I am concerned, "however" will forever be suspect or whatever, whenever. However, it will be hard to forget Professor J P S Uberoi in the years left to me.

The writer is a sociologist

LETTERS TO THE EDITOR

FOLLOW DUE PROCESS

THIS REFERS TO the editorial, 'The rule of the mob' (IE, January 8). The latest incident of manhandling of the ED team by followers of TMC's strong man, Shahjahan Sheikh, exposes the gap between Mamata Banerjee's criticism of the Modi-led government about the centralisation of power by one man and his government's passivity when it comes to managing undisciplined activists. Banerjee has a vicious grip on the administration to toe her dictates and is unwilling to curb dadagiri by her ardent followers even against central government officials. Her handling of the incident has been objected to by the Congress which is aiming at displacing the Modi-led government. This is not good for her image as a prospective PM.

Y G Chouksey, *Pune*

THIS REFERS TO the editorial, 'The rule of the mob' (IE, January 8). The mob assault on a team of ED officials who had raided the home of the TMC leader Shahjahan Sheikh has exposed, once again, the terrible law and order situation in West Bengal. The current crisis is a result of the unbridled power enjoyed by TMC-backed local goons. A TMC minister and another spokesperson have childishly tried to defend the indefensible by saying this is a "conspiracy" theory by the Centre. Even if the TMC cadres think that the ED's investigation is a witch hunt, they cannot take the law into their own hands. Nothing short of prompt arrest of the absconding leader will suffice.

S S Paul, *Nadia*

IN INDIA'S INTEREST

THIS REFERS TO the article, 'At stake in Dhaka' (IE, January 6). The stage was set for Sheikh Hasina, since the BNP boycotted the 2024 elections. It is in the best interest of India and those who advocate for a rules-based international order and territorial integrity. BNP's revisionist foreign policy template represents religious fundamentalism. Awami League governments have demonstrated their outlook towards regional stability through maritime boundary resolution with Myanmar (2012), India (2014) and others. Bangladesh is South Asia's second-largest economy and all set to be a trillion-dollar economy by 2030. Therefore, peace and stability in the region are of utmost importance for the nation.

Madhusree Guha, *Kolkata*

BREIVIK, A FAR-RIGHT FANATIC, KILLED 77 IN 2011

MASS KILLER SUES NORWAY TO END JAIL ISOLATION

Norwegian right-wing extremist Anders Behring Breivik, who killed 77 people in a bombing and shooting rampage in 2011, launched his second attempt at suing the state on Monday, accusing the Justice Ministry of breaching his human rights. claims that the isolation he's been placed under since he started serving his prison sentence in 2012 amounts to inhumane punishment. **AP**

TOP OF THE WORLD



Pope Francis. *Reuters*

VATICAN CITY

Pope calls for universal ban on surrogacy

Rome: Pope Francis called Monday for a universal ban on the "despicable" practice of surrogate motherhood, as he included the "commercialization" of pregnancy in an annual speech listing threats to global peace and human dignity. In a foreign policy address to ambassadors accredited to the Holy See, he said 2024 dawned at a time when peace is "increasingly threatened". Citing wars in Ukraine, Gaza, migration, climate crises and the "immoral" production of nuclear and conventional weapons, Francis delivered a list of the ills afflicting humanity. **AP**

BANGLADESH

Opp rejects polls, questions low voter turnout

Dhaka: Bangladesh's main opposition BNP, which boycotted Sunday's general elections swept by Sheikh Hasina's party, on Monday demanded the cancellation of the "dummy election" and the prime minister's resignation, questioning the accuracy of the voter turnout. The party also renewed its demand for a fresh election under a non-party polls-time government to establish a legitimate and accountable government. Hasina's Awami League party won 223 seats in the 300-seat Parliament. **REUTERS**

GERMANY

Farmers block roads protesting subsidy cuts

Berlin: German farmers blocked roads with tractors on Monday, kicking off a week of protests against plans to phase out agricultural subsidies with nationwide action that ministers have warned could be co-opted by the far-right. Convoys of tractors and trucks, some adorned with protest banners reading "No beer without farmers" and posters from the far-right Alternative for Germany (AfD) party, gathered on German roads in sub-zero pre-dawn temperatures. Police said roads and highway slip roads were blocked in multiple locations. **REUTERS**

AUSTRALIA

Ban on Nazi salute, terror group symbols

Sydney: Laws banning the Nazi salute and the display or sale of symbols associated with terror groups came into effect in Australia on Monday as the government responds to a rise in antisemitic incidents following the Israel-Gaza war. The law makes it an offense punishable by up to 12 months in prison to publicly perform the Nazi salute or display the Nazi swastika or the double-sig rune associated with the Schutzstaffel (SS) paramilitary group. The sale of these symbols too is prohibited. **REUTERS**

AS ISRAEL SHIFTS FOCUS TO TARGETED OPERATIONS AMID GAZA WAR

Senior Hezbollah commander killed in Israeli strike in south Lebanon village

Group identifies commander as Wissam al-Tawil, didn't give details

ASSOCIATED PRESS
BEIRUT, JANUARY 8

AN ISRAELI airstrike killed an elite Hezbollah commander in southern Lebanon on Monday, the latest in an escalating exchange of strikes along the border that have raised fears of another Mideast war even as the fighting in Gaza exacts a mounting toll on civilians.

The strike on an SUV killed a commander in a secretive Hezbollah force that operates along the border, according to a Lebanese security official.

Hezbollah identified the slain fighter as Wissam al-Tawil without providing details.

He is the most senior militant in the armed group to have been killed since Hamas' October 7 attack into Israel triggered all-out war in Gaza and fighting between Israel and Hezbollah, which has escalated since an Israeli strike killed a senior Hamas leader in Beirut last week.

Israel says it has largely wrapped up major operations in northern Gaza and is now focusing on the central region and the southern city of Khan Younis.

The offensive has already killed over 23,000 Palestinians, devastated vast swaths of the Gaza Strip, displaced nearly 85% of its population of 2.3 million and left a quarter of its residents facing starvation.



Palestinians who fled their houses due to Israeli strikes ride into Rafah in southern Gaza on Monday. *Reuters*

The situation is even more dire in northern Gaza, which Israeli forces cut off from the rest of the territory in late October.

Entire neighborhoods have been demolished, and hundreds of thousands of people have fled, while those who remain face severe shortages of food and water.

Meanwhile, US Secretary of State Antony Blinken met UAE president Sheikh Mohammed bin Zayed and Saudi Arabian Crown Prince Mohammed bin Salman on an urgent Mideast diplomatic mission to prevent Israel's war against Hamas in Gaza from exploding into a broader regional conflict.

Israel strikes targets in Syria to cut Iran's weapons lifeline to proxies

REUTERS
BEIRUT, AMMAN, JANUARY 8

ISRAEL IS carrying out an unprecedented wave of deadly strikes in Syria targeting cargo trucks, infrastructure and people involved in Iran's weapons lifeline to its proxies in the region, six sources with direct knowledge of the matter told *Reuters*.

The sources, including a Syrian military intelligence officer and a commander in the regional alliance backing Damascus, said Israel had shifted strategies following the October 7 rampage by Hamas fighters into Israeli territory and the ensuing Israeli bombing campaigns in Gaza and Lebanon.

Although Israel has struck Iran-linked targets in Syria for years, including areas where Lebanese armed group Hezbollah has been active, it is now unleashing deadlier, more frequent air raids against Iranian arms transfers and air defence systems in Syria, the sources said.

The commander in the regional alliance and two additional sources familiar with Hezbollah's thinking said Israel had abandoned the unspoken "rules of the game" that previously characterised its strikes in Syria, and seemed "no longer cautious" about inflicting heavy casualties on Hezbollah there.

Religious freedom: US lists China, Pak as 'countries of particular concern'

Pakistan says it's biased, arbitrary assessment detached from realities

PRESS TRUST OF INDIA
NEW YORK, ISLAMABAD, JAN 8

THE US has designated China, North Korea and Pakistan as "Countries of Particular Concern" for engaging in and tolerating "particularly severe violations of religious freedom." Announcing the Religious Freedom Designations, US Secretary of State Antony Blinken said that advancing the freedom of religion or belief has been a core objective of US foreign policy ever since Congress passed and enacted the International Religious Freedom Act in 1998.

As part of that "enduring commitment", Blinken said last week that he has designated Burma, China, Cuba, North Korea, Eritrea, Iran, Nicaragua, Pakistan, Russia, Saudi Arabia, Tajikistan, and Turkmenistan as "Countries of Particular Concern for having engaged in or tolerated particularly severe violations of religious freedom." In Islamabad, Pakistan Foreign Office on Monday rejected what it called the "biased" assessment by the US to designate it a 'country of particular concern'.

According to a statement by the Foreign Office, Pakistan is a pluralistic country, with a rich tradition of interfaith harmony and it in line with its Constitution has undertaken wide ranging measures to promote religious freedom and protect minority rights.

"We categorically reject Pakistan's designation as 'a Country of Particular Concern' by the US State Department. We are deeply dismayed that the designation is based on biased and arbitrary assessment, detached from ground realities," the FO said.

It said that Pakistan strongly believes that the contemporary challenge of religious intolerance, xenophobia and Islamophobia can be best countered through constructive engagement and collective efforts based on mutual understanding and respect.

With a similar spirit, Pakistan has bilaterally engaged the U.S and its concerns about the designation are being conveyed to the US side, the FO added.

He designated al-Shabab, Boko Haram, Hayat Tahrir al-Sham, the Houthis, ISIS-Sahel, ISIS-West Africa, al-Qa'ida affiliate Jamaat Nasr al-Islam wal-Muslimin, and the Taliban as "Entities of Particular Concern." The top US diplomat further noted that significant violations of religious freedom also occur in countries that are not designated.

"Governments must end abuses such as attacks on members of religious minority communities and their places of worship, communal violence and lengthy imprisonment for peaceful expression, transnational repression, and calls to violence against religious communities, among other violations that occur in too many places around the world," Blinken said.

China says British spy 'who collected state secrets' arrested

ASSOCIATED PRESS
BEIJING, JANUARY

CHINA SAYS it has detained a person accused of collecting secrets for Britain BEIJING (AP) — China says it has detained an individual accused of collecting state secrets on behalf of Britain's foreign intelligence agency MI6.

The Ministry of State Security posted on social media Monday that Britain had been cooperating since 2015 with the person, who it said was a citizen of a third nation and had the surname Huang.

The ministry said Huang had received training in intelligence gathering, was provided with equipment and had collected numerous state secrets on repeated visits to China.

No further information on the intelligence gathered was given, nor did the ministry say when he or she had been detained or where they were being held.

The British government declined to comment, in keeping with its longstanding policy on intelligence matters.

China's allegations follow a deterioration of relations between the sides sparked in part by British opposition to Chinese investments in the country, especially in the power and communications.

Russia fires hypersonic missiles on Ukraine

AP & REUTERS
KYIV, JANUARY 8

RUSSIA LAUNCHED its latest barrage of hypersonic and cruise missiles against Ukrainian targets early Monday, striking near the front lines of fighting in the east as well as in central and western parts of the country, officials said. At least four civilians were reported killed and at least 30 injured.

Western officials and analysts had previously warned that Russia was stockpiling its cruise missiles in preparation for a strategy of winter bombardment, as bad weather keeps the 1,500-kilometer (930-mile) front line largely static after 22 months of war.

Unlike last winter, when the Kremlin's forces targeted Ukraine's power grid, Russia is now aiming at Kyiv's defense industry, they say. The frequent strikes have hit civilian areas multiple times.

Monday's attacks struck a string of urban areas, including housing and a shopping mall, across Ukraine.



Japan Foreign Minister Yoko Kamikawa with Ukrainian officials in a bomb shelter in Kyiv on Sunday. *Reuters*

JAPAN MINISTER IN KYIV BOMB SHELTER, PLEDGES FUNDS

Kyiv: Japanese Foreign Minister Yoko Kamikawa, forced into a bomb shelter by an air alert in Kyiv on Sunday, pledged millions of dollars to NATO to help Ukraine avert Russian drone strikes and announced donations of generators and transformers. Kamikawa said Japan would allocate $37 million to a NATO Trust Fund for drone detection systems. "Japan is determined to continue to support Ukraine so that peace can return," she said in a press meet. **REUTERS**

Muizzu in Beijing on state visit to meet Xi

PRESS TRUST OF INDIA
BEIJING, JANUARY 8

MALDIVIAN PRESIDENT Mohamed Muizzu, who arrived in China on his first state visit, Monday praised Beijing as a "valued ally and integral collaborator" of the Indian Ocean island nation and hailed the cooperation between the two countries.

Muizzu, who is regarded as "pro-China", met provincial officials in Fujian on the first day of his five-day visit, a day after he fired three ministers over derogatory remarks against PM Narendra Modi resulting in a major diplomatic row with India which assisted Male with a host of projects.



Mohamed Muizzu arriving in Beijing on Monday. *PTI*

Indians constitute the largest number of tourists in the tourism-dependent Maldives.

While China is yet to release his official itinerary, the foreign ministry here said earlier that he is due to hold talks with his Chinese counterpart Xi Jinping and sign several agreements.

In his meeting with senior officials of the China Communications Construction Company Limited which has done projects in the Maldives, Muizzu "underscored the significance of China as a valued ally", a press release issued by his office in Male said.

He expressed aspirations to enhance bilateral relations to new heights and enhance collaborative efforts in various areas of mutual interest, the readout said.

RELIEF TO NAWAZ, IMRAN

Pakistan top court scraps lifetime ban on lawmakers from holding public office

PRESS TRUST OF INDIA
ISLAMABAD, JANUARY 8





Former Pak Prime Ministers Imran Khan and Nawaz Sharif

PAKISTAN'S SUPREME Court on Monday quashed the lifetime disqualification for lawmakers, ruling that parliamentarians would be barred from holding office for five years, a landmark ruling that provided huge relief to top politicians, including former prime ministers Nawaz Sharif and Imran Khan, ahead of the February 8 elections.

A seven-member bench, headed by Chief Justice Qazi Faez Isa, Monday, ruled that no person can be barred for a lifetime from running in elections if they are disqualified under Article 62 (1)(f).

The bench with a 6 to 1 split judgment went against the judgment of its five-member bench which in 2018 had ruled in favor of lifetime disqualification.

Justice Afridi differed from the other six judges of the bench and wrote a note of dissent in favour of life-long disqualification.

The verdict has determined the controversy around the period of disqualification under Article 62(1)(f) of Constitution and the Elections Act 2017.

Sharif, the 74-year-old former prime minister and also a frontrunner for the fourth term in the February 8 general elections, was disqualified in the Panama Papers case in 2017. His rival Imran Khan, who was disqualified in the Toshakhana corruption case last year, also was hit by the same law.

The verdict has decided the political future of both Sharif and Khan among many others.

The order also concurred with amendments to the Elections Act that provide for a five-year ban as a result of any judgment, order or decree of any court.

BARBIE WINS TWO AWARDS, CILLIAN MURPHY WINS BEST ACTOR, LILY GLADSTONE WINS BEST ACTRESS

Oppenheimer triumphs at Golden Globes as Hollywood parties again

LISA RICHWINE & DANIELLE BROADWAY
CALIFORNIA, JANUARY 8

HISTORICAL DRAMA "Oppenheimer" dominated the Golden Globe awards on Sunday, and gothic comedy "Poor Things" upset summer blockbuster "Barbie," as Hollywood threw its biggest party since labor disputes shut down much of show business last year.

"Oppenheimer," about the making of the atomic bomb, landed five honors, including the coveted best movie drama prize and acting awards for actors Cillian Murphy and Robert Downey Jr.

Christopher Nolan won his first Golden Globe award for best director for the film, which was distributed by Universal Pictures.

"I am so pleased that Chris has been acknowledged because I just think that what he does is unlike anything anyone else is doing," "Oppenheimer" producer Emma Thomas said on stage.

She said Nolan, who is her husband, "brings the best out in people by being the very best himself."

Awards watchers had widely expected that honor to go to "Barbie," the female empowerment story inspired by the iconic doll that topped 2023 box office charts and went into the night with a leading nine nominations. Stone also was named best actress in a movie comedy or musical.



Actors Cillian Murphy and Robert Downey Jr at the 81st Golden Globe Awards in Beverly Hills, California on Sunday. *Reuters*

"Barbie" went home with just two awards, for Billie Eilish's song "What Was I Made For" and for a new category called cinematic and box office achievement, created for widely seen films.

The winners were chosen by roughly 300 entertainment journalists who voted on the honors as a part of a new organization created after an ethics and diversity scandal among Globe voters.

Lily Gladstone, best actress winner for her role in "Killers of the Flower Moon" began her acceptance speech by introducing herself in the Native American language she learned in school.

"This is an historic win," Gladstone continued in English. "It doesn't belong to just me. I am holding it right now with all my beautiful sisters."

She thanked director Martin Scorsese as well as Leonardo DiCaprio and Robert De Niro, her co-stars in the story about the murders of members of the Osage Nation in the 1920s. "You are all changing things," Gladstone said.

The glitzy ceremony at the Beverly Hilton kicked off Hollywood's annual awards season, which culminates with the Oscars on March 10, and brought top stars together for the first time after six months of strikes by actors and writers in 2023.

The event gave performers the chance to mingle and to publicize their movies and TV shows after months when red carpets and other promotion was prohibited.

Known as a boozy celebration more relaxed than the Academy Awards, the Globes nearly disappeared. A 2021 Los Angeles Times report revealed ethical lapses and a lack of diversity among the roughly 80 members of the Hollywood Foreign Press Association, the group that previously voted on the Globes. The 2022 ceremony was scrapped while the organization made reforms. **REUTERS**

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#ExpressExplained
If there are questions of current or contemporary relevance that you would like explained, please write to **explained@indianexpress.com**

THIS WORD MEANS

GEOGRAPHICAL INDICATION TAG

Seven products from Odisha have bagged the coveted geographical indication (GI) tag, which recognises their exclusivity to the state






(Clockwise from top left) **Kapdaganda shawl; Lanjia Saura painting; Khajuri Guda; a red weaver ant, used in Kai chutney.** *Odisha State Tribal Museum, Wikipedia*

A GI tag is a sign assigned to products that have a specific geographical origin, and possess their intrinsic qualities due to said origin. They assure consumers of the quality and authenticity of the product, while protecting interests of local producers.

In India, GI tags are awarded by the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry. GI registration is given to an area, not a trader. Those dealing with a GI tagged product can apply to sell with the GI logo. Authorised traders are then each assigned a unique GI number. Crucially, unauthorised traders can be prosecuted under The Geographical Indications of Goods (Registration and Protection) Act, 1999.

Here are seven products from Odisha which bagged the GI tag last Thursday.

Kapdaganda shawl

The distinctive shawl is made by the women of the Dongria Kondh tribe, a particularly vulnerable tribal group (PVTG) in the Niyamgiri Hills of Odisha's Rayagada and Kalahandi districts. Embroidered with red, yellow and green threads, motifs comprise lines and triangles. The shawls, worn by both genders, are presented during courtship as a sign of formal commitment.

Koraput Kala Jeera rice

This variety of rice is as famous for its aroma and taste, as it is for its distinctive black colour. It gets its 'kala jeera' name due to its grains resembling cumin seeds. Preserved for over a 1,000 years by tribal farmers from Koraput, it continues to be cultivated using and traditional methods.

Lanjia Saura painting

Also known as *Idital*, the art form belongs to the Lanjia Saura community, a PVTG largely residing in Rayagada district. Traditionally adorning the exterior mud walls of residences, the paintings comprise white figures on a crimson-maroon background. Through the artwork, the Lanjia Sauras show gratitude to their deities and forefathers, and pray for the well-being of the community. The artwork features humans, trees, animals, birds, and celestial objects.

Similipal Kai chutney

Made by manually grinding red weaver ants on a *sil batta* (grinding stone), this delicacy comes from Mayurbhanj district. The particular ants are found in the jungles of Mayurbhanj, including Similipal — Asia's second largest biosphere. The chutney is a highly nutritious food source, rich in protein, and a number of vitamins and minerals. Consumption is believed to boost immunity and prevent diseases.

Odisha Khajuri Guda

This jaggery which originates in Gajapati district is extracted from the sap of date palms. Traditionally prepared in a trapezoidal form called *patali gur*, it is dark brown in colour and has a unique taste, different from sugarcane jaggery.

Nayagarh Kanteimundi Brinjal

With prickly thorns all over the plant, this variety of brinjal is known to be resistant to insects. It contains more seeds than other genotypes, and is famous for its relatively short cooking time. Cultivated in Nayagarh district, historical records suggest that the locals got the brinjal from nearby hilly areas and started cultivation nearly 100 years ago. The variety yields around 200 kg of fruit per hectare.

Dhenkanal Magji laddu

Dhenkanal Magji *laddu* is a sweetmeat made from buffalo milk *chhena* (cottage cheese). Said to have originated from the Mandar-Sadangi area, it can be found across Dhenkanal district today. The region became a hub of buffalo milk production during British times, and *chhena* was the third largest produce — after milk and curd. It is prepared by draining all moisture from the *chhena*, then frying it, and finally forming balls of the mixture

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EXPLAINED LAW

Remission quashed, what now?

The Supreme Court has ordered the convicts in the 2002 Bilkis Bano gangrape case back to prison. On what grounds? What legal option do these 11 men, who walked free in August 2022, have now?

SADAF MODAK
MUMBAI, JANUARY 8

THE SUPREME court on Monday struck down the remission granted by the Gujarat government to 11 convicts who were serving life imprisonment for the gangrape of Bilkis Bano during the communal riots in Gujarat in 2002.

The men, who had been granted early release on August 15, 2022 after serving 14 years in jail, were directed by the top court to surrender within two weeks.

On what grounds did the Supreme Court strike down the remission given by the Gujarat government in 2022?

The Bench of Justice B V Nagarathna and Justice Ujjal Bhuyan said that the Gujarat government did not have the authority or jurisdiction to consider the remission applications of the convicts, to reduce their sentence.

This was because the trial in the case was transferred from Gujarat — where the crime was committed — to Mumbai, Maharashtra, in 2004 by the Supreme Court after concerns and apprehensions were raised of evidence tampering, and the absence of a conducive situation for a fair trial in Gujarat.

Following the trial, a special CBI court in Mumbai convicted and sentenced the 11 men in 2008.

The Supreme Court said that as per the provisions of Section 432 of the Code of Criminal Procedure Code (CrPC), 1973, an application for remission can only be before the government within whose territorial jurisdiction the applicant was convicted, in this case, Maharashtra, and not where the offence took place, in this case, Gujarat.

Under Section 432 of the CrPC, state governments do have the power to suspend or remit a sentence. But the court noted that Section 7(b) of the law clearly states that the appropriate government is the one in whose jurisdiction the offender is sentenced.

The court said that the state of Gujarat had "usurped the powers of the state of Maharashtra which only could have considered the applications seeking remission".

The court also noted that the convicts were considered for an early release on the basis of a policy of the state of Gujarat dating back to 1992, which could not have been applied to them.

That policy allowed for an early release of prisoners who have completed 14 years of imprisonment — but it was subsequently cancelled, and substituted by another policy in 2014 which barred the grant of remission to convicts of heinous crimes.

The court also said that the convicts had not fulfilled the condition of paying a fine ordered by the trial court to be considered for remission.

How did the question of remission reach the Supreme Court?

In 2022, one of the convicts in the Bilkis Bano gangrape case, Radheshyam Shah, approached the Supreme Court seeking directions to the Gujarat government for premature release citing the 1992 policy for convicts who had completed at least 14 years in jail.

In an order dated May 13, 2022, a Supreme Court Bench of Justice Ajay Rastogi and Justice Vikram Nath asked the Gujarat government to consider Shah's application for premature release "within a period of two months", as per the state's 1992 remission policy.

Based on this, a government panel recommended the convicts' release, and they walked out of a Gujarat jail on August 15, 2022. They were felicitated on their release by local leaders.

Bilkis Bano then filed a petition against the convicts' release; other petitioners too approached the court through public interest petitions (PILs).

On Monday, the top court said that the order passed by it on May 13, 2022, was nullified as the petitioner Shah had suppressed facts and misled the court, including the fact that the 1992 policy under which he was seeking relief had been cancelled by the Gujarat government.

The court said that Shah also suppressed the fact that he had already approached the Maharashtra government in 2019 after the Gujarat High Court rejected his prayer stating that the plea should be filed before the Maharashtra state where the trial took place.

The court said that the government failed to file a review petition seeking a correction of the order about the cancellation of the 1992 policy and about the fact that it was the Maharashtra government which was the appropriate authority.

So what happens now? Can the convicts apply for remission again? If so, before whom, and under what rules?

The criminal justice system has provisions like remission or reduction of sentence, taking into account the fact that a person can reform, and can be set free as a better citizen.

In its judgment on Monday, the Supreme Court said that there are competing interests — that of the rights of the victim or her family to justice, and that of a convict's claim to a second chance. The Bench said that in prior judgments, the top court has expressed scepticism over the latter, particularly if the offence committed is a heinous one. The court also said that this is not an "indefeasible" (not capable of being annulled or voided) right of a convict.

The convicts can approach the Maharashtra government for remission in the future. Whether remission is granted will, however, depend on various aspects, including the remission policy of the state. The convicts had argued before the Supreme Court that the policy applicable to them would be the one in vogue at the time of their conviction, which was in 2008.

Radheshyam Shah had approached the state of Maharashtra on August 1, 2019 after the Gujarat High Court said that the state was the appropriate government for his case.

At that time, the Maharashtra home department had sought the opinion of the presiding CBI judge as per the provisions of Section 436 CrPc. The judge had given a negative report, and had objected to the premature release on January 3, 2020.

The judge had cited the remission policy of Maharashtra, studying guidelines issued in 1978, 1992, and 2008. The court said that the Government Resolution (GR) dated April 11, 2008 would apply to the convicts, as it had superseded the other guidelines.

This GR states that a minimum imprisonment of 28 years would have to be undergone for a convict found guilty for offences related to crimes against women and minors where the crime is committed with exceptional violence, before they can apply for remission.

In this case, the convicts have completed more than 14 years in prison.

Bilkis Bano case file: Key milestones, 2002-2024

THE CRIME, 2002

FEB 28: Bilkis and family fled their home in Randhikpur, Dahod district, after riots began in the aftermath of the Godhra train burning the previous day.

MAR 3: Bilkis, then 5 months pregnant, was raped, 14 of her family members killed by a mob.

MAR 4: Bilkis was taken to Limkheda police station. FIR did not mention her rape, did not name accused even though she identified 12 of them.

MAR 5: Bilkis was taken to Godhra Relief Camp; her statement recorded by an executive magistrate.

POLICE RESPONSE

NOV 6, 2002: In Summary Report 'A', police requested closure, but the court asked for continuation of the investigation.

FEB 2003: Limkheda Police again requested closure of the case; this time the court accepted.

SC CALLS IN CBI

APR 2003: Bilkis approached Supreme Court asking that Magistrate's order accepting the 'A' summary be set aside.

DEC 6, 2003: SC transferred the investigation to the CBI.

FEB 1-2, 2004: Bodies exhumed, no skulls found. Bombay HC later observed, "It appears that at some point heads were cut off."

APR 19, 2004: CBI filed chargesheet before CJM Ahmedabad against 20 accused, including 6 police officers and 2 doctors who performed autopsies on Mar 5, 2002.



The convicts were felicitated with sweets on their release in August 2022. *File*

VERDICT & APPEAL

AUG 2004: SC moved the trial from Gujarat to Mumbai after Bilkis faced death threats; directed the central government to appoint a special public prosecutor.

JAN 21, 2008: Special Judge in Mumbai convicted 11 and sentenced them to life imprisonment for murder, rape.

2009-2011: Both the convicts and the CBI went in appeal; the CBI sought enhancement of the sentence for three convicts to death, and appealed against the acquittals of other accused.

MAY 2017: Bombay HC upheld conviction of the 11 by trial court, refused to enhance punishment from life imprisonment; set aside trial court's acquittal of 5 police officers and 2 doctors.

IN SUPREME COURT

JULY 2017: SC dismissed appeals by 2 doctors and 4 policemen.

APR 23, 2019: SC ordered payment of Rs 50 lakh as compensation and directed the state government to provide Bilkis with employment and accommodation.

MAY 2022: Convict Radheshyam Shah appealed in SC against a July 17, 2019 order of the Gujarat HC, which had ruled that Maharashtra is the "appropriate government" to decide on his plea for remission after he had completed 15 years and 4 months of his life term awarded in 2008.

MAY 13, 2022: An SC Bench of Justices Ajay Rastogi and Vikram Nath asked the Gujarat government to consider Shah's application for premature release "within a period of two months", as per the policy that was applicable in the state on the date on which he was convicted.

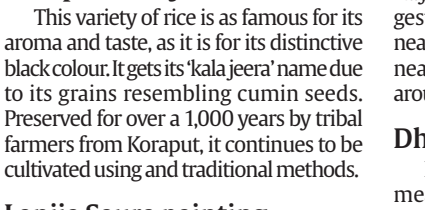
CONVICTS RELEASED

AUG 15, 2022: 11 convicts, including Radheshyam Shah, released from Godhra sub-jail on remission by Gujarat government.

SEPT 2022: Bilkis Bano approaches SC challenging the premature release of the 11 convicts.

JAN 8, 2024: SC quashes Gujarat government's decision to grant remission to 11 convicts.

Seeking a clear view of the Sun: Why does Aditya need to be at L1?



EXPERTS EXPLAIN

AJIT KEMBHAVI & DURGESH TRIPATHI

A LITTLE over four months after its launch, the Aditya-L1 spacecraft, on a mission to study the Sun, has entered the halo orbit around the L1 point of the Earth-Sun system.

To begin with, why study the Sun?

The Sun produces heat and light through nuclear fusion inside its core, which provides the energy needed to sustain life on Earth. Every energy source on Earth can ultimately be traced back to the Sun's energy.

The yellow disc that we see in the sky is the Sun's outer layer, known as photosphere, which is at a temperature of about 6,000 degrees Celsius, and emits the visible and infrared light that is key to our existence. Above the photosphere is the chromosphere, and higher still is a layer known as the corona.

The photosphere is much cooler than the Sun's core (which is about 15 million °C), but the chromosphere, somewhat surprisingly, is, at about a million degrees, hotter than the photosphere. The corona is even hotter (up to 2 million°C) — so there must be some energy source responsible, but the processes involved are not yet understood.

The corona emits ultraviolet and extreme ultraviolet radiation, and X-rays, which would be lethal to life on Earth but for the presence of the Earth's atmosphere. Only a small fraction of ultraviolet radiation penetrates the stratosphere and governs the chemistry of ozone and oxygen; an even smaller fraction reaches the ground, and is responsible for causing skin cancer.

What else is ejected from the Sun?

In addition to the radiation, there is a continuous stream — known as Solar Wind — of electrically charged particles, which can be electrons, protons or ions. These charged particles produce the spectacular aurorae, known as the Northern and Southern Lights, which are seen close to the North and South Poles of Earth, and on other planets such as Jupiter and Saturn.

There are also sudden, spectacular emissions of charged particles, which collectively form a plasma, into interplanetary space. These are Solar Flares and Coronal Mass Ejections (CMEs) — each eruption can have a thousand billion tonnes of plasma, and there could be several such eruptions during a high solar activity phase.

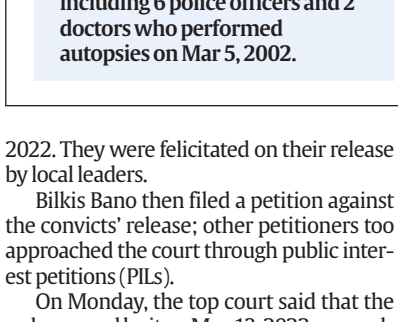
These eruptions, which are very difficult to predict, directly affect space weather and space-reliant technologies such as satellite communication networks, and can lead to electric power blackouts in regions located at higher latitudes on Earth.

Why is the Aditya-L1 mission important?

We need to monitor the solar atmosphere and the corona continuously over a wide range of radiation, from the visible to ultraviolet to X-rays, as well as the eruptions on the Sun, and study the properties of charged particles in the Solar Wind.

This has to be done from outside the Earth's atmosphere, and far away from the Earth in the direction of the Sun. It will then be possible to get early warning of solar eruptions, and to initiate actions to minimise the disruption they may cause.

Aditya-L1 has seven instruments for the observations of all radiations and charged particles. It is located at L1, which is 1.5 million km from Earth towards the Sun, and allows uninterrupted observations. The mission is therefore ideal for our requirements.



The five Lagrangian points for the Sun-Earth system. L1 and L2 are on the line joining the Sun to the Earth. *ISRO*

What is L1? What is so special about it?

L1 stands for the first Lagrangian point. There are five such points — L1 to L5 — associated with the motion of one astronomical body around another, for example, the Earth around the Sun. These points were theoretically discovered by the Swiss mathematician Leonhard Euler and the Italian-French mathematician Joseph-Louis Lagrange in the 19th century.

A spacecraft in orbit around Earth is attracted by the gravitational force exerted on it by Earth, but it does not fall to Earth because in a sense the gravity is balanced by a centrifugal force which arises due to the motion of the spacecraft around Earth.

When the spacecraft moves away, the gravitational force on it due to Earth diminishes, and eventually becomes comparable to the gravitational force of the Sun. If the gravity due to the Sun dominates, then the spacecraft moves towards the Sun, and would go into orbit around it, or would crash on to the Sun, depending on how fast it is moving.

In the interplay between the gravitational force due to Earth and Sun, the point L1 has special role to play. For a body like the spacecraft Aditya, placed at L1, the gravitational force due to Earth and Sun, and the centrifugal force cancel each other. Thus, once placed exactly at L1, Aditya would always be at L1.

This does not mean Aditya is stationary at a point in space. This is because L1 is on the line between the Sun and Earth. As Earth rotates around the Sun, L1 too goes round the Sun, always remaining on the line joining the Sun and the Earth. It is just that the position of L1, and therefore Aditya, remains the same relative to the Sun and Earth.

The actual situation, however, is more complicated. The point L1 is unstable, and if Aditya suffers a small pull or push, which can happen due to a variety of reasons, it could hurtle away from L1.

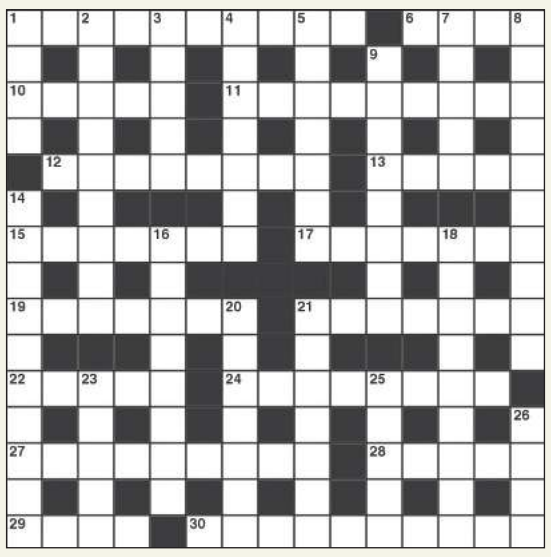
To avoid such a situation, Aditya is placed in an orbit around L1. This is a complex orbit, nearly perpendicular to the line joining the Sun and Earth. It takes about 178 days to complete one full orbit.

There are a few missions already parked around the L1 point, including LISA Pathfinder and the Solar and Heliospheric Observatory (SOHO), both collaborative missions of NASA and the European Space Agency.

LONGER VERSION
www.indianexpress.com/explained

Ajit Kembhavi *is a former director of the Pune-based Inter University Centre for Astronomy and Astrophysics (IUCAA).*
Durgesh Tripathi *is a professor at IUCAA, and one of the developers of Solar Ultraviolet Imaging Telescope (SUIT), one of the seven payloads on the Aditya-L1 spacecraft.*

CROSSWORD 5256



ACROSS

1 Nine crates of mixed fruit (10)
6 Advertise an electrical fitting (4)
10 Rex splits us up to seize control (5)
11 Pretend to be ill we hear to get a drink (9)
12 Rises to announce the exhibition's ready for opening? (6,2)
13 Start talking back in a foreign language (5)
15 A hundred girls in school (7)
17 A poster about grass (7)
19 Colours blended in Dresden (7)
21 Puts on something saucy? (7)
22 Maybe Poe's a past expert at telling fabulous tales (5)
24 A bitter blow is wanted badly (4,4)
27 Obviously not in the pink (3-6)
28 Allude one way or the other (5)
29 It's heavy though possibly a light attachment (4)
30 Lately here, in heavenly guise (10)

DOWN

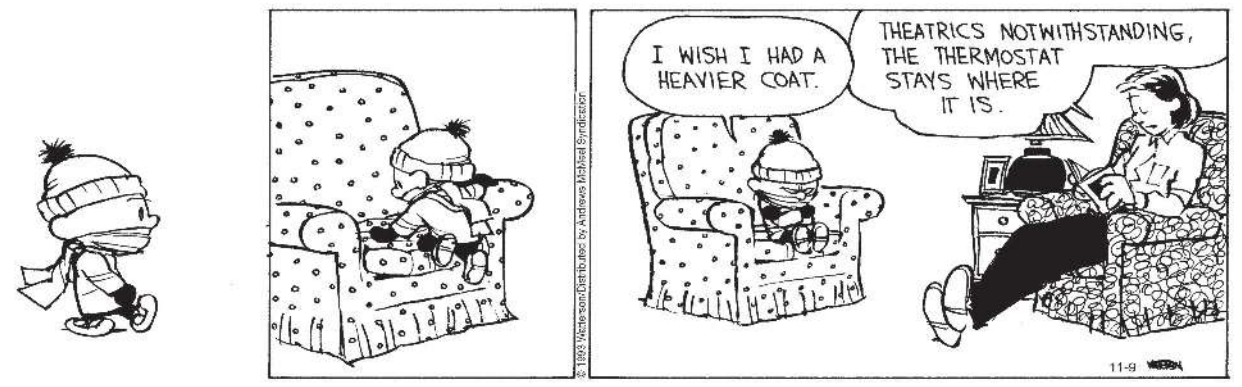
1 It may be proper for a sister to admit nothing (4)
2 Awfully curt cad or knave perhaps (5,4)
3 It has a shaky reputation as a writer (5)
4 Scores with iciness possibly (7)
5 Model formerly fat? (7)
7 Portable lamp (5)
8 He urges one change to facilitate quick growth (10)
9 Perfect order for dessert (5,3)
14 Nick has an ambition to succeed in soccer (5,1,4)
16 Animal trained to work without worrying (8)
18 Nurse felt funny taking ill (9)
20 Leave the ranks and walk briskly (4,3)
21 Merit of French verse maybe (7)
23 Capital piece of furniture envelops one (5)
25 Swore to reform but hasn't got any better (5)
26 Wear for the fight (4)

Solutions Crossword 5255 Across: 1 Rosette, 5 Rondo, 8 In the soup, 9 Ned, 10 Scam, 12 Designer, 14 Butter, 15 Behind, 17 Compacts, 18 Eyes, 21 Out, 22 Even money, 24 Tongs, 25 Penance **Down:** 1 Rails, 2 Set, 3 Thee, 4 Elopes, 5 Repaired, 6 Nonentity, 7 Ordered, 11 Automaton, 13 Legatees, 14 Back out, 16 Streep, 19 Style, 20 Omen, 23 Nun

OVER THE HEDGE by Michael Fry & T Lewis



CALVIN & HOBBES by Bill Watterson



MARVIN by Tom Armstrong



DAY TODAY

BY PETER VIDAL

ARIES (Mar 21 - Apr 20)
There's much taking place that is still difficult to understand, and business arrangements may be turned upside down. Take the opportunity to consider your needs from a new angle, and you may realise how much room for improvement you have, after all.

TAURUS (Apr 21 - May 21)
There's a tie-up between work and business, with colleagues suggesting new ventures which may not be in your normal line of things. This is an excellent time to work hard and conscientiously, but you mustn't be upset if people let you down.

GEMINI (May 22 - June 21)
There seems to be little point in relying on routine today as events may be affected by circumstances outside your control. You'll discover a new purpose in work that is essential to your long-term ambitions. But first and foremost are your financial needs.

CANCER (June 22 - July 23)
There may be only the merest hint that someone you're close to is concerned about the direction in which your relationship is heading. However, you really should pay careful attention to such undercurrents. Otherwise, partners will continue to get the better of you.

LEO (July 24 - Aug 23)
There may be nothing unusual in the fact that your romantic life might be coloured by high drama. Loved ones will set demanding standards for you to follow, but you undoubtedly have every right to regard their expectations as unreasonable in the extreme.

VIRGO (Aug 24 - Sep 23)
There are increasing signs that domestic affairs are about to take an interesting turn, perhaps one which you've been awaiting for some time. The last thing you want to do is mishandle a golden opportunity. Especially now that there is so much going for you.

LIBRA (Sep 24 - Oct 23)
Quiet conditions and a complacent mood may tempt you to undertake all sorts of stressful activities that you'll later regret. This is a time to temper your energy and ambition with commonsense and caution.

SCORPIO (Oct 24 - Nov 23)
Creative matters are approaching a turning point, and in all activities, you'll be rejecting authority and injecting new energy and enthusiasm into otherwise humdrum affairs. Take care not to offend professional colleagues, or to give them the wrong idea.

SAGITTARIUS (Nov 24 - Dec 22)
It may be difficult to put your finger on the causes of today's problematic events, but much depends on how wisely you react to provocation. You may be concerned about imminent changes at home. But not so much that you are prepared to give up everything else.

CAPRICORN (Dec 23 - Jan 20)
A colleague may be behaving in a strange manner, but make allowances. You have a chance to be more considerate to friends and associates, and if you follow the path of compromise, you will earn gratitude and respect for the future. And about time, too.

AQUARIUS (Jan 21 - Feb 19)
This is a relatively lively day, and one to keep your wits about you. You may be faced with the prospect of joining an interesting group of people and some of your social preconceptions are about to be upset. There are still too many secrets around, however.

PISCES (Feb 20 - Mar 20)
Now that the planets are forming a relaxed and helpful alignment, energy which has been put into a partnership will be paid back in full. Take your share of the credit, though, as you've worked hard for everything you've got. And you deserve every shred of good luck.

JUMBLED WORDS

Given below are four jumbled words. Solve the jumbles to make proper words and move them to the respective squares below. Select the letters in the shaded squares and jumble them to get the answer for the given quip.

Faith is about trusting God when you have ____ questions. - Joel Osteen (10)

CSAEE

AATVNU

AANRS

AEPRDW

SOLUTION: CEASE, SARAN, AVAUNT, WARPED
Answer: Faith is about trusting God when you have **unanswered** questions. - Joel Osteen

SUDOKU 5436

Difficulty Level 3s Instructions
To solve a Sudoku puzzle, every digit from 1 to 9 must appear in each of the nine vertical columns, in each of the nine horizontal rows and in each of the nine boxes.

Difficulty Level
1s = Very easy; 2s = Easy;
3s = Medium; 4s = Hard;
5s = Very Hard;
6s = Genius

					2	1		
3	2			1	9			
				7	3	8		5
			3			4	6	
	6	8			5			
9		4	1	5				
			4	3			5	6
		6	9					

SOLUTION SUDOKU 5435

9	3	8	7	1	2	6	5	4
7	2	1	6	5	4	3	9	8
6	4	5	3	9	8	1	2	7
1	6	7	8	4	5	2	3	9
8	9	4	1	2	3	5	7	6
2	5	3	9	6	7	8	4	1
5	1	9	2	7	6	4	8	3
3	7	2	4	8	1	9	6	5
4	8	6	5	3	9	7	1	2

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0070860444-1

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0070878275-1

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0070878216-1

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PERSONAL

CHANGE OF NAME

I have changed my name from NANDITA MANGALORE to NANDITA BHAVANISHANKER MANGALORE as per affidavit dated 07/11/2023
0070882220-1

I have changed my name from LAL SAYED PATEL to LAL SAYYED BANDAGI PATEL as per Aadhar Card.
0070882277-1

I Have changed My Name From Rohinton Ardeshar Zaiwala to Rohinton Adi Zaiwala Vide Govt of Maharashtra Gazette (M- 23264698)
0070882218-1

I HAVE CHANGE MY NAME FROM RESHMI ARAVIND NAIR TO RASHMI SUDEV MENON AS PER GAZETTE NO. (M - 23264433) Dated :4.01.2024
0070882219-1

"IMPORTANT"
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TAMIL NADU GENERATION AND DISTRIBUTION CORPORATION LTD
Notice Inviting Tenders (E-Tendering Process)

E-tenders through e-procurement platform at **https://tntenders.gov.in/nicgep/app** as per the instructions in the tender specifications Coal (Ship) – 147 Dated : 06.01.2024

Sl No	Specification No.	Description of Work/Materials	Due date & Time for submission of e-tender
1	Coal (Ship) - 147, Dated 06.01.2024	SERVICES AS CHARTERER'S AGENTS FOR AGENCY WORKS AND FOR ENGAGING SURVEYORS AT LOAD PORT OF GOPALPUR AND DISCHARGE PORT OF KAMARAJAR PORT / ENNORE AND VOC PORT/TUTICORIN FOR THE VESSELS CHARTERED BY TANGEDCO FOR A PERIOD OF 18 MONTHS	24.01.2024 Upto 14:30 Hours.

Submission of E-Tender: THROUGH THIS HYPERLINK **https://tntenders.gov.in/nicgep/app** Date & Time of commencement of download of Tender Specifications Coal (Ship) - 147, Dated : **06.01.2024, From : 14:30 Hrs. on 09.01.2024.**

Soft copy of Tender Specifications: The tender specifications can be downloaded from TANGEDCO website **www.tangedco.gov.in,** from and from National Informatics Center website **https://tntenders.gov.in/nicgep/app** free of cost. Tenders will be opened: Through the NIC portal **https://tntenders.gov.in/nicgep/app**

DIPR/94/Tender/2024

CHIEF ENGINEER / MECH / COAL, TANGEDCO / CHENNAI - 2

TOURISM CORPORATION OF GUJARAT LIMITED (TCGL)
(A Government of Gujarat Undertaking)
Udyog Bhavan, Block No. 16, 4th Floor,
Sector-11, Gandhinagar-382 011
Website: https://www.gujarattourism.com

TENDER NOTICE

Bids are invited from reputed and experienced parties for **"Operation and Maintenance (including Renovation / Improvement) of Hotel (Sumeru) at Palitana".**

The project requirements, technical specifications, eligibility criteria, selection process, etc. are included in the Tender documents, which shall be available for download from the websites: **https://tender.nprocure.com/** and **https://www.gujarattourism.com** from12/01/2024 onwards.

The last date for submission of the **Technical Bid and Financial Bid (online only) is 02/02/2024 up to 6:00 pm. and Technical Bid (physical only) is 05/02/2024 up to 3:00 pm.**

Managing Director

ई-प्रोक्योरमेन्ट सेल
कार्यपालक अभियंता का कार्यालय,
भवन निर्माण विभाग, भवन प्रमंडल, गोड्डा

ई–प्रोक्योरमेन्ट नोटिस

ई–टेन्डर रेफरेन्स नं0– BCD/EE/15/Godda/2023-24 दिनांक– 06.01.2024

1.	कार्य का नाम	**Construction of 1000 MT Food Grain Godown with Parking Shed at Sundarpahari Block in Godda District.**
2.	प्राक्कलित राशि (रू0)	राशि रू0 1,51,00,000.00 (रूपये एक करोड़ एकावन लाख) मात्र।
3.	कार्य पूर्ण की अवधि	9 (नौ) माह
4.	वेबसाईट पर निविदा प्रकाशन की तिथि	17.01.2024 11:00 बजे
5.	बिड प्राप्ति के लिए अन्तिम तिथि/समय	24.01.2024 11:00 बजे
6.	निविदा प्रकाशित करने वाले कार्यालय का नाम एवं पता	कार्यपालक अभियंता का कार्यालय, भवन निर्माण विभाग भवन प्रमंडल, गोड्डा।
7.	निविदा खोलने की तिथि/समय एवं स्थान	25.01.2024 11:00 बजे नोडल पदाधिकारी, ई0 प्रोक्यूरमेंट सेल, मुख्य अभियंता का कार्यालय, भवन निर्माण विभाग, लाईन टैंक रोड, झारखण्ड, राँची।
8.	प्रोक्योरमेन्ट पदाधिकारी का सम्पर्क संख्या	7903255234
9.	ई–प्रोक्योरमेन्ट सेल का हेल्पलाईन संख्या	8285834461

10.परिमाण विपत्र की राशि घट–बढ़ सकती है तद्नुसार अग्रधन की राशि देय होगी।
11. सूचना प्रौद्योगिकी एवं ई–गवर्नेंस विभाग, झारखण्ड सरकार के आदेश ज्ञापांक 120 दिनांक 03.10.2023 के द्वारा निर्गत SOP (मानक संचालन प्रक्रिया) एवं भवन निर्माण विभाग, झारखण्ड सरकार के पत्रांक 2229 दिनांक 06.10.2023 के आलोक में निविदा शुल्क एवं अग्रधन की राशि केवल Online Mode द्वारा स्वीकार्य होगी।
12. निविदा शुल्क एवं अग्रधन की राशि का ई–भुगतान जिस खाता से किया जायेगा, SOP के तहत् अग्रधन की राशि उसीखाते में वापस होगी। अगर खाता बंद कर दिया जाता है जो उसकी संपूर्ण जवाबदेही निविदादाता की होगी।
●अन्य किसी भी प्रकार की सूचना बदलाव http://jharkhandtenders.gov.in पर देखा जा सकता है।
Note:- UCAN Registration is mandatory for the Bidders.

कार्यपालक अभियंता का कार्यालय,
भवन निर्माण विभाग, भवन प्रमंडल, गोड्डा।

PR.NO.315353 Building(23-24):D

नगर निगम, प्रयागराज।
(शुद्धि-पत्र ई-निविदा सूचना)

समस्त फर्मों/ठेकेदारों को सूचित किया जाता है कि दैनिक समाचार पत्र में दिनांक 07.01.2024 को अमर उजाला, आज, इण्डियन एक्सप्रेस, टाइम्स ऑफ इण्डिया में प्रकाशित सी.एम. ग्रिड योजना के अन्तर्गत 04 कार्यों की निविदा जो दिनांकः 29.01.2024 को सायं 3.00 बजे तक आमंत्रित की गयी है, जिसे अपरिहार्य कारणों से निरस्त किया जाता है।

शेष नियम व शर्तें यथावत् रहेंगी।

हस्ता./-
मुख्य अभियन्ता

पत्रांक सं. डी.-2894/ज.सम्पं.अधि./2024 दिनांक- 08/01/2024

MUMBAI SLUM IMPROVEMENT BOARD
A REGIONAL UNIT OF
(MAHARASHTRA HOUSING AND AREA DEVELOPMENT AUTHORITY)
Tel. No. - 022-66405484, E-mail- eecityslum@gmail.com

e-TENDER NOTICE

EXECUTIVE Engineer (City) Division, Mumbai Slum Improvement Board, (Unit of MHADA) **Room No. 539, 4th floor,** Griha Nirman Bhavan, Bandra (East), Mumbai 400 051, Phone Number (022) 66405484 is inviting Open/ Regular e-Tender for the **12** number of works in the form of B-1 (Percentage rate) from the Registered contractors in the corresponding appropriate class of contractor or any Govt./Semi Govt. organisation, via online e-tendering system. The Detailed Tender Notice & Tender Documents shall be available & can be downloaded from Government of Maharashtra portal **https://mahatenders.gov.in,** Bidding documents can be loaded on the web site. The tender Document sale start on **dated 10.01.2024, 1.00 pm.** to Document sale end **date 17.01.2024, 5.35 pm.** Corrigendum / Amendments if any could be published only on the **https://mahatenders.gov.in** web site. The Competent Authority reserves the right to reject any or all the tenders without assigning any reason thereof. Conditional offers will not be accepted.

Sd/-
Executive Engineer (City),
M. S I B Board, Mumbai

CPRO/A/37
MHADA - Leading Housing Authority in the Nation

Head Office Virar
Virar (E),
Tal.- Vasai,
Dist.- Palghar,
Pin-401 305.

Tel. : 0250-2525101/02/03/04/05/06
Fax : 0250-2525107
e-mail :
vasaivirarcorporation@yahoo.com
Outward No. : VVCMC/WS/815/2024
Date : 08.01.2024

VASAI-VIRAR CITY MUNICIPAL CORPORATION
Sewerage Department, Head Office, Virar East

Corrigendum

BLANK Tender Forms for Providing Underground Sewage System and Construction of Sewage Treatment Plant at Nalasopara in Vasai-Virar City Municipal Corporation area under AMRUT-2.0 Scheme, on the official web site **https://mahatenders.gov.in** will be available from **11.01.2024.**

Please Visit our official web site (**http://mahatenders.gov.in**)

Sd/-
Additional Commissioner (S)
Vasai-Virar City Municipal Corporation

कार्यपालक अभियंता का कार्यालय,
पथ निर्माण विभाग,पथ प्रमण्डल,गढ़वा
E-mail - eercdgarhwa-jhr@nic.in

शुद्धि पत्र

एतद् द्वारा सूचित किया जाता है कि पथ निर्माण विभाग, पथ प्रमण्डल, गढ़वा अंतर्गत प्रकाशित निविदा **Improvement of Riding Quality work of Chainpur-Ramkanda Road from km. 13.00 to km. 26.718 (Total Length 13.718 km.) under Road Division, Garhwa** जिसका e-Tender Reference No. **RCD/GARHWA/1338/2023-24 (2nd Call)** दिनांक **27.12.2023 (PR 314579 Road(23-24).D** में क्रमांक 4 एवं 5 में उल्लेखित तिथि को निम्नवत् संशोधित किया जाता है–

4.	Last date/Time for receipt of bids	13-01-2024, 12.00 Noon
5.	Date of Publication of Tender on website	08-01-2024, 10.30 A.M.

अन्य सभी यथावत् रहेगा।

ह0/–
कार्यपालक अभियंता,
प0नि0वि0, पथ प्रमण्डल, गढ़वा

PR 315413 Road(23-24).D

World Bank financed
Assam Agribusiness & Rural Transformation Project (APART)
Assam Rural Infrastructure and Agricultural Services (ARIAS) Society
(An Autonomous Body of the Government of Assam)
REQUEST FOR PROPOSALS (RFP)
For Hiring of Consulting Services for "Installation of Enterprise Resource Planning (ERP) System in ASWC under APART"

RFPNo. ARIAS-13012/1/2024-APART-ARIAS
The Government of Assam (GoA) through the Government of India has received a loan from the World Bank (WB) for implementation of the APART. The ARIAS Society now intends to apply a portion of the loan for Hiring of Consulting Services for **"Installation of Enterprise Resource Planning (ERP) System in ASWC under APART".**
Further details may be seen in the detailed RFP for the assignment at the URL **http://www.arias.in/procurements.html**.

State Project Director, ARIAS Society
JANASANYOG/CF/4685/23/9-JAN-24

MAHA HOUSING CORPORATION

महाराष्ट्र गृहनिर्माण विकास महामंडळ
(महाराष्ट्र शासन अंगीकृत)
३रा मजला, साखर भवन, रामनाथ गोयंका मार्ग, नरीमन पॉईंट, मुंबई – ४०००२१.
दूरध्वनी क्रमांक : ०२२-४०४४ १०००;
Email: mhdc.mahahousing@maharashtra.gov.in

महाराष्ट्र गृहनिर्माण विकास महामंडळातर्फे (महाहौसिंग) महाराष्ट्रात विविध ठिकाणी गृहनिर्माण प्रकल्प राबविले जात आहेत. महाहौसिंगचे सर्व विधीविषयक कामकाज पार पाडणेकरिता महाहौसिंगसाठी कायदेशीर सल्लागार / कायदेशीर फर्म असणे आवश्यक आहे. महाहौसिंगकरिता कायदेशीर सल्लागार / कायदेशीर फर्म यांची नेमणूक करणेकरिता विविध कायदेशीर फर्म यांचेकडून दि. १९.०१.२०२४ पर्यंत ऑफलाईन पध्दतीने उपरोक्त नमूद केलेल्या पत्त्यावर संबंधित सर्व कागदपत्रांच्या साक्षांकित प्रतींसह अर्ज मागविण्यात येत आहेत.

सदर नेमणुकीबाबतची विस्तृत माहिती, पात्रता निकष व अटी व शर्ती इ. **https://mahahousing.mahaonline.gov.in** या संकेतस्थळावर उपलब्ध आहे. तसेच, सदर नेमणूक प्रक्रियेमध्ये काही सुधारणा असल्यास त्याबाबत शुध्दीपत्रक / सूचना वर्तमानपत्रात प्रसिध्द न करता महाहौसिंगच्या अधिकृत संकेतस्थळावर वेळोवेळी प्रसिध्द करण्यात येईल.

सही/–
(अजित कवडे)
व्यवस्थापकीय संचालक तथा मुकाअ

GOLD	USD RATE	OIL	SILVER
₹63,200	₹83.14	$77.99	₹76,300

Note: Gold, silver rates at Delhi spot market, gold per 10g, silver per 1 kg; Crude oil (Indian basket) as of January 5

SENSEX: 71,355.22 ▼ 670.93 (0.93%) **NIFTY:** 21,513.00 ▼ 197.80 (0.91%) **NIKKEI:** 33,377.42 ▲ 89.13 **HANG SENG:** 16,224.45 ▼ 310.88 **FTSE:** 7,676.80 ▼ 12.81 **DAX:** 16,622.28 ▲ 28.07

International market data till 1900 IST

Sensex, Nifty slide nearly 1% ahead of US inflation data

ENS ECONOMIC BUREAU
MUMBAI, JANUARY 8

DOMESTIC STOCK markets on Monday declined by nearly one per cent as latest United States (US) economic data raised fears of a delay in rate cuts and prospects for a rise in bond yields again. The benchmark Sensex fell by 671 points, or 0.93 per cent, to 71,355.22 and the NSE Nifty Index lost 198 points at 21,513 ahead of the release of the inflation data in the US. Analysts said 11 out of 13 sectors were in the red with public sector banks, fast-moving consumer goods and metal sectors falling the most.

"Investors fretted across Asian and European markets, as US bond yields crossed 4 per cent again that spiralled into a large-scale correction in domestic equities. While rising valuations were beginning to raise concerns, investors resorted to profit-taking as weakness in banking, information technology (IT) and oil & gas stocks saw the Sensex end below the 72000 mark," said Prashanth Tapse, Senior Vice-President (Research), Mehta Equities.

"The market witnessed widespread selling as the euphoria over early rate cuts may diminish due to the better-than-expected non-farm payroll data from the US and the consequent rise in the US 10-year yield," said Vinod Nair, Head of Research, Geojit Financial Services. US bond yield which was below 4 per cent at 3.91 per cent recently has now crossed four per cent to 4.04 per cent.

Markets were hoping that US rate cuts could start as early as March and be more extensive than the Federal Reserve has suggested. With the US payroll data coming in above expectations, markets have realised that there's resilience and strength in the economy. "In the near term, investors' trade positions will be more inclined towards the upcoming result season. While there are lower expectations about the IT sector, the overall forecast for earnings growth remains optimistic, projecting double-digit figures," Nair said.

"Markets were also reacting to reports suggesting that the interim budget to be presented on February 1 is likely to increase the tax rebate under the new personal income tax regime," said Avdhut Bagkar, Technical and Derivatives Analyst, StoxBox. Domestic markets ignored the National Statistical Office's first advance estimates that projected India's real gross domestic product (GDP) growth at 7.3 per cent on-year for this fiscal. **FULL REPORT ON www.indianexpress.com**

MUTUAL FUND FOLIOS TOUCH AN ALL-TIME HIGH

Riding on equity schemes, MF assets cross ₹50 lk cr in Dec

HITESH VYAS
MUMBAI, JANUARY 8

MUTUAL FUND industry's assets under management (AUM) crossed Rs 50 lakh crore for the first time ever in December 2023, reflecting the growing popularity of mutual funds, especially equity-oriented schemes, as an investment avenue among investors.

The industry's net AUM rose to Rs 50.77 lakh crore in December 2023 from Rs 49.05 lakh crore in November 2023, the data from the Association of Mutual Funds in India (AMFI) showed. In 2023, the mutual fund industry's AUM rose by around Rs 11 lakh crore.

The amount collected through systematic investment plan (SIP) route reached an all-time high of Rs 17,610.16 crore in December 2023. Number of new SIPs registered in December 2023 were 40,32,643 and the number of SIP matured or discontinued were 20,80,622.

"While the mutual fund industry took almost 50 years to build the first Rs 10 lakh crore of AUM, the last Rs 10 lakh crore, from Rs 40 lakh crore to Rs 50 lakh crore was amassed in just over a year," said Venkat Chalasani, Chief Executive of AMFI. Retail AUM (equity + hybrid + solution-oriented schemes) stood at Rs 28,87,504 crore for December 2023. Equity-oriented mutual fund schemes continued to see net inflows in December.



The highest inflows were seen in sectoral funds at Rs 6,005.49 crore. *File*

The segment witnessed net inflows of Rs 16,997 crore in December 2023 compared to Rs 15,536.42 crore in the last month.

Among the equity schemes, the highest inflows were seen in sectoral or thematic funds at Rs 6,005.49 crore as against Rs 1,964.67 crore in November 2023.

Inflows into small-cap funds stood at Rs 3,857.5 crore in December compared to Rs 3,699.24 crore in November. Large-cap funds saw outflows of Rs 280.94 crore as against inflows of Rs 306.7 crore.

Net inflows into large and mid-cap funds were Rs 2,338.86 crore in December as against Rs 1,847.45 crore in November. Inflows into mid-cap funds declined to Rs 1,393.05 crore from Rs 2,665.73 crore.

Inflows into multi-cap funds stood at Rs 1,851.87 crore and into flexi cap funds were Rs 1,087.45 in December. Debt mutual funds saw outflows of Rs 75,559.93 crore as against outflows of Rs 4,706.75 crore last month.

"The huge net outflow in December could be attributed to the advance tax requirement that corporates need to meet with it being the quarter end. Expectedly, liquid funds witnessed the highest net outflows during the month," said Himanshu Srivastava, Associate Director – Manager Research, Morningstar Investment Research India Pvt Ltd.

Net outflows from the liquid funds were Rs 39,675.27 crore as against outflows of Rs 644.73 crore in November. Ultra short duration and low duration fund witnessed outflows to the tune of Rs 6,029.75 crore and Rs 9,432 crore respectively. Net inflows into hybrid schemes stood at Rs 15,009.3 crore compared to inflows of Rs 13,538.05 crore last month.

Mutual fund folios reached an all-time high of 16,48,90,272 in the month of December 2023 compared to 16,18,14,583 for the month of November 2023.

SURGING ASSETS IN 2023

Mutual Fund Net Inflows (+)/ Outflows (–)

Scheme	December	November
Equity	₹16,997.09 Cr	₹15,536.42 Cr
Debt	-₹75,559.93 Cr	-₹4,706.75 Cr
Hybrid	₹15,009.30 Cr	₹13,538.05 Cr

Source: Association for Mutual Funds in India

After Oct spurt, credit card spends moderate in Nov

HITESH VYAS
MUMBAI, JANUARY 8

WHEN CONSUMERS went on a spending spree using credit cards during the festival month of October 2023, card transactions spurted by Rs 36,000 crore to Rs 1.78 lakh crore from September's Rs 1.42 lakh crore. However, card transactions declined to Rs 1.60 lakh crore in November when most festival offers ended, Reserve Bank of India (RBI) data shows.

As retail companies and e-commerce majors like Amazon and Flipkart offered discounts during the month, consumers splurged heavily, adding to card outstandings. As a result, credit card outstanding (amount that remains unpaid by card users) continued to remain elevated in November 2023, reaching Rs 2.44 lakh crore, 34.2 per cent higher than Rs 1.82 lakh crore in the same period of last year.

The volume of card transactions also rose to 3,200 lakh in October from 2,970 lakh in September but declined to 2,739 lakh in November. The number of credit cards also jumped to 960 lakh as of November 2023 as against 806 lakh a year ago, according to RBI data.

Credit card transactions, which are basically unsecured credit, declined after the festive season neared its end, which can be seen by the sequential drop in online payments. However, the point of sale (PoS) transactions have witnessed an increase.

"The credit card segment might see some moderation after the RBI increased the risk weights," said a CareEdge Ratings report.

On November 16, the RBI increased the risk weights on the exposure of banks towards consumer credit, credit card receivables and non-banking finance companies (NBFCs) by 25 per cent up to 150 per cent. The move is aimed at discouraging lenders from aggressively lending to these segments of loans. The central bank increased the risk weights on credit card receivables by 25 percentage points to 150 per cent and 125 per cent for commercial banks and NBFCs.

On October 6, RBI Governor Shaktikanta Das cautioned banks and NBFCs about the high growth in the personal loan segments for any signs of stress. The RBI said certain components of personal loans are recording a high growth. In credit card accounts, the amount spent is billed to the card users through a monthly statement with a definite due date for repayment. **FULL REPORT ON www.indianexpress.com**

ONGC starts oil production from KG basin project

ENS ECONOMIC BUREAU
NEW DELHI, JANUARY 8

OIL AND Natural Gas Corporation (ONGC) has started crude oil production from its massive deep-sea project in the Krishna-Godavari (KG) basin block KG-DWN-98/2, which was hit by multiple delays and deadline extensions over the past few years. The project is expected to help the state-owned oil and gas behemoth to arrest the decline in its overall oil production from its mature fields.

"ONGC announces the successful commencement of 'First Oil' from the deep-water KG-DWN-98/2 Block, situated off the coast of Bay of Bengal. This 98/2 project is likely to increase ONGC's total Oil and Gas production by 11 per cent and 15 per cent respectively," the public sector oil company said in a statement.

In a post on X, Prime Minister Narendra Modi said, "This is a remarkable step in India's energy journey and boosts our mission for an Aatmanirbhar Bharat. It will have several benefits for our economy as well". Petroleum Minister Hardeep Singh Puri said that the project is expected to add 7 per cent each to India's current production of oil and natural gas.

FULL REPORT ON www.indianexpress.com

Income inequality declines, says SBI research unit countering K-shaped eco recovery claims

ENS ECONOMIC BUREAU
NEW DELHI, JANUARY 8

INCOME INEQUALITY has declined in India with a higher tax base and a shift in taxpayers from lower income to higher income tax bracket, the Economic Research Department of the State Bank of India said in a report released Monday. Terming the claims of K-shaped recovery as "prejudiced" and "ill-concocted", the report also cited the transition of small firms into larger firms and consumption trends such as the rising trend of ordering from food ordering platforms such as Zomato of being indicative of "vanishing inequality".

About 36.3 per cent of taxpayers have moved from lower income to higher income tax bracket resulting in 21.3 per cent additional income, the report said adding that the top 2.5 per cent of taxpayers' contribution in income declined from 2.81 per cent in FY14 to 2.28 per cent in FY21. The income-tax returns (ITRs) filed by individual taxpayers earning between Rs 5 lakh and Rs 10 lakh, climbed by 295 per cent between the assessment years (AY) 2013–14 and AY 2021–22, showing a positive trend of migration to a higher range of gross total income, the report said.



About 36.3% of taxpayers have moved to higher income tax bracket. *File*

On the share of top taxpayers in income, the report said that in FY14, the combined income of 23 individuals with income of more than Rs 100 crore was 1.64 per cent of the total income of FY14. Even though the number of such individuals increased to 136 in FY21, the share of their combined income fell to 0.77 per cent.

Also, 19.5 per cent of small firms have transitioned into larger fis through MSME value chain integration and consumption of the bottom 90 per cent of the population has increased by Rs 8.2 lakh crore post pandemic, the report said.

"Growth is seen in all income classes but its skewedness has been decreasing with convergence of income towards the middle from both top as well as bottom," the report said.

The report said the claim of K-shaped recovery, which implies divergent rate of recovery with one section recovering positively and other section declining, seems "at best flawed, prejudiced, ill-concocted and fanning interests of select quarters to whom India's remarkable ascendance, signalling more the renaissance of the new global south, is quite unpalatable".

"Income inequality captured through the Gini coefficient (one of the most widely used measures of income inequality) of taxable income has declined significantly from 0.472 to 0.402 during FY14-FY22," it said.

The report also talks about the decline in sale of two-wheelers, stating that it is "foolhardy to claim that declining two-wheeler sales is a proxy for distress in the rural economy" and people are substituting two-wheelers with four-wheelers. **FULL REPORT ON www.indianexpress.com**

India bonds may be added in Bloomberg EM index from September

Bengaluru: Bloomberg Index Services on Monday proposed including eligible Indian bonds in its emerging market local currency index from September, a move that could lead to billions of dollars of inflows into the country. The proposal comes just a few months after JPMorgan said it would include India in its emerging market debt index from June.

The government began discussing the inclusion of its securities as far back as 2013 but restrictions on foreign investment in domestic debt hampered the process. In April 2020, the Reserve Bank of India introduced securities that were exempt from foreign investment restrictions under a "fully accessible route" (FAR). **REUTERS**

'Switzerland's decision to eliminate import duties limits FTA utility for India'

RAVI DUTTA MISHRA
NEW DELHI, JANUARY 8

SWITZERLAND'S POLICY to allow tariff-free entry for all industrial goods from all countries significantly limits India's prospects of gains from India and the European Free Trade Association (EFTA) free trade agreement (FTA) that is currently being negotiated, a report by think tank Global Trade Research Initiative (GTRI) said on Monday.

Switzerland's decision that took effect on January 1, 2024 has resulted in abolition of tariffs on products, including chemicals, consumer goods, vehicles, clothing. Switzerland is India's top export destination in EFTA and the import duty abolition means that Indian products would face a higher degree of competition in Switzerland despite a FTA with EFTA.

Notably, EFTA countries are not part of the European Union. EFTA comprises Iceland, Liechtenstein, Norway and Switzerland which is an intergovernmental organization for the promotion and intensification of free trade. India's exports to EFTA countries during 2022-23 stood at $1.92 billion as against $1.74 billion in 2021-22. Imports aggregated at $16.74 billion during the last fiscal as compared to $25.5 billion in 2021-22.

"Industrial goods, which account for 98 per cent of India's $1.3 billion merchandise exports to Switzerland in FY2023, are directly impacted. Additionally, exporting agricultural produce to Switzerland remains challenging due to the complex web of tariffs, quality standards, and approval requirements. EFTA, including Switzerland, has shown no inclination to make agriculture tariffs zero on most basic agricultural produce. Consequently, with zero industrial tariffs and the difficulty in exporting agricultural produce to Switzerland, India's prospective gains in merchandise exports are effectively nullified," the think tank said.

The trade imbalance between India and Switzerland further complicates the scenario, GTRI said. In FY2023, India's imports from Switzerland stood at $15.79 billion, in stark contrast to its exports of $1.34 billion, leading to a substantial trade deficit of $14.45 billion.

Thali prices decline by 3-5% in Dec: Crisil

ENS ECONOMIC BUREAU
MUMBAI, JANUARY 8

THE COST of a representative, home-cooked vegetarian and non-vegetarian thali, declined by three per cent and five per cent, respectively, in December 2023 when compared to November, a report by CRISIL MI&A Research said on Monday.

The easing was due to a 14 per cent and 3 per cent on-month decrease in prices of onion and tomato with the festival season coming to an end. The cost of the non-vegetarian thali declined faster due to a 5-7 per cent on-month decline in the price of broilers, which account for 50 per cent of the cost, the agency said.

In November 2023, vegetarian and non-vegetarian thali costs increased 10 per cent and 5 per cent on-month, CRISIL said.

The cost of non-vegetarian thali came down to Rs 57.6 in December from Rs 60.4 in November and vegetarian thali declined to Rs 29.7 from Rs 30.5.

On an on-year basis, however, the cost of the vegetarian thali rose 12 per cent, while that of the non-vegetarian thali declined 4 per cent. The rise in vegetarian thali cost was led by substantial increases of 82 per cent and 42 per cent in prices of onion and tomato, respectively. Prices of pulses, which account for 9 per cent of the vegetarian thali cost, also increased 24 per cent on-year, it said. The decline in the cost of the non-vegetarian thali was due to 15 per cent on-year decline in broiler prices amid higher production, CRISIL said.

CHEAPER MEALS

December prices down
Veg thali: ₹29.7 from ₹30.5
Non-Veg thali: ₹57.6 from ₹60.4

On year basis price
Veg thali: Up 12%
Non-Veg thali: Down 4%



Source: CRISIL

The average cost of preparing a thali at home is calculated based on input prices prevailing in north, south, east and west India. Monthly change reflects the impact on the common man's expenditure. The data also reveals the ingredients (cereals, pulses, broilers, vegetables, spices, edible oil, cooking gas) driving changes in the cost of a thali, according to the rating agency.

A vegetarian thali comprises roti, vegetables (onion, tomato, and potato), rice, dal, curd, and salad. For non-vegetarian thali, the constituents remain the same but for dal, which is replaced by chicken. **FULL REPORT ON www.indianexpress.com**

Sony plans to call off $10 bn merger with Zee Ent

Bengaluru: Japan's Sony is planning to scrap the merger of its Indian unit with Zee Entertainment , more than two years after the deal was announced, over a disagreement on who will lead the $10 billion entity, *Bloomberg News* reported on Monday.

Sony plans to file a termination notice before the extended Jan. 20 deadline to close the merger, Bloomberg reported, citing people familiar with the matter. It added that discussions between Sony and Zee were still ongoing. Zee and Sony did not immediately respond to a *Reuters* request for comment. **REUTERS**

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BRIEFLY

GCMMF launches Sagar Skimmed Milk

New Delhi: Gujarat Cooperative Milk Marketing Federation Ltd. (GCMMF), the largest food products organisation responsible for marketing of 'Amul' and 'Sagar' Brand, announced the launch of Sagar Skimmed Milk across India, a statement said on Monday. **ENS**

IRB infra reports toll collection growth of 26%

New Delhi: IRB Infrastructure Developers Limited and its associate IRB Infrastructure Trust have reported toll collection growth of 26 per cent in the month of December 2023 over the corresponding month of FY23. The toll collection for December reported is Rs 4,880 million, as against the toll collection of Rs 3,880 million in December 2022. **ENS**

Akasa Air, SpiceJet, AI Express complete 737 MAX-8 inspections on DGCA directive

SUKALP SHARMA
NEW DELHI, JANUARY 8

AKASA AIR, SpiceJet, and Air India Express "satisfactorily" completed the inspection of all over wing emergency exits on their operating Boeing 737 MAX-8 aircraft by Sunday on the directions of India's aviation safety regulator Directorate General of Civil Aviation (DGCA), a top DGCA official said. Following the mid-flight cabin plug door blowout incident on an Alaska Airlines Boeing 737 MAX-9 aircraft in the United States (US) on Friday, the DGCA on Saturday directed the three carriers to conduct a "one-time inspection" of emergency exits on all of their Boeing 737 MAX-8 aircraft.



DGCA on Saturday directed the three carriers to conduct a "one-time inspection". *File*

Akasa Air, SpiceJet, and Air India Express are the only Indian carriers that have the Boeing 737 MAX aircraft in operation. Although none of the Indian carriers have the MAX-9 variant that was involved in the incident, the DGCA asked Indian carriers to inspect the aircraft as an "abundant precautionary measure", given that the MAX-8 and MAX-9 are part of the same aircraft family and have numerous similarities. The DGCA directive required the three Indian carriers operating the 737 MAX-8 to complete the inspections by noon on Sunday.

"These checks have been satisfactorily performed on the operational fleet of Boeing B737-8 Max aircraft by Air India Express (4), Spicejet (8) and Akasa (20). Akasa Air fleet includes one B737-8200 (high-density variant of the 737 MAX-8) aircraft which has a mid-cabin door on which the operational check has been completed satisfactorily," the DGCA official said. There are 44 737 MAX-8 aircraft with Indian carriers currently, as per fleet databases, but not all of them are presently operational. Akasa Air's entire fleet of 22 planes currently comprises 737 MAX-8 aircraft. Of the 65 planes in SpiceJet's fleet, 13 are 737 MAX-8 aircraft. **FULL REPORT ON www.indianexpress.com**

DGCA revises duty time limitations norms for flight crew

New Delhi: Aviation safety regulator DGCA on Monday came out with revised Flight Duty Time Limitations (FDTL) norms for flight crew, entailing increased weekly rest periods to 48 hours, extension of night hours, and limiting the number of night landings to only two as against six earlier.

These regulations have been instrumental in managing fatigue-related aviation safety risks for over a decade now, an official statement said. **PTI**

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क्षेत्रीय निदेशक (बिहार) / Regional Director (Bihar)



KLAASEN ENDS TEST STINT

South African wicketkeeper-batter Heinrich Klaasen has announced his retirement from red-ball cricket, bringing curtains to his brief stint in the format. Having made his debut against India in Ranchi in 2019, the 32-year-old played four matches in his brief Test career . PTI

LONG READ

KING OF QUICK-KILL

Fast bowler Mohammed Siraj — the star of India's series-levelling Test win in South Africa — is unstained by conventions, a product of the milieu and Old Hyderabad culture, and groomed by wise men who knew how to harness his potential.



Mohammed Siraj during his 6 for 15 in the first innings against South Africa in Cape Town. PTI

SANDIP G
JANUARY 8

NOT ALL days belong to Mohammed Siraj. But on those days that belong to him, he is the storm in the September Colombo air; or the scorch in the January Cape Town Sun.

Dazzled batsmen cannot pick the cues, cannot spot the difference. He bowls as he always bowls. As if every ball is his first, final and only ball, with the same perturbed face of a rebel, the same energetic strides of a man on the run, the same gung-ho leap of a tiger as he reaches the crease and the same primal scream at the follow-through. If you want to capture the incredible energy it requires to hurl a sphere of leather across a 22-yard strip, just watch Siraj coil, and uncoil, at the crease.

Siraj is often pure theatre, a blur of loose limbs whirring and whirling — like the batsmen of Hyderabad seem to have elastic limbs—twisting the ball this way and that. If the zippy run-up is dramatic enough, the expressions that flicker across his face make you wonder whether he could be trained into an actor.

But he draws the line, for he is expressive without bordering on arrogance, ebullient without being hysteric, emotional though not melodramatic, ever-smiling but not over-friendly. He does not brood over what he has lost but picks up new tricks — he once lost his ability to bowl out-swing but quickly developed the wobble-seamer.

Some days are his; some days less so. But on those days that are his, he becomes the master of quick kill. In 16 balls, he grabbed five wickets and sunk Sri Lanka in the Asia Cup; in 54 balls, he drowned South Africa in Cape Town. Not that his form fluctuates wildly. In 10 of his 42 outings, he has picked three or more wickets; one in every four ODIs, he picks a minimum of three wickets. But the impression remains that he picks his wickets in heaps and piles; and thus a false impression that he endures barren spells between bursts of bounty.

Some of his early coaches too swear by his skill to pick wickets in haste. "I was not surprised when he took six wickets against Sri Lanka," Mohammed Mahboob Ahmed, secretary of his first club, says. "He was a terror for batsmen in the club circuit. When he strikes rhythm, he runs through the sides in no time. I remember another bowler asking me, why does he always take the edge, while I end up just beating batsmen?" Ahmed's answer was simple yet the ultimate truth of bowling: "He hits the perfect length."

In both Cape Town and Colombo — and let you not forget Brisbane and Lord's — his lengths were magnificent, landing the ball just a smidgeon from where the good-length area starts. He then toys with the line, teasing and taunting batsmen to commit to a stroke, often a feeble defensive thrust outside the off-stump.

The feast-or-famine misinterpretation only embellishes his aura. It's more exciting to watch a volatile fast bowler than a steady one. If Mohammed Shami tickles the aesthetics, if Jasprit Bumrah titillates the sense of wonderment, then Siraj assaults your cardiac rhythms. It could beat both mildly and wildly.

Like all three, he is a natural too — unstained by conventions, a product of the milieu, society and culture he grew up in, groomed by wise men who knew how to harness his potential.

■ ■ ■

Hyderabad, the city Siraj grew up in and the spirit he embodies does not wear its love and adulation on the numerous billboards of politicians and film stars that dot the crammed roads. There is Chiranjeevi peering at you from most bends; the gaze of NTR or YSR is inescapable. Not even the sport-shops hang his posters. Even the lanes that lead to his old house in Tolichowki — where now his brothers stay — are disturbingly quiet. His passing mention, though, would break the ice even among absolute strangers. The residents, leaving aside their stories, would offer a verbal biography of their beloved "Sira."

Yet, whenever Siraj comes to bowl, the city stops, the city bleeds, the city soaks in his energy. Even celebrities and politicians leave their chores aside to watch him bowl. Excitement gushes in the voice of Asaduddin Salahuddin Owaisi, the Member of Parliament, from Hyderabad. "He is one of the bowlers who looks like picking a wicket every other ball. He keeps us hooked on him. We get a feeling that anything could happen at any time, be it the first or the last over," says Owaisi.

Siraj is unputdownable, Owaisi says. "Everything about him is touching, the story of his life we all know, the mental toughness he showed when putting his country above his personal loss. It moves me to tears every time I read about his story," he says.

The story is well-documented — the son of a rickshaw driver who started playing tennis-ball cricket for a living becoming a million-dollar IPL player and then emerging as one of the most trusted cross-format bowlers of his country.

But it is the hardships that made and now define him. "The best thing about him I believe is that he did not have any formal training. It could have ruined him. There is no greater teacher than experience, and he must have learned a lot when playing tennis-ball cricket on the streets and maidans of the city," Owaisi says.

No one tried to curb the naturalness of Siraj. A natural, that was his first formal coach Arshad Ayub's initial impression of Siraj. "It took me just 10 minutes to find that spark in him and understand that he is natural. I don't think I have seen any bowler from Hyderabad who could bowl as fast as Siraj could, ever in my life," he says.

The hardships he endured toughened him up. "Even when he was at the academy, he used to play hard tennis ball games for money, so that he could support his family. Later, we had to tell him to focus entirely on the leather ball. He did," remembers Ayub.

The virtues he imbibed from the tennis-ball circuit remain undisturbed. "He developed the fighting spirit as well as the ability to learn things fast. He had an eye for picking new variations and the commitment to polish it," he says.

■ ■ ■

Man as a product of the environment reverberates in both Siraj and Hyderabad cricket. Myths and legends blend and whirl through the glassed skyscrapers of the new city and intricately-sculpted minarets of the old town, where the grandeur of the past blends seamlessly with the ornateness of the present.

The names of the greats from the erstwhile princely state roll out of Owaisi's tongue like a stream, before he pauses at one. "Pataudi, Jaisimha, Baig…. of course Abid Ali." The medium-pace-bowling all-rounder, he of a splendorous toothbrush moustache and lustrous, long sideburns, was one of his idols. "Oh, what a cricketer!" he exclaims.



Young cricketers at the Eidgah ground where Siraj started his journey. *Sandip G*

Ali, fondly called Chicha (father's younger brother literally and a friend figuratively), snaffled six wickets on debut, among them were Bob Simpson and Bill Lawry, scored six half-centuries, hit the winning runs in the Oval Test of 1971, used to keep wickets for his domestic team and club and was an agile fielder. He had a lethal variation the locals called 'sirra', one that shot along the ground.

One of his spiritual heirs, the off-spin-wielding all-rounder Arshad Ayub remembers that ball. "Don't know how he managed them, but the ball just skidded on. He bowled just medium pace, but that ball was often unplayable and got a lot of wickets with that," Ayub says.

After him, there was Mumtaz Ali, who could bowl both left-arm orthodox and left-arm wrist-spin, the wrong'un and armer. Before him was the stylish off-spinner Ghulam Ahmed. His twirly successor, Ayub bowled the one that spun away. "Cut away," he emphasises, "because it was nothing but a leg-cutter."

The batsmen square-cut through covers, cover-drove with a semi-horizontal blade, fetched the ball from sixth stump to square leg, coaxed the ball on leg-stump through extra cover. It was as though they followed a different code of cricket, as though their bones bend and willows curve and crook to the whim of the mind.

In these days of cricket star manufacturing, they merely churn out naturals. Hyderabad is cricket's eternal non-conformists. The characteristic wristiness originates from the matted wickets used here. The bounce off matting wickets could be wayward, so the batsmen end up using their wrists to douse the bounce.

The ball bounced nice and true with the new ball that Ali had to discover the sirra. The wrist is at the heart of Siraj's wobble-seamer too. He locks the wrists during release so that the ball is not pushed out of his hand and the ball wobbles.

That he is the most eminent manipulator of this fad in his country could not be merely a twist of fate. Who else could master the dark and the outrageous arts more expertly than someone from Hyderabad? There could be the historic rationale behind their artistry — in the heyday of Nizams, performing artists, sculptors, artists and musicians flocked to the city. The city oozes with romance because it was founded on a tale of love.

The story goes that a young Muslim prince met a Hindu girl, fell in love with her, married her and named the city Bhagyanagar (her name was Bhagyamati). It later became Hyderabad. And the virtues that made the city manifested itself through a fast-bowling craftsman of rare artistry and rarer personality.

■ ■ ■

Dust blows from the ragged Eidgah Maidan in the First Lancer locale of Old Hyderabad. It's literally a dust-bowl. Columns of expressionless houses, the navy-blue paint reeling off the walls, dot either side of the grounds. At the entrance, or what the locals call the entrance, is the tomb of a 19th-century saint who supposedly was a miracle healer.

His ghost still roams in the night, snatching goats and chickens in the neighbourhood, the locals believe. But the tattered brown tiles of his tomb are strewn with cigarette butts. Most times of the day, the ground is vacant, except for teenagers on bikers without silencers. When evening dawns, the ground gradually fills. Some are on the way to a mosque in the neighbourhood, but most are there to play cricket with a hard tennis ball, sometimes taped, sometimes not. One rectangular maidan becomes maidans for many. People of all age groups converge, from children who are only as tall as the stumps, or those with thinning grey hairs.

Almost everyone has a Siraj story, either he is a friend of a friend of a friend or the cousin of a cousin. Or the boastful one that claims he was the only batsman Siraj dreaded. But every story starts and ends with Siraj.

On this ground, though, Siraj honed his bowling skills. "It's the ground that made him, and made our friendships," says his close friend Mohammed Shafi, who now works with The Golconda Mandal Revenue. He vividly remembers those days when they used to squeeze into packed buses from their homes in Khaja Nagar. "We spent most of our teenage years here, playing cricket, talking cricket, talking life, seeing life," he says.

Watching a match unfold here, you realise the ground is to bowl. It's neither matted nor concrete, just loose black soil. Bowlers expend all their energy just to see the ball die shin-high.

On this wicket, though, Siraj found means to make the ball bounce, Shafi says. "I don't know how he did all these but he somehow managed things that others did not. He used to bowl all the time, and when a variation caught his imagination, he would practice it until he mastered it. "

When there was no match in the locality, they would travel to the neighboring towns to play tennis ball cricket tournaments. There was nothing for him beyond the game. With the money he saved from winning games, Siraj finally bought a bike, a Bajaj Platina. "I remember the evening we rode this bike to the ground," he says.

Later, Shafi would quit the game, but not the friendship with Siraj.

He was often the first person he would call and break some news. He watched him play his first game in Hyderabad; he was beside him when Sunrisers Hyderabad picked him in 2017.

One evening, when he returned to India after his coming-of-age tour Down Under, Siraj called Shafi and the pair visited the old ground, one where it all began for him. Here, at the Eidgah Ground in First Lancer, all days belong to Siraj.

> **Everything about him is touching, the story of his life… the mental toughness he showed when putting his country above his personal loss. It moves me to tears every time I read about his story"**
>
> **ASADUDDIN OWAISI**
> HYDERABAD MP

> **Even when he was at the academy, he used to play hard tennis ball games for money, so that he could support his family. Later, we had to tell him to focus entirely on the leather ball. He did."**
>
> **ARSHAD AYUB**
> INDIA, HYDERABAD OFF-SPINNER

SIRAJ'S STREAKS

6/15

JANUARY 03, 2024, CAPE TOWN TEST

ON A wickedly bouncy deck, he scythed through South Africa's top order in only 54 balls, wherein he took out six wickets in an inspired first spell of pure red-ball fury. He found both bounce and sideways movement, cleverly mixed his plans, hit the perfect length and breathed dread in one of the most clinical eviscerations of a batting unit. The figures 9-3-15-6 capture some of the story, for the full picture you had to watch him bowl.

6/21

SEPTEMBER 17, 2023, COLOMBO ODI

UNDER GREY skies , in the Asia Cup final he made the white ball swing as eloquently as it could. Jasprit Bumrah took the first wicket, in the first over itself, but then it turned into a Siraj show. He killed the game in the fourth over itself, nabbing four wickets with a concoction of swing, aggression and planning. By the sixth over, he had picked up his fifth scalp and the hosts would be bundled out for 50 soon.

4/17

NOVEMBER 22, 2022, NAPIER T20I

THE KIWIS were cruising at 130 for 2 when Siraj steamed in to bowl the 16th over. With the fifth ball, he expelled the rampaging Glenn Phillips. With the first ball of the next over, he consumed the dangerous Jimmy Neesham for a blob, and with the fifth he ejected Mitchell Santner. He would eject Adam Milne to complete a comeback, and India would go onto tie the rain-halved game.

Teen star Esha continues to fly high, seals India's record-equalling Olympic quota

NITIN SHARMA AND SHASHANK NAIR
JANUARY 8

GROWING UP in Hyderabad, a young Esha Singh would often listen to her father's love for motorbikes and rallies. While she did not follow her father Sachin Singh's footsteps into a career in motorsports, the 19-year-old has emerged as Indian shooting's latest sensation. Esha, the Asian Games gold medallist in the 25m pistol, once again showcased her talent after she won India's 15th Paris Olympics quota with a gold medal in the women's 10m Air Pistol final in the Asian Olympic Qualifier in Jakarta on Monday.

The 14th quota had come earlier in the day when Varun Tomar won the gold medal in the men's 10m Air Pistol final as well. With this, Indian shooters matched their tally of 15 quota places earned for the Tokyo Olympics and are set to earn record representation at the Paris Games, which will be held from July 26 to August 11.

With the two Koreans being ineligible for the quota place, the fight for the two Olympic quotas was between the three Indian shooters - including Esha, Rhythm Sangwan and Surbhi Rao - and one each from Singapore, Pakistan and Chinese Taipei.

Esha made a slow start in the final and was placed third after the first series. The second series of 50.5 saw her climbing to the top, a position which she maintained till the final shot with four shots of 10.5 or more in the elimination rounds.

"I did not know about the margin between the top-placed and second-placed before the final finished. I feel really happy to win the quota and feel everything has paid off," said Esha.

Go-karting, baddie, shooting

Esha's first tryst with sports happened in the form of go-karting and badminton before she made the switch to shooting in 2014 first training under coach Hiren Jaiswal at London Olympics bronze medallist Gagan Narang's academy in Pune and later training at the 10m range built at their Hyderabad residence and coach Abdul Kayyum Shah. The youngster would stun a teenage Manu Bhaker and seasoned shooter Heena Sidhu at the age of 13 in the 10m air pistol final in the National Championships in 2018 before cementing her place in the Indian junior and senior teams.



Esha, the Asian Games gold medallist in the 25m pistol, once again showcased her talent .

EXPLAINED

How absence of Chinese, Koreans aided Indians

While India's pistol quotas for the Paris Olympics have finally started to flow in, they are doing so at an Asian Olympic qualifier with no Chinese and Korean 'competition'. While China shooters had already won their quotas and chose to skip the tournament, Korea had already completed their quota haul in the previous World Championships and were therefore ineligible to win any more on Monday.

Many of the top shooters in the world have already guaranteed themselves a spot for the Games in the French capital. As was the case in Tokyo, a quota spot won, or previous solid performances, are not necessarily a marker of how things unfold at the Olympics.

Tomar emulates cousin

India's 14th Paris Olympics quota went to Varun Tomar, who scored 239.6 in the final and beat compatriot Arjun Singh Cheema, who won a silver medal with his effort of 237.3. But it was Tomar's qualification performance that he was most proud of afterwards. "This is the kind of score that gets you in the final eight of the best competitions. Earlier I had a qualification mark of 584 internationally so I'm very happy after having qualified for the finals with a score of 586," said Tomar.

Gunning for eye-catching performances in big competitions was something he picked up from Saurabh Chaudhary, his cousin and the 2018 Asian Games gold medallist in the same discipline.

"When bhai (Saurabh) had qualified for the Tokyo Olympics, I too looked up to when my time would come and hoped that the Paris Olympics might be it. It made me wonder, 'If he could do it, then why couldn't I?' Now with performances like these, I'm starting to sense that the possibility of it might be likely for me as well," said Tomar from Jakarta.

BRIEFLY

Bulls bag last-gasp win over Pirates

Mumbai: Bengaluru Bulls pulled off a last-gasp 34-33 win over three-time champions Patna Pirates in a Pro Kabaddi League match here on Monday. Bengaluru Bulls' veteran defender Surjeet Singh (8 tackle points) was the star of the game, while Patna Pirates skipper Neeraj Kumar finished with five tackle points. Bengaluru Bulls' ace raider Bharat was not part of the squad and the side felt his absence from the very start. **PTI**

Liverpool strike late to knock Arsenal out

London: An own goal by Jakub Kiwior and a thumping late strike by Luis Diaz sealed a 2-0 victory for Liverpool at Arsenal in the weekend's headline FA Cup third round tie as the hosts' dismal form extended into the New Year on Sunday. Arsenal wasted a sackful of chances in the first half and were made to pay as Liverpool captain Trent Alexander-Arnold's free kick glanced off the head of Kiwior in the 80th minute. Diaz then made sure of eight-time winners Liverpool's place in the fourth round draw as he lashed home in stoppage time. **REUTERS**

Woods splits with Nike after 27 years

London: Tiger Woods, who has worn Nike (NKE.N) apparel since first signing with the company as a newly professional 20-year-old, has parted ways with the sportswear giant, the 15-times major champion said on Monday in a social media post. Woods, now 48, signed his first five-year, $40 million contract with Nike in 1996, and renewed it repeatedly in one of the most lucrative endorsement deals in sports history, while dominating the game like no other player of his generation. His last deal was a 10-year pact in 2013 worth a reported $200 million. Woods, who returned to competition late last November after a seven-month injury layoff. **REUTERS**

FRANZ BECKENBAUER | 1945-2024

'The Emperor' is no more

Beckenbauer, who stopped Cruyff as a player and strangled Diego Maradona as a manager, passes away aged 78

SANDIP G
JANUARY 8

FRANZ BECKENBAUER not just embodied the ideals of German football, its fabled tenacity and indefatigability. But he was German football itself.

One of just three men to have lifted the World Cup as both player and manager, he was arguably the greatest footballer his country has produced, the man who reinvented the role of a defender in the game. He was arguably the greatest leader on the football pitch his country has churned out, whose single-minded defiance upset one of the greatest football teams of all time, the Total Footballers of Johan Cruyff; he was also a legendary manager too, the spiritual figurehead of a raft of managers from his country.

A bigger nod to his personality could be that he stopped Cruyff as a player, and strangled Diego Maradona as a manager.

Stories behind the nickname

He owned the most fitting of sobriquets in the game. Der Kaiser. The Emperor. On the field, he exuded an emperor-like aura, in utter control of his men, in absolute mastery of his opponents. Every move was measured; every action was gauged. Even the most rebellious of teammates would listen to his words, as though enamoured by his personality. There are several tales of how he got the moniker.

One of them was that it first came on the cover of a magazine that said he looked like the Bavarian emperor Ludwig II, known as the Fairytale King for his altarboy look and frizzy curls. There is another spin-off that some of his teammates bestowed the name after a photograph with the bust of former Austrian emperor Franz-Joseph Kaiser.

A more practical tale goes that he, when playing for Bayern Munich, once fiercely marked Schalke's attacker Reinhard Libuda, who was then known as the King of Westfalen, that his teammates began to call him Kaiser, for only a king could surmount an emperor. Whatever the etymology be, it could not have been ap ter. As a sweeper alone, his legacy in football is immortal.



Franz Beckenbauer lifiting the World Cup in 1974 . In 1990 he led Germany to the coveted trophy again as manager. *AP*

Inventing sweeper role

In an era where sweepers hung back and content repelling waves of attack, he was not merely content with merely tackling or intersecting a ball. But he was involved in play-making and ball-carrying, the prototype of the modern-day sweeper. That he is still regarded as one of the finest in this position is a testament to how good a player he was. He excelled in the dual role, was both silk and steel. He would snatch the ball off the opponent's feet with the faintest of touches and with equal felicity thread a gorgeous pass upfield. He could impose himself on the most physically imposing of strikers; he could outwit the brainiest of playmakers too. Germany's masterstroke in the 1974 World Cup was deploying him as the libero, in front of the back four, covering his defenders but with licence to go forward, link with the midfielders and set up attacks.

'Der Kaiser was the most beautiful of footballers who won it all with grace and charm'

-GARY LINEKER

Incidentally, he began his career as a centre forward before shifting to left-wing then to central midfield. To every role, he brought energy and creativity. His inspiration was Germany's 1954 triumph, the Miracle of Bern. Beckenbauer, the son of a postal worker, was nine and he would later recall that he listened to the radio commentary wearing the shirt on which his mother, Antonie, had stitched the No. 10 of Germany's victorious captain, Fritz Walter. He would then pour into the streets of Munich to share the homecoming of the heroes.

The tales of his courage are legendary. In the 1970 World Cup semi-final against Italy, he dislocated his shoulder during the game. But having exhausted the quorum of substitutes, he had to be on the field. He didn't flinch either.

His right arm strapped to his body and his hand resting below his heart, he fought on. Though Germany lost what was dubbed "The Game of the Century" 4-3, his courage won hearts. His legendary adversary Geoff Hurst, the late England striker, would say: "Beckenbauer showed his character, and still could probably play as well with one arm as most people could with two." That summed up the spirit of Beckenbauer.

The career was not without the odd sprinklings of grey either. In 2014, he was banned from football for 90 days by Fifa for refusing to cooperate with the inquiry into corruption over the allocation of the 2018 and 2022 World Cups to Russia and Qatar. The suspension was lifted when he agreed to participate in Fifa's inquiry, though two years later he was fined 7,000 Swiss francs for his initial refusal.

Nothing though could tarnish the spirit he embodied and how that would come to define German football. Der Kaiser, there would not have been an apter sobriquet.

PLAYER, MANAGER, PIONEER

WC AS PLAYER AND MANAGER
One of only three men to win the Fifa World Cup as a player and then as a manager. He achieved the feat as West Germany's captain at 1974 and then led the nation to glory from the sidelines at Italy 1990. Mario Zagallo of Brazil, and Didier Deschamps of France are the other two.

PIONEERING 'LIBERO'
Having started as a forward, then moved to the midfield, it's his defensive authority that earned the nickname Der Kaiser, or "The Emperor". As a sweeping defender with an eye for the long pass, the German great redefined the role of 'Libero' in football and is credited with creating the position.

BALLON D'OR WINNER
Winner of a hat-trick of European Cups with Bayern Munich in the 1970s and also the only defender in history to win the Ballon D'or twice (1972 and 1976). Beckenbauer represented his country 103 times.

Pondicherry demolish clueless Delhi

PRATYUSH RAJ
NEW DELHI, JANUARY 8

DELHI'S 2023-24 Ranji Trophy campaign started on the worst possible note. Pondicherry handed a nine-wicket drubbing to Delhi, only their second win while playing in the Ranji Trophy elite group.

It was a formality for Pondicherry on a nippy Day 4 as Gourav Yadav and Abin Matthew removed Delhi's overnight batsmen, Harsh Tyagi and Ishant Sharma, early as they folded for 145 runs in their second innings. Pondicherry needed 50 runs to win and chased down the total in 13.1 overs with nine wickets to spare. Delhi failed to cross 150 runs in both of their innings. Delhi's best batsman in both the innings was left-arm spinner Harsh Tyagi, who bats at No 8. Tyagi scored 34 and 28, respectively in both the innings.

Delhi's openers, Yash Dhull and Lakshya Thareja, looked all at sea in both innings against the new ball. Dhull was batting way outside of the crease in both the innings to combat the swing but he forgot that he was playing at Kotla and not in Manchester. In both the innings, he was undone by the seam-up deliveries.

Ayush Badoni and Hrithik Shokeen swung their bats like they were playing an IPL match, while the seasoned campaigners Vaibhav Rawal and Himmat Singh would not want to see replays of their dismissals.

If Delhi's batting was poor, the bowling unit led by Ishant Sharma, a veteran of 105 Tests, and Navdeep Saini, an India Test hopeful, looked ordinary on a surface where Pondicherry's seamers ran riot. It was indeed a good toss to win for Pondicherry, and their bowlers made the most of it, but in Delhi's second innings, the home team's batting unit buckled under pressure and fell away like nine pins. Delhi coach Devang Gandhi blamed his side for not being "tough enough."



Victorious Pondicherry team at the Arun Jaitley Stadium in New Delhi. *Express*

"The preparations were good. They played really well in all the departments and outplayed us. When they bowled in the first innings, the conditions were really good, it was a fresh wicket. So, they got a lot of help on the first day and they bowled in the right areas," said the former Bengal batter-turned-coach.

"We should have been a little bit more tough. I think the idea should have been to play the spells out in the second innings. That's where we lacked. Of course, it is a tough loss to swallow," he added.

On a pitch where Pondicherry seamers Gourav Yadav, Saurabh Yadav and Abin Matthew picked up 20 wickets, Delhi's most successful bowler was off-spinner Hrithik Shokeen, who picked four in the first innings. Ishant picked up one in the match, while Saini got two. The youngster Himanshu Chauhan was the most impressive among the three Delhi pacers. Pondicherry's Gourav Yadav finished the match with a ten-wicket haul, while Abin Matthew bagged his maiden fifer.

"I think we could have handled them (Pondicherry bowlers) better. They bowled well, I'm not taking away any credits from them but we could have batted better than we did actually," said Gandhi. Delhi will travel to Jammu on Tuesday for their next round match against Jammu and Kashmir, starting from Friday. Gandhi has made it clear that there will be few changes in the next match, with Ishant not available and Saini will join the India A squad.

"I think, Ishant (Sharma) is not available for the away games. We will have to see. There are youngsters in the squad. The selectors will be able to give you a better idea about who is going to replace them. "We will have to come back with a stronger resolve, I feel. We can make some changes. At the moment, I'm not being able to tell you that but we need to show a lot of more character," he said.

Brief Scores: Delhi: 148 & 145 (Harsh Tyagi 28; Abin Matthew 5/39, Gourav Yadav 3/49, Saurabh Yadav 2/43) vs Pondicherry: 51 for 1 (Akash Khargave 23; Himanshu Chauhan 1/1)

After humiliating loss, Dhull sacked; Himmat to take over

PRATYUSH RAJ
NEW DELHI, JANUARY 8

HOURS AFTER Delhi suffered an embarrassing nine-wicket loss to Pondicherry in the Ranji Trophy, the selectors sacked Yash Dhull from the captaincy. Middle-order batsman Himmat Singh will replace Dhull for the rest of the tournament. "It was the selectors' call. To me, Yash getting runs is the most important thing. He is the future of Delhi cricket and maybe Indian cricket. He needs to be taken care of. Anything that helps him concentrate on his batting and getting runs should be prioritised. He doesn't need distractions off the field," Delhi coach Devang Gandhi told The Indian Express.

"We want Yash (Dhull) to concentrate on his batting, that is why we have relieved him of captaincy duties," said the DDCA joint secretary Rajan Manchanda.

Himmat had led Delhi to their famous win over Mumbai in the last season and was also captain of the team in the Buchi Babu Invitational cricket tournament.

Dhull has had a forgettable match against Pondicherry with the bat and his captaincy was below par as well. Dhull scored 2 and 23 in both the innings. Delhi will take on Jammu and Kashmir in an away match from January 12. The 21-year-old Dhull was appointed Delhi's captain last season to revive the fortunes of the team. The U-19 World Cup-winning captain had a breakthrough debut season with Delhi senior team in 2022, scoring 479 runs in three matches, including three centuries. However, in the following season, he managed only 270 runs in ten innings (six games).

Although Dhull has scored most of his runs as an opener, he has struggled against the moving ball. The runs he scored during the curtailed Ranji Trophy season in 2021-22, Delhi played its matches in Guwahati in February. In all his age-group games, Dhull has always batted in the middle-order. Back in 2022, he was put straight into the XI and was asked to open. "Apna kaam hai batting karna, opening miley ya No 6 pe. (My job is to bat, whether I get to open or at No 6)," Dhull had told this newspaper after scoring a century on his Ranji Trophy debut. "He doesn't want to open, he doesn't want to bat at 3. He wants to bat 4. What have you achieved in your life so far? If he wants to play for India, he should be ready to bat anywhere and score. He is a talented kid, and we are backing him to bounce back in form," said a DDCA official.

Three changes

There have been three changes in the 18-man squad that will take on Jammu and Kashmir in an away game starting on January 12. Ishant Sharma won't be travelling with the team as the veteran pacer will play only the home matches. Navdeep Saini is named in the India A squad to face the visiting England Lions. Left-arm spinner Vikas Mishra has been dropped from the squad. Opener Salil Malhotra, left-arm pacer Kuldip Yadav and medium pacer Prince Yadav are included in the squad.

Delhi squad: Himmat Singh (c), Ayush Badoni (vc), Yash Dhull, Vaibhav Rawal, Jonty Sidhu, Salil Malhotra, Hrithik Shokeen, Harsh Tyagi, Himanshu Chauhan, Anuj Rawat (wk), Lakshya Thareja (wk), Divij Mehra, Kuldip Yadav, Prince Yadav, Vaibhav Sharma, Vaibhav Kandpal, Tishant Dabla, Kshitiz Sharma.

RANJI ROUND UP

Karnataka coast home
At Hubballi, Karnataka started their Ranji campaign with a seven-wicket win over Punjab in a Group C fixture.
Brief scores: **Punjab** 152 & 413 in 114.4 overs (Prabhsimran Singh 100, A Sharma 91) lost to **Karnataka** 514/8 decl & 52/3) by 7 wickets.

Big win for Gujarat
In another Group C game at Valsad, Gujarat trounced Tamil Nadu by 111 runs to add six points to their kitty.
Brief scores: : **Gujarat** 236 & 312 beat **Tamil Nadu** 250 & 187 (Sai Kishore 48, Baba Indrajith 39, PR Paul 39 not out; Arzan Nagwaswalla 4/34, Chintan Gaja 3/34) by 111 runs.

Bengal earn a point
At Vizag, Ricky Bhui's 175 meant, Andhra managed to take first innings lead and take three points from the drawn encounter against Bengal in a Group B contest.
Brief scores: Bengal 409 & 82/1 drew with Andhra 445 (Ricky Bhui 145, Shoaib Md Khan 56, Hanuma Vihari 51, Mod Kaif 3/62).

Innings win for Mumbai
At Patna, it took giants Mumbai only 3.1 overs on Monday morning to take the remaining four Bihar wickets as they won by an innings & 51 runs and take home seven points
Brief scores: : **Mumbai** 251 bt **Bihar** 100 & (f/o) 100 (Sharman Nigrodh 40, Shivam Dube 4/10, Roystan Dias 3/35) by an innings and 51 runs.

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फ्रान्सच्या पंतप्रधानांचा राजीनामा

पॅरीस : फ्रान्सच्या पंतप्रधान एलिझाबेथ बॉर्न यांनी सोमवारी आपल्या पदाचा राजीनामा दिला. राष्ट्राध्यक्ष इमॅन्युएल मॅक्रॉं यांचा पाठिंबा असलेल्या स्थलांतरित विधेयकाला बॉर्न यांचा विरोध होता. मॅक्रॉं यांनी त्यांचा राजीनामा स्वीकारल्याचे त्यांच्या कार्यालयाने स्पष्ट केले. बॉर्न यांची मे २०२२मध्ये पंतप्रधानपदी नियुक्ती झाली होती. त्या फ्रान्सच्या दुसऱ्या महिला पंतप्रधान होत्या. नवे सरकार स्थापन होईपर्यंत बॉर्न या देशांतर्गत प्रकरणे हाताळत राहतील, असे मॅक्रॉं यांच्या कार्यालयाने स्पष्ट केले आहे.

इस्त्रायलच्या हल्ल्यात हेजबोला कमांडर ठार

बैरुत : इस्त्रायलने सोमवारी दक्षिण लेबनॉनमध्ये केलेल्या हवाई हल्ल्यामध्ये हेजबोलाचा वरिष्ठ कमांडर ठार झाल्याची माहिती सुरक्षा अधिकाऱ्यांनी दिली. इराण समर्थित हेजबोला दहशतवादी आणि इस्त्रायली लष्कर यांच्यामधील संघर्ष वाढला असताना इस्त्रायलने आपले हल्ले अधिक तीव्र केले आहेत.

पाकिस्तानात स्फोटात सहा पोलीस ठार

पेशावर : पाकिस्तानमध्ये पोलिओ लसीकरण कर्मचाऱ्यांना सुरक्षा प्रदान करणाऱ्या पोलिसांना सोमवारी तेहरिक-ए-तालिबान या दहशतवादी संघटनेने लक्ष्य केले. हे पोलीस प्रवास करत असलेले वाहन स्फोटात उडवण्यात आले. त्यामध्ये किमान सहा पोलीस ठार झाले आणि अन्य २२ जखमी झाले. अफगाणिस्तानच्या सीमेवरील बजौर जिल्ह्यात हा हल्ला घडवण्यात आला.

आपच्या तिघांकडून उमेदवारी अर्ज दाखल

नवी दिल्ली : आपचे खासदार संजय सिंह, दिल्ली महिला आयोगाच्या माजी अध्यक्ष स्वाती मालीवाल आणि एन डी गुप्ता या तिघांनी सोमवारी राज्यसभेच्या निवडणुकीसाठी आम आदमी पक्षातर्फे उमेदवारी अर्ज दाखल केले. संजय सिंह, सुशील कुमार गुप्ता आणि एन डी गुप्ता यांचा सहा वर्षांचा कार्यकाळ २७ जानेवारीला संपत असून १९ जानेवारीला निवडणूक होत आहे.

अमित शहा यांचा जम्मू दौरा लांबणीवर

नवी दिल्ली : केंद्रीय गृहमंत्री अमित शहा यांचा मंगळवारचा जम्मू आणि काश्मीरचा दौरा लांबवणीवर टाकण्यात आला आहे. तेथील वाईट हवामान विचारात घेऊन हा निर्णय घेण्यात आल्याची माहिती अधिकाऱ्यांनी दिली. अमित शहा जम्मूमध्ये विकसित भारत संकल्प यात्रेत सहभागी होणार होते.

काँग्रेसच्या यात्रेला परवानगीची प्रतीक्षा

इम्फाळ : मणिपूरमधून १४ जानेवारीला सुरू होणाऱ्या भारत जोडो न्याय यात्रेसाठी काँग्रेसला अद्याप परवानगी मिळालेली नाही. राज्य सरकारकडून परवानगीची प्रतीक्षा करत आहोत असे राज्याचे पक्ष प्रभारी गिरीश चोदनकर यांनी सोमवारी सांगितले.

हरियाणातील माजी आमदाराला अटक

चंडीगड : हरियाणातील भारतीय राष्ट्रीय लोकदलाचे माजी आमदार दिलबाग सिंह आणि सहाय्यक कुलविंदर सिंह यांना ईडीने सोमवारी अटक केली. कथित अवैध खनिकर्माशी संबंधित आर्थिक गैरव्यवहार प्रकरणी ही कारवाई करण्यात आली.

काँग्रेस आमदारावर ईडीची कारवाई

बंगळूरु : कर्नाटकातील काँग्रेस आमदार के वाय नान्जेगौडा यांच्यावर ईडीने सोमवारी कारवाई केली. कोलार-चिक्कबल्लापूर जिल्हा सहकारी दुग्ध उत्पादक संघटना लिमिटेडमधील कथित आर्थिक गैरव्यवहार प्रकरणात ईडीने छापे टाकले.

मालदीवची पर्यटनकोंडी?

भारत-मालदीव दरम्यान राजनैतिक पातळीवर चर्चा; भारताकडून चिंता व्यक्त, मालदीवकडून खुलासा

पीटीआय, नवी दिल्ली, माले

मालदीवच्या तीन उपमंत्र्यांनी भारताचे पंतप्रधान नरेंद्र मोदी यांच्याबद्दल केलेल्या अपमानास्पद टिप्पणीनंतर मालदीवची पर्यटन कोंडी करण्याचे सूर भारतातून उमटू लागले आहेत. या प्रकरणी मालदीवच्या तिन्ही उपमंत्र्यांवर रविवारीच निलंबनाची कारवाई करण्यात आली होती. त्यानंतर दुसऱ्या दिवशी दोन्ही देशांदरम्यान राजनैतिक पातळीवर याबाबतीत चर्चा झाली.

भारताच्या परराष्ट्र मंत्रालयाने सोमवारी मालदीवच्या भारतातील राजदूतांना पाचारण केले आणि तेथील काही मंत्र्यांनी पंतप्रधान मोदी यांच्याविरुद्ध समाजमाध्यमांवर केलेल्या शेरेबाजीबद्दल तीव्र चिंता व्यक्त केली. दुसरीकडे, निलंबित करण्यात आलेल्या तीन उपमंत्र्यांची अपमानास्पद मते मालदीवच्या दृष्टीकोनाचे प्रतिनिधित्व करत नाहीत, असे तेथील सरकारने सोमवारी भारताचे त्या देशातील राजदूत मुनु मुहावर यांना सांगितले. भारतीय दूतावासाने दिलेल्या माहितीनुसार, 'भारतीय राजदूत मुनु मुहावर यांनी द्विपक्षीय संबंधांबाबत चर्चा करण्यासाठी मालदीवच्या परराष्ट्र मंत्रालयातील स्वतंत्र राजदूत डॉ. अली नासीर मोहम्मद यांची सोमवारी पूर्वनिर्धारित भेट घेतली, मंत्र्यांची मते मालदीव सरकारची मते प्रतिबिंबित करत नाहीत, असे नासीर यांनी या बैठकीत स्पष्ट केले, तसेच मालदीवचा आपल्या शेजारी देशाला पाठिंबा कायम राहील असे आवर्जून सांगितले'.



मुईझ्झु चीन दौऱ्यावर

बीजिंग : चीन हा मालदीवचा 'महत्त्वाचा मित्र आणि सहयोगी देश' आहे अशी प्रशंसा मालदीवचे अध्यक्ष मोहम्मद मुईझ्झू यांनी केली. ते सोमवारपासून पाच दिवसांच्या चीन दौऱ्यावर गेले आहेत. दौऱ्याच्या पहिल्या दिवशी त्यांनी प्रांतीय अधिकाऱ्यांची भेट घेतली. या दौऱ्यात दोन्ही राष्ट्राध्यक्षांची भेट होणार आहे. मुईझ्झू आणि क्षी जिनपिंग चर्चा करतील. तसेच, द्विपक्षीय संबंध बळकट करण्यासाठी अनेक करारांवर स्वाक्षऱ्या केल्या जातील, अशी माहिती देण्यात आली.

इस्त्रायलचेही लक्षद्वीपमधील पर्यटनाला प्रोत्साहन

निलंबित उपमंत्री मरियम शिउन यांनी पंतप्रधान मोदी आणि इस्त्रायलचे पंतप्रधान बिन्यामिन नेतान्याहू यांच्या मैत्रीवरही टिप्पणी केली होती. त्या पार्श्वभूमीवर भारतातील इस्त्रायली दूतावासाने सोमवारी लक्षद्वीपच्या निसर्गसौंदर्याची प्रशंसा केली.

'अलवणीकरण (डी-सलायनेशन) कार्यक्रम सुरू करण्यासाठी भारत सरकारच्या विनंतीवरून गेल्या वर्षी आम्ही लक्षद्वीपला गेलो होतो. या प्रकल्पावर उद्या काम सुरू करण्यास इस्त्रायल तयार आहे. ज्यांनी अद्याप लक्षद्वीपच्या समुद्राखालील भव्य सौंदर्य पाहिलेले नाही, त्यांच्यासाठी या बेटावरील मोहक आकर्षण दर्शवणारी ही काही छायाचित्रे दाखवत आहोत', असे इस्त्रायली दूतावासाने 'एक्स'वर लिहिले. या पोस्टसोबत त्यांनी लक्षद्वीपचे समुद्रकिनारे आणि समुद्री जीवनाची चित्रेही सामायिक केली.

अमिताभ यांचीही 'एंट्री'

दरम्यान, या वादामध्ये चित्रपट अभिनेते अमिताभ बच्चन यांनीही आपली भूमिका मांडली. 'लक्षद्वीप आणि अंदमान ही आश्चर्यकारकरीत्या सुंदर स्थळे आहेत' असे बच्चन यांनी सोमवारी सांगितले.

'बदलत्या परिस्थितीवर लक्ष'

भारत आणि मालदीव यांच्यातील राजनैतिक संबंध वादाच्या भोवऱ्यात सापडले असतानाच, या दोन देशांमधील विमानसेवेच्या मागणीवर आपण 'बदलत्या परिस्थितीला अनुसरून' लक्ष ठेवू, असे विस्तारा एअरलाइन्सने सोमवारी सांगितले. ही विमान कंपनी सध्या मुंबई व दिल्लीहून मालेसाठी दररोज एक विमान चालवते. आपण सध्या कुठलेही विमानोड्डाण रद्द केलेले नसून, विमानांच्या मागणीवर आम्ही लक्ष ठेवू, असे विस्तारा हवाई वाहतूक कंपनीचे मुख्य व्यावसायिक अधिकारी दीपक राजावत यांनी सांगितले. 'परिस्थिती सध्या सतत बदलते आहे. तिच्यावर आम्हाला सुमारे आठवडाभर लक्ष ठेवावे लागेल', असे मालदीवमधील परिस्थितीबाबत पत्रकारांनी विचारलेल्या प्रश्नाच्या उत्तरात राजावत म्हणाले. एअर इंडिया, इंडिगो आणि स्पाइसजेट या विमान कंपन्याही मालदीवसाठी विमानोड्डाणे करतात. या तीन कंपन्यांनी सध्याच्या परिस्थितीबाबत काही भाष्य केलेले नाही.

काँग्रेसची मतदारसंघनिहाय 'स्वतंत्र' चाचपणी

सर्व जागांचा आढावा घेण्यासाठी निरीक्षक नियुक्त

लोकसत्ता विशेष प्रतिनिधी

नवी दिल्ली : आगामी लोकसभा निवडणुकीसाठी 'इंडिया'तील घटक पक्षांशी जागावाटपासाठी काँग्रेसच्या वाटाघाटी होत असल्या तरी, स्वतंत्रपणे निवडणूक लढण्याची वेळ आली तर त्यासाठी देखील तयारी केली जात आहे. लोकसभेच्या ५४१ जागांचा आढावा घेतला जात असून प्रत्येक मतदारसंघात निरीक्षक नियुक्त करण्यात आले आहेत. या निरीक्षकांकडून अहवाल सादर झाल्यानंतर काँग्रेस महत्त्वाच्या राज्यांतील जागावाटपावर अंतिम निर्णय घेतला जाईल.



महाराष्ट्रातील सर्वच्या सर्व ४८ जागांसाठीही निरीक्षक नियुक्त करण्यात आले आहे. कोल्हापूरसाठी पृथ्वीराज चव्हाण, सांगलीसाठी सतेज पाटील, साताऱ्यासाठी रवींद्र धंगेकर, जळगावसाठी यशोमती ठाकूर, रावेरसाठी प्रणिती शिंदे, वर्ध्यासाठी नितीन राऊत, अमरावतीसाठी चंद्रकांत हंडोरे, हिंगोलीसाठी अशोक चव्हाण, नांदेडसाठी विजय वडेट्टीवार, परभणीसाठी रजनी पाटील, भिवंडीसाठी अनिस अहमद, नाशिकसाठी अमित देशमुख, मावळसाठी हुसैन दलवाई, पुण्यासाठी विश्वजीत कदम, अहमदनगरसाठी मनोज जोशी, शिर्डीसाठी बाळासाहेब थोरात, सोलापूरसाठी बसवराज पाटील यांच्याकडे जबाबदारी आहे.

मतदारसंघांच्या आढाव्यानंतर राष्ट्रवादी काँग्रेस व शिवसेना (ठाकरे गट) यांच्याशी अंतिम बोलणी केली जातील.

विकसित भारत यात्रा गरिबांच्या आरोग्यासाठी वरदान

पंतप्रधान मोदींचा दूरदृश्य प्रणालीमार्फत लाभार्थींशी संवाद

पीटीआय, नवी दिल्ली



''गरीब, शेतकरी, महिला आणि तरुण या चार जाती सशक्त होतील, तेव्हा मजबूत भारत निर्माण होईल,'' असा विश्वास पंतप्रधान नरेंद्र मोदी यांनी सोमवारी व्यक्त केला. विकसित भारत संकल्प यात्रेला दूरदृश्य प्रणालीद्वारे संबोधित करताना मोदी म्हणाले की, सरकारी योजनांच्या एकही योग्य लाभार्थी वंचित राहू नये, हाच या यात्रेचा सर्वात मोठा उद्देश आहे.

मोदींनी सांगितले की, विकसित भारत संकल्प यात्रा गरिबांच्या आरोग्यासाठी वरदान ठरत आहे. 'मोदींच्या हमीं'चे वाहन देशाच्या कानाकोपऱ्यात पोहोचत आहे.

कार्यक्रमादरम्यान मोदींनी सरकारच्या उपक्रमांची प्रशंसा करणाऱ्या लाभार्थ्यांशी संवादही साधला. गेल्या वर्षी १५ नोव्हेंबर रोजी ही यात्रा सुरू झाल्यापासून, मोदींनी नियमितपणे लाभार्थ्यांशी संवाद साधला आहे.

भारतातर्फे शेख हसीना यांचे अभिनंदन

ढाका : ढाक्यातील भारतीय उच्चायुक्त प्रणय कुमार वर्मा यांनी सोमवारी बांगलादेशच्या पंतप्रधान शेख हसीना यांची भेट घेतली आणि त्यांची फेरनिवड तसेच त्यांच्या अवामी लीग पक्षाचा सलग चौथ्यांदा झालेला विजय याबद्दल आपल्या देशाच्या वतीने त्यांचे अभिनंदन केले. भारत हा आपला महत्त्वाचा मित्र देश आहे अशी प्रतिक्रिया हसीना यांनी व्यक्त केली आहे. दरम्यान, या निवडणुका मुक्त व निष्पक्ष वातावरणात झाल्या असे निरीक्षण १००पेक्षा परदेशी निरीक्षकांनी नोंदवले आहे. दुसरीकडे, बांगलादेशातील 'नकली निवडणुका' रद्द कराव्यात आणि पंतप्रधानांनी राजीनामा द्यावा, अशी मागणी बांगलादेश नॅशनलिस्ट पार्टी या प्रमुख विरोधी पक्षाने केली आहे.

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या कोर्समध्ये प्रथम इंग्रजी व देवनागरी फॉन्टच्या सहाय्याने बेसिक कॅलिग्राफी शिकवली जाईल. नंतर कॅलिग्राफिक डिझाइनच्या सहाय्याने ग्रीटींग कार्ड, साडी पेंटिंग, वेडींग कार्ड, टी-शर्ट पेंटिंग, नेमप्लेट डिझाईनिंग शिकविले जाईल. एकूण ५ दिवस
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एमसीए परीपत्राकाच्या अनुषंगाने ईजीएमची सूचना इलेक्ट्रॉनिक पद्धतीने अशा सभासदांना ज्यांच्या ई-मेल आयडीची नोंदणी सदर सूचनेच्या दिनांकापर्यंत क्लबकडे नोंदविण्यात आले आहेत, त्यांना पाठविण्यात आल्या आहेत. ईजीएमची सूचना www.rwitc.com क्लबच्या संकेतस्थळावर आणि उपलब्ध असेल आणि ईजीएमच्या दिनांकापर्यंत संकेतस्थळावर उपलब्ध असेल.
इलेक्ट्रॉनिक स्वरूपात क्लबकडून सर्व पत्रव्यवहार प्राप्त होण्यासाठी सर्व सभासद ज्यांनी त्यांच्या ई-मेल आयडीची नोंद/अपडेट क्लबकडे नोंदविले/अपडेट केले नसल्यास लेखी स्वरूपात, क्लब सभासदाच्या कार्ड नंबरच्या तपशिलासह आणि पॅन कार्डच्या स्व-साक्षांकित प्रतीसह adm@rwitc.com वर संलग्न करावे.
यासंदर्भात क्लबच्या वतीने रिमोट ई-व्होटिंग आणि ईजीएमच्या दरम्यान ई-व्होटिंग सुविधा आणि क्लबच्या वतीने अशी सर्व कामे करण्यासाठी संस्था म्हणून नॅशनल सिक्युरिटीज डिपॉझिटरी लिमिटेड (एनएसडीएल)च्या सेवांची नियुक्ती करण्यात आली आहे. रिमोट ई-व्होटिंग आणि ईजीएमच्या ठिकाणी ई-व्होटिंगसाठी युजर आयडी क्लबच्या सभासदांना आणि क्लबच्या सर्व अन्य सभासदांना ३० जानेवारी २०२४ रोजी व्हीसी/ओएव्हीएमद्वारे आयोजित करण्यात आलेल्या अतिरिक्त सर्वसाधारण सभेमध्ये सहभागी होण्यासाठी ज्यांच्या ई-मेल आयडीची नोंद क्लबकडे कट ऑफ दिनांक म्हणजेच २३ जानेवारी २०२४ अनुसार करण्यात आली आहे, त्यांना थेट पाठविण्यात येणार आहे.
क्लबच्या सर्व सभासदांना याद्वारे कळविण्यात येत आहे की :
i. सभासद ज्यांना ईजीएमदरम्यान त्यांची मते व्यक्त करायची आहेत किंवा प्रश्न विचारायचे आहेत, त्यांना ते मांडण्यासाठी नावे त्यांच्या नोंदणीकृत ई-मेल आयडीवरून adm@rwitc.com/ secretary@rwitc.com वर रविवार २८ जानेवारी २०२४ सकाळी ९.०० वा. पासून सोमवार २९ जानेवारी २०२४ रोजी सायंकाळी ५.०० वा.पर्यंत त्यांचे नाव, सभासद क्रमांक आणि मोबाइल क्र.ची नोंद करून सादर करावेत. बोलू इच्छिणाऱ्यांच्या ई-मेल आयडीवर ईजीएमच्या एक दिवस अगोदर लिंक पाठवण्यात येईल.
ii. रिमोट ई-व्होटिंग कालावधी शनिवार २७ जानेवारी २०२४ रोजी स. ९.०० वा. (भाप्रवे) सुरू होईल आणि सोमवार २९ जानेवारी २०२४ रोजी सायं. ५.०० वा. (भाप्रवे) समाप्त होईल.
iii. सूचनेमध्ये देण्यात आलेल्या ठरावांवर मतदान करण्यासाठी मंगळवार २३ जानेवारी २०२४ हा कट ऑफ दिनांक निश्चित करण्यात आला आहे.
iv. रिमोट ई-व्होटिंग प्रणाली मतदान कालावधी संपल्यानंतर एनएसडीएल/छाननीकर्त्यांद्वारे अकार्यक्षम करण्यात येईल. म्हणून क्लबच्या सभासदांना उपरोक्त नमूद वेळेमध्येच मतदान करण्याची विनंती करण्यात येत आहे.
v. ई-व्होटिंगची माहिती असलेली सूचना एनएसडीएलचे संकेतस्थळ https://www.evoting.nsdl.com आणि कंपनीचे संकेतस्थळ www.rwitc.com वरदेखील उपलब्ध असेल.
vi. सभासदांना व्हीसी किंवा ओएव्हीएमद्वारे ईजीएमला हजर राहता येईल किंवा एनएसडीएलद्वारे पाठवण्यात आलेल्या लॉग इन अधिकार पत्रांद्वारे ३० जानेवारी २०२४ रोजी सायं. ४.०० वा. पासून www.evoting.nsdl.com वरील वेबकास्टवर पाहता येईल.
vii. व्हीसी किंवा ओएव्हीएमद्वारे सभेला हजर राहण्याची सुविधा नियोजित ईजीएमच्या वेळेपूर्वी १५ मिनिटे अगोदर सुरू करण्यात येईल आणि ईजीएम सुरू होण्याच्या नियोजित वेळेपासून किमान पंधरा मिनिटे झाल्यानंतर केव्हाही बंद करण्यात येईल.
viii. सभेच्या दिवशी इलेक्ट्रॉनिक व्होटिंग पद्धतीने मतदान करण्यासाठी सुविधा (सभेदरम्यान ईव्होटिंग) व्हीसी किंवा ओएव्हीएमद्वारे सभेला हजर असणाऱ्या क्लबच्या सभासदांना उपलब्ध करून देण्यात येईल आणि सभा जरी सभा संपेपर्यंत चालू राहिली तरी सायं. ५.३० वा. बंद करण्यात येईल आणि केवळ क्लबचे असे सभासद ज्यांनी त्यांचे मत रिमोट ई-व्होटिंगद्वारे केलेलं नाही, ते सभेच्या ठिकाणी मतदान करण्यास पात्र असतील. म्हणजेच सभासदांना कोणत्याही किंवा सर्व ठरावांवर केवळ रिमोट ई-व्होटिंगद्वारे किंवा सभेच्या ठिकाणी इलेक्ट्रॉनिक व्होटिंग पद्धतीद्वारे मतदान करता येईल; परंतु दोन्ही पद्धतीने करता येणार नाही.
ix. क्लबची समिती ई-व्होटिंग प्रक्रिया नि:पक्ष आणि पारदर्शी पद्धतीने होण्यासाठी छाननीकर्त्यांची नियुक्ती करतील.
x. क्लबचे सभासद ज्यांनी अगोदरच त्यांचे मतदान ठरावांवर ई-व्होटिंगद्वारे केले आहे, ते सभेलादेखील हजर राहू शकतात, परंतु सभेच्या ठिकाणी कोणत्याही ठरावावर मतदान करण्यास मात्र ते पात्र नसतील.
xi. ई-व्होटिंग किंवा व्हीसी किंवा ओएव्हीएमद्वारे मीटिंगला हजर राहण्यामध्ये कोणतीही समस्या असल्यास कृपया एनएसडीएलचं https://www.evoting.nsdl.com संकेतस्थळावर उपलब्ध असलेल्या हेल्प आणि एफएक्यूला भेट देता येईल. अन्य कोणत्याही समस्येसाठी क्लब सभासद क्लबशी adm@rwitc.com या ई-मेल आयडीद्वारे क्लबशी संपर्क साधू शकतात.
xii. ईजीएमपूर्वी किंवा दरम्यान सभासद ज्यांना सहकार्य हवे असल्यास एनएसडीएलशी दूरध्वनी क्र. (०२२-४८८६७०००/ ०२२-२४९९७०००) वर आणि evoting@nsdl.com वर संपर्क करू शकतात.
xiii. छाननीकर्त्यांच्या अहवालासह ई-व्होटिंगचा निकाल क्लबच्या संकेतस्थळावर आणि एनएसडीएलच्या संकेतस्थळावर पाहता येईल.
समितीच्या आदेशाद्वारे
निरंजन सिंग,
कंपनी सचिव
रॉयल वेस्टर्न इंडिया टर्फ क्लब लि.
मुंबई : सदर ८ जानेवारी २०२४ रोजी दिनांकित.

सोसायटी फॉर अप्लाईड मायक्रोवेव्ह इलेक्ट्रॉनिक्स इंजिनिअरिंग अँड रिसर्च (समीर)
(इलेक्ट्रॉनिक्स व माहिती तंत्रज्ञान मंत्रालय अधीन, भारत सरकार)
आयआयटी कँपस, पवई, मुंबई-४०००७६.
निविदा सूचना

अनु. क्र.	वर्णन	निविदा क्रमांक	नियत तारीख
०१	एस बँड मॅग्नेट्रॉन व उपसाधके	एसएमआर/पीयूआर/सीएन२२६/ २०२४आय/आय/पीटी	०८.०२.२०२४

सविस्तर निविदा कागदपत्रे खालील वेबसाइट्सवर उपलब्ध आहेत : http://www.sameer.gov.in व https://eprocure.gov.in/cppp अधिक चौकशीकरिता : purchase@sameer.gov.in खरेदी अधिकारी : (०२२-२५७२३०३०, २५७२७२२१/ २३)
cbc 06109/12/0019/23-24

कोंकण रेल्वे कॉर्पोरेशन लिमिटेड
(भारत सरकारचा उपक्रम)
ई-निविदा आमंत्रण सूचना
कोंकण रेल्वे कॉर्पोरेशन लिमिटेड द्वारे गाडी क्र. 10105 आणि 10106 दिवा-सावंतवाडी-दिवा एक्सप्रेसच्या एसी डब्यांमध्ये ऑनबोर्ड हाउसकीपिंग आणि एसी डब्यांमध्ये बेड रोल्सचे खरेदी, वॉशिंग, क्लीनिंग, ईस्त्री करणे, पैकिंग, पुरवठा आणि वाटप करण्याच्या कामाकरिता पात्र फर्म (प्रोप्रायटर/पार्टनरशिप/कंपनी/संयुक्त उद्यम) यांच्याकडून आयआरईपीएस पोर्टल वर ई-निविदा प्रणाली माध्यमाने खुली निविदा मागविण्यात येत आहे. **निविदा सूचना क्र. : सीओ-16031(11)/11/2023-सीओएमएम, दिनांक : 05.01.2024. बंद होण्याची तारीख आणि वेळ : ऑनलाइन प्रस्ताव/बोली जमा करण्यासाठी दि. 29.01.2024 रोजी 15.00 वा. मॅन्युअल प्रस्ताव स्वीकारले जाणार नाही.** तपशील आणि सहभागी होण्यासाठी कृपया आमचे संकेतस्थळ **www.ireps.gov.in** पहा. परिशिष्ट/शुद्धीपत्रक फक्त सदर संकेतस्थळावर प्रदर्शित करण्यात येतील.

महाराष्ट्र प्रदूषण नियंत्रण मंडळ
कल्पतरू पॉइंट, २,३,४ था मजला, शीव माटुंगा स्कीम नं ८
पीव्हीआर सिनेमा समोर, सायन सर्कल, शीव (पूर्व), मुंबई-४०० ०२२
दूरध्वनी क्रमांक : ०२२- २४०१ ०४ ३७/ २४०२ ०७ ८१
वेबसाईट : https://mpcb.gov.in
जाहिरात
पर्यावरण व वातावरणीय बदल विभागांतर्गत (१) माझी वसुंधरा अभियान व (२) राज्य वातावरणीय कृती कक्ष यासाठी आवश्यक असलेली खाली दर्शविलेली पदे निव्वळ कंत्राटी पध्दतीने भरण्यासाठी पात्र उमेदवारांकडून ऑनलाईन अर्ज मागविण्यात येत आहेत. सदर पदांसाठी आवश्यक पात्रता व अर्हतेबाबतची सविस्तर महिती https://mpcb.gov.in व https://majhivasundhara.in या वेबसाईटवर पाहता येईल.
१. माझी वसुंधरा अभियान:

अ.क्र.	पदाचे नाव	पदसंख्या
१	वातावरणीय बदल आणि शाश्वतता तज्ञ (Climate Change and Sustainability Expert)	०१
२	माहिती व तंत्रज्ञान तज्ञ (MIS Expert)	०१
३	माहिती व तंत्रज्ञान असोसिएट (MIS Associate)	०१
४	माहिती, शिक्षण आणि संवाद व कंटेन्ट लेखक असोसिएट (IEC Content writer associate)	०१
५	विभागीय तांत्रिक तज्ञ (Divisional Technical Expert)	०८

उपरोक्त पदांसाठी ऑनलाईन अर्ज https://bit.ly/MVAStaffRecruitment2024 या लिंकवर क्लिक करून भरता येईल. या लिंकवर ऑनलाईन प्राप्त झालेल्या अर्जांचाच विचार करण्यात येईल.
२. राज्य वातावरणीय कृती कक्ष:

अ.क्र.	पदाचे नाव	पदसंख्या
१	वातावरणीय वित्त तज्ञ (Climate Finance Expert),	०१
२	प्रकल्प सल्लागार / अधिकारी (Project Consultant/ Officer)	०१

उपरोक्त पदांसाठी ऑनलाईन अर्ज https://bit.ly/SCACRecruitment2024 या लिंकवर क्लिक करून भरता येईल. या लिंकवर ऑनलाईन प्राप्त झालेल्या अर्जांचाच विचार करण्यात येईल.
उपरोक्त सर्व पदांसाठी अर्ज करण्यासाठीची अंतिम दिनांक : २८ जानेवारी, २०२४
स्वाक्षरी/-
सदस्य सचिव
महाराष्ट्र प्रदूषण नियंत्रण मंडळ

TATA STEEL TATA
सूचना
हे कळवत आहे की, टाटा स्टील लिमिटेड, खोपोली यांना भारत सरकारच्या पर्यावरण, वन आणि हवामान बदल मंत्रालय (MOEF&CC) कडून दिनांक 05/01/2024 रोजी EC आयडेंटिफिकेशन क्र. EC24B000MH163028 राज्य पर्यावरण प्रभाव मूल्यांकन प्राधिकरण (SEIAA), महाराष्ट्र)द्वारे पर्यावरणीय मंजुरी देण्यात आली आहे. विद्यमान कोल्ड रोल्ड उत्पादनांच्या नियमितीकरणासाठी 7,80,000 TPA [CR कॉइल्स आणि शीट्स, 1,80,000 TPA, गॅल्वनाइज्ड/गॅल्युम कॉइल आणि शीट्स, 3,60,000, 3,60,000 TPA, कॉइल आणि शीट्स, 1,20,000 TPA, पाईप्स आणि ट्यूब्स, 1,20,000] आणि ट्यूब्स, API पाईप, कास्टिंग पाईप, कमी दाब सेवांसाठी पाईप्स, यांत्रिक आणि स्ट्रक्चरल पाईपसाठी गोल पाईप्स आणि ट्यूब आणि स्क्रेअर स्ट्रक्चरल पाईप आणि स्क्रेअर स्ट्रक्चरल पाईप एकूण क्षमता 2,85,000 TPA आणि 24 MW DG आधारित कॅप्टिव्ह पॉवर प्लांट.
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डोमेस्टिक एअर पॅकेज मुंबई पासून
माता वैष्णोदेवी
2 रात्र / 3 दिवस
प्रवासाची तारीख
23.02.2024
पॅकेजची किंमत: ₹24,600/-* प्रति व्यक्ती*
दर्शनीय स्थळे: माता वैष्णोदेवी


दर्शनीय स्थळे: शिलाँग, चेरापूंजी, मॉलिननाँग, काजीरंगा आणि गुवाहाटी
आसाम आणि मेघालय
6 रात्र / 7 दिवस
प्रवासाची तारीख
22.01.2024
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केरळ
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प्रवासाची तारीख :
11.02.2024
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CIN : U73100MH2020PTC347047

Excellent Enviro Laboratory & Research Center Pvt. Ltd.

(Formerly known as Excellent Enviro Laboratory & Research Center)

Accredited by NABL vide Certificate Number TC-12362

Master in "Water & Waste Water Treatment, Monitoring, Testing & Environmental Compliance".

◈ Technology for sustainable development ◈

TC-12362

Format No. EELRC/LAB/F/068-7.8

TEST REPORT

ULR: TC12362250000071927F

Client's Name & Address	Sample ID	EEL/ABD/GW-227/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-227/12/2025-26
	Date of Reporting	12/12/2025

SAMPLING DETAILS

Discipline	Chemical
Group	Water, Residues in water
Sample Details	Adeshi
Sample Volume	2 Ltr + 60 ml Sterile Bottle
Type of Sample	Ground Water
Sampling Procedure	IS 3025 (Part-1) & IS 1622
Sample Status	Sealed
Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.
Date of Sampling	04/12/2025
Date of Sample Received in Lab	05/12/2025
Analysis Start Date	05/12/2025
Analysis End Date	10/12/2025
Latitude	18480362
Longitude	73184563

RESULTS

Sr. No.	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
1	pH at 25 °C	-	7.76	6.5 - 8.5	IS 3025 (Part 11):2022
2	Chloride(as Cl)	mg/l	74.48	≤ 250	IS 3025 (Part 32):1988
3	Total Dissolved Solids (TDS) at 180°C	mg/l	418.0	≤ 500	IS 3025 (Part 16):2023
4	Total Alkalinity	mg/l	121.80	≤ 200	IS 3025 (Part 23):2023
5	Total Hardness (as $CaCO_3$)	mg/l	140.11	≤ 200	IS 3025 (Part 21):2009
6	Calcium (as Ca)	mg/l	52.91	≤ 75	IS 3025 (Part 40):2024
7	Magnesium (as Mg)	mg/l	<5.0	≤ 30	IS 3025(Part 46);2023
8	Electric Conductivity	µS/cm	828	-	IS 3025 (Part 14) :2013
9	Turbidity	NTU	0.1	≤ 1.0	IS 3025 (Part 10):2023
10	Fluoride	mg/l	<0.1	≤ 1.0	APHA 4500 (Part F,D)24th Ed
11	Phosphate (PO4)	mg/l	<0.5	-	IS 3025 (Part-31)Sec:2022

UOM – Unit of Measurement.

Remark: Above water sample is complying with required limit as per IS 10500:2012.

Reviewed By

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

Excellent Enviro Laboratory & Research Centre Pvt. Ltd. D-52/18 MIDC Waluj Chh. Sambhajinagar

Authorized Signatory

(Mr. Prashant Patil)
(Dy. Quality Manager)

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**********End of Report**********

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◈ Technology for sustainable development ◈

Format No. EELRC/LAB/F/068-7.8

TEST REPORT

Client's Name & Address	Sample ID	EEL/ABD/GW-227/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-227/12/2025-26
	Date of Reporting	12/12/2025

SAMPLING DETAILS

Discipline	Chemical
Group	Water, Residues in water
Sample Details	Adeshi
Sample Volume	2 Ltr + 60 ml Sterile Bottle
Type of Sample	Ground Water
Sampling Procedure	IS 3025 (Part-1) & IS 1622
Sample Status	Sealed
Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.
Date of Sampling	04/12/2025
Date of Sample Received in Lab	05/12/2025
Analysis Start Date	05/12/2025
Analysis End Date	10/12/2025
Latitude	18480362
Longitude	73184563

RESULTS

Sr. No.	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
1	Sodium	mg/l	<1.0	-	APHA 3111 B
2	Potassium	mg/l	3.28	-	-
3	Total Suspended Solids (TSS)	mg/l	<10.0	-	APHA 2540(Part D)24th Ed.
4	Aluminum (as Al)	mg/l	<0.001	≤ 0.03	IS 3025 (Part 55)
5	Mercury (as Hg)	mg/l	<0.001	≤ 0.001	APHA 3120-B(ICP)
6	Hexavalent Chromium (as Cr)	mg/l	<0.01	-	APHA 3500 Cr (Part B) 2017
7	Manganese (as Mn)	mg/l	<0.01	≤ 0.1	IS 3025 (Part 2)
8	Copper (as Cu)	mg/l	<0.01	≤ 0.05	IS 3025 (Part 2)
9	Iron (as Fe)	mg/l	<0.1	≤ 0.3	IS 3025 (Part 2)
10	Zinc (as Zn)	mg/l	<0.1	≤ 5.0	IS 3025 (Part 2)
11	Alanchlor	µg/l	<0.001	≤ 20	USEPA 507

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◈ Technology for sustainable development ◈

Format No. EELRC/LAB/F/068-7.8

Client's Name & Address	Sample ID	EEL/ABD/GW-227/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-227/12/2025-26
	Date of Reporting	12/12/2025

RESULTS

Sr. No	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
12	Atrazine	µg/l	<0.001	≤ 2	USEPA 8141 A
13	Aldrin/Dieldrin	µg/l	<0.001	≤ 0.03	USEPA 508
14	Alfa HCH	µg/l	<0.001	≤ 0.01	USEPA 508
15	Beta HCH	µg/l	<0.001	≤ 0.04	USEPA 508
16	Butachlor	µg/l	<0.001	≤ 125	USEPA 508
17	Chlorpyriphos	µg/l	<0.001	≤ 30	USEPA 508
18	Endosulfan	µg/l	<0.001	≤ 0.4	USEPA 508
19	2,4, Dichlorophenoxy acetic acid	µg/l	<0.001	≤ 30	USEPA 515.1
20	Gamma HCH	µg/l	<0.001	≤ 2.0	USEPA 508
21	Delta HCH	µg/l	<0.001	≤ 0.04	USEPA 508
22	Ethion	µg/l	<0.001	≤ 3	USEPA 1657 A
23	Isoproturon	µg/l	<0.001	≤ 9	USEPA 532
24	Malathion	µg/l	<0.001	≤ 190	USEPA 8141 A
25	Methyl Parathion	µg/l	<0.001	≤ 0.3	USEPA 8141 A
26	Monocrotophos	µg/l	<0.001	≤ 1	USEPA 8141 A
27	Phorate	µg/l	<0.001	≤ 2	USEPA 8141 A
28	Pesticide	mg/l	<0.001	-	IS 6940 :1982

UOM – Unit of Measurement.

Remark: Above water sample is complying with required limit as per IS 10500:2012.

Reviewed By
(Mr. Prashant Patil)
(Dy. Quality Manager)

Excellent Enviro Laboratory & Research Centre Pvt. Ltd. D-52/18 MIDC Waluj Chh. Sambhajinagar

Authorized Signatory
(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

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Format No. EELRC/LAB/F/068-7.8

TEST REPORT

ULR: TC12362250000071955F

Client's Name & Address	Sample ID	EEL/ABD/GW-255/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-255/12/2025-26
	Date of Reporting	13/12/2025

SAMPLING DETAILS

Discipline	Chemical
Group	Water, Residues in water
Sub Group	Ground Water
Sample Details	Dahivali
Sample Volume	2 Ltr + 60 ml Sterile Bottle
Sample Status	Sealed
Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.
Date of Sampling	05/12/2025
Date of Sample Received in Lab	06/12/2025
Analysis Start Date	06/12/2025
Analysis End Date	11/12/2025
Latitude	18471091
Longitude	73171253

RESULTS

Sr. No.	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
1	pH at 25 °C	-	7.62	6.5 - 8.5	IS 3025 (Part 11):2022
2	Chloride(as Cl)	mg/l	72.93	≤ 250	IS 3025 (Part 32):1988
3	Total Dissolved Solids (TDS) at 180°C	mg/l	413.0	≤ 500	IS 3025 (Part 16):2023
4	Total Alkalinity	mg/l	106.53	≤ 200	IS 3025 (Part 23):2023
5	Total Hardness (as $CaCO_3$)	mg/l	148.62	≤ 200	IS 3025 (Part 21):2009
6	Calcium (as Ca)	mg/l	55.55	≤ 75	IS 3025 (Part 40):2024
7	Magnesium (as Mg)	mg/l	<5.0	≤ 30	IS 3025(Part 46);2023
8	Electric Conductivity	µS/cm	207.0	-	IS 3025 (Part 14) :2013
9	Turbidity	NTU	0.1	≤ 1.0	IS 3025 (Part 10):2023
10	Fluoride	mg/l	<0.1	≤ 1.0	APHA 4500 (Part F,D)24th Ed
11	Phosphate (PO4)	mg/l	<0.5	-	IS 3025 (Part-31)Sec:2022

UOM – Unit of Measurement.

Remark: Above water sample is complying with required limit as per IS 10500:2012.

Reviewed By

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

Excellent Enviro Laboratory & Research Centre Pvt. Ltd. D-52/18 MIDC Waluj Chh. Sambhajinagar

Authorized Signatory

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TEST REPORT

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	Date of Reporting	13/12/2025

SAMPLING DETAILS

Discipline	Chemical
Group	Water, Residues in water
Sub Group	Ground Water
Sample Details	Dahivali
Sample Volume	2 Ltr + 60 ml Sterile Bottle
Sample Status	Sealed
Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.
Date of Sampling	05/12/2025
Date of Sample Received in Lab	06/12/2025
Analysis Start Date	06/12/2025
Analysis End Date	11/12/2025
Latitude	18471091
Longitude	73171253

RESULTS

Sr. No.	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
1	Sodium	mg/l	<1.0	-	APHA 3111 B
2	Potassium	mg/l	3.34	-	-
3	Total Suspended Solids (TSS)	mg/l	<10.0	-	APHA 2540(Part D)24th Ed.
4	Aluminum (as Al)	mg/l	<0.001	≤ 0.03	IS 3025 (Part 55)
5	Mercury (as Hg)	mg/l	<0.001	≤ 0.001	APHA 3120-B(ICP)
6	Hexavalent Chromium (as Cr)	mg/l	<0.01	-	APHA 3500 Cr (Part B) 2017
7	Manganese (as Mn)	mg/l	<0.01	≤ 0.1	IS 3025 (Part 2)
8	Copper (as Cu)	mg/l	<0.01	≤ 0.05	IS 3025 (Part 2)
9	Iron (as Fe)	mg/l	<0.1	≤ 0.3	IS 3025 (Part 2)
10	Zinc (as Zn)	mg/l	<0.1	≤ 5.0	IS 3025 (Part 2)
11	Alanchlor	µg/l	<0.001	≤ 20	USEPA 507

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Format No. EELRC/LAB/F/068-7.8

Client's Name & Address	Sample ID	EEL/ABD/GW-255/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-255/12/2025-26
	Date of Reporting	13/12/2025

RESULTS

Sr. No	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
12	Atrazine	µg/l	<0.001	≤ 2	USEPA 8141 A
13	Aldrin/Dieldrin	µg/l	<0.001	≤ 0.03	USEPA 508
14	Alfa HCH	µg/l	<0.001	≤ 0.01	USEPA 508
15	Beta HCH	µg/l	<0.001	≤ 0.04	USEPA 508
16	Butachlor	µg/l	<0.001	≤ 125	USEPA 508
17	Chlorpyriphos	µg/l	<0.001	≤ 30	USEPA 508
18	Endosulfan	µg/l	<0.001	≤ 0.4	USEPA 508
19	2,4, Dichlorophenoxy acetic acid	µg/l	<0.001	≤ 30	USEPA 515.1
20	Gamma HCH	µg/l	<0.001	≤ 2.0	USEPA 508
21	Delta HCH	µg/l	<0.001	≤ 0.04	USEPA 508
22	Ethion	µg/l	<0.001	≤ 3	USEPA 1657 A
23	Isoproturon	µg/l	<0.001	≤ 9	USEPA 532
24	Malathion	µg/l	<0.001	≤ 190	USEPA 8141 A
25	Methyl Parathion	µg/l	<0.001	≤ 0.3	USEPA 8141 A
26	Monocrotophos	µg/l	<0.001	≤ 1	USEPA 8141 A
27	Phorate	µg/l	<0.001	≤ 2	USEPA 8141 A
28	Pesticide	mg/l	<0.001	-	IS 6940 :1982

UOM – Unit of Measurement.

Remark: Above water sample is complying with required limit as per IS 10500:2012.

Reviewed By

(Mr. Prashant Patil)
(Dy. Quality Manager)

Excellent Enviro Laboratory & Research Centre Pvt. Ltd. D-52/18 MIDC Waluj Chh. Sambhajinagar

Authorized Signatory

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

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AN ENVIRONMENTAL LABORATORY RECOGNISED UNDER EPA, ENVIRONMENT (PROTECTION) ACT BY (MoEF & CC) MINISTRY OF ENVIRONMENT FOREST & CLIMATE CHANGE
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Email : eelab@excellentenviro.com/info@excellentenviro.com/sales@excellentenviro.com
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CIN : U73100MH2020PTC347047

Excellent Enviro Laboratory & Research Center Pvt. Ltd.

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Accredited by NABL vide Certificate Number TC-12362

Master in "Water & Waste Water Treatment, Monitoring, Testing & Environmental Compliance".

◈ Technology for sustainable development ◈

TC-12362

Format No. EELRC/LAB/F/068-7.8

TEST REPORT

ULR: TC12362250000071956F

Client's Name & Address	Sample ID	EEL/ABD/GW-256/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-256/12/2025-26
	Date of Reporting	13/12/2025

SAMPLING DETAILS

Discipline	Chemical
Group	Water, Residues in water
Sub Group	Ground Water
Sample Details	Dheku
Sample Volume	2 Ltr + 60 ml Sterile Bottle
Sample Status	Sealed
Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.
Date of Sampling	05/12/2025
Date of Sample Received in Lab	06/12/2025
Analysis Start Date	06/12/2025
Analysis End Date	11/12/2025
Latitude	18470517
Longitude	73182607

RESULTS

Sr. No.	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
1	pH at 25 °C	-	7.62	6.5 - 8.5	IS 3025 (Part 11):2022
2	Chloride(as Cl)	mg/l	74.90	≤ 250	IS 3025 (Part 32):1988
3	Total Dissolved Solids (TDS) at 180°C	mg/l	428.0	≤ 500	IS 3025 (Part 16):2023
4	Total Alkalinity	mg/l	118.59	≤ 200	IS 3025 (Part 23):2023
5	Total Hardness (as $CaCO_3$)	mg/l	142.67	≤ 200	IS 3025 (Part 21):2009
6	Calcium (as Ca)	mg/l	59.52	≤ 75	IS 3025 (Part 40):2024
7	Magnesium (as Mg)	mg/l	<5.0	≤ 30	IS 3025(Part 46);2023
8	Electric Conductivity	µS/cm	214.0	-	IS 3025 (Part 14) :2013
9	Turbidity	NTU	0.1	≤ 1.0	IS 3025 (Part 10):2023
10	Fluoride	mg/l	<0.1	≤ 1.0	APHA 4500 (Part F,D)24th Ed
11	Phosphate (PO4)	mg/l	<0.5	-	IS 3025 (Part-31)Sec:2022

UOM – Unit of Measurement.

Remark: Above water sample is complying with required limit as per IS 10500:2012.

Reviewed By

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

Excellent Enviro Laboratory & Research Centre Pvt. Ltd. D-52/18 MIDC Waluj Chh. Sambhajinagar

Authorized Signatory

(Mr. Prashant Patil)
(Dy. Quality Manager)

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CIN : U73100MH2020PTC347047

Excellent Enviro Laboratory & Research Center Pvt. Ltd.

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Master in "Water & Waste Water Treatment, Monitoring,
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◈ Technology for sustainable development ◈

Format No. EELRC/LAB/F/068-7.8

TEST REPORT

Client's Name & Address	Sample ID	EEL/ABD/GW-256/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-256/12/2025-26
	Date of Reporting	13/12/2025

SAMPLING DETAILS

Discipline	Chemical
Group	Water, Residues in water
Sub Group	Ground Water
Sample Details	Dheku
Sample Volume	2 Ltr + 60 ml Sterile Bottle
Sample Status	Sealed
Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.
Date of Sampling	05/12/2025
Date of Sample Received in Lab	06/12/2025
Analysis Start Date	06/12/2025
Analysis End Date	11/12/2025
Latitude	18470517
Longitude	73182607

RESULTS

Sr. No.	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
1	Sodium	mg/l	<1.0	-	APHA 3111 B
2	Potassium	mg/l	3.42	-	-
3	Total Suspended Solids (TSS)	mg/l	<10.0	-	APHA 2540(Part D)24th Ed.
4	Aluminum (as Al)	mg/l	<0.001	≤ 0.03	IS 3025 (Part 55)
5	Mercury (as Hg)	mg/l	<0.001	≤ 0.001	APHA 3120-B(ICP)
6	Hexavalent Chromium (as Cr)	mg/l	<0.01	-	APHA 3500 Cr (Part B) 2017
7	Manganese (as Mn)	mg/l	<0.01	≤ 0.1	IS 3025 (Part 2)
8	Copper (as Cu)	mg/l	<0.01	≤ 0.05	IS 3025 (Part 2)
9	Iron (as Fe)	mg/l	<0.1	≤ 0.3	IS 3025 (Part 2)
10	Zinc (as Zn)	mg/l	<0.1	≤ 5.0	IS 3025 (Part 2)
11	Alanchlor	µg/l	<0.001	≤ 20	USEPA 507

AN ENVIRONMENTAL LABORATORY RECOGNISED UNDER EPA, ENVIRONMENT (PROTECTION) ACT BY (MoEF & CC) MINISTRY OF ENVIRONMENT FOREST & CLIMATE CHANGE
REGISTERED OFFICE : D-52/18, MIDC Waluj, Chh. Sambhajinagar (Aurangabad) - 431 136. ☎ 0240-6641879 , 9970429991/ 7745069991
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◈ Technology for sustainable development ◈

Format No. EELRC/LAB/F/068-7.8

Client's Name & Address	Sample ID	EEL/ABD/GW-256/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-256/12/2025-26
	Date of Reporting	13/12/2025

RESULTS

Sr. No	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
12	Atrazine	µg/l	<0.001	≤ 2	USEPA 8141 A
13	Aldrin/Dieldrin	µg/l	<0.001	≤ 0.03	USEPA 508
14	Alfa HCH	µg/l	<0.001	≤ 0.01	USEPA 508
15	Beta HCH	µg/l	<0.001	≤ 0.04	USEPA 508
16	Butachlor	µg/l	<0.001	≤ 125	USEPA 508
17	Chlorpyriphos	µg/l	<0.001	≤ 30	USEPA 508
18	Endosulfan	µg/l	<0.001	≤ 0.4	USEPA 508
19	2,4, Dichlorophenoxy acetic acid	µg/l	<0.001	≤ 30	USEPA 515.1
20	Gamma HCH	µg/l	<0.001	≤ 2.0	USEPA 508
21	Delta HCH	µg/l	<0.001	≤ 0.04	USEPA 508
22	Ethion	µg/l	<0.001	≤ 3	USEPA 1657 A
23	Isoproturon	µg/l	<0.001	≤ 9	USEPA 532
24	Malathion	µg/l	<0.001	≤ 190	USEPA 8141 A
25	Methyl Parathion	µg/l	<0.001	≤ 0.3	USEPA 8141 A
26	Monocrotophos	µg/l	<0.001	≤ 1	USEPA 8141 A
27	Phorate	µg/l	<0.001	≤ 2	USEPA 8141 A
28	Pesticide	mg/l	<0.001	-	IS 6940 :1982

UOM – Unit of Measurement.

Remark: Above water sample is complying with required limit as per IS 10500:2012.

Reviewed By

(Mr. Prashant Patil)
(Dy. Quality Manager)

Excellent Enviro Laboratory & Research Centre Pvt. Ltd. + D-52/18 MIDC Waluj Chh. Sambhajinagar

Authorized Signatory

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

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Master in "Water & Waste Water Treatment, Monitoring, Testing & Environmental Compliance".

◈ Technology for sustainable development ◈

Format No. EELRC/LAB/F/068-7.8

TEST REPORT

ULR: TC123622500000071925F

Client's Name & Address	Sample ID	EEL/ABD/GW-225/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-225/12/2025-26
	Date of Reporting	12/12/2025

SAMPLING DETAILS

Discipline	Chemical
Group	Water, Residues in water
Sub Group	Ground Water
Sample Details	Khirkandi
Sample Volume	2 Ltr + 60 ml Sterile Bottle
Sample Status	Sealed
Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.
Date of Sampling	04/12/2025
Date of Sample Received in Lab	05/12/2025
Analysis Start Date	05/12/2025
Analysis End Date	10/12/2025
Latitude	18470334
Longitude	73154607

RESULTS

Sr. No.	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
1	pH at 25 °C	-	6.78	6.5 - 8.5	IS 3025 (Part 11):2022
2	Chloride(as Cl)	mg/l	32.99	≤ 250	IS 3025 (Part 32):1988
3	Total Dissolved Solids (TDS) at 180°C	mg/l	402.0	≤ 500	IS 3025 (Part 16):2023
4	Total Alkalinity	mg/l	144.57	≤ 200	IS 3025 (Part 23):2023
5	Total Hardness (as $CaCO_3$)	mg/l	160.13	≤ 200	IS 3025 (Part 21):2009
6	Calcium (as Ca)	mg/l	48.10	≤ 75	IS 3025 (Part 40):2024
7	Magnesium (as Mg)	mg/l	9.75	≤ 30	IS 3025(Part 46):2023
8	Electric Conductivity	µS/cm	802.0	-	IS 3025 (Part 14) :2013
9	Turbidity	NTU	0.79	≤ 1.0	IS 3025 (Part 10):2023
10	Fluoride	mg/l	0.36	≤ 1.0	APHA 4500 (Part F,D)24th Ed
11	Phosphate (PO4)	mg/l	<0.5	-	IS 3025 (Part-31)Sec:2022

UOM – Unit of Measurement.

Remark: Above water sample is complying with required limit as per IS 10500:2012.Except Turbidity

Reviewed By

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

Excellent Enviro Laboratory & Research Centre Pvt. Ltd. D-52/18 MIDC Waluj Chh. Sambhajinagar

Authorized Signatory

(Mr. Prashant Patil)
(Dy. Quality Manager)

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Format No. EELRC/LAB/F/068-7.8

TEST REPORT

Client's Name & Address	Sample ID	EEL/ABD/GW-225/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-225/12/2025-26

SAMPLING DETAILS

Discipline	Chemical
Group	Water, Residues in water
Sub Group	Ground Water
Sample Details	Khirkandi
Sample Volume	2 Ltr + 60 ml Sterile Bottle
Sample Status	Sealed
Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.
Date of Sampling	04/12/2025
Date of Sample Received in Lab	05/12/2025
Analysis Start Date	05/12/2025
Analysis End Date	10/12/2025
Latitude	18470334
Longitude	73154607

RESULTS

Sr. No.	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
1	Sodium	mg/l	21.40	-	APHA 3111 B
2	Potassium	mg/l	3.32	-	-
3	Total Suspended Solids (TSS)	mg/l	12.0	-	APHA 2540(Part D)24th Ed.
4	Aluminum (as Al)	mg/l	<0.001	≤ 0.03	IS 3025 (Part 55)
5	Mercury (as Hg)	mg/l	<0.001	≤ 0.001	APHA 3120-B(ICP)
6	Hexavalent Chromium (as Cr)	mg/l	<0.01	-	APHA 3500 Cr (Part B) 2017
7	Manganese (as Mn)	mg/l	<0.01	≤ 0.1	IS 3025 (Part 2)
8	Copper (as Cu)	mg/l	<0.01	≤ 0.05	IS 3025 (Part 2)
9	Iron (as Fe)	mg/l	<0.1	≤ 0.3	IS 3025 (Part 2)
10	Zinc (as Zn)	mg/l	<0.1	≤ 5.0	IS 3025 (Part 2)
11	Alanchlor	µg/l	<0.001	≤ 20	USEPA 507

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Format No. EELRC/LAB/F/068-7.8

Client's Name & Address	Sample ID	EEL/ABD/GW-225/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-225/12/2025-26

RESULTS

Sr. No	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
10	Atrazine	µg/l	<0.001	≤ 2	USEPA 8141 A
11	Aldrin/Dieldrin	µg/l	<0.001	≤ 0.03	USEPA 508
12	Alfa HCH	µg/l	<0.001	≤ 0.01	USEPA 508
13	Beta HCH	µg/l	<0.001	≤ 0.04	USEPA 508
14	Butachlor	µg/l	<0.001	≤ 125	USEPA 508
15	Chlorpyriphos	µg/l	<0.001	≤ 30	USEPA 508
16	Endosulfan	µg/l	<0.001	≤ 0.4	USEPA 508
17	2,4, Dichlorophenoxy acetic acid	µg/l	<0.001	≤ 30	USEPA 515.1
18	Gamma HCH	µg/l	<0.001	≤ 2.0	USEPA 508
19	Delta HCH	µg/l	<0.001	≤ 0.04	USEPA 508
20	Ethion	µg/l	<0.001	≤ 3	USEPA 1657 A
21	Isoproturon	µg/l	<0.001	≤ 9	USEPA 532
22	Malathion	µg/l	<0.001	≤ 190	USEPA 8141 A
23	Methyl Parathion	µg/l	<0.001	≤ 0.3	USEPA 8141 A
24	Monocrotophos	µg/l	<0.001	≤ 1	USEPA 8141 A
25	Phorate	µg/l	<0.001	≤ 2	USEPA 8141 A
26	Pesticide	mg/l	<0.001	-	IS 6940 :1982

UOM – Unit of Measurement.

Remark: Above water sample is complying with required limit as per IS 10500:2012.

Reviewed By

(Mr. Prashant Patil)
(Dy. Quality Manager)

Excellent Enviro Laboratory & Research Centre Pvt. Ltd. D-52/18 MIDC Waluj Aurangabad

Authorized Signatory

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

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TC-12362

Format No. EELRC/LAB/F/068-7.8

TEST REPORT

ULR: TC12362250000071954F

Client's Name & Address	Sample ID	EEL/ABD/GW-254/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-254/12/2025-26
	Date of Reporting	13/12/2025

SAMPLING DETAILS

Discipline	Chemical
Group	Water, Residues in water
Sub Group	Ground Water
Sample Details	Madh
Sample Volume	2 Ltr + 60 ml Sterile Bottle
Sample Status	Sealed
Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.
Date of Sampling	05/12/2025
Date of Sample Received in Lab	06/12/2025
Analysis Start Date	06/12/2025
Analysis End Date	11/12/2025
Latitude	18482436
Longitude	73180936

RESULTS

Sr. No.	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
1	pH at 25 °C	-	7.72	6.5 - 8.5	IS 3025 (Part 11):2022
2	Chloride(as Cl)	mg/l	87.71	≤ 250	IS 3025 (Part 32):1988
3	Total Dissolved Solids (TDS) at 180°C	mg/l	421.0	≤ 500	IS 3025 (Part 16):2023
4	Total Alkalinity	mg/l	116.58	≤ 200	IS 3025 (Part 23):2023
5	Total Hardness (as $CaCO_3$)	mg/l	144.66	≤ 200	IS 3025 (Part 21):2009
6	Calcium (as Ca)	mg/l	52.54	≤ 75	IS 3025 (Part 40):2024
7	Magnesium (as Mg)	mg/l	<5.0	≤ 30	IS 3025(Part 46);2023
8	Electric Conductivity	µS/cm	209.0	-	IS 3025 (Part 14) :2013
9	Turbidity	NTU	0.1	≤ 1.0	IS 3025 (Part 10):2023
10	Fluoride	mg/l	<0.1	≤ 1.0	APHA 4500 (Part F,D)24th Ed
11	Phosphate (PO4)	mg/l	<0.5	-	IS 3025 (Part-31)Sec:2022

UOM – Unit of Measurement.

Remark: Above water sample is complying with required limit as per IS 10500:2012.

Reviewed By

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

Excellent Enviro Laboratory & Research Centre Pvt. Ltd. D-52/18 MIDC Waluj Chh. Sambhajinagar

Authorized Signatory

(Mr. Prashant Patil)
(Dy. Quality Manager)

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CIN : U73100MH2020PTC347047

Excellent Enviro Laboratory & Research Center Pvt. Ltd.

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Master in "Water & Waste Water Treatment, Monitoring,
Testing & Environmental Compliance".
◈ Technology for sustainable development ◈

Format No. EELRC/LAB/F/068-7.8

TEST REPORT

Client's Name & Address	Sample ID	EEL/ABD/GW-254/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-254/12/2025-26
	Date of Reporting	13/12/2025

SAMPLING DETAILS

Discipline	Chemical
Group	Water, Residues in water
Sub Group	Ground Water
Sample Details	Madh
Sample Volume	2 Ltr + 60 ml Sterile Bottle
Sample Status	Sealed
Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.
Date of Sampling	05/12/2025
Date of Sample Received in Lab	06/12/2025
Analysis Start Date	06/12/2025
Analysis End Date	11/12/2025
Latitude	18482436
Longitude	73180936

RESULTS

Sr. No.	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
1	Sodium	mg/l	<1.0	-	APHA 3111 B
2	Potassium	mg/l	3.26	-	-
3	Total Suspended Solids (TSS)	mg/l	<10.0	-	APHA 2540(Part D)24th Ed.
4	Aluminum (as Al)	mg/l	<0.001	≤ 0.03	IS 3025 (Part 55)
5	Mercury (as Hg)	mg/l	<0.001	≤ 0.001	APHA 3120-B(ICP)
6	Hexavalent Chromium (as Cr)	mg/l	<0.01	-	APHA 3500 Cr (Part B) 2017
7	Manganese (as Mn)	mg/l	<0.01	≤ 0.1	IS 3025 (Part 2)
8	Copper (as Cu)	mg/l	<0.01	≤ 0.05	IS 3025 (Part 2)
9	Iron (as Fe)	mg/l	<0.1	≤ 0.3	IS 3025 (Part 2)
10	Zinc (as Zn)	mg/l	<0.1	≤ 5.0	IS 3025 (Part 2)
11	Alanchlor	µg/l	<0.001	≤ 20	USEPA 507

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◈ Technology for sustainable development ◈

Format No. EELRC/LAB/F/068-7.8

Client's Name & Address	Sample ID	EEL/ABD/GW-254/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-254/12/2025-26
	Date of Reporting	13/12/2025

RESULTS

Sr. No	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
12	Atrazine	µg/l	<0.001	≤ 2	USEPA 8141 A
13	Aldrin/Dieldrin	µg/l	<0.001	≤ 0.03	USEPA 508
14	Alfa HCH	µg/l	<0.001	≤ 0.01	USEPA 508
15	Beta HCH	µg/l	<0.001	≤ 0.04	USEPA 508
16	Butachlor	µg/l	<0.001	≤ 125	USEPA 508
17	Chlorpyriphos	µg/l	<0.001	≤ 30	USEPA 508
18	Endosulfan	µg/l	<0.001	≤ 0.4	USEPA 508
19	2,4, Dichlorophenoxy acetic acid	µg/l	<0.001	≤ 30	USEPA 515.1
20	Gamma HCH	µg/l	<0.001	≤ 2.0	USEPA 508
21	Delta HCH	µg/l	<0.001	≤ 0.04	USEPA 508
22	Ethion	µg/l	<0.001	≤ 3	USEPA 1657 A
23	Isoproturon	µg/l	<0.001	≤ 9	USEPA 532
24	Malathion	µg/l	<0.001	≤ 190	USEPA 8141 A
25	Methyl Parathion	µg/l	<0.001	≤ 0.3	USEPA 8141 A
26	Monocrotophos	µg/l	<0.001	≤ 1	USEPA 8141 A
27	Phorate	µg/l	<0.001	≤ 2	USEPA 8141 A
28	Pesticide	mg/l	<0.001	-	IS 6940 :1982

UOM – Unit of Measurement.

Remark: Above water sample is complying with required limit as per IS 10500:2012.

Reviewed By

(Mr. Prashant Patil)
(Dy. Quality Manager)

Excellent Enviro Laboratory & Research Centre Pvt. Ltd. D-52/18 MIDC Waluj Chh. Sambhajinagar

Authorized Signatory

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

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TC-12362

Format No. EELRC/LAB/F/068-7.8

TEST REPORT

ULR: TC12362250000071926F

Client's Name & Address	Sample ID	EEL/ABD/GW-226/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-226/12/2025-26
	Date of Reporting	12/12/2025

SAMPLING DETAILS

Discipline	Chemical
Group	Water, Residues in water
Sub Group	Ground Water
Sample Details	Savroli
Sample Volume	2 Ltr + 60 ml Sterile Bottle
Sample Status	Sealed
Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.
Date of Sampling	04/12/2025
Date of Sample Received in Lab	05/12/2025
Analysis Start Date	05/12/2025
Analysis End Date	10/12/2025
Latitude	184823114
Longitude	73170457

RESULTS

Sr. No.	Parameter	UOM	Result of Samples	IS 10500:2012 Standards	Testing Method
1	pH at 25 °C	-	7.71	6.5 - 8.5	IS 3025 (Part 11):2022
2	Chloride(as Cl)	mg/l	74.48	≤ 250	IS 3025 (Part 32):1988
3	Total Dissolved Solids (TDS) at 180°C	mg/l	409.0	≤ 500	IS 3025 (Part 16):2023
4	Total Alkalinity	mg/l	103.53	≤ 200	IS 3025 (Part 23):2023
5	Total Hardness (as $CaCO_3$)	mg/l	148.12	≤ 200	IS 3025 (Part 21):2009
6	Calcium (as Ca)	mg/l	58.52	≤ 75	IS 3025 (Part 40):2024
7	Magnesium (as Mg)	mg/l	<5.0	≤ 30	IS 3025(Part 46);2023
8	Electric Conductivity	µS/cm	818.0	-	IS 3025 (Part 14) :2013
9	Turbidity	NTU	0.2	≤ 1.0	IS 3025 (Part 10):2023
10	Fluoride	mg/l	<0.1	≤ 1.0	APHA 4500 (Part F,D)24th Ed
11	Phosphate (PO4)	mg/l	<0.5	-	IS 3025 (Part-31)Sec:2022

UOM – Unit of Measurement.

Remark: Above water sample is complying with required limit as per IS 10500:2012.

Reviewed By

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

Excellent Enviro Laboratory & Research Center Pvt. Ltd. D-52/18 MIDC Waluj Chh. Sambhajinagar

Authorized Signatory

(Mr. Prashant Patil)
(Dy. Quality Manager)

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TEST REPORT

Client's Name & Address	Sample ID	EEL/ABD/GW-226/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-226/12/2025-26
	Date of Reporting	12/12/2025

SAMPLING DETAILS

Discipline	Chemical
Group	Water, Residues in water
Sub Group	Ground Water
Sample Details	Savroli
Sample Volume	2 Ltr + 60 ml Sterile Bottle
Sample Status	Sealed
Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.
Date of Sampling	04/12/2025
Date of Sample Received in Lab	05/12/2025
Analysis Start Date	05/12/2025
Analysis End Date	10/12/2025
Latitude	04/12/2025
Longitude	73170457

RESULTS

Sr. No.	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
1	Sodium	mg/l	<1.0	-	APHA 3111 B
2	Potassium	mg/l	3.26	-	-
3	Total Suspended Solids (TSS)	mg/l	<10.0	-	APHA 2540(Part D)24th Ed.
4	Aluminum (as Al)	mg/l	<0.001	≤ 0.03	IS 3025 (Part 55)
5	Mercury (as Hg)	mg/l	<0.001	≤ 0.001	APHA 3120-B(ICP)
6	Hexavalent Chromium (as Cr)	mg/l	<0.01	-	APHA 3500 Cr (Part B) 2017
7	Manganese (as Mn)	mg/l	<0.01	≤ 0.1	IS 3025 (Part 2)
8	Copper (as Cu)	mg/l	<0.01	≤ 0.05	IS 3025 (Part 2)
9	Iron (as Fe)	mg/l	<0.1	≤ 0.3	IS 3025 (Part 2)
10	Zinc (as Zn)	mg/l	<0.1	≤ 5.0	IS 3025 (Part 2)
11	Alanchlor	µg/l	<0.001	≤ 20	USEPA 507

AN ENVIRONMENTAL LABORATORY RECOGNISED UNDER EPA, ENVIRONMENT (PROTECTION) ACT BY (MoEF & CC) MINISTRY OF ENVIRONMENT FOREST & CLIMATE CHANGE
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Format No. EELRC/LAB/F/068-7.8

Client's Name & Address	Sample ID	EEL/ABD/GW-226/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-226/12/2025-26
	Date of Reporting	12/12/2025

RESULTS

Sr. No	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
12	Atrazine	µg/l	<0.001	≤ 2	USEPA 8141 A
13	Aldrin/Dieldrin	µg/l	<0.001	≤ 0.03	USEPA 508
14	Alfa HCH	µg/l	<0.001	≤ 0.01	USEPA 508
15	Beta HCH	µg/l	<0.001	≤ 0.04	USEPA 508
16	Butachlor	µg/l	<0.001	≤ 125	USEPA 508
17	Chlorpyriphos	µg/l	<0.001	≤ 30	USEPA 508
18	Endosulfan	µg/l	<0.001	≤ 0.4	USEPA 508
19	2,4, Dichlorophenoxy acetic acid	µg/l	<0.001	≤ 30	USEPA 515.1
20	Gamma HCH	µg/l	<0.001	≤ 2.0	USEPA 508
21	Delta HCH	µg/l	<0.001	≤ 0.04	USEPA 508
22	Ethion	µg/l	<0.001	≤ 3	USEPA 1657 A
23	Isoproturon	µg/l	<0.001	≤ 9	USEPA 532
24	Malathion	µg/l	<0.001	≤ 190	USEPA 8141 A
25	Methyl Parathion	µg/l	<0.001	≤ 0.3	USEPA 8141 A
26	Monocrotophos	µg/l	<0.001	≤ 1	USEPA 8141 A
27	Phorate	µg/l	<0.001	≤ 2	USEPA 8141 A
28	Pesticide	mg/l	<0.001	-	IS 6940 :1982

UOM – Unit of Measurement.

Remark: Above water sample is complying with required limit as per IS 10500:2012.

Reviewed By

(Mr. Prashant Patil)
(Dy. Quality Manager)

Excellent Enviro Laboratory & Research Centre Pvt. Ltd. D-52/18 MIDC Waluj Chh. Sambhajinagar

Authorized Signatory

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

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◈ Technology for sustainable development ◈

TC-12362

Format No. EELRC/LAB/F/068-7.8

TEST REPORT

ULR: TC123622500000071924F

Client's Name & Address	Sample ID	EEL/ABD/GW-224/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-224/12/2025-26
	Date of Reporting	12/12/2024

SAMPLING DETAILS

Discipline	Chemical
Group	Water, Residues in water
Sub Group	Ground Water
Sample Details	Tambathi
Sampling Procedure	IS 3025 (Part-1) & IS 1622
Sample Status	Sealed
Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.
Date of Sampling	04/12/2025
Date of Sample Received in Lab	05/12/2025
Analysis Start Date	05/12/2025
Analysis End Date	10/12/2025
Latitude	18472698
Longitude	73154596

RESULTS

Sr. No.	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
1	pH at 25 °C	-	7.80	6.5 - 8.5	IS 3025 (Part 11):2022
2	Chloride(as Cl)	mg/l	70.48	≤ 250	IS 3025 (Part 32):1988
3	Total Dissolved Solids (TDS) at 180°C	mg/l	409.0	≤ 500	IS 3025 (Part 16):2023
4	Total Alkalinity	mg/l	113.68	≤ 200	IS 3025 (Part 23):2023
5	Total Hardness (as $CaCO_3$)	mg/l	152.12	≤ 200	IS 3025 (Part 21):2009
6	Calcium (as Ca)	mg/l	54.51	≤ 75	IS 3025 (Part 40):2024
7	Magnesium (as Mg)	mg/l	<5.0	≤ 30	IS 3025(Part 46):2023
8	Electric Conductivity	µS/cm	736.0	-	IS 3025 (Part 14) :2013
9	Turbidity	NTU	0.1	≤ 1.0	IS 3025 (Part 10):2023
10	Fluoride	mg/l	<0.1	≤ 1.0	APHA 4500 (Part F,D)24th Ed
11	Phosphate (PO4)	mg/l	<0.5	-	IS 3025 (Part-31)Sec:2022

UOM – Unit of Measurement.

Remark: Above water sample is complying with required limit as per IS 10500:2012.

Reviewed By

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

Excellent Enviro Laboratory & Research Centre Pvt. Ltd. D-52/18 MIDC Waluj Chh. Sambhajinagar

Authorized Signatory

(Mr. Prashant Patil)
(Dy. Quality Manager)

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Format No. EELRC/LAB/F/068-7.8

TEST REPORT

Client's Name & Address	Sample ID	EEL/ABD/GW-224/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-224/12/2025-26
	Date of Reporting	12/12/2024

SAMPLING DETAILS

Discipline	Chemical
Group	Water, Residues in water
Sub Group	Ground Water
Sample Details	Tambathi
Sample Volume	2 Ltr + 60 ml Sterile Bottle
Sample Status	Sealed
Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.
Date of Sampling	04/12/2025
Date of Sample Received in Lab	05/12/2025
Analysis Start Date	05/12/2025
Analysis End Date	10/12/2025
Latitude	18472698
Longitude	73154596

RESULTS

Sr. No.	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
1	Sodium	mg/l	<1.0	-	APHA 3111 B
2	Potassium	mg/l	3.34	-	-
3	Total Suspended Solids (TSS)	mg/l	<10.0	-	APHA 2540(Part D)24th Ed.
4	Aluminum (as Al)	mg/l	<0.001	≤ 0.03	IS 3025 (Part 55)
5	Mercury (as Hg)	mg/l	<0.001	≤ 0.001	APHA 3120-B(ICP)
6	Hexavalent Chromium (as Cr)	mg/l	<0.01	-	APHA 3500 Cr (Part B) 2017
7	Manganese (as Mn)	mg/l	<0.01	≤ 0.1	IS 3025 (Part 2)
8	Copper (as Cu)	mg/l	<0.01	≤ 0.05	IS 3025 (Part 2)
9	Iron (as Fe)	mg/l	<0.1	≤ 0.3	IS 3025 (Part 2)
10	Zinc (as Zn)	mg/l	<0.1	≤ 5.0	IS 3025 (Part 2)
11	Alanchlor	µg/l	<0.001	≤ 20	USEPA 507

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◈ Technology for sustainable development ◈

Format No. EELRC/LAB/F/068-7.8

Client's Name & Address	Sample ID	EEL/ABD/GW-224/12/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Report No.	EEL/ABD/GW-224/12/2025-26
	Date of Reporting	12/12/2024

RESULTS

Sr. No	Parameter	UOM	Result of Sample	IS 10500:2012 Standards	Testing Method
12	Atrazine	µg/l	<0.001	≤ 2	USEPA 8141 A
13	Aldrin/Dieldrin	µg/l	<0.001	≤ 0.03	USEPA 508
14	Alfa HCH	µg/l	<0.001	≤ 0.01	USEPA 508
15	Beta HCH	µg/l	<0.001	≤ 0.04	USEPA 508
16	Butachlor	µg/l	<0.001	≤ 125	USEPA 508
17	Chlorpyriphos	µg/l	<0.001	≤ 30	USEPA 508
18	Endosulfan	µg/l	<0.001	≤ 0.4	USEPA 508
19	2,4, Dichlorophenoxy acetic acid	µg/l	<0.001	≤ 30	USEPA 515.1
20	Gamma HCH	µg/l	<0.001	≤ 2.0	USEPA 508
21	Delta HCH	µg/l	<0.001	≤ 0.04	USEPA 508
22	Ethion	µg/l	<0.001	≤ 3	USEPA 1657 A
23	Isoproturon	µg/l	<0.001	≤ 9	USEPA 532
24	Malathion	µg/l	<0.001	≤ 190	USEPA 8141 A
25	Methyl Parathion	µg/l	<0.001	≤ 0.3	USEPA 8141 A
26	Monocrotophos	µg/l	<0.001	≤ 1	USEPA 8141 A
27	Phorate	µg/l	<0.001	≤ 2	USEPA 8141 A
28	Pesticide	mg/l	<0.001	-	IS 6940 :1982

UOM – Unit of Measurement.

Remark: Above water sample is complying with required limit as per IS 10500:2012.

Reviewed By

(Mr. Prashant Patil)
(Dy. Quality Manager)

Excellent Enviro Laboratory & Research Centre Pvt. Ltd. D-52/18 MIDC Waluj Sambhajinagar

Authorized Signatory

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

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CIN : U73100MH2020PTC347047

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Format No. EELRC/LAB/F/071-7.8

AMBIENT NOISE MONITORING REPORT

Client's Name & Address	Sample ID	EEL/ABD/N-86/09/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Date of Reporting	17/09/2025

SAMPLING DETAIL

01) Location of Sampling	Near Shiv Mandir	
02) Sampling Procedure	IS 4758	
03) Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.	
04) Date of Sampling	08/09/2025 to 09/09/2025	
05) Time of Sampling & Sampling Duration	02:10 PM of 08/09/2025 to 01:10 PM of 09/09/2025 (24 hr)	
06) Sampling Duration	24 hrs. Day & Night	
07) Latitude and Longitude	Lat:- 18.79826, Long:-73.292195	
08) Instrument Details	Make	KUSUM-MECO
	Serial No.	LF 2539944
	Calibration Date	Calibration On: 13/11/2024 Due On: 13/11/2025

RESULT

Sr. No.	Time	UOM	Result (Day Time)	Result (Night Time)
	MPCB Standard Limit		≤ 75	≤ 70
1	02:10 PM	dB (A)	60.8	
2	03:10 PM	dB (A)	59.4	
3	04:10 PM	dB (A)	63.2	
4	05:10 PM	dB (A)	59.3	
5	06:10 PM	dB (A)	62.2	
6	07:10 PM	dB (A)	59.1	
7	08:10 PM	dB (A)	64.8	
8	09:10 PM	dB (A)	61.9	
9	10:10 PM	dB (A)	59.8	
10	11:10 PM	dB (A)	57.4	
11	12:10 AM	dB (A)	56.1	
12	01:10 AM	dB (A)	66.9	
13	02:10 AM	dB (A)		54.2
14	03:10 AM	dB (A)		56.4
15	04:10 AM	dB (A)		55.9
16	05:10 AM	dB (A)		55.6
17	06:10 AM	dB (A)		57.3
18	07:10 AM	dB (A)		58.3
19	08:10 AM	dB (A)		58.4
20	09:10 AM	dB (A)		59.6
21	10:10 AM	dB (A)		59.7
22	11:10 AM	dB (A)		60.6
23	12:10 PM	dB (A)		56.3
24	01:10 PM	dB (A)		58.5
	Average	dB (A)	60.91	57.57

UOM – Unit of Measurement. Remarks: The Noise Level is within MPCB normal Limits.

Reviewed By
(Mr. Prashant Patil)
(Dy. Quality Manager)

Authorized Signatory
(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

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Format No. EELRC/LAB/F/071-7.8

AMBIENT NOISE MONITORING REPORT

Client's Name & Address	Sample ID	EEL/ABD/N-87/09/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Date of Reporting	17/09/2025

SAMPLING DETAILS

01) Location of Sampling	Near Sai Mandir	
02) Sampling Procedure	IS 4758	
03) Sample collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.	
04) Date of Sampling	08/09/2025 to 09/09/2025	
05) Time of Sampling & Sampling Duration	02:20 PM of 08/09/2025 to 01:20 PM of 09/09/2025 (24 hr)	
06) Sampling Duration	24 hrs. Day & Night	
07) Latitude and Longitude	Lat:- 18.802713, Long:-73.290092	
08) Instrument Details	Make	KUSUM-MECO
	Serial No.	LF 2539944
	Calibration Date	Calibration On: 13/11/2024 Due On: 13/11/2025

RESULT

Sr. No	Time	UOM	Result (Day Time)	Result (Night Time)
MPCB Standard Limit			≤ 75	≤ 70
1	02:20 PM	dB (A)	59.8	
2	03:20 PM	dB (A)	62.0	
3	04:20 PM	dB (A)	60.5	
4	05:20 PM	dB (A)	59.8	
5	06:20 PM	dB (A)	57.9	
6	07:20 PM	dB (A)	58.9	
7	08:20 PM	dB (A)	63.4	
8	09:20 PM	dB (A)	59.4	
9	10:20 PM	dB (A)	59.2	
10	11:20 PM	dB (A)	56.0	
11	12:20 AM	dB (A)	54.3	
12	01:20 AM	dB (A)	57.4	
13	02:20 AM	dB (A)		59.8
14	03:20 AM	dB (A)		57.9
15	04:20 AM	dB (A)		55.6
16	05:20 AM	dB (A)		53.1
17	06:20 AM	dB (A)		57.2
18	07:20 AM	dB (A)		58.9
19	08:20 AM	dB (A)		59.6
20	09:20 AM	dB (A)		57.4
21	10:20 AM	dB (A)		59.8
22	11:20 AM	dB (A)		64.9
23	12:20 PM	dB (A)		59.7
24	01:20 PM	dB (A)		58.8
	Average	dB (A)	59.05	58.56

UOM – Unit of Measurement. Remarks: The Noise Level is within MPCB normal Limits.

Reviewed By

(Mr. Prashant Patil)
(Dy. Quality Manager)

Authorized Signatory

(Ms. Dhammasheela Narwade)
(Dy. Technical Manager)

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Format No. EELRC/LAB/F/071-7.8

AMBIENT NOISE MONITORING REPORT

Client's Name & Address	Sample ID	EEL/ABD/N-88/09/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Date of Reporting	17/09/2025

SAMPLING DETAILS

01) Location of Sampling	Near IBMD Scrap Yard	
02) Sampling Procedure	IS 4758	
03) Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.	
04) Date of Sampling	08/09/2025 to 09/09/2025	
05) Time of Sampling & Sampling Duration	02:30 PM of 08/09/2025 to 01:30 PM of 09/09/2025 (24 hr)	
06) Sampling Duration	24 hrs. Day & Night	
07) Latitude and Longitude	Lat:- 18.18.796222, Long:-73.289641	
08) Instrument Details	Make	KUSUM-MECO
	Serial No.	LF 2539961
	Calibration Date	Calibration On: 13/11/2024 Due On: 13/11/2025

RESULT

Sr. No.	Time	UOM	Result (Day Time)	Result (Night Time)
MPCB Standard Limit			≤ 75	≤ 70
1	02:30 PM	dB (A)	64.5	
2	03:30 PM	dB (A)	59.0	
3	04:30 PM	dB (A)	62.1	
4	05:30 PM	dB (A)	60.2	
5	06:30 PM	dB (A)	67.9	
6	07:30 PM	dB (A)	63.7	
7	08:30 PM	dB (A)	58.4	
8	09:30 PM	dB (A)	58.8	
9	10:30 PM	dB (A)	60.0	
10	11:30 PM	dB (A)	54.2	
11	12:30 AM	dB (A)	56.4	
12	01:30 AM	dB (A)	55.7	
13	02:30 AM	dB (A)		57.0
14	03:30 AM	dB (A)		55.4
15	04:30 AM	dB (A)		56.8
16	05:30 AM	dB (A)		58.8
17	06:30 AM	dB (A)		57.2
18	07:30 AM	dB (A)		57.0
19	08:30 AM	dB (A)		58.4
20	09:30 AM	dB (A)		60.9
21	10:30 AM	dB (A)		61.0
22	11:30 AM	dB (A)		59.5
23	12:30 PM	dB (A)		64.4
24	01:30 PM	dB (A)		62.1
	Average	dB (A)	60.08	59.04

UOM – Unit of Measurement. Remarks: The Noise Level is within MPCB normal Limits.

Reviewed By

(Mr. Pramod Patil)
(Dy. Quality Manager)

Authorized Signatory

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

Excellent Enviro Laboratory & Research Centre Pvt. Ltd. D-52/18 MIDC Waluj Chh. Sambhajinagar

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Format No. EELRC/LAB/F/071-7.8

AMBIENT NOISE MONITORING REPORT

Client's Name & Address	Sample ID	EEL/ABD/N-90/09/2025-26
M/s. Tata Steel Khopoli, P O Power House, Tal. Khalapur, Khopoli, Maharashtra- 410204.	Date of Reporting	17/09/2025

SAMPLING DETAILS

01) Location of Sampling	Near Colony Area	
02) Sampling Procedure	IS 4758	
03) Sample Collected By	M/s. Excellent Enviro Laboratory & Research Center Pvt. Ltd.	
04) Date of Sampling	08/09/2025 to 09/09/2025	
05) Time of Sampling & Sampling Duration	02:50 PM of 08/09/2025 to 01:50 PM of 09/09/2025 (24 hr)	
06) Sampling Duration	24 hrs. Day & Night	
07) Latitude and Longitude	Lat:- 18.804988, Long:-73.293395	
08) Instrument Details	Make	KUSUM-MECO
	Serial No	LF 2539958
	Calibration Date	Calibration On: 13/11/2024 Due On: 13/11/2025

RESULT

Sr. No.	Time	Unit	Result (Day Time)	Result (Night Time)
MPCB Standard Limit			≤ 75	≤ 70
1	02:50 PM	dB (A)	58.4	
2	03:50 PM	dB (A)	56.8	
3	04:50 PM	dB (A)	57.6	
4	05:50 PM	dB (A)	54.8	
5	06:50 PM	dB (A)	58.8	
6	07:50 PM	dB (A)	56.3	
7	08:50 PM	dB (A)	55.8	
8	09:50 PM	dB (A)	57.4	
9	10:50 PM	dB (A)	54.8	
10	11:50 PM	dB (A)	52.3	
11	12:50 AM	dB (A)	54.9	
12	01:50 AM	dB (A)	52.2	
13	02:50 AM	dB (A)		58.3
14	03:50 AM	dB (A)		52.2
15	04:50 AM	dB (A)		56.1
16	05:50 AM	dB (A)		53.8
17	06:50 AM	dB (A)		54.5
18	07:50 AM	dB (A)		54.7
19	08:50 AM	dB (A)		56.2
20	09:50 AM	dB (A)		51.7
21	10:50 AM	dB (A)		56.4
22	11:50 AM	dB (A)		55.4
23	12:50 PM	dB (A)		57.9
24	01:50 PM	dB (A)		51.3
	Average	dB(A)	55.48	54.88

UOM – Unit of Measurement. Remarks: The Noise Level is within MPCB normal Limits.

Reviewed By

(Mr. Prashant Patil)
(Dy. Quality Manager)

Authorized Signatory

(Ms. Dhammashila Narwade)
(Dy. Technical Manager)

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Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

FORM V

(See Rule 14)

Environmental Audit Report for the financial Year ending the 31st March 2025

Unique Application Number	***Submitted Date***
MPCB-ENVIRONMENT_STATEMENT-0000085235	23-09-2025

PART A

Company Information

Company Name	***Application UAN number***
Tata Steel Limited	0000160053

Address

VILLAGE -SAVROLI, TAL - KHALAPUR, Po-SAJGAON ,DIST-RAIGAD

Plot no	***Taluka***	***Village***
19/2A	KHALAPUR	SAVROLI
Capital Investment (In lakhs)	***Scale***	***City***
223987	LARGE	SAVROLI
Pincode	***Person Name***	***Designation***
410203	Mr. Kapil Modi	Executive Plant Head
Telephone Number	***Fax Number***	***Email***
02192302000	02192302000	environment.khopoli@tatasteel.com
Region	***Industry Category***	***Industry Type***
SRO-Raigad I	Red	R44 Industry or process involving metal surface treatment or process such as pickling/ electroplating/paint stripping/ heat treatment using cyanide bath/ phosphating or finishing and anodizing / enamellings/ galvanizing
Last Environmental statement submitted online	***Consent Number***	***Consent Issue Date***
yes	Format 1.0/BO/UAN No. - 0000160053/CR/2306001509909000459	2023-06-21
Consent Valid Upto	***Establishment Year***	***Date of last environment statement submitted***
2030-02-28	2003	Sep 24 2024 12:00:00:000AM

Industry Category Primary (STC Code) & Secondary (STC Code)

Product Information

Product Name	***Consent Quantity***	***Actual Quantity***	***UOM***
Cold rolled products(Coils,Sheet&Tubes)	780000	335865.715	MT/A
Tubes,API Pipe,CAsting Pipe,Pipe for low pressure service,Round pipe&Tube for mechanical and structural pipe and square structure pipe	285000	205657.31	MT/A

Captive Power Plant	24.00	3.5	Mwh

By-product Information

By Product Name	Consent Quantity	Actual Quantity	UOM
NA	0	0	MT/A

Part-B (Water & Raw Material Consumption)

1) Water Consumption in m3/day

Water Consumption for	Consent Quantity in m3/day	Actual Quantity in m3/day
Process	1500.00	543.00
Cooling	1160.00	149.00
Domestic	400.00	284.00
All others	150.00	36.00
Total	3210.00	1012.00

2) Effluent Generation in CMD / MLD

Particulars	Consent Quantity	Actual Quantity	UOM
TRADE EFFLUENT	290	235	CMD
DOMESTIC EFFLUENT	300	212	CMD

2) Product Wise Process Water Consumption (cubic meter of process water per unit of product)

Name of Products (Production)	During the Previous financial Year	During the current Financial year	UOM
Cold rolled products(Coils,Sheet&Tubes) ; Tubes,API Pipe,CAsting Pipe,Pipe for low pressure service,Round pipe&Tube for mechanical and structural pipe and square structure pipe and Captive Power P	0.28	0.23	

3) Raw Material Consumption (Consumption of raw material per unit of product)

Name of Raw Materials	During the Previous financial Year	During the current Financial year	UOM
HR COIL	0.99	1.21	Ton/Ton
ZINC	0.0054	0.0067	Ton/Ton
PAINT FOR CCL	0.0039	0.0047	Ton/Ton
PAINT FOR PIPE	0.0064	0.0038	Ton/Ton
ALUMINIUM	0.0097	0.0122	Ton/Ton
HYDROCHLORIC ACID	0.0045	0.0063	Ton/Ton

4) Fuel Consumption

Fuel Name	Consent quantity	Actual Quantity	UOM
LNG	18746.40	14914	MT/A
FURNACE OIL	0	0	MT/A
LSHS	54750	930	MT/A

Part-C

Pollution discharged to environment/unit of output (Parameter as specified in the consent issued)

[A] Water

Pollutants Detail	Quantity of Pollutants discharged (kL/day)	Concentration of Pollutants discharged(Mg/Lit) Except PH,Temp,Colour	Percentage of variation from prescribed standards with reasons		
	Quantity	Concentration	%variation	Standard	Reason
SUSPENDED SOLIDS (STP)	0.06	35.14	-29.71	50	Full Fled STP
BOD 3DAY 27C(STP)	0.03	15.70	-47.66	30	Full Fledged STP
COD(STP)	0.10	54.31	-45.69	100	Full Fledged STP

[B] Air (Stack)

Pollutants Detail	Quantity of Pollutants discharged (kL/day)	Concentration of Pollutants discharged(Mg/NM3)	Percentage of variation from prescribed standards with reasons		
	Quantity	Concentration	%variation	Standard	Reason
NON OX FURNACE (GAL.- I) PM	4.60	22.7	-77.30	150	LNG Gas
NON OX FURNACE (GAL.-I I) PM	3.83	18.2	81.80	150	LNG Gas
POT FURNACE GAL-I(PM)	1.78	24.0	-75.99	150	LNG Gas
RTF SECTION GAL-II(PM)	4.90	16.7	-83.29	150	LNG Gas
COATER SECTION (CCL)-PM	28.09	29.9	-70.12	150	LNG Gas
D.G& BOILER(PM)	100.70	29.5	-70.52	150	LSHS as Fuel Gas
D.G& BOILER(SO2)	0.34	0.10	-99.90	400	LSHS AS FUEL
SHEET ANNEALING(PM)	0	0	0	150	LNG Gas
HARDENING FURNACE-I(PM)	0.08	24.3	-75.72	150	LNG Gas
HARDENING FURNACE-II(PM)	0	0	0	150	LNG Gas
HARDENING FURNACE-III(PM)	0.09	24.8	-75.23	150	LNG Gas
HARDENING FURNACE-IV(PM)	0.06	24.4	-75.59	150	LNG Gas
TUBE ANNELING I(PM)	0.91	28.7	-71.28	150	LNG Gas
TUBE ANNELING II(PM)	0.74	20.7	-79.34	150	LNG Gas
WIDER PICKLING(PM)	2.75	23.03	-76.97	150	WET SCRUBBER
WIDER PICKLING(ACID MIST)	0.002	0.02	-99.98	35	WET SRUBBER
NARROW PICKLING(PM)	1.34	26.18	-73.82	150	WET SRUBBER
NARROW PICKLING(ACID MIST)	0.001	0.01	-99.99	35	WET SRUBBER
6HI MILL I, WIDER(PM)	44.80	19.8	-80.23	150	BLOWER WITH VENT
6HI MILL II, WIDER(PM)	45.35	21.6	-78.38	150	BLOWER WITH VENT
4HI MILL I, NARROW(PM)	10.16	24.0	-76.03	150	BLOWER WITH VENT
4HI MILL II, NARROW(PM)	9.44	21.6	-78.45	150	BLOWER WITH VENT
4HI MILL III, NARROW(PM)	9.26	20.3	-79.72	150	BLOWER WITH VENT
ALKALI SCRUBBER WIDER(PM)	1.89	19.0	-81.02	150	Scrubber

HOT AIR DRYER I , WIDER(PM)	2.28	20.6	-79.40	150	BLOWER WITH VENT
HOT AIR DRYER II , WIDER(PM)	3.73	17.0	-83.03	150	BLOWER WITH VENT
ACID FUME SCRUBBER,ARP(PM)	2.52	20.4	-79.65	35	WET SCRUBBER
ACID SCRUBBER,TUBE(PM)	2.31	25.5	-74.52	150	WET SCRUBBER
ACID SCRUBBER,TUBE(ACID MIST)	0.002	0.02	-99.98	35	WET SCRUBBER
PHOSPHATE SCRUBBER,TUBE(PM)	2.65	16.3	-83.73	150	WET SCRUBBER
LEAD BATH STRAPPING LINE I(PM)	4.52	25.2	-74.75	150	BLOWER WITH VENT
LEAD BATH STRAPPING LINE II(PM)	4.41	19.7	-80.34	150	BLOWER WITH VENT
COATING PLANT I, PIPE PLANT(PM)	0.03	25.0	-75.03	150	BLOWER WITH VENT
COATING PLANT II, PIPE PLANT(PM)	0.35	24.4	-75.64	150	BLOWER WITH VENT
COATING PLANT III, PIPE PLANT(PM)	0.31	21.3	-78.69	150	BLOWER WITH VENT
COATING PLANT IV, PIPE PLANT(PM)	0.37	24.0	-75.96	150	BLOWER WITH VENT
ACID SCRUBBER,ARP(ACID MIST)	0.002	0.02	-99.98	35	LNG Gas

Part-D

HAZARDOUS WASTES

1) From Process

Hazardous Waste Type	***Total During Previous Financial year***	***Total During Current Financial year***	***UOM***
5.1 Used or spent oil	8	16.5	MT/A
5.2 Wastes or residues containing oil	704	546.062	MT/A
6.2 Zinc fines or dust or ash or skimmings in dispersible form	614	464.11	MT/A
13.1 Spent pickling liquor	16339.84	17202	KL/A
12.4 Sludge from bath containing organic solvents	68	32.05	MT/A
12.5 Phosphate sludge	38	29.29	MT/A
21.2 Spent solvent	7.9	17.56	MT/A
21.1 Process wastes, residues and sludges	18	42.48	MT/A
33.2 Contaminated cotton rags or other cleaning materials	65	67.805	MT/A
33.1 Empty barrels /containers /liners contaminated with hazardous chemicals /wastes	2564	9901	Nos./Y
Other Hazardous Waste	5.730	8.53	MT/A

2) From Pollution Control Facilities

Hazardous Waste Type	***Total During Previous Financial year***	***Total During Current Financial year***	***UOM***
35.3 Chemical sludge from waste water treatment	1924.08	1431.72	MT/A

Part-E

SOLID WASTES

1) From Process

Non Hazardous Waste Type	*Total During Previous Financial year*	*Total During Current Financial year*	*UOM*
METAL SCRAP/TUBE/PIPES END/ EDGE MILLING/STRIP CUT PIECES/CUTTING SCRAP	65249.37	58748.02	MT/A

2) From Pollution Control Facilities

Non Hazardous Waste Type	*Total During Previous Financial year*	*Total During Current Financial year*	*UOM*
IRON OXIDE	2493.32	2528.91	MT/A

3) Quantity Recycled or Re-utilized within the unit

Waste Type	*Total During Previous Financial year*	*Total During Current Financial year*	*UOM*
12.1 Acidic and alkaline residues	15130.84	15882.35	KL/A

Part-F

Please specify the characteristics(in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

1) Hazardous Waste

Type of Hazardous Waste Generated	*Qty of Hazardous Waste*	*UOM*	*Concentration of Hazardous Waste*
5.1 Used or spent oil	16.5	MT/A	MPCB RECOGNIZED AUTHORIZED PROCESSOR/RECYCLER
5.2 Wastes or residues containing oil	536.95	MT/A	MPCB RECOGNIZED AUTHORIZED PROCESSOR/RECYCLER
6.2 Zinc fines or dust or ash or skimmings in dispersible form	464.11	MT/A	MPCB RECOGNIZED AUTHORIZED PROCESSOR/RECYCLER
13.1 Spent pickling liquor (Spent Acid)	1307.655	KL/A	MPCB RECOGNIZED AUTHORIZED PROCESSOR/RECYCLER
13.1 Spent pickling liquor (Chromic Acid)	12.29	KL/A	MPCB RECOGNIZED AUTHORIZED PROCESSOR/RECYCLER
12.4 Sludge from bath containing organic solvents	32.05	MT/A	MPCB RECOGNIZED AUTHORIZED PROCESSOR/RECYCLER
12.5 Phosphate sludge	29.49	MT/A	MPCB RECOGNIZED AUTHORIZED PROCESSOR/RECYCLER
21.2 Spent Solvent	17.56	MT/A	MPCB RECOGNIZED AUTHORIZED PROCESSOR/RECYCLER
21.1 Process wastes, residues and sludges	42.48	MT/A	MPCB RECOGNIZED AUTHORIZED PROCESSOR/RECYCLER
35.3 Chemical sludge from waste water treatment	1431.72	MT/A	MPCB RECOGNIZED AUTHORIZED PROCESSOR/RECYCLER
33.2 Contaminated cotton rags or other cleaning materials	67.805	MT/A	MPCB RECOGNIZED AUTHORIZED PROCESSOR/RECYCLER
33.1 Empty barrels/containers/liners contaminated with hazardous chemicals/wastes	9901	Nos./Y	MPCB RECOGNIZED AUTHORIZED PROCESSOR/RECYCLER
Other Hazardous waste (Class -C Waste Glass Wool)	8.53	MT/A	MPCB RECOGNIZED AUTHORIZED PROCESSOR/RECYCLER

2) Solid Waste

Type of Solid Waste Generated	Qty of Solid Waste	UOM	Concentration of Solid Waste
METAL SCRAPTUBE/PIPES END/STIP CUT PIECES/EDGE MILLING SCRAP/INSIDE/OUTSIDE BEAD CUTTING SCRAP	58748.02	MT/A	AUTHORIZED PROCESSOR/RECYCLER
IRON OXIDE	2528.91	MT/A	AUTHORIZED PROCESSOR/RECYCLER

Part-G

Impact of the pollution Control measures taken on conservation of natural resources and consequently on the cost of production.

Description	Reduction in Water Consumption (M3/day)	Reduction in Fuel & Solvent Consumption (KL/day)	Reduction in Raw Material (Kg)	Reduction in Power Consumption (KWH)	Capital Investment(in Lacs)	Reduction in Maintenance(in Lacs)
ARP,ETP&STP O&M,Disposal to landfilling, AMC , Monitoring etc	0.23	0	0	0	2719	0.0

Part-H

Additional measures/investment proposal for environmental protection abatement of pollution, prevention of pollution.

[A] Investment made during the period of Environmental Statement

Detail of measures for Environmental Protection	Environmental Protection Measures	Capital Investment (Lacks)
Operation and Maintenance of ETP,STP ,Disposal of waste to land filling, AMC,CMC, Env. Monitring, LDP, MILLS and TUbe STP, Bag filters	Treatment of Sewage and effluents	2719
Cost of Environmental Monitoring	Monitoring of parameters	34
Two HCL Online Monitoring at WCRM and Tube STP stack	HCL measurement	75
AAQMS-2	Ambient Air down stream monitoring	58
Replacement of Sugar cane to nitrogen automiserHazardous waste disposal	Stop sugarcane waste and disposal to land filling	20
STP water treatment Through RO	Utilization in process	10
Biodiversity study	Biodiversity conservation	8
5000 saplings planted	Green Belt	25
Installed CCL Thinner Recovery Unit	Reduction of Waste Thinner under Circular Economy	80
Developed Butter fly Garden	Biodiversity conservation	20
Biogas Plant established	Solid Waste Management under Circular Economy	25
Bird nest and Bird Bath	Biodiversity conservation	5
Study of green belt	green belt development	15
Biodiversity study	Biodiversity conservation	20

[B] Investment Proposed for next Year

Detail of measures for Environmental Protection	Environmental Protection Measures	Capital Investment (Lacks)
Rainwater harvesting pond	conservation and utilisation of rain water	800
Study of Soil and Hydrogeology	Study	20
Zero Land filling of Hazardous Waste	Hazardous and Solid waste Management	95

Two online Effluent Quality Monitoring Station at STP	Reduction of Carbon and energy	40
High resolution camera for ZLD	ZLD compliance	14
2000 sapling plantation	carbon offset	5
Storage shed for color drums	Waste Management	20
Miscellaneous	environment safe guird	15
Hazardous Waste Study	Waste Management	20
Renovation of MEEP	Reduction of Carbon and energy	1000

Part-I

Any other particulars for improving the quality of the environment.

Particulars

Improving the reduction of Co2 by using solar power, offsetting through green belt , Zero Waste Land filling , Waste Reduction and Energy saving

Name & Designation

Mr.Kapil Modi, Executive Plant Head

UAN No:

MPCB-ENVIRONMENT_STATEMENT-0000085235

Submitted On:

23-09-2025